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المنظمة الإسلامية للأمن الغذائي
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CONTENT

Dear Readers,

It is with great pleasure that I take on the role of Editor-in-Chief of the Food Security Hub, a platform dedicated to advancing meaningful dialogue on sustainable agriculture, innovation, and resilient food systems. At a time when climate variability, resource constraints, and geopolitical challenges continue to shape the global food landscape, the need for collaborative knowledge-sharing and practical solutions has never been greater.

The Islamic Organization for Food Security (IOFS) remains committed to serve as a platform that unites the efforts of policymakers, researchers, and practitioners across OIC Member States and beyond, with the shared goal of building inclusive and future-ready food systems. The Food Security Hub extends this mission, providing a space for thought-provoking insights and experiences that help chart a path toward more secure and sustainable outcomes for all communities.

This edition features articles that reflect both the diversity of challenges we face and the innovative responses emerging worldwide. From the strengthening of veterinary health systems in Central Asia to satellite-based monitoring of wheat production in Morocco, and from low-cost technologies empowering farmers in Egypt's Nile Delta to the transformative role of artificial intelligence across OIC countries, these contributions underscore the vital role of science, technology, and collaboration in achieving our shared objectives. The discussion on repurposing agricultural subsidies further highlights the importance of policy innovation in driving systemic change.

The Food Security Hub is not merely a publication but a platform for dialogue and collective learning. I warmly invite all stakeholders, whether from government, academia, or the private sector, to share their perspectives and ideas with us. It is only through open exchange, mutual respect, and a willingness to listen that we can truly strengthen our collective efforts toward a food-secure future.

Sincerely,

Amb. Khusrav Noziri

Assistant Director General, IOFS
Editor-in-Chief, Food Security Hub

MONITORING WHEAT YIELD TRENDS IN MOROCCO USING REMOTE SENSING: A STRATEGIC TOOL FOR SUSTAINABLE AGRICULTURE AND POLICY PLANNING

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INTRODUCTION

In Morocco, wheat is not only a dietary staple but also a strategic crop underpinning national food security. However, its production is increasingly constrained by natural resource limitations and climatic uncertainties, particularly in the rainfed regions that dominate national cropping systems. Conventional yield forecasting methods are largely dependent on meteorological, soil, and management data—inputs that are often inconsistent, unavailable, or spatially limited. This restricts the ability of stakeholders to take preemptive or regionally tailored actions in response to yield variability.

To address these limitations, this study proposes a remote-sensing-based solution that relies solely on vegetation dynamics to monitor wheat yields. This method is designed to be operational, cost-effective, and scalable, especially in data-scarce and resource-limited contexts.

Methods and Study Framework

The study focused on Morocco's northwestern agricultural zone, which spans approximately 123,000 km² and contributes around 70% of the country's wheat production. We used MODIS Terra NDVI imagery (MOD13Q1, 250 m resolution) covering 16-day composites from 2000 to 2016.

Phenological parameters—including start and end of season (SOS/EOS), maximum NDVI (PEAK), amplitude (AMPL), base value (BASE), and integral of the season curve (GINT)—were extracted using TIMESAT software. These parameters serve as indicators of the wheat crop's growth cycle and biomass accumulation.

A multiple linear regression model was then developed using a dataset of 400 ground-based wheat yield observations, correlating yields with the extracted phenological metrics. The model's accuracy was validated using k-fold cross-validation. To identify long-term yield dynamics, we applied the Mann-Kendall test to detect spatial yield trends over the study period.

RESULTS

The resulting model performed reliably across different agroecological zones, achieving an R^2 of 0.62 and an RMSE of 0.4 t/ha. Key findings from the spatial and temporal analyses include:

- **Heterogeneous Yield Distribution:** Irrigated and coastal zones displayed consistently higher and more stable yields, while interior and southern rainfed areas were marked by high year-to-year fluctuations.
- **Instability in Rainfed Zones:** More than 50% of the cultivated area exhibited interannual yield variability greater than 5 quintals/ha, indicating heightened vulnerability.
- **Positive Trends in Irrigated Areas:** Approximately 16.8% of the studied area (mostly irrigated zones) showed a statistically significant upward yield trend.
- **Independence from Climate Data:** The model proved effective in both irrigated and rainfed contexts, without relying on rainfall or temperature data—underscoring the robustness of vegetation-only approaches that leverage phenological parameters to capture crop response and yield dynamics.

STRATEGIC IMPLICATIONS FOR DECISION-MAKERS

This research offers a paradigm shift in agricultural monitoring by using vegetation response—rather than climate or management data—as the primary indicator of crop performance. The approach supports real-time, large-scale agricultural surveillance and can be directly used to:

- Assess the effectiveness of agricultural and environmental policies.
- Identify underperforming regions requiring targeted intervention.
- Guide land-use planning and investment decisions.
- Enhance resilience by anticipating yield risks in climate-sensitive zones.

By capturing production trends through remotely sensed phenology, the model enables early warning systems and supports sustainable agricultural practices tailored to each region's biophysical realities.

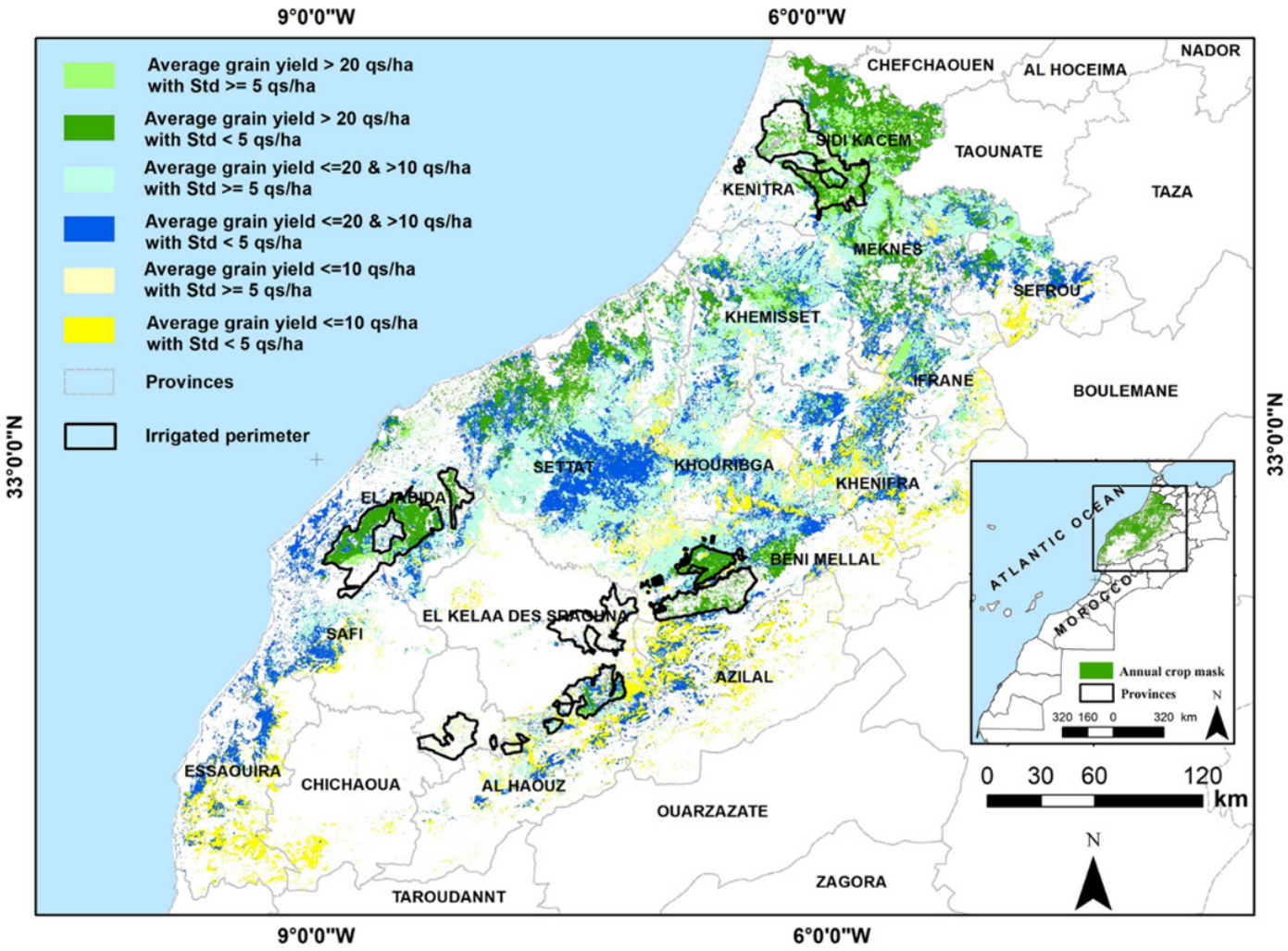

Figure: Spatial wheat grain yield average and standard deviation classes for the period 2000–2016 over the study area.

CONCLUSION

This study demonstrates the feasibility and effectiveness of using satellite-based phenological parameters to estimate and monitor wheat yield trends over large areas. By eliminating the need for climate or ground-based agronomic data, the model presents a replicable and transferable solution, particularly suited to arid and semi-arid countries facing data limitations. Its strategic utility for national food security, climate adaptation, and evidence-based policy planning is substantial. As Morocco and similar countries navigate growing environmental pressures, such tools will be crucial in guiding adaptive and sustainable agricultural development.

EN SUMMARY

Wheat production is a cornerstone of food security in Morocco, yet its productivity is increasingly jeopardized by climate variability, land degradation, and limited water availability—especially in rainfed regions. Traditional yield monitoring systems depend heavily on climatic, soil, and management data, which are often incomplete, spatially inconsistent, or entirely missing. These gaps hinder the ability of policymakers and stakeholders to respond proactively and efficiently to production risks.

In this study, we present a novel and scalable approach for monitoring wheat yield dynamics using only satellite-derived vegetation data, independent of rainfall or temperature inputs. Specifically, we leverage time series of MODIS NDVI imagery (2000–2016) and extract phenological parameters using TIMESAT software to characterize crop development patterns. A spatially explicit regression model was developed and validated using field yield observations (n = 400), achieving a strong predictive performance (R^2 = 0.62; RMSE = 0.4 t/ha).

The model proved effective across diverse agro-ecological contexts—including both irrigated and rainfed systems—demonstrating the strength of vegetation-only approaches based on phenological response. Trend analysis revealed marked regional disparities: while irrigated and coastal zones exhibited higher and more stable yields, over half of the rainfed area showed significant yield variability, with 2.25% of zones experiencing downward trends likely linked to resource degradation.

This operational tool enables timely, high-resolution assessment of yield dynamics, supporting strategic land-use planning, agricultural policy adjustment, and risk mitigation in the face of environmental stress. It offers a transferable framework for other semi-arid regions where data scarcity limits conventional monitoring, reinforcing the central role of remote sensing in climate-resilient agriculture.

FR RÉSUMÉ

La production de blé constitue une pierre angulaire de la sécurité alimentaire au Maroc, mais sa productivité est de plus en plus menacée par la variabilité climatique, la dégradation des sols et la disponibilité limitée en eau, notamment dans les zones pluviales. Les systèmes traditionnels de suivi des rendements reposent souvent sur des données climatiques, pédologiques et de gestion incomplètes, incohérentes ou indisponibles, limitant ainsi la capacité des acteurs à anticiper les risques de production.

Cette étude propose une approche nouvelle et évolutive pour surveiller la dynamique des rendements de blé en utilisant uniquement des indices de végétation dérivés de satellites, indépendamment des données de précipitations ou de température. La méthode s'appuie exclusivement sur la réponse de la couverture végétale, reflétant l'influence combinée de tous les facteurs de production, et exploite toute la gamme de résolution spatiale actuellement offerte par les données de télédétection en libre accès. Les séries temporelles MODIS NDVI (2000–2016) ont été traitées pour extraire des paramètres phénologiques, utilisés ensuite dans un modèle de régression spatialisé validé par 400 observations de rendement de terrain. Le modèle a démontré une forte performance prédictive sur les systèmes irrigués et pluviaux, confirmant l'efficacité d'un suivi basé uniquement sur la végétation.

Au-delà de sa précision technique, l'analyse a révélé des disparités régionales marquées. De nombreuses zones pluviales ont montré une forte variabilité des rendements, tandis que d'autres ont enregistré des tendances à la baisse, probablement liées à la dégradation des ressources. Ces résultats sont essentiels pour cibler les interventions et renforcer la résilience à long terme des systèmes agricoles. La méthodologie proposée offre une solution opérationnelle, peu coûteuse et transférable dans des environnements où les données sont rares, permettant des évaluations de rendement à haute résolution pour appuyer les systèmes d'alerte précoce, la planification de l'utilisation des terres et les stratégies de sécurité alimentaire. Face à l'intensification des pressions climatiques, le suivi par satellite apparaît comme un pilier de l'agriculture adaptative et résiliente au climat, avec une pertinence étendue aux régions arides et semi-arides dans le monde.

AR ملخص

يُعتبر إنتاج القمح ركيزة أساسية للأمن الغذائي في المغرب، غير أن إنتاجيته تواجه تهديدات متزايدة جراء التغيرات المناخية، تدهور الأراضي، ونقص الموارد المائية، خاصة في المناطق المعتمدة على الأمطار. تعتمد أنظمة مراقبة الإنتاج التقليدية غالبًا على بيانات المناخ والتربة والإدارة، التي تكون ناقصة أو غير متناسقة أو غير متوفرة، مما يحد من قدرة الجهات المعنية على الاستجابة الاستباقية لمخاطر الإنتاج.

تقدم هذه الدراسة نهجًا مبتكرًا وقابلًا للتوسع لرصد ديناميات إنتاج القمح باستخدام مؤشرات الغطاء النباتي المستمدة فقط من الأقمار الصناعية، دون الحاجة إلى بيانات الأمطار أو درجات الحرارة. تعتمد الطريقة كليًا على استجابة الغطاء النباتي، التي تعكس التأثير المشترك لجميع عوامل الإنتاج، مستفيدةً من كامل مدى الدقة المكانية المتاحة حاليًا عبر بيانات الاستشعار عن بعد المفتوحة المصدر. تم معالجة سلسلة بيانات مؤشر "مؤشر الفرق الطبيعي للغطاء النباتي" من "مستشعرات أرضية متوسطة الدقة" للفترة من عام ألفين حتى ستة عشر لاستخلاص معايير الفينولوجيا، والتي استخدمت في نموذج انحدار مكاني دقيق تم التحقق من صحته عبر أربعمائة ملاحظة ميدانية للإنتاج. أظهر النموذج أداءً تنبؤيًا قويًا في الأنظمة المروية والمعتمدة على الأمطار، مما يؤكد فعالية الرصد القائم على الغطاء النباتي فقط.

بعيدًا عن دقته التقنية، كشفت الدراسة عن تفاوتات إقليمية ملحوظة؛ حيث أظهرت العديد من المناطق المعتمدة على الأمطار تقلبات إنتاجية عالية، في حين سجلت أخرى اتجاهات تنازلية مرتبطة على الأرجح بتدهور الموارد. تشكل هذه الرؤى أساسًا مهمًا لتوجيه التدخلات وتعزيز مرونة الأنظمة الزراعية على المدى الطويل. تقدم المنهجية المقترحة حلاً عمليًا ومنخفض التكلفة وقابلًا للتطبيق في بيئات تعاني نقص البيانات، مما يمكّن من تقييمات إنتاجية دقيقة لدعم أنظمة الإنذار المبكر، تخطيط استخدام الأراضي، واستراتيجيات الأمن الغذائي. مع تصاعد الضغوط المناخية، يبرز الرصد الفضائي كركيزة أساسية للزراعة التكيفية والمقاومة لتغير المناخ، مع أهمية واسعة في المناطق الجافة وشبه الجافة على الصعيد العالمي.

COST-EFFECTIVE TECHNOLOGY AND PRACTICE BUNDLES FOR ENHANCED WATER-USE EFFICIENCY AND FOOD SECURITY IN EGYPT

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INTRODUCTION

The Egyptian Nile Delta is simultaneously the country's main food basket and its most water-stressed agro-ecosystem. Freshwater availability has fallen well below the widely accepted scarcity threshold, while sea-level rise and upstream abstractions are driving salinity deeper inland. Smallholders, who cultivate most Delta plots, rarely have the capital or service infrastructure needed to install and maintain high-end irrigation or monitoring equipment. Field experience therefore shows that "successful smallholders generally use simple, low-cost technologies and rely on supplies they can repair or replace locally".

This mini-review synthesizes recent evidence—largely drawn from the IWMI/GIZ programme "Low-cost solutions for irrigation water and salinity management in the old lands-Egypt"—on cost-effective irrigation, fertigation and salinity-mitigation options that can safeguard food security and rural livelihoods in the face of water scarcity, climate change and rising soil salinity.

LOW-COST IRRIGATION TECHNOLOGIES

Gravity-fed drip kits: Four off-the-shelf kits cover garden to small-farm scales:

- Bucket (Photo 1) and "Family Nutrition" kits irrigate 20–40 m² with a single 20-L bucket or double plastic bag suspended one meter above ground; hardware costs EGP 2 500–3 500.
- A 200-L Drum kit services 0.1–0.4 ha and can be expanded to 0.8 ha by raising tank volume; indicative cost ≈ EGP 13 000.
- The lay-flat KB-Drip system operates at only 0.5–3 m pressure head, making it compatible with hand-filled tanks; a one-hectare package costs ≈ EGP 15 000.

Because all three rely on locally extruded polyethylene laterals and micro-tubes, replacement parts are available from village plumbing shops, keeping life-cycle costs low.

Low-cost storage reservoirs and filtration: Farmers fabricate 3–5 m³ concrete-ring reservoirs and simple sand/screen filters for ≤ EGP 9 000, buffering canal-flow fluctuations and preventing emitter clogging—a critical function when water quality deteriorates in summer.

Figure 1: A simple bucket kit for irrigating a small vegetable garden plot of approximately 20 square meters.

IMPROVING NUTRIENT- AND WATER-USE EFFICIENCY

Fertigation injectors. Two devices dominate small-farm practice:

- A closed fertilizer tank (pressurized drum) costs ≈ EGP 2 000 and is still in service on many small farms because of its cost-efficiency and ease of manufacture, despite a declining nutrient concentration during operation .
- The all-plastic Venturi injector delivers a constant nutrient concentration and contains no moving parts; retail price ≈ EGP 9 000 .

Trials show that pairing either device with gravity-drip lines reduces fertilizer losses and eliminates diesel-powered field broadcasting runs.

Traffic-light soil-moisture sensor. A locally fabricated probe with red/green LEDs, distributed by the Ministry of Water Resources and Irrigation, sells for barely EGP 100. Farmers in Dakahlia and Beheira use it to schedule irrigation, saving 20–30 % of applied water without smartphones or internet access (Photo 2).

Figure 2: Low-cost soil moisture sensors

MANAGING AND MONITORING SALINITY ON A BUDGET

Salinity threatens more than 230 000 ha of Delta cropland. Three complementary low-cost responses are gaining traction:

1. **Hybrid mini-sprinkler + drip systems**: A movable mini-sprinkler set (≈ EGP 7 000) gives each bed a weekly leaching pulse while everyday irrigation remains high-efficiency drip; yields in strawberry and field-crop pilots improved where EC_e had exceeded 4 dS m^{-1}.

2. **Multiple laterals in heavy soil**: Banana and loquat growers place three glass-reinforced laterals per row, spreading the wetted front horizontally and diluting salts without over-irrigating; the approach has held EC in check for ten years on Behira's clay loams.

3. **Portable EC meters**: Cooperative field agents use hand-held meters (≈ EGP 15 000) to map hot-spots and prescribe gypsum or sulfur rates in near-real time.

4. **Chemical amendments**: Agricultural gypsum, applied at 1–3 t ha^{-1} yr^{-1}, improves pH and electrical conductivity at 15–30 cm depth and lowers exchangeable sodium to safer thresholds. When combined with organic amendments, the practice restores soil structure and boosts crop resilience at minimal cost relative to engineered drainage (Photo 3).

Figure 3: Gypsum application in an orchard

SYNTHESIS AND RESEARCH GAPS

The accumulated field evidence shows that cost-effective, low-pressure drip kits, locally built fertigation devices and basic sensors can raise water productivity, reduce fertilizer losses and buffer moderate salinity. Yet three knowledge gaps merit further investigation:

1. **Long-term performance metrics.** While short-term water-saving figures are promising, studies rarely track system integrity or yield benefits beyond three seasons.

2. **Energy–water–labor trade-offs.** Gravity systems save diesel but may increase labour for tank filling; mixed sprinkler–drip sets add complexity. Quantifying these trade-offs under diverse household labour constraints remains essential.

3. **Climate-robust design rules.** Projected maximal temperatures and evapotranspiration shifts could alter optimal emitter spacing and leaching requirements; design guidelines need updating with downscaled climate projections.

Addressing these gaps would refine extension messages and ensure that low-cost packages remain viable as the Delta's climate and hydrology evolve.

CONCLUSIONS

Low technology does not mean low impact. The Egyptian experience demonstrates that technologies priced in hundreds, not tens of thousands, of Egyptian pounds can still deliver triple dividends—water savings, yield gains and resilience to salinity. Crucially, their affordability keeps spare-parts supply chains local and underpins genuine farmer ownership. Scaling these solutions across only 84 000 ha (≈ 200 000 feddans) could conserve roughly 400 million m^3 of water annually while boosting smallholder profits and cutting fertilizer-related greenhouse-gas emissions.

For donors, researchers and policymakers alike, the lesson is clear: investing in context-specific, low-cost innovations can yield returns comparable to high-tech alternatives—provided equal attention is paid to manufacturing capacity, financing mechanisms and farmer-led adaptation. Such investments place the first rung of climate-smart agriculture within reach of millions across the Global South—a prerequisite for both national food security and equitable rural development.

EN SUMMARY

Egypt's Nile Delta, the heart of its food production, faces severe water scarcity, salinity intrusion, and climate change pressures that hit smallholder farmers the hardest. Many cannot afford sophisticated irrigation or monitoring equipment, yet still need to boost productivity and protect their soils. This article reviews simple, affordable technology bundles — including gravity-fed drip kits, basic fertigation systems, low-cost soil moisture sensors, and chemical soil amendments — that can make a real difference. Drawing on recent field evidence, it highlights how these low-tech solutions can deliver substantial water savings, improve yields, and reduce salinity risks while empowering local supply chains and farmer ownership. The review also points out critical gaps in long-term system performance, climate adaptation design, and labor trade-offs, urging further research and investment. Ultimately, the Egyptian experience shows that small-scale, cost-effective innovations can punch above their weight in making food systems more resilient, climate-smart, and equitable.

Keywords: Water scarcity, low-cost technologies, smallholders, salinity management, climate-smart agriculture

FR RÉSUMÉ

Le delta du Nil en Égypte, véritable cœur de sa production alimentaire, est confronté à une grave pénurie d'eau, à l'intrusion de la salinité et aux pressions du changement climatique, qui touchent particulièrement les petits exploitants agricoles. Beaucoup d'agriculteurs n'ont pas les moyens de se doter d'équipements sophistiqués d'irrigation ou de surveillance, tout en devant accroître leur productivité et protéger leurs sols. Cet article examine des ensembles de technologies simples et abordables — notamment des kits de goutte-à-goutte alimentés par gravité, des systèmes de fertigation de base, des capteurs d'humidité du sol à faible coût et des amendements chimiques — qui peuvent réellement faire la différence. En s'appuyant sur des preuves de terrain récentes, il met en lumière la manière dont ces solutions à faible technicité permettent d'économiser considérablement l'eau, d'améliorer les rendements et de réduire les risques liés à la salinité, tout en renforçant les chaînes d'approvisionnement locales et l'appropriation par les agriculteurs. L'article identifie également des lacunes critiques concernant la performance à long terme des systèmes, la conception adaptée au climat et les compromis en termes de main-d'œuvre, et appelle à poursuivre la recherche et l'investissement. En fin de compte, l'expérience égyptienne montre que des innovations à petite échelle et à faible coût peuvent avoir un impact supérieur à leur poids en rendant les systèmes alimentaires plus résilients, intelligents face au climat et équitables.

Mots clés : Pénurie d'eau, technologies à faible coût, petits exploitants, gestion de la salinité, agriculture intelligente face au climat.

AR ملخص

يواجه دلتا النيل في مصر، الذي يعد قلب إنتاجها الغذائي، نقصًا حادًا في المياه وتوغلاً للملوحة وضغوطًا ناتجة عن تغير المناخ تؤثر بشكل خاص على صغار المزارعين. كثير منهم لا يستطيعون تحمل تكاليف أنظمة الري أو أجهزة المراقبة المتطورة، ومع ذلك يظلون بحاجة إلى زيادة إنتاجيتهم وحماية تربتهم. تستعرض هذه المقالة حزمًا من التقنيات البسيطة والميسورة التكلفة — بما في ذلك أنظمة الري بالتنقيط بالجاذبية، وأنظمة التسميد بالري الأساسية، وأجهزة استشعار رطوبة التربة منخفضة التكلفة، والمحسنات الكيميائية للتربة — التي يمكن أن تحدث فرقًا حقيقيًا. وبالاستناد إلى أدلة ميدانية حديثة، تسلط المقالة الضوء على كيف يمكن لهذه الحلول منخفضة التقنية أن توفر كميات كبيرة من المياه، وتحسن الغلال، وتقلل من مخاطر الملوحة، مع تمكين سلاسل الإمداد المحلية وتعزيز ملكية المزارعين. كما تشير المقالة إلى فجوات فيما يتعلق بأداء الأنظمة على المدى الطويل، وتصميم التكيف مع المناخ، والمفاضلات المتعلقة بالعمالة، داعيةً إلى مزيد من البحث والاستثمار. في نهاية المطاف، توضح التجربة المصرية أن الابتكارات صغيرة النطاق وذات التكلفة المنخفضة يمكن أن تحقق أثرًا يفوق حجمها في جعل أنظمة الغذاء أكثر مرونة، وأكثر ذكاءً مناخيًا، وأكثر عدلاً.

الكلمات المفتاحية: ندرة المياه، تقنيات منخفضة التكلفة، صغار المزارعين، إدارة الملوحة، الزراعة الذكية مناخيً

REPURPOSING AGRICULTURAL SUBSIDIES FOR SUSTAINABLE AND RESILIENT AGRIFOOD SYSTEMS

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INTRODUCTION

Agricultural subsidies have traditionally been a key tool for governments to support farmers, stabilize food prices, and enhance food security. However, conventional subsidy models often result in inefficiencies, environmental degradation, and economic imbalances. In response, many countries, including those in the Organization of Islamic Cooperation (OIC), are exploring ways to repurpose these subsidies to promote sustainable and resilient agrifood systems. This article examines the rationale behind repurposing agricultural subsidies, provides real-world examples from OIC countries, and discusses the benefits and challenges associated with such policy shifts.

THE CASE FOR REPURPOSING AGRICULTURAL SUBSIDIES

Traditional agricultural subsidies typically focus on specific crops or inputs, leading to several unintended consequences:

Excessive reliance on chemical fertilizers, pesticides, and monocropping has resulted in significant environmental degradation. These practices deplete soil health, reducing its fertility and long-term productivity. Additionally, they contribute to a decline in biodiversity by disrupting ecosystems and making crops more vulnerable to pests and diseases. Moreover, the overuse of synthetic fertilizers and pesticides increases greenhouse gas emissions, further exacerbating climate change challenges.

Water scarcity is another critical issue linked to traditional subsidy policies. Many regions, particularly in arid and semi-arid countries, have allocated subsidies to high-water-demand crops such as wheat and rice. This practice has strained water resources, leading to unsustainable groundwater depletion and threatening long-term agricultural viability. Countries dependent on non-renewable water sources for irrigation must adopt new approaches to prevent further depletion and ensure water security.

Economic inefficiencies also arise from poorly structured subsidies. Large agribusinesses often capture a disproportionate share of financial support, marginalizing smallholder farmers who need assistance the most. This imbalance exacerbates rural poverty, widens income disparities, and distorts agricultural markets by creating artificial price controls. A more equitable distribution of subsidies can help level the playing field and promote inclusive agricultural development.

CASE STUDIES FROM OIC COUNTRIES

Saudi Arabia: Sustainable Water Use in Agriculture

Saudi Arabia historically supported wheat production, achieving self-sufficiency in the 1980s. Today, Saudi Arabia supports farmers in adopting advanced irrigation technologies and cultivating drought-resistant crops, ensuring long-term sustainability while maintaining food security.

Nigeria: Transitioning to Organic Fertilizer Subsidies

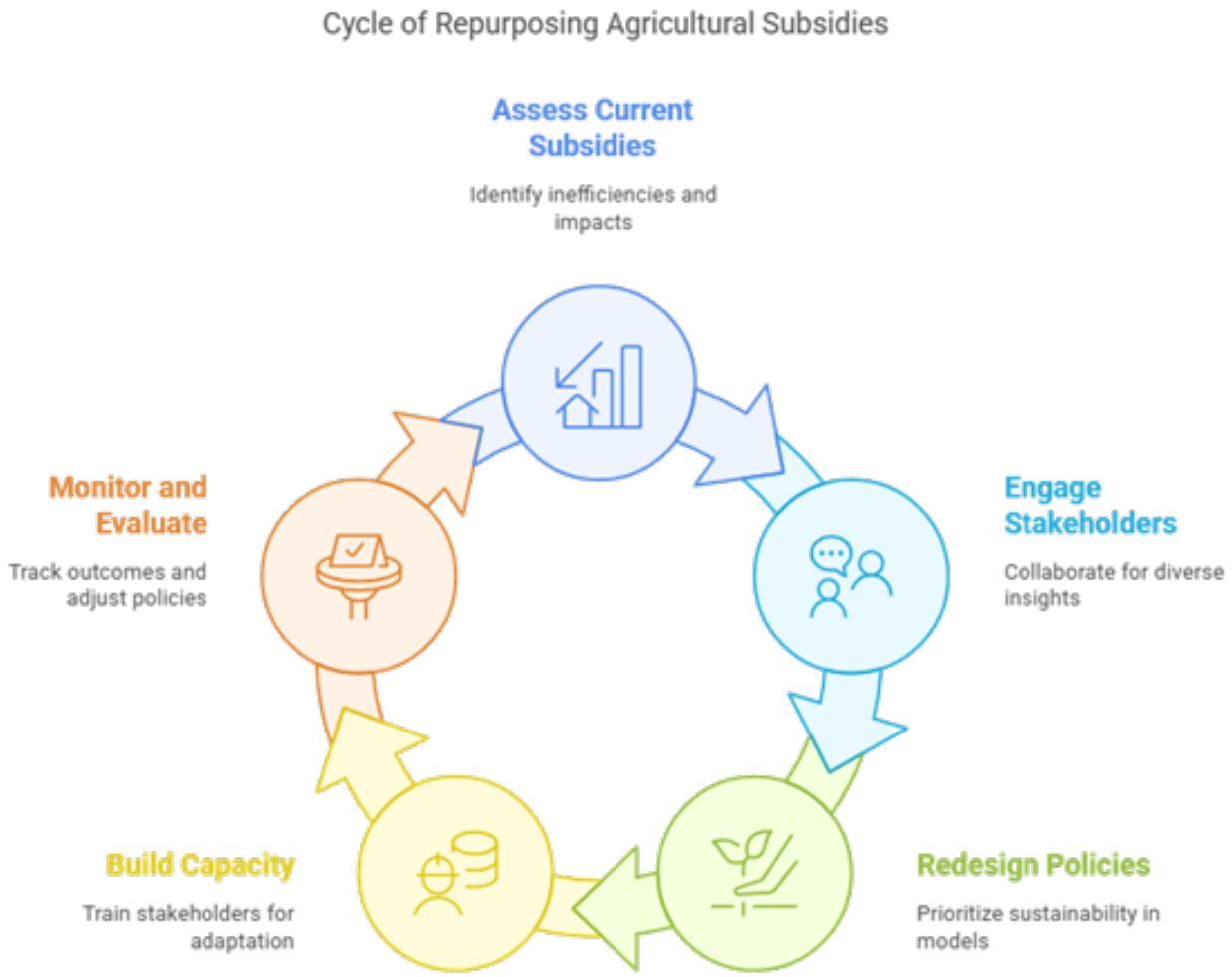
Nigeria has long subsidized chemical fertilizers to boost agricultural productivity. However, continuous use led to soil acidification and declining soil fertility. In response, the government initiated a program to subsidize organic fertilizers and train farmers in sustainable land management. This shift improved soil health, enhanced crop resilience, and reduced dependency on chemical inputs, fostering a more sustainable agricultural sector.

Benefits of Repurposing Agricultural Subsidies

Redirecting agricultural subsidies can significantly contribute to environmental sustainability. By supporting agroecological practices such as crop diversification, conservation agriculture, and organic farming, governments can promote healthier soils, increase biodiversity, and minimize the environmental footprint of farming. These measures also mitigate the negative effects of climate change, ensuring long-term agricultural resilience.

Economic efficiency is another crucial advantage of repurposing subsidies. Financial incentives directed toward precision agriculture, sustainable inputs, and agricultural research improve resource use and productivity. Farmers benefit from optimized input application, reduced costs, and increased profitability, while governments can allocate resources more effectively to enhance food security and rural livelihoods.

Additionally, repurposed subsidies foster social equity by ensuring that smallholder farmers and marginalized communities



receive targeted support. Traditional subsidies often favor large-scale producers, leaving small-scale farmers at a disadvantage. A more inclusive subsidy framework can help reduce rural poverty, improve livelihoods, and enhance food security for vulnerable populations.

CHALLENGES AND CONSIDERATIONS

While the transition to repurposed agricultural subsidies offers significant benefits, several challenges must be addressed.

Subsidy reform can be challenging for farmers and agribusinesses who rely on current financial support. To encourage acceptance of new subsidy structures, stakeholders should be engaged transparently, communicate the long-term benefits of subsidy repurposing, and provide incentives to encourage adoption.

Implementation complexity also presents a significant challenge. Effective repurposing requires strong institutional capacity, robust regulatory frameworks, and efficient monitoring mechanisms. Governments must invest in research, training, and technological infrastructure to support the transition and ensure compliance with new subsidy policies.

Furthermore, short-term disruptions can arise during the transition period. Some farmers may experience financial losses as they shift to new practices or technologies. To mitigate these risks, implementing phased transitions, providing financial safety nets, and offering training programs will assist farmers in adapting to sustainable agriculture methods.

CONCLUSION

Repurposing agricultural subsidies is a strategic approach to building sustainable and resilient agrifood systems in OIC countries. By aligning financial support with environmental and social objectives, governments can foster sustainable agricultural practices that ensure food security, protect natural resources, and promote economic equity. Though challenges exist, well-designed policies, robust stakeholder engagement, and continuous monitoring can facilitate successful subsidy reforms, contributing to a more resilient global food system.

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EN SUMMARY

This article examines the case for repurposing agricultural subsidies to promote sustainable and resilient agrifood systems in the Organization of Islamic Cooperation (OIC) countries. Traditional subsidies have at times contributed to environmental challenges, water scarcity, and economic imbalances. Drawing on case studies from selected OIC countries, the article highlights how redirecting support toward sustainable practices—such as water-efficient irrigation and organic fertilizers—can enhance resource management, food security, and rural livelihoods. While the transition requires careful management of stakeholder interests and institutional capacities, the article underscores that inclusive, well-designed reforms can align subsidies with environmental and social objectives, advancing long-term agricultural sustainability.

FR RÉSUMÉ

Cet article examine la nécessité de réorienter les subventions agricoles afin de promouvoir des systèmes agroalimentaires durables et résilients dans les pays membres de l'Organisation de la Coopération Islamique (OCI). Les subventions traditionnelles ont parfois contribué à des défis environnementaux, à la rareté de l'eau et à des déséquilibres économiques. En s'appuyant sur des études de cas menées dans certains pays de l'OCI, l'article met en évidence la manière dont un soutien réorienté vers des pratiques durables — telles que l'irrigation économe en eau et les engrais organiques — peut améliorer la gestion des ressources, la sécurité alimentaire et les moyens de subsistance en milieu rural. Bien que cette transition exige une gestion attentive des intérêts des parties prenantes et des capacités institutionnelles, l'article souligne que des réformes inclusives et bien conçues peuvent aligner les subventions sur les objectifs environnementaux et sociaux, favorisant ainsi la durabilité agricole à long terme.

AR ملخص

ملخص: تبحث هذه المقالة في حالة إعادة توجيه الدعم الزراعي لتعزيز أنظمة الأغذية الزراعية المستدامة والمرنة في دول منظمة التعاون الإسلامي. لقد ساهمت الإعانات التقليدية في بعض الأحيان في التحديات البيئية وندرة المياه والاختلالات الاقتصادية. واستنادًا إلى دراسات الحالة من دول مختارة في منظمة التعاون الإسلامي، تسلط المقالة الضوء على كيف يمكن لإعادة توجيه الدعم نحو الممارسات المستدامة - مثل الري الموفر للمياه والأسمدة العضوية - أن يعزز إدارة الموارد والأمن الغذائي وسبل العيش الريفية. وفي حين أن التحول يتطلب إدارة دقيقة لمصالح أصحاب المصلحة والقدرات المؤسسية، فإن المقالة تؤكد أن الإصلاحات الشاملة والمصممة جيدًا يمكن أن توائم الدعم مع الأهداف البيئية والاجتماعية، مما يعزز الاستدامة الزراعية على المدى الطويل.

STRENGTHENING VETERINARY SYSTEMS IN CENTRAL ASIA: REGIONAL WORKSHOP INSIGHTS AND FUTURE DIRECTIONS

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INTRODUCTION

Veterinary systems form the backbone of resilient livestock-based food systems. Their effectiveness directly influences animal health, public health, food safety, and economic stability. In the Central Asian region - home to vast agro-pastoral economies - sustainable veterinary health systems are essential to address endemic and transboundary diseases, ensure effective surveillance, and promote trade. Yet, several structural and institutional weaknesses persist, stemming from chronic underinvestment, inconsistent regulations, and limited cross-sectoral coordination.

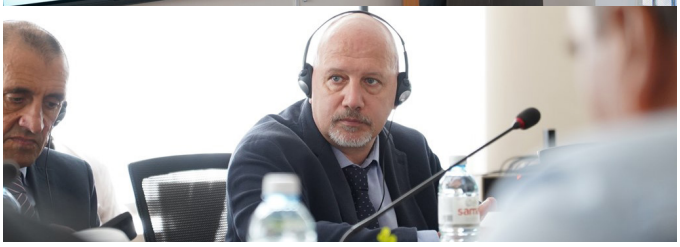
Recognizing the urgency to improve regional coordination and system resilience, the Islamic Organization for Food Security (IOFS) organized the "Regional Workshop on Sustainable Veterinary Health Systems in Central Asia", held on 24–25 June 2025 in Astana, Kazakhstan. In partnership with Seifullin Kazakh Agrotechnical Research University, the workshop brought together veterinary authorities, academic institutions, and international organizations to assess challenges and co-develop strategies to build stronger, more integrated veterinary health systems.

WORKSHOP HIGHLIGHTS

Structured over two days, the workshop focused on both systemic diagnostics and the future of veterinary education.

Day 1 centered on the state of veterinary systems in Kazakhstan, Kyrgyzstan, Uzbekistan, and Tajikistan. Common challenges included underfunded services, aging laboratory infrastructure, limited veterinary control over aquaculture, and weak inter-agency coordination. Unfortunately, Turkmenistan was not represented. International contributions included insights from Türkiye and Italy. A representative from Istituto Zooprofilattico Sperimentale dell'Umbria e delle Marche shared Italy's model of regional laboratories and compensation schemes, while a Turkish expert from the Ministry of Agriculture and Forestry showcased effective cross-border disease control strategies.

Day 2 focused on veterinary education and workforce development. Central Asian countries presented their veterinary curricula, revealing shared gaps in practice-based training, continuing education, and veterinary faculty support. WOAH presented global guidelines for veterinary workforce competencies, while Türkiye and Italy emphasized the role of specialization programs and national training centers in maintaining high standards.



KEY OBSERVATIONS AND PRIORITIES

The following key themes emerged during the workshop:

- Recurring zoonotic and transboundary diseases: Brucellosis, tuberculosis, PPR, and CCHF were repeatedly mentioned as priority diseases across the region. Participants called for a joint risk assessment approach and harmonized surveillance systems.
- Veterinary oversight in aquaculture: Countries like Kazakhstan and Uzbekistan highlighted a "total lack of diagnostic capacity" in fish farming, despite rapid growth in the sector. Aquatic animal health emerged as a new priority.
- Fragmented One Health coordination: Several countries reported poor integration between veterinary and public health data systems, hindering zoonoses control and early detection.
- Legal and institutional disparities: Participants raised concerns over inconsistent veterinary legislation, certification rules, and disease notification procedures across Central Asia.
- Compensation gaps: "Without compensation, farmers will hide diseases," one expert warned, noting the legal incentives required to ensure disease reporting and participation in eradication efforts.
- Education as the foundation: "It is not the Ministry - it is the university where the knowledge must start," stated one participant, reinforcing the need to invest in academic institutions as the core of long-term veterinary capacity.

IOFS STRATEGIC INITIATIVES

Building on the workshop, IOFS outlined several strategic actions:

- Launch of a regional program on aquaculture health: This will include training workshops, curriculum upgrades, and expert exchanges with countries such as Türkiye and Malaysia.
- Development of a Regional Joint Action Plan on Zoonotic and Transboundary Disease Control, including scenario-based simulations, short courses, and risk assessment capacity building.
- Coordination of a Regional Gap Analysis using the WOAH PVS Pathway, consolidating national assessments and forming the basis for IOFS-led technical interventions.
- Documentation of regional One Health practices, with a proposed guidance brief and expert consultations to strengthen integrated governance.

PATH FORWARD

To sustain the momentum of the workshop, IOFS and its partners will pursue several priority actions:

- Support capacity-building programs in identified areas, particularly in aquaculture health, transboundary disease control, and foodborne zoonoses. These may include regional workshops, training-of-trainers sessions, and expert exchanges in collaboration with universities and international partners.
- Coordinate the development of a Regional Joint Action Plan on Zoonotic and Transboundary Disease Control. This will involve consultations with national authorities and WOAH, and focus on harmonizing surveillance protocols, risk assessment procedures, and response mechanisms.
- Initiate a Regional Veterinary Systems Gap Analysis, based on existing WOAH PVS missions and country feedback. The consolidated findings will serve as a foundation for targeted IOFS interventions under the Animal Development Program.
- Disseminate regional best practices in One Health collaboration through studies, guidance briefs, and consultative events. These efforts will help bridge gaps between animal and human health systems and inform practical approaches to integrated governance.

These next steps aim to reinforce country ownership, strengthen regional cooperation, and enable institutions to build sustainable veterinary capacity based on shared priorities and realistic resource availability.

CONCLUSION

The Astana workshop marked a turning point in the dialogue on veterinary health in Central Asia. It elevated systemic gaps from national to regional visibility, catalyzed actionable strategies, and positioned IOFS as a driver of long-term veterinary resilience.

Veterinary systems are not simply technical infrastructures - they are the guardians of public health, market trust, and regional stability. With sustained political will, investment, and cooperation, Central Asia can develop a veterinary framework that is modern, proactive, and capable of withstanding future threats to animal and human health.

EN SUMMARY

This article presents the outcomes of the Regional Workshop on Sustainable Veterinary Health Systems in Central Asia, organized by the Islamic Organization for Food Security (IOFS) on 24–25 June 2025 in Astana, Kazakhstan. The event brought together veterinary authorities, academic institutions, and international partners to identify key challenges, share best practices, and propose collaborative solutions for strengthening veterinary systems in the region. Discussions highlighted persistent issues such as inadequate funding, gaps in disease surveillance, lack of harmonization in legislation, and insufficient workforce development - particularly in the emerging field of aquaculture health. The workshop also emphasized the importance of the One Health approach and the critical role of universities in sustaining long-term capacity. Building on these insights, IOFS outlined strategic actions including regional training initiatives, development of a Joint Action Plan for zoonotic and transboundary disease control, and coordination of a veterinary gap analysis in partnership with WOAH. The article underscores the need for regional leadership, cross-border cooperation, and institutional investment to build resilient, integrated, and future-ready veterinary health systems in Central Asia.

FR RÉSUMÉ

Cet article présente les résultats de l'Atelier régional sur les systèmes de santé vétérinaire durables en Asie centrale, organisé par l'Organisation islamique pour la sécurité alimentaire (IOFS) les 24 et 25 juin 2025 à Astana, Kazakhstan. L'événement a réuni des autorités vétérinaires, des institutions académiques et des partenaires internationaux afin d'identifier les principaux défis, de partager les meilleures pratiques et de proposer des solutions collaboratives pour renforcer les systèmes vétérinaires de la région. Les discussions ont mis en évidence des problèmes persistants tels qu'un financement insuffisant, des lacunes dans la surveillance des maladies, un manque d'harmonisation législative et un développement insuffisant des ressources humaines – en particulier dans le domaine émergent de la santé aquacole. L'atelier a également souligné l'importance de l'approche « Une seule santé » (One Health) et le rôle essentiel des universités pour assurer une capacité durable à long terme. Sur la base de ces constats, l'IOFS a défini des actions stratégiques incluant des initiatives de formation régionale, l'élaboration d'un Plan d'action conjoint pour le contrôle des maladies zoonotiques et transfrontalières, ainsi que la coordination d'une analyse des lacunes vétérinaires en partenariat avec l'OMSA (WOAH). L'article met en lumière la nécessité d'un leadership régional, d'une coopération transfrontalière et d'un investissement institutionnel pour construire des systèmes de santé vétérinaire résilients, intégrés et tournés vers l'avenir en Asie centrale.

AR ملخص

يعرض هذا المقال نتائج الورشة الإقليمية حول أنظمة الصحة البيطرية المستدامة في آسيا الوسطى، التي نظمتها المنظمة الإسلامية للأمن الغذائي (IOFS) خلال الفترة من 24 إلى 25 يونيو 2025 في أستانا، كازاخستان. جمعت الفعالية السلطات البيطرية والمؤسسات الأكاديمية والشركاء الدوليين لتحديد التحديات الرئيسية، وتبادل أفضل الممارسات، واقتراح حلول تعاونية لتعزيز الأنظمة البيطرية في المنطقة. سلطت المناقشات الضوء على قضايا مستمرة مثل نقص التمويل، والفجوات في مراقبة الأمراض، وغياب التنسيق في التشريعات، وضعف تطوير الكوادر، وخاصة في مجال صحة الاستزراع المائي الناشئ. كما أكدت الورشة على أهمية نهج "صحة واحدة" والدور الحيوي للجامعات في تعزيز القدرات طويلة الأجل. واستنادًا إلى هذه الرؤى، عرضت IOFS إجراءات استراتيجية تشمل مبادرات تدريب إقليمية، وتطوير خطة عمل مشتركة لمكافحة الأمراض الحيوانية المنشأ والعابرة للحدود، والتنسيق لتحليل فجوات النظم البيطرية بالتعاون مع المنظمة العالمية لصحة الحيوان (WOAH). ويؤكد المقال على الحاجة إلى قيادة إقليمية وتعاون عابر للحدود واستثمار مؤسسي لبناء أنظمة صحية بيطرية مرنة ومتكاملة ومستعدة لمواجهة تحديات المستقبل في آسيا الوسطى

DIGITAL TRANSFORMATION IN OIC AGRICULTURE: HARNESSING AI FOR FOOD SECURITY

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IMPORTANCE OF DIGITAL TRANSFORMATION FOR FOOD SECURITY IN OIC COUNTRIES

Many member states of the Organization of Islamic Cooperation (OIC) rely heavily on agriculture for food security and livelihoods. However, they face challenges such as climate change, water scarcity, and yield gaps. Embracing digital transformation, including artificial intelligence (AI), Internet of Things (IoT) sensors, drones, and data analytics, can help address these challenges by making farming more efficient and climate-resilient. In fact, early adopters in OIC countries have already demonstrated notable gains.

For example, some rice farms in **Malaysia** used IoT-based smart irrigation to increase from two to three harvests per year, boosting rice output by about **20%** while using water more precisely. In the **United Arab Emirates (UAE)**, pilot initiatives have explored the integration of IoT soil sensors with AI analytics for precision agriculture, which has the potential to reduce water usage by up to **30%** and increase crop yields by approximately **25%**. Meanwhile in **Nigeria**, farmers deploying IoT weather stations and soil sensors have reported a **20%** reduction in post-harvest losses and up to a **15%** increase in income, particularly in staple crops like cassava. These examples illustrate the significant potential of digital tools to enhance productivity, conserve resources, and strengthen food security across diverse climates in the OIC.

Beyond improving yields, digital agriculture technologies also reduce labour and input costs and enable better decision-making. **Real-time data** on soil moisture, weather, and crop health allows farmers to optimize irrigation scheduling, fertilizer application, and pest control. **Precision farming** minimizes waste by delivering inputs only where and when needed, which both lowers expenses and lessens environmental impact. For OIC countries, where rural populations are large and farming often employs outdated methods, adopting these innovations is increasingly essential. Digital transformation in agriculture is no longer a luxury but a strategic necessity to ensure food systems are robust against shocks and capable of feeding growing populations.

COUNTRY-LED INNOVATIONS IN OIC MEMBER STATES

OIC member states have begun leading their own initiatives to digitalize agriculture, proving that effective innovation need not be driven by external agencies. Two illustrative cases from very different region, North Africa and Central Asia, highlight how country-led digital transformations are unfolding.

EGYPT: AI-POWERED FARMER SUPPORT SERVICES

Egypt has launched ambitious programs to bring its agricultural sector into the digital age through a joint effort by its Ministry of Agriculture and Ministry of Communication and IT. A flagship initiative is the **"Hudhud" smart assistant**, an AI-powered mobile application in Arabic designed to act as a personal agricultural advisor for farmers. Introduced in late 2021, Hudhud provides instant, tailored guidance to farmers on crop management and pest control.

For example, if a farmer notices signs of disease on a plant, they can snap a photo with their smartphone and upload it to the Hudhud app, which uses artificial intelligence to **identify the pest or disease** and immediately recommends treatment and preventive measures. This tool effectively modernizes the agricultural extension service, making expert knowledge available on-demand to even remote smallholders. It marks a shift from traditional, infrequent extension visits to **instantaneous, accurate advice** customized to each farmer's crop, location, and needs.

Egypt's digital transformation goes beyond the advisory app. The government has distributed **2 million "smart farmer" cards** to growers nationwide as part of building an electronic farmer database. These secure ID cards store each farmer's land holdings and eligibility for subsidies, ensuring fair distribution of support and reducing administrative corruption. The data collected via the cards feed into a national e-agriculture system that helps officials analyze farming patterns and needs. Another project uses **satellite imagery and AI** to map potential new farmland and determine the best crops for each region and season. By leveraging AI for land use planning, Egypt aims to expand culti-

vation into desert areas strategically with crops suited to local conditions.

All these efforts, AI-driven extension services, digital farmer IDs, and geospatial analysis, are country-led initiatives aligning with Egypt's **Sustainable Agriculture Development Strategy 2030.** They illustrate how an OIC member is deploying digital tools at multiple levels (farmer, administration, and policy) to drive agricultural modernization. Early results are promising: the Hudhud app is regularly updated with new content on modern farming practices and has already reached a wide user base, while the smart card system has created a transparent database covering millions of farmers. These home-grown innovations demonstrate that OIC countries can directly implement effective digital agriculture solutions tailored to their local context.

KAZAKHSTAN: BUILDING AN AI-READY AGRICULTURAL SECTOR

In **Kazakhstan**, a major Central Asian food producer, the government is investing heavily in homegrown AI and digital capacity to transform agriculture and improve resilience. A centerpiece of this effort is the national **AI-Sana program**, a government-backed initiative training the next generation of agri-tech specialists. As of mid-2025, more than **9,000 students and professionals** have completed **certification in digital agriculture technologies** under AI-Sana's first phase. Participants learn to deploy drones, sensors, and neural network models on farms for tasks like precision crop monitoring and automated spraying. Such capacity-building reflects Kazakhstan's recognition that successful digital transformation requires not just gadgets, but skilled people at all levels who can use and maintain these new tools.

Kazakhstan is also fostering an ecosystem of local agritech startups and research to apply AI solutions in the field. For example, the **Kazakh National Agrarian Research University** has established smart labs and innovation centers focused on integrating AI and drones into farming practices. Several domestic startups are emerging with government support: **Agritech Hub** uses satellite data and AI to monitor crop conditions and forecast yields in real time, while **Egistic** (named after the Kazakh word for "field") offers a mobile platform for farmers to manage their farm operations digitally. These ventures aim to optimize resource use, such as pinpointing where water or fertilizer is needed, and give farmers actionable insights based on data.

The government's strategy also includes policy support; for instance, Kazakhstan is developing a national AI law to create a safe regulatory environment for innovations while addressing issues like data governance. Officials see AI and digital tech as key to boosting agricultural productivity sustainably, especially under threats like climate change and water scarcity. By investing in **local human capital, startups, and supportive policy**, Kazakhstan's country-led approach is building the foundations of an AI-enabled agricultural sector. The hope is that these efforts will generate a pipeline of solutions that not only improve domestic food security but can be scaled and exported to benefit other countries.

KEY LESSONS FROM OIC EXPERIENCES

The experiences of Egypt, Kazakhstan, and other OIC members yield several important insights for successfully implementing AI and digital innovations in agriculture:

- **Local Leadership and Context**: Initiatives are most effective when led and owned by the country itself. Solutions like Egypt's Hudhud app or Kazakhstan's AI-Sana program were designed around local languages, crops, and challenges, making them readily usable by local farmers and institutions. This ensures higher adoption and relevance compared to one-size-fits-all programs imported from outside.
- **Capacity Building is Crucial**: Technology alone cannot solve problems without people who know how to use it. Both case studies invested in human capacity – Egypt retrained extension officers and reached farmers via smartphones, while Kazakhstan trained thousands of students and even civil servants in AI

skills. Building digital literacy and technical skills among farmers, agronomists, and officials is a prerequisite to sustain any digital transformation.

- **Early Success Builds Momentum**: Demonstrating quick wins helps drive broader adoption. The measurable yield increases and resource savings from pilot projects (like Malaysia's 20% rice output boost or the UAE's water savings) provide evidence to farmers and policymakers that these technologies work in practice. Such early successes create buy-in for scaling up digital initiatives across more regions and crops.

- **Comprehensive Approach**: Digital transformation yields best results when applied across the value chain. Egypt's strategy combined on-farm tools (AI advice app) with institutional reforms (digital farmer IDs, data systems), attacking multiple pain points (knowledge gaps, inefficiency, transparency) together. Kazakhstan similarly coupled tech deployment with education and policy. This holistic approach ensures that innovations are supported by adequate infrastructure, policy, and market linkages rather than operating in a silo.

While these experiences highlight the transformative potential of digital agriculture, realistic constraints remain. Many OIC countries continue to face significant barriers, including limited rural digital connectivity, challenges in data privacy and governance, and high costs associated with maintaining sophisticated technological infrastructure. Recognizing and addressing these constraints proactively will be crucial for ensuring long-term success and sustainability.

SPECIFIC RECOMMENDATIONS FOR OIC MEMBER STATES

To build on these insights and catalyze AI-driven and digital transformation in agriculture, here are targeted recommendations for OIC countries and stakeholders:

1. **Develop Local AI Advisory Platforms**: Create user-friendly mobile applications or SMS-based services in local languages to deliver farming advice powered by AI. For example, an app that identifies crop diseases from a photo (similar to Egypt's Hudhud smart assistant) can vastly improve pest and disease management for farmers. Governments should support content development and outreach so that even smallholders are aware of and can access these digital extension services.

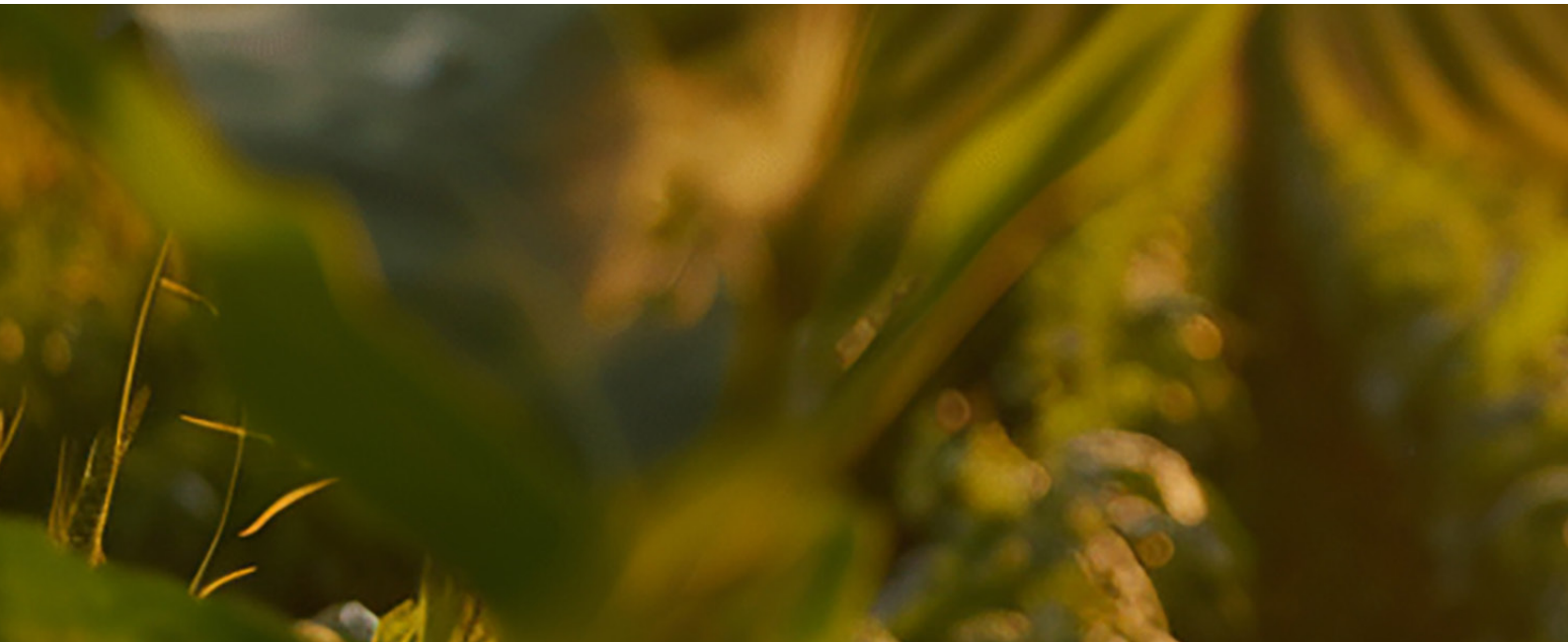
2. **Establish Innovation Hubs and Training Programs**: Invest in agricultural technology hubs, incubators, and university programs to train specialists in precision farming, data analysis, and drone operation. Country-led programs like Kazakhstan's AI-Sana, which certified thousands in digital ag tech, provide a model. By building a skilled workforce and nurturing agritech startups, countries can generate homegrown solutions tailored to their unique agricultural conditions.

3. **Improve Rural Connectivity and Infrastructure**: Prioritize expanding internet and mobile network coverage in rural and farming areas. Digital farming tools require connectivity to function (for sending sensor data, accessing cloud AI services, etc.). Public investment or partnerships to provide affordable broadband in remote villages will enable farmers to use IoT devices, access real-time weather data, and connect to marketplaces. Without reliable connectivity, digital agriculture innovations will remain out of reach for many small farmers.

4. **Promote Data Sharing and Collaboration:** Within the OIC framework, facilitate the exchange of knowledge and data to multiply the benefits of digital agriculture. Countries can share open datasets (on weather, soils, crop performance) and successful case studies through OIC platforms or bilateral cooperation. Regular forums or networks on "Digital Agriculture in OIC" could allow experts and policymakers to learn from each other's experiences. For example, a country like Malaysia that succeeded with IoT in rice farming could share its methods with others. Collaborative development of standards (for data interoperability, AI ethics in farming, etc.) under OIC auspices would also help create a supportive environment for digital innovation across member states.

By implementing these focused recommendations, OIC member states can move beyond broad declarations and take concrete steps toward smarter, tech-enabled agricultural systems. IOFS can play a supportive role by facilitating knowledge-sharing forums, promoting best practices, and assisting member states in developing coherent technology standards and guidelines to effectively navigate digital transformations in agriculture.

Country-driven digital transformation, tailored to local realities but enriched by shared learning will be a key driver in achieving food security and resilience across the Islamic world in the coming decades. Each success story from an OIC country adds to a growing evidence base that AI and digital technologies in agriculture are not just buzzwords but practical instruments for change. With strategic investment and cooperation, the countries of the OIC can leapfrog traditional limitations and ensure their food systems are ready for the challenges of tomorrow.



EN SUMMARY

This article explores the growing role of artificial intelligence and digital technologies in transforming agriculture across member states of the Organization of Islamic Cooperation. It highlights how country-led initiatives in Egypt and Kazakhstan are using AI tools such as smart advisory platforms, digital farmer registries, and precision agriculture systems to address key challenges in food security, including yield gaps and climate resilience. Complemented by early examples from Malaysia, the United Arab Emirates, and Nigeria, the article illustrates the practical benefits of digital agriculture, including increased productivity, improved resource efficiency, and greater transparency. Drawing on these experiences, the article outlines key lessons and provides targeted recommendations for advancing digital transformation in OIC food systems. It emphasizes the importance of localized solutions, skilled human capital, improved connectivity, and cross-border collaboration, while also acknowledging infrastructure and governance constraints. The article concludes by noting the potential facilitative role of the Islamic Organization for Food Security in supporting knowledge exchange and technological alignment among member states.

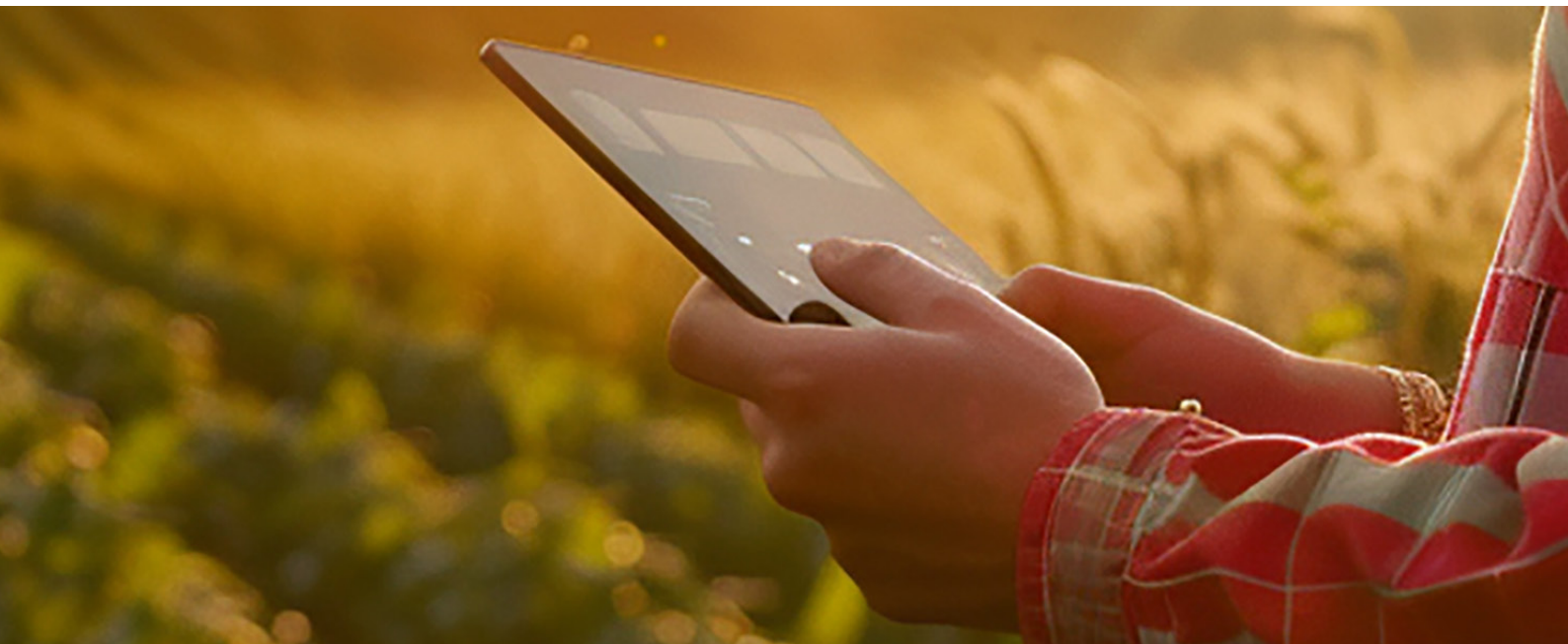
FR RÉSUMÉ

Cet article examine le rôle croissant de l'intelligence artificielle et des technologies numériques dans la transformation de l'agriculture au sein des États membres de l'Organisation de la coopération islamique (OCI). Il met en lumière des initiatives nationales en Égypte et au Kazakhstan qui utilisent des outils d'IA tels que des plateformes de conseil intelligentes, des registres numériques des agriculteurs et des systèmes d'agriculture de précision pour relever les principaux défis de la sécurité alimentaire, notamment les écarts de rendement et la résilience face au climat. Des exemples préliminaires en Malaisie, aux Émirats arabes unis et au Nigéria illustrent également les avantages concrets de l'agriculture numérique, tels qu'une productivité accrue, une utilisation plus efficace des ressources et une plus grande transparence. S'appuyant sur ces expériences, l'article présente les enseignements clés et propose des recommandations ciblées pour faire progresser la transformation numérique des systèmes alimentaires de l'OCI. Il souligne l'importance de solutions adaptées aux contextes locaux, du développement du capital humain, de l'amélioration de la connectivité et de la coopération transfrontalière, tout en reconnaissant les limites en matière d'infrastructures et de gouvernance. L'article conclut en soulignant le rôle facilitateur potentiel de l'Organisation islamique pour la sécurité alimentaire dans le soutien aux échanges de connaissances et à l'harmonisation technologique entre les États membres.

AR ملخص

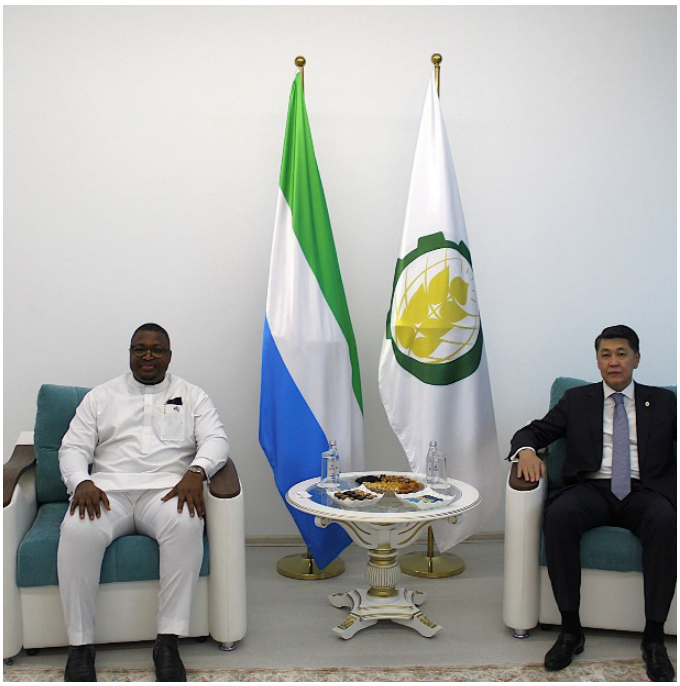
تتناول هذه المقالة الدور المتنامي للذكاء الاصطناعي والتقنيات الرقمية في تحويل الزراعة في الدول الأعضاء بمنظمة التعاون الإسلامي. وتسلط الضوء على المبادرات الوطنية في كل من مصر وكازاخستان التي تستخدم أدوات الذكاء الاصطناعي مثل منصات الإرشاد الذكية، والسجلات الرقمية للمزارعين، وأنظمة الزراعة الدقيقة لمواجهة التحديات الرئيسية في الأمن الغذائي، بما في ذلك فجوات الإنتاج والقدرة على التكيف مع تغير المناخ. كما تعرض المقالة أمثلة أولية من ماليزيا والإمارات العربية المتحدة ونيجيريا تُظهر الفوائد العملية للزراعة الرقمية، مثل زيادة الإنتاجية، وتحسين كفاءة استخدام الموارد، وتعزيز الشفافية.

واستنادًا إلى هذه التجارب، تقدم المقالة دروسًا رئيسية وتوصيات محددة لتعزيز التحول الرقمي في نظم الغذاء بالدول الأعضاء في المنظمة. وتؤكد على أهمية الحلول المحلية، وبناء قدرات بشرية مؤهلة، وتحسين البنية التحتية للاتصال، وتعزيز التعاون بين الدول، مع الاعتراف بالتحديات المرتبطة بالبنية التحتية والحوكمة. وتختتم المقالة بالإشارة إلى الدور الممكن أن تضطلع به المنظمة الإسلامية للأمن الغذائي في دعم تبادل المعرفة وتنسيق الجهود التكنولوجية بين الدول الأعضاء.



IOFS NEWS OVER APRIL-MAY-JUNE

Sierra Leone Foreign Minister Visits IOFS to Strengthen Ties towards Advancing Food Security and Agricultural Development



On 7 April 2025, the Director General of the Islamic Organization for Food Security (IOFS), His Excellency Ambassador Berik Aryn, hosted His Excellency Timothy Musa Kabba, Minister of Foreign Affairs of Sierra Leone, at IOFS headquarters in Astana. This high-level engagement focused on deepening cooperation in food security, agricultural resilience, and sustainable development between Sierra Leone and IOFS. IOFS pledged support for Sierra Leone's "Feed Salone" initiative – targeting enhanced agricultural productivity and youth and women's empowerment – as part of the discussions to strengthen bilateral ties. The visit marked the first by a Sierra Leonean Foreign Minister to Kazakhstan and underscored IOFS's growing role as a hub for fostering partnerships that advance food security and agricultural development across member states.

IOFS Organizes Regional Workshop on Innovative Wheat Production Technologies in North Africa

From 2 to 5 April 2025, the Islamic Organization for Food Security, in collaboration with the Agricultural Research Center of the Ministry of Agriculture and Land Reclamation of Egypt, organized a regional workshop and study tour titled "Scaling Up Innovative Technologies in Local Wheat Seed Systems in North Africa." Hosted at the Center's headquarters in Giza, the event forms part of a broader IOFS initiative to develop climate-resilient wheat varieties and advance modern wheat technologies across North Africa and Central Asia. The workshop brought together stakeholders from Egypt, Tunisia, Morocco, Libya, and Iraq—including researchers, plant breeders, seed companies, and representatives from regional and international organizations—to strengthen scientific and technical collaboration aimed at improving wheat productivity and food security. Focus areas included the dissemination of improved wheat varieties, enhancing seed quality and certification systems, and transferring biotechnological knowledge. Participants conducted field visits to Gemmeiza and Nubaria Research Stations, as well as the Biotechnology Research Laboratory, gaining firsthand exposure to Egypt's innovations in wheat breeding and sustainable agriculture. Strategic planning sessions were held with ICARDA experts, resulting in key recommendations to accelerate the

adoption of advanced wheat production technologies, upgrade regional seed systems, and invest in research and human capital. The initiative reinforces IOFS's commitment to supporting Member States through agricultural innovation, climate adaptation, and regional integration of food systems.

Turkmenistan Ambassador Visits IOFS Headquarters to Discuss Cooperation Prospects

The Ambassador of Turkmenistan to Kazakhstan paid a courtesy visit to IOFS headquarters in Astana on 9 April 2025 to explore avenues of cooperation. In the meeting with IOFS Director General H.E. Berik Aryn, both sides discussed Turkmenistan's agricultural priorities and potential alignment with IOFS programs in areas such as water-efficient agriculture and strategic grain reserves. They agreed on the importance of Turkmenistan's engagement in multilateral food security initiatives, and the visit served to reinforce ties between IOFS and Turkmenistan in pursuit of shared goals in food security and agricultural development. This diplomatic outreach is expected to pave the way for Turkmenistan's deeper collaboration in IOFS activities and regional projects.

IOFS Strengthens Scientific Collaboration with Delegation from Leading Academic Institutions

The Islamic Organization for Food Security welcomed a high-level delegation comprising scientists, academic leaders, and institutional representatives from King Abdullah University of Science and Technology (KAUST), Kozybayev University of Kazakhstan, and affiliated institutions. The visit served as a platform to explore strategic cooperation in agricultural innovation, food security, and genomics research across OIC Member States. H.E. Ambassador Khusrav Noziri, Assistant Director General of IOFS, received the delegation and reaffirmed IOFS's commitment to fostering partnerships that address shared challenges such as climate change, food insecurity, and technological gaps in agriculture. Discussions focused on advancing collaborative research in climate-resilient rice and wheat development, genomics and biodiversity conservation, joint capacity-building in biotechnology and sustainable agriculture, and water resource efficiency for arid regions. The engagement underscored IOFS's strategic role in catalyzing research-driven solutions and regional knowledge exchange. IOFS looks forward to deepening collaboration with academic and research institutions to promote sustainable agriculture and resilient food systems across the OIC geography.

IOFS Participates in International Scientific Conference on Organic and Regenerative Agriculture in Kazakhstan

On 10 April 2025, the Islamic Organization for Food Security participated in the International Scientific Conference on "Organic and Regenerative Agriculture: Global Challenges and Local Solutions," hosted by S. Seifullin Kazakh Agrotechnical Research University (KATU). The event convened leading scientists, policymakers, and academic experts to explore critical innovations in sustainable agriculture. IOFS Assistant Director General H.E. Ambassador Khusrav Noziri attended as Guest of Honour, joined by Program Managers Mr. Anuar Tassymov and Mr. Bakdaulet Yerkhanov, and Project Manager Mr. Bakytzhan Arystanbek. Highlights included the "Agritech Startup Ideas" competition, a

pioneering KATU initiative to promote innovation in agriculture, with 44 applications and 5 top winners sharing a prize fund of 20 million KZT. The IOFS delegation also engaged in thematic sessions on AI in agri-systems and regenerative agriculture, aligning with IOFS's Bio & Agri-Tech Development Programme. The Organization expressed gratitude to KATU's leadership for hosting a dynamic platform that fostered dialogue and innovation in food systems transformation.

IOFS Strengthens Commitment to Food Security at High-Level Forum in Dakar

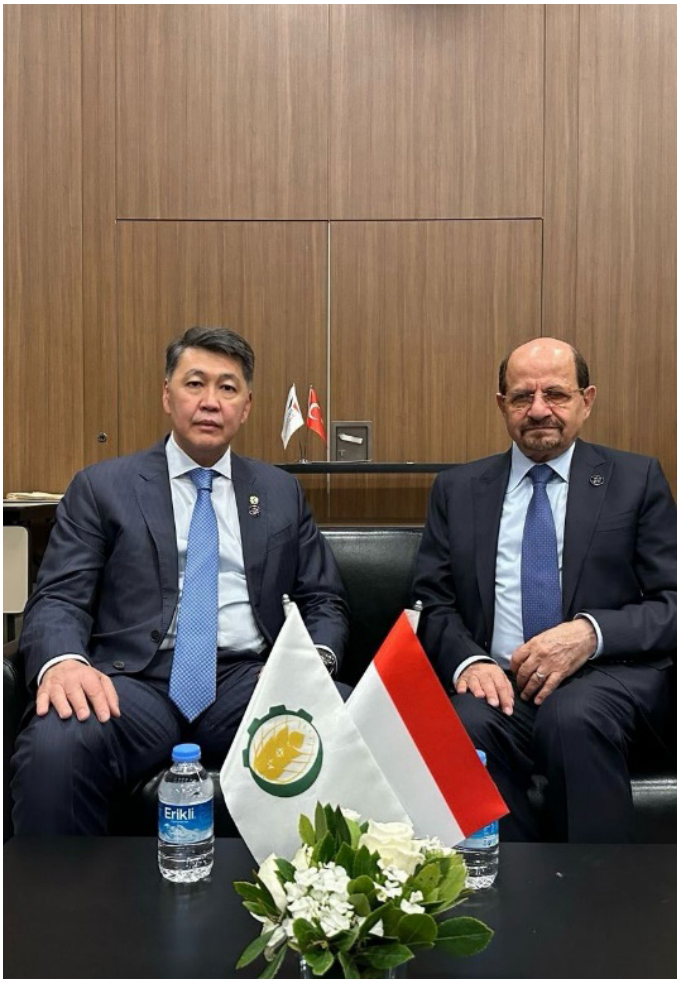
From 7-10 April 2025, IOFS reinforced its commitment to addressing food insecurity at a high-level international forum in Dakar, where global and African leaders gathered to discuss food systems resilience. Throughout the forum, IOFS representatives highlighted the organization's ongoing initiatives and strategic vision, emphasizing multilateral cooperation as key to tackling hunger and malnutrition. IOFS used the platform to advocate for increased investment in sustainable agriculture and to present its flagship programs—such as the Africa Food Security Initiative and Afghanistan Food Security Program—as models for collective action. By participating in the Dakar forum, IOFS forged stronger partnerships with African Union agencies and development partners, ensuring that food security remains a priority on the international agenda and demonstrating IOFS's role as a leading voice for the OIC in global food security dialogues.

Empowering Mediterranean Olive Farming through Digital Innovation and Climate-Smart Solutions

From 7–9 April 2025, in an effort to support climate-smart agriculture, IOFS spotlighted the empowerment of Mediterranean olive farming through digital innovation and sustainability measures in Izmir. At a regional forum in Izmir, IOFS experts joined agricultural leaders to discuss introducing advanced digital tools, such as precision irrigation systems and mobile farming apps, to olive growers across Mediterranean OIC member states. The initiative also promoted climate-smart solutions, recognizing the challenges of water scarcity and climate change in olive-producing regions. By fostering knowledge transfer on best practices (including soil moisture monitoring and organic farming techniques), IOFS aims to boost olive yield and quality while preserving the environment. This engagement reflects IOFS's commitment to helping traditional agriculture sectors, like olive cultivation, adapt to modern challenges through technology and innovative partnerships. Strengthening the olive value chain not only benefits rural livelihoods in member countries like Türkiye, Tunisia, and Lebanon but also contributes to regional food security and export potential.

IOFS Participates in Antalya Diplomacy Forum – Ambassador Berik Aryn Holds Bilateral Meetings with Key International Partners

IOFS Director General Berik Aryn Speaks on Global Food Security at Antalya Diplomacy Forum



On 12 April, the Islamic Organization for Food Securityrepresented by its Director General H.E. Ambassador Berik Aryn, actively participated in the Antalya Diplomacy Forum 2025, which was convened under the theme “Reclaiming Diplomacy in a Fragmented World.” Organized by the Ministry of Foreign Affairs of the Republic of Türkiye under the auspices of H.E. President Recep Tayyip Erdoğan, the Forum gathered high-level representatives from 148 countries, including 19 heads of state and government, 52 foreign ministers, and numerous international dignitaries. The opening day featured discussions on critical global issues such as nuclear escalation risks, digital development, peace in the Middle East, the future of Gaza, and the evolving roles of multilateral institutions like the OIC. On the sidelines, Ambassador Aryn held bilateral meetings with H.E. Abdullah Ali Al-Yahya, Minister of Foreign Affairs of Kuwait; H.E. Sugiono, Minister for Foreign Affairs of Indonesia; and H.E. Ahmed Attaf, Minister of Foreign Affairs of Algeria, focusing on strengthening food security cooperation, expanding IOFS-led agricultural initiatives, and fostering regional partnerships. A brief exchange also took place with H.E. Ahmed al-Sharaa, President of Syria, reflecting IOFS’s commitment to inclusive engagement across the OIC region. IOFS’s participation underscored its growing role in global food diplomacy and commitment to multilateral collaboration for sustainable and resilient food systems.

Antalya, Türkiye – On the second day of the Antalya Diplomacy Forum 2025, H.E. Ambassador Berik Aryn, Director General of the Islamic Organization for Food Security (IOFS), participated in the panel "How to Feed the Future – Addressing Global Food Insecurity," where he highlighted the structural challenges confronting OIC Member States. Alongside distinguished speakers such as H.E. Ms. Retno Marsudi, UN Secretary-General's Special Envoy on Water, the discussion centered on innovative solutions, inclusive partnerships, and the urgent need for collective action. Ambassador Aryn noted that over 35% of the population in OIC countries suffers from food insecurity due to over-reliance on imports, underdeveloped agricultural infrastructure, and policy gaps—with some countries importing up to 85% of their food. He also raised the issue of post-harvest losses, reaching up to 40% in certain regions, and emphasized the compounded impact of climate change and insufficient support for smallholder farmers. Outlining IOFS's Strategic Plan to Ensure Food Security in OIC Member States (SPEFS-OIC), he presented key initiatives including climate-smart agriculture, investment in rural infrastructure, and regional food reserves already underway in Mauritania and Niger. On the sidelines, Ambassador Aryn held bilateral meetings with H.E. Dr. Shaya Mohsin Zindani, Minister of Foreign Affairs of Yemen; H.E. Ms. Maria Manuela dos Santos Lucas, Minister of Foreign Affairs of Mozambique; and H.E. Mr. Jagan Chapagain, Secretary General of the International Federation of Red Cross and Red Crescent Societies (IFRC), discussing cooperation on humanitarian assistance, agricultural development, and resilience-building. His engagement at the Forum reaffirmed IOFS's active role in addressing global food insecurity through multilateral cooperation and innovation.

Director General of IOFS Participates in the II Central Asian Media Forum in Astana

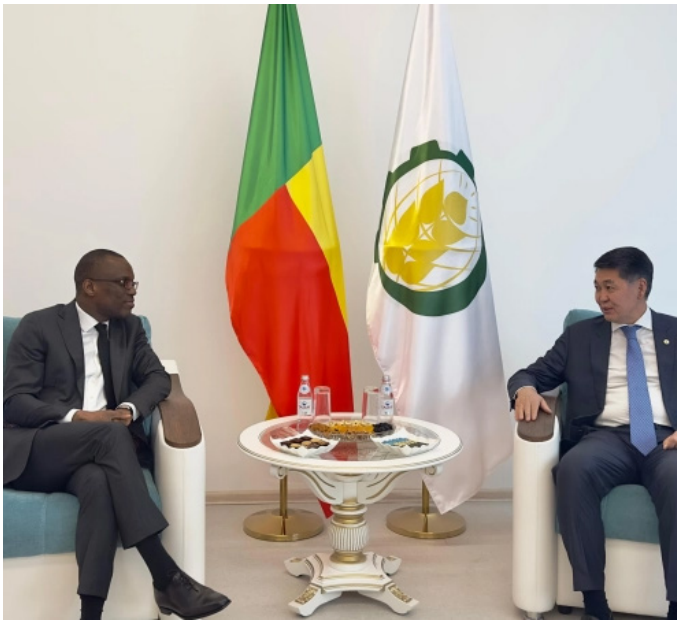
On 16 April 2025, IOFS Director General H.E. Berik Aryn attended the II Central Asian Media Forum held in Astana, under the theme "Central Asia in the Era of Global Challenges: Media as an Instrument of Strategic Development." The Forum brought together more than 700 delegates, including high-level representatives from Kazakhstan, Uzbekistan, Kyrgyzstan, Azerbaijan, Tajikistan, Turkmenistan, the United Kingdom, China, Qatar, Russia, and other countries. The diverse gathering included politicians, journalists, heads of media companies, international organizations, and prominent media experts. On the sidelines of the Forum, the Director General held productive exchanges with international counterparts, including representatives from international organizations, global media institutions, and senior government officials. He emphasized IOFS's ongoing efforts to build responsible, collaborative communication frameworks

that support food security, sustainable development, and international cooperation across OIC Member States.

IOFS Given New Mandates to be Approved by 51st Council of Foreign Ministers

From 15-17 April 2025, upon instructions of the Director General of IOFS, H.E. Ambassador Berik Aryn, Mr. Abdula Manafı Mutualo, Chief Multilateral Relations Officer, represented the Organization at the 47th Islamic Commission for Economic, Cultural & Social Affairs (ICECS), which was hosted by the Organization of Islamic Cooperation (OIC) General Secretariat in Jeddah, Kingdom of Saudi Arabia. The ICECS gathered to prepare relevant resolutions in the designated fields for approved by the 51st Council of Foreign Ministers (CFM) slated for 20-21 June next at Istanbul, Republic of Türkiye. Among the new mandates that will be provided by the 51st CFM, to IOFS is requested to strengthen intra-OIC food trade and agribusiness though holding appropriate initiatives in this context, as well as to develop and implement comprehensive programs focused on enhancing food security and sustainable livelihoods for refugees within OIC Member States by coordinating resources, partnerships with relevant OIC, international and regional organizations, while promoting innovative solutions to ensure access to nutritious food and economic opportunities for refugee populations.

IOFS Welcomes Foreign Minister of Benin to Headquarters in Astana



IOFS headquarters in Astana received a high-level visit from the Republic of Benin on 18 April 2025, as His Excellency Olushegun Adjadi Bakari, the Foreign Minister of Benin, met with IOFS Director General H.E. Berik Aryn. During this courtesy visit, discussions centered on potential areas of cooperation in food security and agricultural development between IOFS and Benin. Minister Bakari was briefed on IOFS's ongoing programs in Africa, including the newly launched Africa Food Security Initiative, which aligns with Benin's goals for improving agricultural productivity and resilience. Both parties explored joint actions such as capacity-building for Beninese agricultural experts, facilitation of agribusiness investments, and the sharing of best practices in managing strategic food reserves. The meeting also touched on how IOFS can support Benin in crisis situations through its humanitarian food assistance mechanisms. This visit strengthened IOFS's engagement with West African member states and highlighted Benin's interest in leveraging IOFS's multilateral platform to bolster its national food security strategy. The Foreign Minister's visit concluded with mutual commitments to work closely in preparation for upcoming IOFS and OIC events, ensuring Benin's active participation in collective efforts to achieve food security.

IOFS Successfully Hosts Food Safety Capacity Building Event in Dushanbe

IOFS successfully concluded a two-day regional capacity-building event in Dushanbe on 22 April 2025, aimed at boosting the food safety capabilities of fruit and vegetable producers in Central Asia. The training workshop, organized in collaboration with Tajik authorities and experts, focused on helping local producers meet international food safety standards for exporting to Gulf Cooperation Council (GCC) markets. Participants from multiple Central Asian countries (including Tajikistan, Kazakhstan, Kyrgyzstan, and Uzbekistan) received guidance on modern practices such as proper use of agro-chemicals, post-harvest handling, and certification processes required by GCC importers. This initiative – titled "Promoting the Food Safety Capacity of Fruits and Vegetable Producers in Central Asian Countries for Export to GCC Markets" – is part of IOFS's effort to empower farmers and agribusinesses with the knowledge to access new markets. By improving compliance with food safety and quality standards, the program will enable higher export revenues for local producers while ensuring safer produce for consumers. The event in Dushanbe, which was well-attended by agricultural extension officers and representatives of food processing companies, underscores IOFS's commitment to enhancing sanitary and phytosanitary standards in member countries as a foundation for food security and trade development.

IOFS Participates in the 6th Steering Committee Meeting for the OIC STI Agenda 2026

On 23 April 2025, IOFS took part in the 6th Steering Committee Meeting of the OIC Science, Technology, and Innovation (STI) Agenda 2026. In this meeting, held via videoconference under the auspices of COMSTECH and relevant OIC institutions, IOFS representatives advocated for incorporating food security considerations into the OIC's STI roadmap. IOFS reported on its ongoing science-driven initiatives – such as the development of an OIC-wide gene bank network and the use of smart agriculture technologies – to showcase how STI can directly enhance food security. The committee discussed progress on various STI targets, and IOFS offered to lead certain capacity-building programs related to agricultural research and biotech innovation. As an outcome, the meeting recognized the need for cross-sectoral collaboration; IOFS was tasked with aligning its projects (like the planned Association of Agricultural Academies) with the broader STI Agenda goals. IOFS's participation ensured that agricultural innovation remains a priority in the OIC's pursuit of scientific advancement, reflecting the idea that technological progress and food security efforts must go hand in hand.

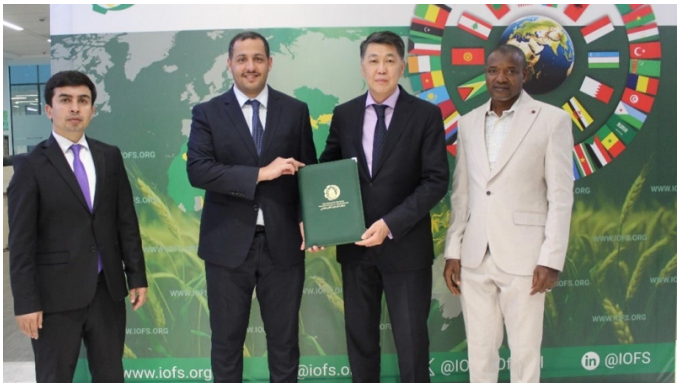
IOFS and TIKA Lay Groundwork for Future Speed-Breeding Collaboration during Visit to KazNIIZiR in Almaty

On 24 April 2025, the Islamic Organization for Food Security (IOFS), in collaboration with the Kazakhstan Coordination Office of the Turkish Cooperation and Coordination Agency (TIKA), conducted a joint working visit to the Kazakh Research Institute of Agriculture and Crop Production (KazNIIZiR) in Almaty to assess the feasibility of launching a Speed Breeding Project in Kazakhstan. The visit, which included representatives from IOFS, TIKA, and local academic partners, aimed to evaluate the infrastructure and scientific capabilities for developing climate-resilient wheat varieties. Key discussions focused on the potential of speed breeding technologies to enhance the production of heat- and drought-tolerant crops critical for regional agricultural sustainability. TIKA expressed strong interest in supporting the initiative, acknowledging its significance for advancing food security and agricultural innovation in Kazakhstan.

IOFS Director General Addresses Conference Dedicated to the 25th Anniversary of the Faculty of Oriental Studies of ENU

On 25 April 2025, the Director General of the Islamic Organization for Food Security, H.E. Ambassador Berik Aryn, participated in the International Scientific and Practical Conference titled "The Countries of the East in the Context of Modern International Relations: Problems and New Requirements for Research," held at L.N. Gumilyov Eurasian National University (ENU) in Astana. Addressing an audience of diplomats, scholars, and representatives from international organizations, the Director General underscored the enduring influence of Eastern civilizations in shaping global affairs and emphasized the growing importance of the East in a multipolar world. He presented IOFS's mission and highlighted key programs such as Flour for Humanity and agri-tech training as strategic tools for building food system resilience and promoting sustainable development. Stressing the link between food security and peace, Ambassador Aryn called for deeper collaboration between IOFS and academic institutions, praising ENU as a vital bridge between East and West and inviting it to partner on research and capacity-building initiatives.

IOFS Financial Control Committee Concludes Review Meetings in Astana



From 21 to 25 April 2025, the Financial Control Committee of the Islamic Organization for Food Security, comprising representatives from Nigeria, Saudi Arabia, and Tajikistan, conducted a series of in-depth meetings in Astana to assess the organization's financial operations and overall efficiency. During the sessions, IOFS departments presented comprehensive financial and strategic reports, culminating in the detailed Financial Report delivered by Mr. Safwan Alsaaideh, IOFS Chief Financial Officer. The committee rigorously evaluated the financial office's procedures, reinforcing IOFS's commitment to transparency and accountability. Upon conclusion, the committee submitted its findings to Director General H.E. Ambassador Berik Aryn, who will relay the report to the IOFS Executive Board and General Assembly. This review underscores IOFS's continued dedication to sound financial governance in support of its broader mission to ensure food security across OIC Member States.

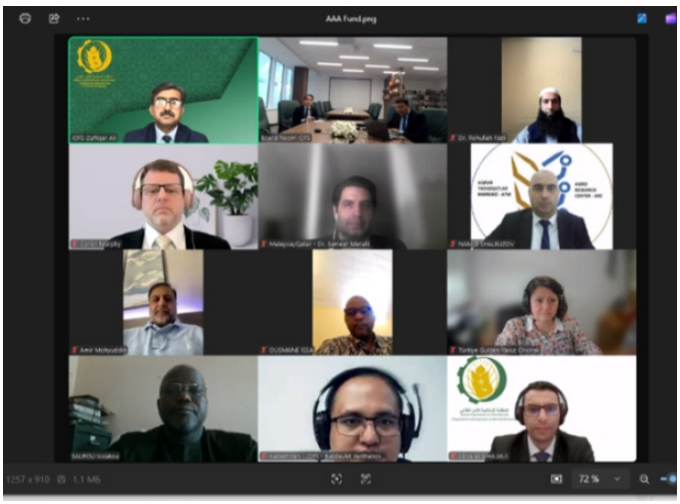
IOFS Highlights Humanitarian Innovations at the 21st Edition of DIHAD 2025

Under the patronage of His Highness Sheikh Mohammed bin Rashid Al Maktoum and inaugurated by Her Highness Sheikha Latifa bint Mohammed, the 21st edition of the Dubai International Humanitarian Aid and Development (DIHAD) Conference and Exhibition convened from 29 April to 1 May 2025, leading global humanitarian actors under the theme "Humanitarian Aid and Development in a Polarised World." The Islamic Organization for Food Security marked its third consecutive participation by showcasing its flagship humanitarian programs, including the Afghanistan Food Security Programme and "Flour for Humanity" for Gaza. IOFS's booth drew considerable attention from NGOs, government officials, and private sector partners, reinforcing the organization's growing role in the humanitarian sphere. The International Islamic Food Processing Association (IFPA), a subsidiary of IOFS, also co-exhibited, emphasizing private sector contributions to sustainable food systems. CEO Mr. Saleh Lootah announced the upcoming Global Food Security Summit in Abu Dhabi while highlighting the importance of financing and cross-sector collaboration. IOFS's Humanitarian Operations Officer, Mr. Emre Yuksek, shared the organization's innovative approaches during a DIHAD podcast session. With over 18,000 participants from 160 countries, DIHAD 2025 reaffirmed Dubai's leadership as a global humanitarian hub and provided IOFS with critical platforms to strengthen cooperation and visibility.

IOFS Convenes 14th Executive Board Meeting in the Historic City of Turkistan

On 6 May 2025, IOFS convened its 14th Executive Board Meeting in the historic city of Turkistan, Kazakhstan, bringing together senior officials from Member States and the IOFS Secretariat to deliberate on strategic priorities and institutional development. Chaired by Dr. Masoud Jarallah Al-Marri of Qatar, the session opened with remarks from IOFS Director General H.E. Ambassador Berik Aryn, who emphasized the symbolic and strategic significance of Turkistan as the host city and highlighted IOFS's role as a dynamic platform uniting policy, programming, and partnerships. His comprehensive report outlined key achievements, including humanitarian operations in Afghanistan and Gaza, the launch of the Africa Food Security Initiative, and leadership in shaping the OIC Strategic Food Security Programme. The meeting also reviewed progress on institutional reforms, future programming, and preparations for the upcoming 7th General Assembly. Notably, Kazakhstan proposed future IOFS programs focused on youth and women in agriculture. The gathering concluded with a reaffirmation of collective responsibility and multilateral commitment to food security across the OIC region, complemented by a cultural program exploring Turkistan's Islamic heritage.

IOFS Expert Meeting on the IOFS Fund and the Association of Agricultural Academies

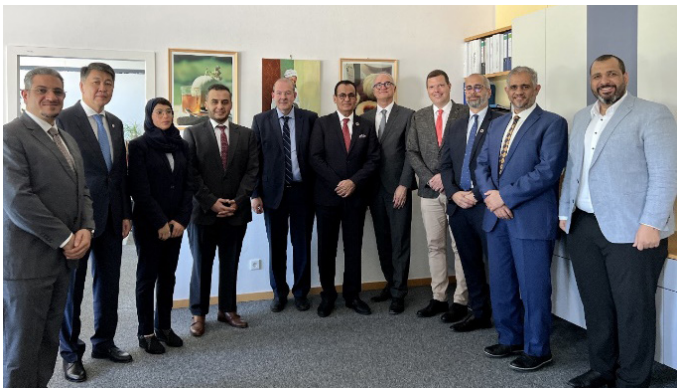


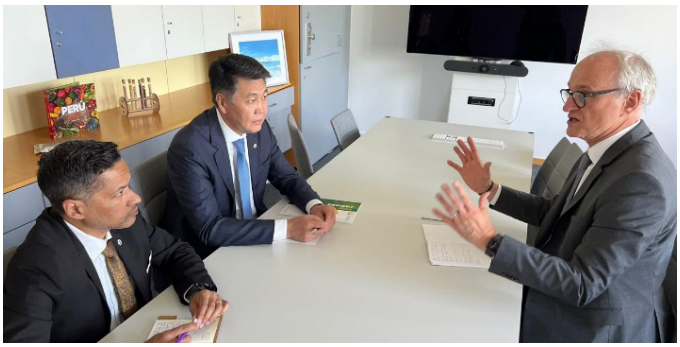
On 12 May 2025, IOFS convened a virtual expert meeting with the participation of representatives from several Member States, including the UAE, Azerbaijan, Kazakhstan, Afghanistan, Côte d'Ivoire, Guinea-Bissau, Niger, and Togo, to advance agricultural cooperation and food security initiatives within the Islamic world. The IOFS Secretariat presented two key initiatives: the proposed IOFS Fund, aimed at mobilizing investments for national and regional food security projects, and the Association of Agricultural Academies (AAA), envisioned as a collaborative network linking scientific research with policymaking to enhance sustainable agricultural development. Member State representatives offered constructive feedback and expressed strong interest in both mechanisms, emphasizing the need for further consultation and coordinated implementation. The IOFS reaffirmed its commitment to supporting Member States in operationalizing these initiatives through continued dialogue and technical assistance.

IOFS Supports Halal Product Standards Training in Tashkent

On 12 May 2025, IOFS in partnership with COMSTECH, SMIIC, the Uzbek Agency for Technical Regulation, and the International Islamic University Malaysia (IIUM), launched a regional training course in Tashkent on "OIC/SMIIC Halal Products Standards and Testing." The program convened representatives from ten OIC Member States to enhance their understanding of halal standards and certification practices across food, pharmaceutical, and cosmetic sectors. Ambassador Khusrav Noziri, IOFS Assistant Director General, underscored the importance of halal compliance in ensuring safety, transparency, and trade development within the OIC. IOFS Program Manager, Dr. Shakhlo Atabaeva introduced the organization's Healthy, Halal, and Safe Food Ecosystem Program, encouraging best practices in food safety and sustainability. The course aims to build technical capacity and promote standardized, globally recognized halal systems, reinforcing IOFS's broader mission to support food security, quality assurance, and trade facilitation across the Islamic world.

IOFS Seeks to Widen Partnerships at First Stakeholder Meeting of the Global Flagship Initiative for Food Security in Bonn





On 12 May 2025, the Director General of IOFS, H.E. Ambassador Berik Aryn, participated in the First Stakeholder Meeting of the Global Flagship Initiative for Food Security, held at the headquarters of the Crop Trust in Bonn, Germany. During donor roundtables and high-level discussions co-facilitated by AGFUND and the European Commission, Ambassador Aryn emphasized IOFS's crucial role in implementation and regional coordination, particularly across Member States facing acute food insecurity. He outlined IOFS's ongoing contributions to strategic programmes, including the Afghanistan and Africa Food Security Initiatives, as well as its work on wheat development, cassava value chains, and climate-resilient agriculture. On the sidelines, the Director General held bilateral meetings with representatives from the UN Science Summit, AGFUND, and the Crop Trust, reaching initial agreements on joint initiatives, including gene bank development in Kazakhstan and co-organization of the Science Summit at the 80th UN General Assembly. Ambassador Aryn reaffirmed IOFS's full alignment with the Flagship's objectives and commitment to collaborative action in food security.

IOFS Proposes Collaborative Opportunities at the Global Flagship Initiative for Food Security Meeting in Bonn

On 13 May 2025, IOFS Director General, H.E. Ambassador Berik Aryn, delivered a comprehensive presentation titled "IOFS Brief and Collaboration Opportunities" at the inaugural Stakeholder Meeting of the Global Flagship Initiative for Food Security, held at the Crop Trust Headquarters in Bonn, Germany. Emphasizing IOFS's commitment to empowering rural communities and strengthening agri-food systems, the Director General outlined the organization's active programs across its strategic pillars and presented key areas for collaboration, including genetic resource protection, climate-resilient agriculture, strategic commodities, food value chains, and inclusive humanitarian aid. He called for enhanced partnerships with donor institutions and the private sector, particularly through the International Islamic Food Processing Association (IFPA), to support smallholder farmers and advance sustainable agricultural practices. Mr. Abdula Manafi Mutualo, Chief Multilateral Relations Officer, reinforced this message during a Private Sector Roundtable, advocating for deeper private sector engagement in food processing and market access. Additionally, Ambassador Aryn held bilateral talks with H.E. Prof. Ibrahim ElDukheri of AOAD, reaffirming joint commitments under the 2022 MoU. The meeting served as a vital platform for IOFS to engage with global stakeholders, reinforcing its leadership role in delivering scalable, transformative food security solutions in the lead-up to 2030.

IOFS Strengthens Ties with World Organization for Animal Health to Advance Veterinary Cooperation Across OIC Member States

On 14 May 2025, the Islamic Organization for Food Security hosted a high-level meeting with the World Organization for Animal Health (WOAH) at its Headquarters in Astana to explore strategic collaboration in veterinary services and livestock development. Chaired by Ambassador Khusrav Noziri, IOFS Assistant Director General, the meeting brought together Prof. Dr. Romano Marabelli, Advisor to the WOAH Director General, and representatives from the Experimental Zooprophylactic Institute of Umbria and Marche (IZSUM) and WOAH's Central Asia Office. Discussions centered on joint priorities such as animal disease control, the PVS Pathway, and the One Health approach to strengthening food systems in OIC Member States. WOAH presented its global mandate, including standard-setting and emergency disease monitoring, while IZSUM expressed interest in broader engagement across Africa and Central Asia. The parties agreed to initiate formal correspondence to establish a long-term partnership and explore regional programming and a potential high-level meeting between the Directors General of IOFS and WOAH.

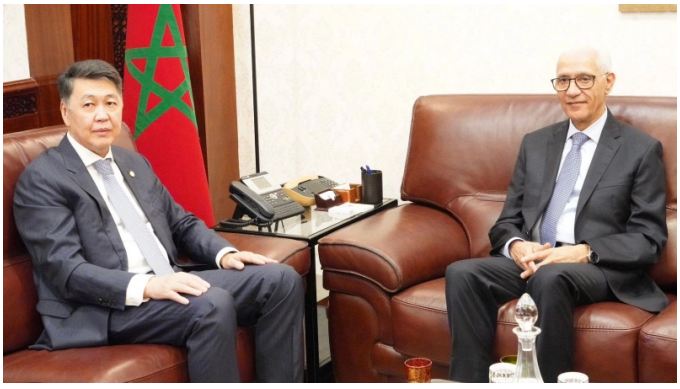
IOFS and Moroccan Foreign Ministry Forge Strategic Alliance to Enhance African Food Security

On 14 May 2025, the Islamic Organization for Food Security advanced its strategic engagement in Africa through high-level consultations with the Ministry of Foreign Affairs of the Kingdom of Morocco in Rabat. IOFS Director General H.E. Ambassador Berik Aryn was received by H.E. Mr. Nasser Bourita, Minister of Foreign Affairs, alongside H.E. Ms. Saulekul Sailaukyzy, Ambassador of Kazakhstan to Morocco. The meeting underscored mutual commitment to strengthening food security and agricultural resilience across OIC Member States, particularly in Africa. Minister Bourita reaffirmed Morocco's solidarity with Islamic countries and its dedication to food sovereignty under the leadership of His Majesty King Mohammed VI. Ambassador Aryn praised Morocco's achievements through its Green Morocco Plan and "Generation Green" strategy and proposed greater Moroccan involvement in IOFS-led regional initiatives. Discussions emphasized triangular cooperation among Morocco, IOFS, and international partners, with potential for joint agricultural projects, knowledge-sharing, and capacity-building. The dialogue concluded with a commitment to translate shared priorities into tangible programs supporting sustainable food systems and regional development.

IOFS Establishes Key Agricultural Research Partnerships in Morocco

On 14 May 2025, the Islamic Organization for Food Security deepened its technical cooperation with the Kingdom of Morocco through a series of high-level engagements with the Ministry of Agriculture and leading research institutions, aimed at leveraging Moroccan expertise for food systems resilience across OIC Member States. IOFS Director General H.E. Ambassador Berik Aryn held a strategic dialogue with Mr. Redhouane Arrach, Secretary General of the Ministry of Agriculture, focusing on Morocco's leadership in sustainable agriculture and opportunities to launch triangular partnerships under the African Food Security Initiative (AFSI). Further meetings with Dr. Aly Abousabaa, Director General of ICARDA, resulted in commitments to scale up collaboration on climate-resilient crops and capacity-building. A significant milestone was reached through discussions with Morocco's National Institute for Agricultural Research (INRA), led by Professor Lamiae Ghaouti, where both sides agreed to formalize a scientific partnership encompassing joint research, technical exchanges, and innovation in plant genetics and water-use efficiency. These engagements pave the way for impactful, science-driven cooperation to enhance food security and climate adaptation across the Islamic world.

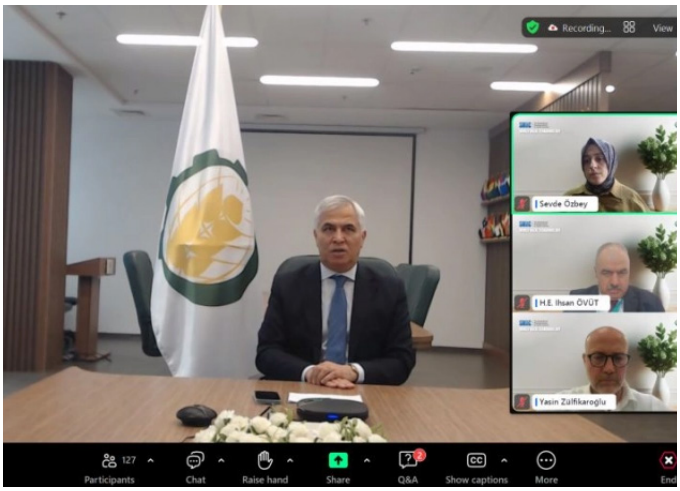
IOFS Director General Discusses Agricultural Cooperation with Speaker of Moroccan Parliament

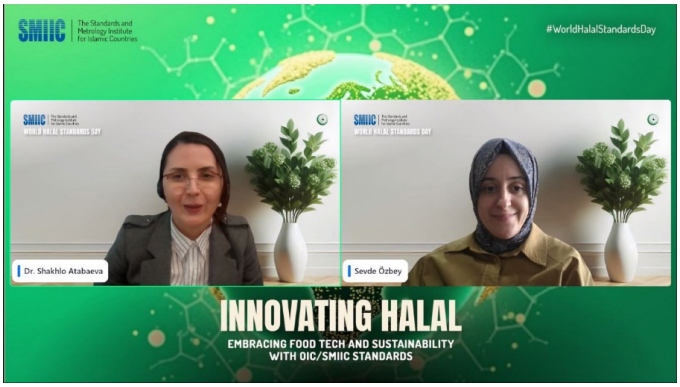


On 15 May 2025, IOFS Director General H.E. Ambassador Berik Aryn met with H.E. Rachid Talbi Alami, Speaker of the House of Representatives of Morocco, to discuss strengthening cooperation in advancing food security across OIC Member States. Joined by H.E. Saulekul Sailaukyzy, Ambassador of Kazakhstan to Morocco, the meeting focused on Morocco's potential role as a regional leader in agricultural expertise, particularly in supporting IOFS initiatives on wheat development, gene banking, halal food systems, and sustainable water management. Ambassador Aryn emphasized the importance of triangular and South-South cooperation, positioning Morocco as a knowledge

hub for African Member States. Speaker Talbi Alami reaffirmed Morocco's commitment to agricultural transformation under the leadership of His Majesty King Mohammed VI and welcomed closer collaboration with IOFS, particularly in legislative support for agri-food development. Both parties expressed their intent to promote value-added agricultural models and strengthen parliamentary engagement in regional food security efforts.

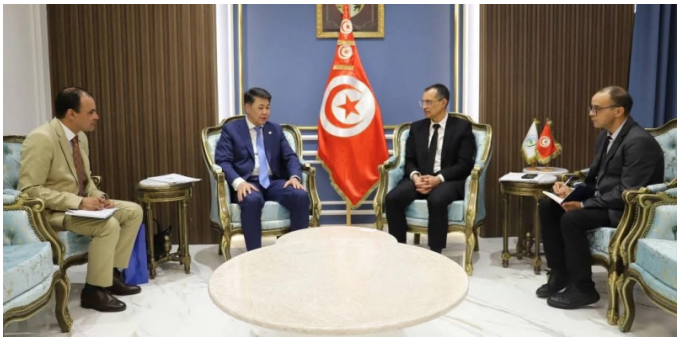
IOFS Marks 2nd World Halal Standards Day by Championing Innovation and Sustainability in Halal Food Systems





On 16 May 2025, the Islamic Organization for Food Security (IOFS) actively participated in the global observance of the 2nd World Halal Standards Day (WHSD), held under the theme "Innovating Halal: Embracing Food Tech and Sustainability with OIC/SMIIC Standards." The event, led by the Standards and Metrology Institute for Islamic Countries (SMIIC), marked the continued evolution of halal standards and underscored their role in supporting resilient and ethical food systems. IOFS co-hosted a virtual international webinar that convened high-level representatives, including regulators, certification bodies, and food industry innovators, to explore the intersection of halal compliance, digital traceability, and sustainability. In his opening remarks, IOFS Assistant Director General Ambassador Khusrav Noziri emphasized the critical role of innovation in reinforcing halal assurance and advancing food security. Program Manager Dr. Shakhlo Atabaeva presented IOFS's strategic vision for integrating halal standards into future-ready food ecosystems. The event also highlighted IOFS's recent training program on halal standards held in Tashkent, further demonstrating its commitment to building Member State capacity and promoting harmonized halal systems aligned with global developments.

IOFS Director General Advances Strategic Cooperation During Official Visit to Tunisia

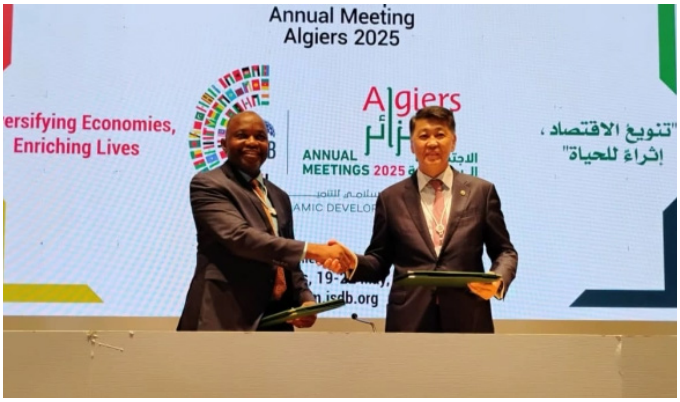


On 16 May 2025, IOFS Director General H.E. Ambassador Berik Aryn concluded a high-level mission to Tunisia, advancing cooperation in agriculture, environment, and biodiversity conservation. In his meeting with H.E. Mr. Ezzedine Ben Cheikh, Minister of Agriculture, the two sides reviewed bilateral cooperation, highlighting Tunisia's contributions to IOFS programs and its strategic role in the African Food Security Initiative (AFSI). The discussions focused on developing the wheat sector, enhancing market access for Tunisian agricultural exports, and establishing a joint technical task force for concrete collaboration. Ambassador Aryn also met with H.E. Mr. Habib Abid, Minister of Environment, to initiate environmental cooperation aimed at addressing climate-related threats to agriculture. Both sides agreed to co-host a side event at COP30, spotlighting climate-agriculture-food security linkages. Additionally, the Director General visited Tunisia's National Gene Bank, where he commended the country's expertise in genetic resource conservation and reaffirmed IOFS support for expanded technical exchanges. The visit underscored IOFS's commitment to fostering tailored, results-driven partnerships with Member States in pursuit of food systems resilience.

IOFS Participates in ICARDA's Strategic Dialogue and Speed Breeding Facility Inauguration in Morocco

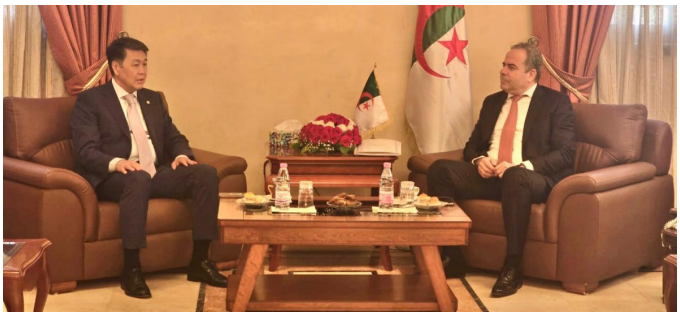
From 14 to 16 May 2025, the Islamic Organization for Food Security actively participated in the ICARDA Strategic Dialogue and 50th Anniversary Celebrations in Rabat and the Marchouch Research Station, Morocco. Represented by Ms. Makpal Bulatova, Project Manager for Wheat Breeding Initiatives, IOFS joined international partners in exploring cutting-edge innovations in climate-resilient agriculture. Under the theme "Science in Action – Innovation for Resilient Agriculture," the event highlighted ICARDA's scientific achievements in seed systems, biodiversity, and crop improvement. A key highlight was the demonstration of the Speed Breeding Platform, a breakthrough in accelerating the development of resilient wheat and barley varieties. This initiative aligns closely with IOFS's wheat breeding priorities and ongoing collaboration with ICARDA to support seed system development and cereal production in North Africa and other OIC Member States.

IOFS Director General Engages Strategic Partners During IsDB Annual Meetings in Algiers



During a high-level visit to Algeria from 18 to 20 May 2025, H.E. Ambassador Berik Aryn, Director General of the Islamic Organization for Food Security, engaged in strategic discussions on advancing agricultural cooperation in Africa, coinciding with the Islamic Development Bank (IsDB) Annual Meetings. A key meeting with Dr. Amine Bensemmane, President of SIPSA-FILAHA, focused on aligning IOFS's African Food Security Initiative (AFSI) with SIPSA-FILAHA's regional initiatives, culminating in an invitation for IOFS to co-lead the 2026 Pan-African Food Debates. In a major development, IOFS also signed a Memorandum of Understanding with UN Women, represented by Dr. Maxime Houinato, to promote gender-inclusive food security programs across West and Central Africa. The MoU outlines joint efforts to empower women in agri-food systems through advocacy, capacity-building, and resource mobilization, reinforcing IOFS's commitment to inclusive and resilient food systems.

IOFS Director General Conducts High-Level Meetings in Algiers on the Sidelines of the IsDB Annual Meeting



During the Islamic Development Bank (IsDB) Annual Meeting, H.E. Ambassador Berik Aryn, Director General of the Islamic Organization for Food Security (IOFS), conducted a series of high-level meetings aimed at expanding strategic partnerships and advancing IOFS's food security agenda. In a key bilateral discussion, Ambassador Aryn met with H.E. Dr. Mahamadou Tounkara, Regional Director of the Global Green Growth Institute (GGGI) for MENA. Both parties welcomed the progress made in their collaboration and agreed to formalize their partnership through a Memorandum of Understanding. The discussion focused on aligning efforts to support sustainable agriculture across OIC Member States, particularly through IOFS's Africa Food Security Initiative (AFSI), where synergies between the two institutions can be effectively leveraged. Further strengthening IOFS's regional engagement, Ambassador Aryn held a strategic meeting with Mr. Hamed Ben Said, Secretary General of the Algerian Ministry of Agriculture and Rural Development. The meeting emphasized Algeria's growing agricultural capacity and its potential contribution to IOFS programs. Both sides explored future collaboration in sustainable water management, wheat and livestock development, and knowledge sharing on Saharan agriculture, with agreement to develop a joint work plan. Ambassador Aryn also took part in the official opening of the IsDB Annual Meeting, attended by Algeria's Prime Minister H.E. Nadir Larbaoui, IsDB President H.E. Dr. Muhammad Al Jasser, and Algeria's Minister of Finance H.E. Abdelkrim Bouzred. Throughout the event, the Director General actively contributed to panel discussions on food security, digital transformation, and intra-OIC trade, while conducting bilateral consultations with various stakeholders to strengthen IOFS's impact and reach across the Islamic world.

Kazakhstan, with IOFS Support, Advances Agricultural Sovereignty by Repatriating Historic Seed Collection from ICARDA

In a significant step toward restoring Kazakhstan's agricultural biodiversity, the Islamic Organization for Food Security facilitated the successful repatriation of 286 native seed accessions from the ICARDA Genebank in Morocco. The collection, which includes bread wheat, durum wheat, barley, chickpea, and lentil varieties, complements a previous March 2025 shipment from Lebanon and aligns with President Kassym-Jomart Tokayev's national food security agenda. This initiative ensures local access to historical genetic resources vital for climate-resilient breeding and conservation efforts. Coordinated with Dr. Athanasios Tsivelikas of ICARDA, the operation underscores IOFS's role in enabling Member States to reclaim and utilize their agricultural heritage in support of biodiversity, innovation, and sustainable development.

IOFS Organizes Workshop on Water Use Management in Agriculture for OIC Member States

The Islamic Organization for Food Security, in partnership with OIC ST, ICESCO, COMSTECH, and INWRDAM, convened a three-day workshop on "Water Use Management for Agriculture in OIC Member States," from 26-28 May 2025. The event brought together policy experts, researchers, and practitioners to address the growing challenges of water scarcity and efficiency in agricultural systems. The opening session featured remarks from senior representatives of the organizing institutions, with a keynote address by Dr. Abdelaziz Hajjaji of IOFS emphasizing the need for integrated, innovative solutions to secure water resources and support resilient food systems across OIC countries. The first day focused on practical solutions such as desalination, rainwater harvesting, and rain-fed agriculture. Presentations from the Ministry of Equipment and Water of Morocco, SESRIC, IWMI, ICARDA, and other regional actors showcased cutting-edge technologies and local experiences. A high-level panel concluded the day by discussing emerging investment opportunities to improve water use efficiency in agriculture.

Ambassador of Kazakhstan to Qatar Visits IOFS Headquarters to Strengthen Cooperation

On 28 May, the Islamic Organization for Food Security welcomed H.E. Mr. Arman Issagaliyev, Ambassador of the Republic of Kazakhstan to the State of Qatar, for high-level consultations at its Headquarters in Astana. In a meeting with IOFS Director General H.E. Ambassador Berik Aryn, the two sides explored avenues to enhance trilateral cooperation among Qatar, Kazakhstan, and IOFS, with a focus on advancing food security, sustainable agriculture, and regional development. Ambassa-

dor Aryn outlined the Organization's strategic programs, underlining the importance of Gulf partnerships, while Ambassador Issagaliyev reaffirmed Kazakhstan's support and commitment to fostering institutional linkages with Qatari counterparts. The meeting concluded with a mutual agreement to maintain regular dialogue and identify practical opportunities for joint initiatives aligned with IOFS's mandate and the development goals of OIC Member States.

IOFS and UNAMA Deepen Strategic Humanitarian Partnership for Afghanistan

The Islamic Organization for Food Security reaffirmed its steadfast commitment to supporting the Afghan people through enhanced cooperation with the United Nations Assistance Mission in Afghanistan (UNAMA), as H.E. Ambassador Berik Aryn, Director General of IOFS, met with H.E. Mrs. Roza Otunbayeva, Special Representative of the UN Secretary-General and Head of UNAMA, for a high-level meeting on the sidelines of the Astana International Forum. Building on the successful delivery of the "Flour for Humanity" program and the ongoing Afghanistan Food Security Programme (AFSP), the two sides reviewed humanitarian progress and discussed future collaboration, including wheat cultivation projects benefiting over 600 Afghan farmers and proposals for expanding food assistance to prison populations. Special Representative Otunbayeva expressed support for convening a joint Donor Conference on Humanitarian Food Assistance and welcomed IOFS's offer to partner with the newly established UN Regional Center for Sustainable Development Goals (SDGs) in Almaty. Both parties underscored the need for coordinated, inclusive responses to Afghanistan's worsening food insecurity and committed to strengthening cooperation with WFP, FAO, UN Women, and other partners to ensure greater regional impact and resilience.

IOFS Director General Strengthens Global Partnerships for Food Security at Astana International Forum 2025

On 29 May 2025, His Excellency Ambassador Berik Aryn, Director General of the Islamic Organization for Food Security, participated in the opening plenary of the Astana International Forum (AIF) 2025 under the theme "Shared Future: Inclusive Growth and Sustainability," inaugurated by H.E. President Kassym-Jomart Tokayev. On the sidelines of the Forum, Ambassador Aryn conducted high-level bilateral meetings with distinguished dignitaries, including His Excellency Mr. Ban Ki-moon, President and Chair of the Global Green Growth Institute (GGGI) and former Secretary-General of the United Nations; His Excellency Mr. Daniyar Amangeldiev, Deputy Prime Minister of the Kyrgyz Republic; His Excellency Mr. Alhaj Nooruddin Azizi, Minister of Industry and Commerce of the Islamic Emirate of Afghanistan; His Imperial Majesty Ooni Adeyeye Enitan Ogunwusi, the Ooni of Ife, Federal Republic of Nigeria; His Excellency Mr. Nur Jazlan Mohamed, Deputy President of the Senate of Malaysia; and His Excellency Mr. Kubanychbek Omuraliev, Secretary General of the Organization of Turkic States (OTS). These consultations focused on deepening cooperation in sustainable agriculture, regional integration, humanitarian food assistance, and culturally rooted food systems. The engagements reaffirmed IOFS's active role in advancing multilateral partnerships and inclusive food security solutions across the OIC region and beyond.

IOFS and IOM Sign Landmark Memorandum of Understanding to Enhance Food Security in Migration-Affected Regions

On 29 May 2025, the Islamic Organization for Food Security and the International Organization for Migration (IOM) signed a Memorandum of Understanding (MoU) to strengthen cooperation in addressing food insecurity among displaced and migrant-affected populations across the OIC region. The MoU was signed during the visit of IOM Director General H.E. Mrs. Amy Pope to IOFS Headquarters, where she was received by IOFS Director General H.E. Ambassador Berik Aryn. The agreement prioritizes joint action in food system resilience, humanitarian assistance, and support to IOFS flagship programmes such as AFSP, AFSI, and the Flour for Humanity Initiative. Both parties committed to convening technical consultations to operationalize joint activities, further reinforcing the UN–OIC Coordination Framework. This milestone reflects a deepened partnership to

deliver sustainable solutions to the complex challenges of migration, food insecurity, and climate vulnerability.

IOFS and FAO Reinforce Strategic Partnership During Astana International Forum

On 29 May, 2025, on the margins of the Astana International Forum, His Excellency Ambassador Berik Aryn, Director General of the Islamic Organization for Food Security (IOFS), held a bilateral meeting with His Excellency Mr. QU Dongyu, Director General of the Food and Agriculture Organization of the United Nations (FAO), to reaffirm their shared commitment to advancing food security, sustainable agriculture, and strengthened collaboration across Member States of the Organization of Islamic Cooperation (OIC) and beyond. The discussion reviewed progress made under the Letter of Intent signed in Astana in July 2024 during the 16th UN–OIC Coordination Meeting, including joint technical workshops, regional consultations, and the co-organization of the Global Food Security Summit held in Abu Dhabi in November 2024. Ambassador Aryn expressed appreciation for FAO's continued support and emphasized the need for deepened cooperation in tackling food insecurity, climate challenges, and rural vulnerability. Director General Qu invited IOFS to actively participate in the upcoming World Food Forum in Rome in October 2025, including the organization of a dedicated side event. The meeting reinforced the strategic alignment between IOFS and FAO in addressing global and regional food system challenges through innovation, capacity-building, and inclusive partnerships.

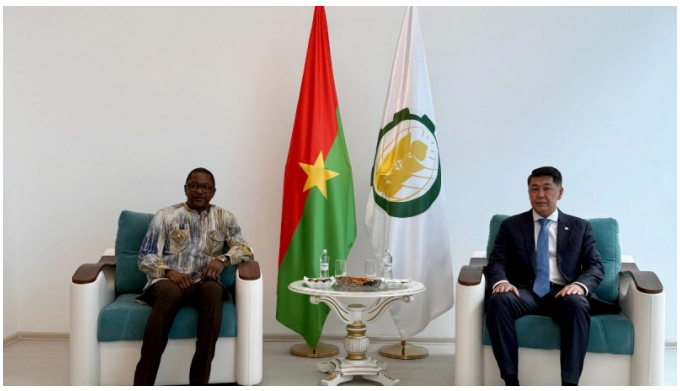
IOFS Contributes to Regional Dialogue on Agriculture, Water, and Climate Resilience in Dushanbe

On 29 May 2025, the Islamic Organization for Food Security actively participated in a series of high-level engagements ahead of the International Conference on Glaciers' Preservation, underscoring its commitment to climate-resilient agriculture and regional cooperation on water and food security. Represented by H.E. Ambassador Khusrav Noziri, Assistant Director-General of IOFS, the Organization contributed to the Forum on Agriculture in a Time of Glacier Loss, co-organized by FAO, WFP, and the Mountain Partnership, and hosted by the Government of Tajikistan. In his remarks during the High-Level Panel on "Promoting Resilience in Mountain and Glacier Ecosystems," Ambassador Noziri highlighted IOFS initiatives on climate-smart agriculture, biochar application, and resilient crop varieties, and referenced indigenous innovations such as Pakistan's "ice stupa" model. On the sidelines, IOFS held bilateral consultations with senior officials from Tajikistan, Kazakhstan, Kyrgyzstan, Uzbekistan, ESCAP, ECO, and WFP to identify opportunities for joint action. Additionally, IOFS participated in the CICA Side Event on "Water Security and Climate Resilience," where Project Manager Mr. Bakytzhan Arystanbek emphasized IOFS's role in aligning food and water strategies across OIC Member States and reaffirmed the Organization's readiness to strengthen cooperation on transboundary climate challenges. These engagements reaffirmed IOFS's strategic role in advancing regional climate resilience and food system sustainability.

IOFS Participates in High-Level International Conference on Glaciers' Preservation

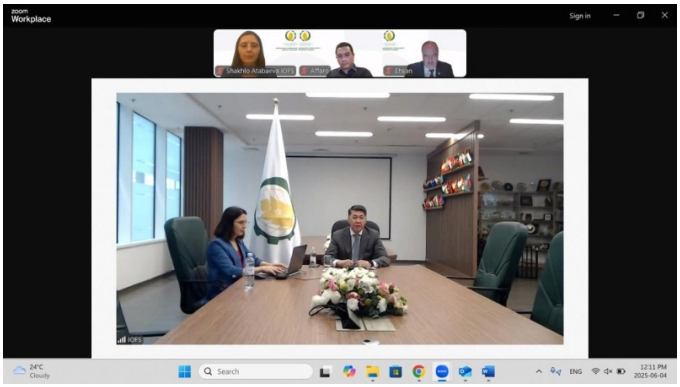
From 30-31 May, the Islamic Organization for Food Security participated in the High-Level International Conference on Glaciers' Preservation, the flagship event of the UN-declared International Year of Glaciers' Preservation 2025, hosted by the Government of Tajikistan. In a plenary session inaugurated by H.E. President Emomali Rahmon and moderated by Prime Minister Qohir Rasulzoda, IOFS Assistant Director-General H.E. Ambassador Khusrav Noziri delivered the Organization's official statement, emphasizing that glacier retreat poses a critical threat to food and water security across many OIC Member States. He reaffirmed IOFS's commitment to integrating glacier-related risks into climate-resilient agricultural strategies and contributing to global processes such as COP30. On the sidelines, Ambassador Noziri held bilateral meetings with ICESCO Director General Dr. Salim M. AlMalik, ESCAP Executive Secretary Ms. Armida Alisjahbana, and UNICEF Executive Director Ms. Catherine Russell to explore joint action in sustainable food systems, climate resilience, and youth engagement. He also gave televised interviews highlighting the urgent need for coordinated efforts across the climate–water–food nexus. The Conference concluded with the adoption of the Dushanbe Glaciers Declaration, reinforcing global commitment to glacier preservation and its interlinkages with food security, development, and environmental sustainability.

IOFS Director General Hosts High-Level Meeting with Minister of Foreign Affairs of Burkina Faso



On 3 June 2025, in a continued effort to deepen cooperation with OIC Member States, the Director General of the Islamic Organization for Food Security, H.E. Ambassador Berik Aryn, received H.E. Mr. Karamoko Jean Marie TRAORÉ, Minister of Foreign Affairs, Regional Cooperation, and Burkinabe Abroad of Burkina Faso, at the IOFS Headquarters in Astana. The meeting was held in the presence of H.E. Mr. Aristide R. Ludovic TAPSOBA, Ambassador of Burkina Faso to Kazakhstan (resident in Moscow), and H.E. Ms. Saulekul Sailaukyzy, Ambassador of Kazakhstan to Burkina Faso (resident in Rabat). During the discussions, both sides explored concrete avenues for collaboration, including climate-smart agriculture, sustainable soil management, livestock development, and the empowerment of women in the agricultural sector. Ambassador Aryn commended Burkina Faso's Agriculture Development Strategy to 2025 and Vision to 2030, noting the country's significant agricultural workforce as both a strength and a shared challenge within the OIC framework. Particular emphasis was placed on the ongoing partnership to strengthen the cassava value chain, which has produced a comprehensive national action plan. Minister TRAORÉ acknowledged IOFS's role in advancing agricultural development and reaffirmed his country's commitment to expanding cooperation in the pursuit of food security. The meeting concluded with an agreement to establish a joint working group to operationalize priority initiatives aligned with national and IOFS strategic goals.

IOFS Concludes High-Level Webinar on Advancing Food Safety Through Science Across OIC Nations



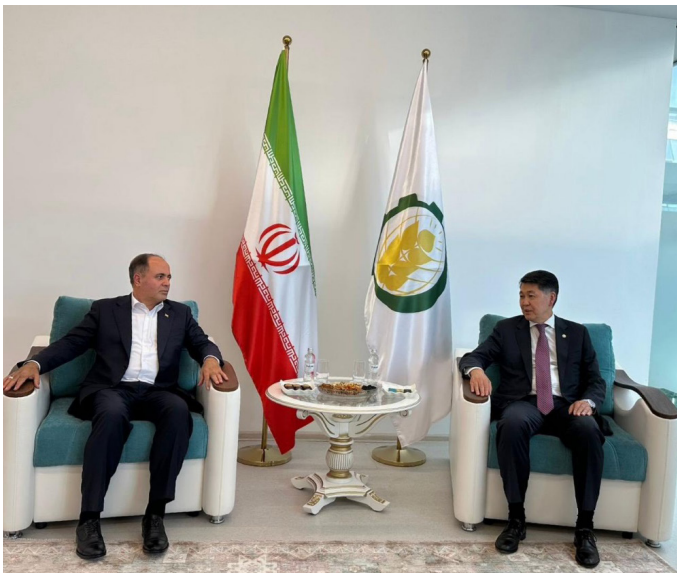
In observance of World Food Safety Day 2025, the Islamic Organization for Food Security convened a high-level international webinar under the theme "Advancing Food Safety Through Science Across OIC Nations," bringing together prominent experts, government officials, and key stakeholders to explore how science-driven solutions can transform food safety systems across the OIC Member States. Aligned with the global theme "Food Safety: Science in Action," the event emphasized the vital role of emerging technologies and collaborative frameworks in protecting public health, ensuring safe and nutritious food, and advancing sustainable development. In his keynote remarks, H.E. Ambassador Berik Aryn, Director General of IOFS, reaffirmed the Organization's commitment to inclusive, science-based food safety solutions, noting that the IOFS Healthy, Halal, and Safe Food Ecosystem Program aims to deliver culturally attuned systems that guarantee safe, nutritious, and halal food for all. H.E. Mr. İhsan Övüt, Secretary General of the Standards and Metrology Institute for Islamic Countries (SMIIC), underscored the importance of harmonizing halal and food safety standards to build trust and enhance global trade compliance. Dr. Affaro Affandy, CEO of Binaskil Academy (Malaysia), presented Malaysia's integrated approach to halal food security, highlighting the alignment of food safety, quality assurance, and capacity development. The webinar also explored the climate–food safety nexus and reiterated IOFS's advocacy for the One Health approach, which connects human, animal, and environmental health. As the world faces evolving challenges to food systems, the webinar reaffirmed IOFS's role as a leading platform for advancing

knowledge exchange and multilateral cooperation in food safety across the OIC region and beyond.

IOFS Director General Visits Saken Seifullin Kazakh Agrotechnical Research University to Strengthen Cooperation

On 10 June 2025, His Excellency Ambassador Berik Aryn, Director General of the Islamic Organization for Food Security, paid an official visit to Seifullin Kazakh Agrotechnical Research University (KazATRU), where he was welcomed by Rector Professor Kanat Tireuov. The Rector presented the University's academic strengths, including its QS World University Rankings placement (1200th globally and 351st in Asia) and its robust international and industry partnerships in agricultural innovation, education, and technology transfer. Ambassador Aryn shared IOFS's strategic focus on food security, sustainable livestock development, climate-smart agriculture, and capacity building across OIC Member States. The two sides explored avenues for collaboration, including joint research, capacity-building programs, and knowledge exchange initiatives. The visit concluded with Ambassador Aryn being awarded the "Saken Seyfullin Medal" in recognition of his contributions to advancing cooperation in agricultural education and research. This engagement signifies a meaningful step toward forging institutional partnerships to accelerate agricultural transformation and food systems innovation in the region.

IOFS Welcomes Iranian Minister of Agricultural Jihad to Headquarters in Astana



His Excellency Ambassador Berik Aryn, Director General of the Islamic Organization for Food Security, welcomed His Excellency Mr. Golamreza Nuori Ghezelcheh, Minister of Agriculture Jihad of the Islamic Republic of Iran, to the IOFS Headquarters in Astana, on 10 June 2025. Ambassador Aryn conveyed appreciation for the hospitality extended during the IOFS visit to Tehran in March 2025 and proposed deepening collaboration through joint research on strategic crops, capacity building for young professionals, and enhanced technology transfer—particularly in biotechnology and climate-smart agriculture. He also suggested launching an Association of Agricultural Academies and introduced the upcoming IOFS General Assembly initiative designating 2026 as the "Year of Women Agrileaders and Youth Agripreneurs," aligning with Iran's priorities. Minister Nuori Ghezelcheh expressed full support, emphasizing wheat development and proposing a national seminar on drought-resistant breeding, while also welcoming stronger expert exchanges and continued engagement. The meeting concluded with agreement on establishing a joint working group to advance these priority areas and further strengthen cooperation in regional food security.

IOFS Director General Calls for Stronger Turkic Cooperation on Food Security at TURKPA Session

On 12 June 2025, the Director General of IOFS, His Excellency Ambassador Berik Aryn, delivered a keynote address at the 14th Plenary Session of the Parliamentary Assembly of Turkic States (TURKPA), held under the theme "TURKTIME: The Role of Parliamentary Diplomacy." In his remarks, Ambassador Aryn expressed gratitude to the Parliament of Kazakhstan and TURKPA for convening this timely forum and underscored the transformative role of parliamentary diplomacy in mobilizing legislative will to address shared regional challenges, particularly food insecurity, climate change, and disruptions in agri-food systems. He highlighted the strategic importance of Turkic States as both agricultural producers and innovation hubs, calling for greater cooperation to build climate-resilient, sustainable food systems. Emphasizing IOFS's readiness to act as a platform for scientific exchange, capacity building, and agricultural collaboration, he framed this role as complementary to the Turkic world's cultural and economic integration objectives. Ambassador Aryn further aligned this vision with the forthcoming Astana Declaration, which affirms regional commitment to biodiversity, disaster resilience, and water security. He concluded by inviting non-member Turkic States to join IOFS, noting the upcoming 51st Session of the OIC Council of Foreign Ministers in Istanbul as an opportune moment to formalize accession to the Organization.

IOFS Director General Meets with Kazakh Ambassador to Kenya and Permanent Representative to UN Office in Nairobi

On 18 June 2025, His Excellency Ambassador Berik Aryn, Director General of the Islamic Organization for Food Security, welcomed His Excellency Mr. Barlybay Sadykov, newly appointed Ambassador of the Republic of Kazakhstan to the Republic of Kenya and Permanent Representative to the United Nations Office in Nairobi, to the IOFS Headquarters in Astana. During the meeting, Ambassador Aryn briefed his counterpart on the Organization's ongoing activities in Africa under the Africa Food Security Initiative (AFSI), which focuses on enhancing food security, building national capacities, and addressing agricultural challenges across OIC Member States. The two dignitaries explored avenues for strengthening IOFS engagement with key international organizations based in Nairobi, particularly in the areas of sustainable agriculture and development cooperation. Ambassador Sadykov, who will also represent Kazakhstan in several other African countries, affirmed his commitment to supporting IOFS initiatives and promoting Kazakhstan's multilateral partnerships on the continent.

Harvesting Hope: IOFS, MAIL & TİKA Train 150 Farmers in Zindejan to Slash Post-Harvest Losses and Safeguard Seed for Afghanistan's Wheat Future

The Islamic Organization for Food Security, in collaboration with Afghanistan's Ministry of Agriculture, Irrigation and Livestock (MAIL) and the Turkish Cooperation and Coordination Agency (TİKA) Herat Programme Coordination Office, has successfully concluded an intensive four-day field school from 15 to 18

June in Zindejan District, an area also affected by the October 2023 earthquake. The training brought together 150 smallholder wheat farmers to gain hands-on experience with modern harvesting equipment and best-practice post-harvest techniques aimed at reducing losses and enhancing food security. Building on the 2024 initiative "Advancing Wheat Cultivation for Sustainable Development in West Afghanistan," which distributed improved seeds, fertilisers, and agricultural machinery, this year's course, led by Associate Professor Dr. Ramin Nazarian and his team, combined classroom instruction with tailored field demonstrations. Farmers learned how to operate, maintain, and adapt reapers, harvesters, threshers, and grain-cleaning equipment to local conditions, while also receiving guidance on seed selection, drying, and storage to strengthen future harvests. The impact is already evident, with participating farmers reporting yield increases of up to 30%, reaching 450–500 kg per jareb (~0.2 hectares), alongside major reductions in labour time. One farmer, Muhammed Aminullah, reflected the broader sentiment, noting how mechanization enabled him to expand cultivated land and support his late brother's children. IOFS Humanitarian Affairs Officer Emre Yüksek highlighted the significance of this achievement as part of the wider Afghanistan Food Security Programme (AFSP), established following the 17th Extraordinary OIC Council of Foreign Ministers in Islamabad. The programme pairs emergency food assistance with long-term capacity building and supports the OIC's broader food security mandate and the UN Sustainable Development Goals. Reducing post-harvest losses and enabling seed-saving practices not only fortify Afghanistan's resilience to climate shocks but also reinforce self-reliance in the agricultural sector. Looking ahead, IOFS and TİKA plan to scale up their collaboration through additional follow-up activities in October 2025 and explore new value chains for alternative livelihoods to poppy cultivation in early 2026. The success in Zindejan stands as a testament to the power of multilateral solidarity translated into practical, field-level transformation for the benefit of vulnerable communities across the OIC geography.

IOFS and Ministry of Water Resources and Irrigation of Kazakhstan Launch Training on Digital Water Channel Management

The Islamic Organization for Food Security, in partnership with the Ministry of Water Resources and Irrigation of the Republic of Kazakhstan, the German Cooperation Agency (GIZ), and the International Water Management Institute (IWMI) Central Asia, launched a two-day Training Program on Digital Solutions for Efficient Water Channel Management in Agriculture, taking place from 18 to 19 June 2025 in Astana. The initiative convenes engineers, hydrologists, researchers, and policy experts to build Kazakhstan's capacity in managing agricultural water resources through advanced digital tools and smart technologies. The training features technical sessions on real-time monitoring, IoT-based systems, GIS and remote sensing, predictive hydrology, and smart irrigation platforms, aiming to optimize water use, reduce losses, and boost productivity in the agricultural sector. "This training reflects Kazakhstan's commitment to modernizing its irrigation infrastructure through science and technology," noted Dr. Abdelaziz Hajjaji, highlighting IOFS's role in supporting national efforts to enhance food security. The program also fosters South-South knowledge exchange and explores opportunities for piloting smart canal systems in Kazakhstan, with participants engaging in tailored case studies, hands-on demonstrations, and interactive discussions to address context-specific challenges.

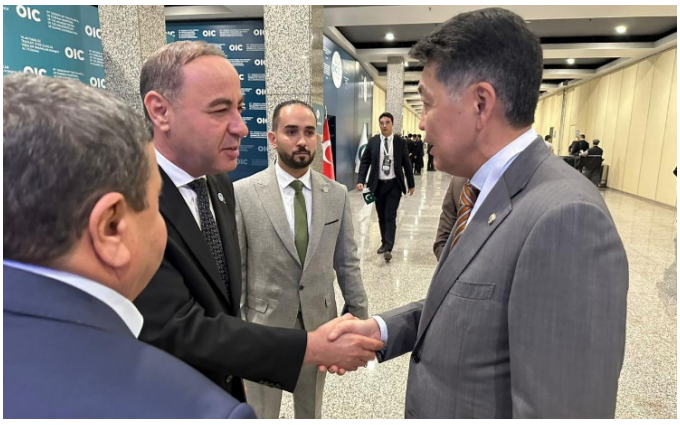
IOFS Attends the 51st Council of Foreign Ministers in Istanbul

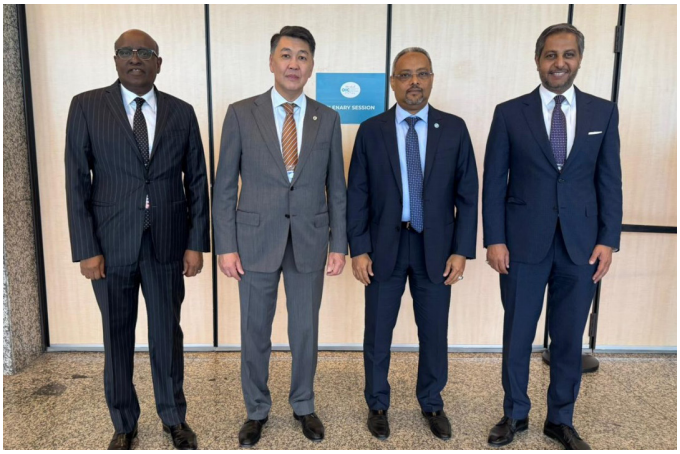
On 21 June 2025, His Excellency Ambassador Berik Aryn, Director General of the Islamic Organization for Food Security, participated in the 51st Session of the Council of Foreign Ministers (CFM) of the Organization of Islamic Cooperation (OIC), held in Istanbul from 21–22 June under the theme "The OIC in a Transforming World." The session was inaugurated by His Excellency Mr. Recep Tayyip Erdoğan, President of the Republic of Türkiye, who emphasized solidarity and cooperation among Member States in addressing global challenges. His Excellency Mr. Murat Nurtleu, Deputy Prime Minister and Minister of Foreign Affairs of the Republic of Kazakhstan, called on all OIC Member States to ratify the IOFS Statute, reaffirming Kazakhstan's foundational support for the Organization. On the sidelines, Ambassador Aryn held bilateral meetings with several dignitaries. He met H.E. Dr. Shaya Mohsin Zindani, Minister of Foreign Affairs of Yemen, to discuss establishing a Joint Task Force on national food security and humanitarian coordination. With H.E. Mr. Birame Mbagnick Diagne, Ambassador of Senegal to Saudi Arabia and Permanent Representative to the OIC, they discussed IOFS's participation in the upcoming African Food Systems Summit in Dakar. Discussions with H.E. Mr. Omar F.S. Abdoelrahman, Ambassador of Suriname to Morocco and OIC Representative, focused on Caribbean engagement and a possible visit to Suriname following COP30 in Brazil. Ambassador Aryn also met H.E. Mr. Azar Bayramov, Director General of the OIC Labour Center, to advance the implementation of the 2024 MoU, and H.E. Dr. Afnan Alshuaiby, Executive Director of the Women Development Organization (WDO), to enhance cooperation around the 2026 "Year of Women Agrileaders and Youth Agripreneurs." His participation reaffirmed IOFS's commitment to advancing food security through OIC cooperation. He was accompanied by Mr. Abdula Manafi Mutualo, Chief Multilateral Relations Officer, and Mr. Baglan Naribek, Bilateral Affairs Officer.

IOFS Entrusted with New Strategic Mandates at 51st OIC Council of Foreign Ministers

On 22 June, the Islamic Organization for Food Security, represented by Director General H.E. Ambassador Berik Aryn, actively participated in the 51st Session of the OIC Council of Foreign Ministers (CFM) in Istanbul, where Member States unanimously endorsed the IOFS's 2025–2026 programmes and conferred new mandates, including enhancing intra-OIC food trade, supporting refugee food security, and strengthening flagship initiatives such as the Afghanistan Food Security Programme and the Africa Food Security Initiative. The session also encouraged Member States to host IOFS Regional Offices to reinforce its operational presence. On the sidelines, Ambassador Aryn held high-level bilateral meetings with H.E. Mr. Muhamad Ishaq Dar, Deputy Prime Minister and Minister of Foreign Affairs of Pakistan; H.E. Mr. Abdoulkader Houssein Omar, Minister of Foreign Affairs of Djibouti; H.E. Mr. Régis Onanga Ndiaye, Minister of Foreign Affairs of Gabon; H.E. Dr. Abdoulaye Sabre Fadoul, Minister of State and Minister of Foreign Affairs of Chad; H.E. Mr. Mohamed Salem Ould Merzoug, Minister of Foreign Affairs of Mauritania; H.E. Mr. Shaya Mohsen Al-Zindani, Minister of Foreign Affairs of Yemen; H.E. Mr. Mateus da Cecília Feniasse Saize, Minister of Justice and Constitutional and Religious Matters of Mozambique; and H.E. Mr. El Taher Elbaour, Acting Foreign Minister of Libya. He also met with H.E. Mr. Jeyhun Bayramov, Minister of Foreign Affairs of Azerbaijan; H.E. Mr. Jeenbek Kulubayev, Minister of Foreign Affairs of the Kyrgyz Republic; H.E. Mr. Dato Erywan Pehin Yusof, Minister of Foreign Affairs of Brunei Darussalam; H.E. Mr. Sugiono, Minister of Foreign Affairs of Indonesia; H.E. Mr. Mohamad Alamin, Deputy Minister of Foreign Affairs of Malaysia; and H.E. Mr. Khalifa bin Ali bin Issa Alharty, Undersecretary for Political Affairs of Oman, to encourage their countries to join the IOFS. Additionally, Ambassador Aryn held a constructive meeting with H.E. Ambassador Tarig Ali Bakheet, OIC Assistant Secretary General for Cultural, Social, and Humanitarian Affairs, which resulted in the OIC's approval for IOFS to utilize its Kabul office premises for the implemen-

tation of the Afghanistan Food Security Programme. Held under the theme "The OIC in a Transforming World," the 51st CFM reaffirmed unity and collective action, with IOFS pledging to strengthen partnerships and advance food systems resilience across the OIC region.



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IOFS Director General Pays Courtesy Visit to Turkic Investment Fund

On 23 June, 2025, during an official working visit to Türkiye, IOFS Director General H.E. Ambassador Berik Aryn paid a courtesy visit to the Turkic Investment Fund, where he met with its President, H.E. Baghdad Amreyev. The two leaders discussed potential areas of collaboration, emphasizing investment opportunities to advance sustainable agriculture, resilient food systems, and food security across joint Member States. Ambassador Aryn reiterated IOFS's commitment to forming strategic partnerships with key financial institutions to address global food security challenges. Both parties agreed to continue dialogue and identify concrete mechanisms for future cooperation.

IOFS Participates in SB 62 to Advance Climate-Resilient Food Systems and Strategic Investment for OIC Member States

The Islamic Organization for Food Security participated in the 62nd Session of the UNFCCC Subsidiary Bodies (SB 62), held from 16–20 June in Bonn, Germany, contributing to critical climate discussions ahead of COP 30. Represented by Project Manager Ms. Makpal Bulatova, IOFS engaged in high-level sessions and workshops focused on adaptation, investment strategies, genetic resources, and systemic climate action in agriculture. A key highlight was IOFS's role in the "Accelerating Resilient Food Systems Through Multilateral Leadership and Local Action" event under the Global Flagship Initiative for Food Security, where IOFS reaffirmed its commitment to climate-resilient agriculture through regional cooperation, policy integration, and mobilization of climate finance across OIC Member States.

Regional Workshop on Sustainable Veterinary Health Systems in Central Asia

The Regional Workshop on Sustainable Veterinary Health Systems in Central Asia, held on 24–25 June 2025 at S. Seifullin Kazakh Agrotechnical Research University, was organized by the Islamic Organization for Food Security (IOFS) in partnership with Seifullin University and with support from the Ministry of Agriculture of the Republic of Kazakhstan. Bringing together experts and representatives from veterinary authorities, academic institutions, and international organizations across Central Asia, Türkiye, Italy, and beyond, the workshop addressed regional disease threats, workforce development, and cross-border coordination. Over two days, participants shared national and international perspectives, discussed veterinary education and capacity-building, and developed recommendations under the IOFS Animal Development Program. The event reinforced regional partnerships and laid the foundation for a coordinated veterinary health strategy to enhance food security across the region.

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