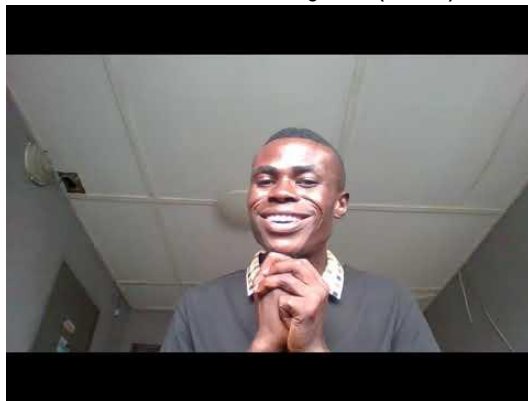


2025 Student Policy Hackathon International Trade and Food Security

The World Trade Organization,
Geneva Trade Platform and
CropLife International

Compiled Shortlisted Submissions

Team Video Playlist ([Link](#))



The Hackathon Finals Video ([Link](#))



Team #1`

Team Name: WTO and Food Security

Draft WTO Agreement on Food Security and Trade: Turning MC12 declarations into WTO rules and obligations

Question #1: a narrative section explaining the element of the problem the submission is hoping to address, and how the solution is intended to address it (1,000 words max.):

Too many people are suffering as I write these lines. Hunger is not a statistic, it is a daily reality. The United Nations has already declared that famine exists in Gaza, where families search desperately for food and children die from lack of nutrition. In Africa, in parts of Asia, in refugee camps across the world, millions of people are caught in cycles of food insecurity that strip them not only of their strength but of their dignity. Hunger leaves no future, it steals education, erodes health, and passes trauma from one generation to the next.

And yet, the paradox is cruel: the world produces enough food to feed everyone. The problem is not absolute scarcity, but access, distribution, and the way trade rules respond or fail to respond in moments of crisis. Food insecurity is not only a humanitarian tragedy. It is an economic wound that disrupts trade, weakens industries, and destabilizes entire regions. Factories close when workers are malnourished. Markets collapse when food prices spiral beyond reach. Political systems fracture when hunger erodes the social contract. What we call food insecurity is in truth a chain reaction that reshapes economies, undermines development, and darkens prospects for generations to come.

The question that stands before us is not abstract. It is immediate, even existential: can humanity use trade as a way to save the world from famine? Can the multilateral trading system play a role in making zero hunger real? Can rules, so often viewed as technical and distant, be reshaped to make those who do not care... care?

The World Trade Organization was not created to solve every problem of humanity. Its mandate was to regulate markets, to prevent trade wars, and to create a framework of predictability. But the boundaries between markets and survival are no longer clean. When one country imposes export restrictions on grain, another starves. When subsidies tilt production, the effects are felt in the soil of faraway farmers. Trade rules are not neutral: they shape the everyday chances of people to eat or go hungry.

For too long, food security was treated at the WTO as an external matter, something for humanitarian agencies to handle. But trade and food are inseparable. Export bans, tariffs on staple foods, agricultural subsidies, and sanitary regulations all decide who eats, at what price, and when. Food has been

treated as a commodity, yet it is first and foremost the basis of life. Without food, there is no worker, no farmer, no trader, no economy.

Imagine a world where humanitarian food convoys could never be stopped at borders, because WTO rules guaranteed permanent green lanes and prohibited export bans on relief supplies. Imagine a world where developing countries could support their smallholder farmers, invest in irrigation, build storage facilities, and not fear being dragged into dispute settlement, because a “food security space” was carved into the rules of agriculture. Imagine a world where debt did not suffocate the poorest, where the IMF and World Bank, together with the WTO, agreed to suspend debt repayments temporarily for famine-stricken nations, so they could use their fiscal space to buy food at lower tariffs, to feed their people before feeding their creditors.

Food insecurity is not just about emergencies. It is about waste as well. A third of the world’s food is lost or wasted before it reaches a plate, often because borders delay perishable goods, because cold chains are missing, because labelling rules are inconsistent. Here again, trade rules can make a difference. A WTO that promotes infrastructure for perishable goods, harmonized standards, and faster clearance would not only reduce waste but save lives.

Transparency matters too. Crises spiral when countries act in the dark, imposing restrictions without warning, hiding stock levels, triggering panic in markets. A WTO that built a real-time platform for notifications, integrated with FAO and WFP data, would replace uncertainty with predictability. Such a platform would allow countries to prepare, coordinate, and share surpluses before hunger turns into famine.

And what happens when rules are broken, when one country withholds food from another, or when a surplus is denied to a neighbor in need? Today, the WTO has no special answer. Disputes on food take years while people starve in weeks. The system needs a humanitarian track, a food security panel that can deliver rapid interim relief in days, not years, ensuring that trade law is not indifferent to human suffering.

Some may say this is too ambitious. But what is ambition in the face of famine? If trade can fuel prosperity, it can also guarantee survival. If rules can protect intellectual property, they can also protect human dignity. If Members can agree to ban subsidies that distort markets, they can agree to ban restrictions that starve populations.

The deeper question remains: can we, as human beings, reshape the multilateral trading system to carry this moral responsibility? Can we move from declarations to obligations, from symbolism to law, from hesitation to action?

The future of the WTO will not be judged only by how it settles disputes between corporations or states, but by whether it proves capable of addressing the most basic of human needs. A system that cannot adapt to famine loses its legitimacy. A system that embraces food security at its heart will not only stabilize markets but will show that trade can be a force for justice.

The vision is urgent but achievable: a world where no child goes hungry because of an export ban, no farmer is excluded from markets by outdated rules, no humanitarian convoy is blocked at a border, no country is forced to choose between servicing its debts and feeding its people. A world where the rules of trade help deliver the promise of zero hunger. A world, simply, where trade feeds people not just markets.

Question #2: a substantive section, outlining how the proposed solution would appear in a Ministerial Declaration, General Council Decision, treaty change, etc. (500 words max.):

There was a moment of awakening at the Twelfth Ministerial Conference in 2022. For the first time, WTO Members recognized food insecurity as a matter of common concern and agreed not to block World Food Programme purchases for humanitarian purposes. It was a milestone, but also a fragile one. The decision was political, not binding. A declaration cannot feed a child. A promise cannot guarantee that a humanitarian convoy crosses a border. Without enforceability, these gestures risk remaining symbols.

The time has come for transformation. Food must be recognized not as just another tradable good, but as a non-tradeable humanitarian value with a special status in the global trading system. Just as the WTO has allowed exceptions for health and the environment, it must now embrace food security as a legitimate and central part of its mandate.

This proposed Agreement on Food Security and Trade would create that framework. It would enshrine the right of developing and least-developed countries to support their smallholder farmers, build irrigation and storage, and invest in sustainable agriculture without fear of litigation. These targeted subsidies would be transparently notified and deemed consistent with WTO rules when clearly linked to food security.

It would also recognize that trade and climate are inseparable.

Humanitarian corridors would be guaranteed. No export restriction could ever block food purchased for humanitarian relief. Such shipments would move through fast-track customs green lanes with electronic clearance. To give struggling countries the fiscal space to act, the Agreement would also connect to global finance: Members would cooperate with the IMF and World Bank to provide temporary debt suspensions for food-insecure states, allowing them to prioritize imports and feed their populations before servicing creditors.

The Agreement would commit Members to reduce trade-related food loss and waste. Too much food perishes at borders or in warehouses. Cold-chain infrastructure, harmonized standards, and streamlined procedures for perishables would be promoted, with technical assistance for least-developed countries.

Transparency would be central. A new digital platform, hosted by the WTO but linked to FAO, WFP, and AMIS, would track export restrictions, tariffs, SPS measures, and stock levels in real time. Panic thrives on secrecy; predictability comes from information.

Finally, enforceability would be ensured. A Food Security Panel within the WTO dispute system would deliver fast-track rulings when a surplus-holding country denies food to one in need, or when unjustified restrictions block humanitarian

flows. Interim relief within days—not years—would make food security a living rule, not an aspiration.

Question 3: [Video explanation](#) (3 minutes, max)



Team #2

Team Name: FoodBridge

Reducing Africa's Food Import Dependency: A Digital Platform to Connect Regional Surplus and Deficit Areas

Question #1: a narrative section explaining the element of the problem the submission is hoping to address, and how the solution is intended to address it (1,000 words max.):

Problem element we address

Africa's food security is shaped by many forces (production variability, infrastructure gaps, price volatility, climate shocks). The specific piece our solution targets is the cross-border coordination gap: nearby surpluses often don't reach nearby deficits because buyers lack real-time visibility, non-tariff frictions slow movement, and timing mismatches cause avoidable loss. This persists even under enabling rules like AfCFTA's 0% tariff for qualifying goods and the WTO Trade Facilitation Agreement.

Why this matters in numbers:

- Food import bill: ~\$50B per year and rising; up from roughly the mid-\$30B range a decade ago, with multiple AU/AfDB assessments warning of a path toward \$90–110B if trends persist.
- Undernourishment: ~232M people (FAO SOFI 2023) even as regional surpluses exist.
- Post-harvest loss: 30–40% of production (World Bank/FAO), much of it timing/coordination related.
- Trade pattern: A large share of Africa's food imports still comes from outside the continent while intra-African agri-trade remains comparatively low (AU/AfCFTA analytics), signaling underused regional substitution.

How our solution addresses that piece

- AFSN is a digital regional coordination layer that converts policy into movement by:
 - i. Matching: Continuously pairs declared procurement needs with regional surpluses (commodity, quantity, delivery window).
 - ii. Compliance routing: Applies AfCFTA rules-of-origin (tariff removal), estimates border time via WTO TFA signals, and selects the most reliable REC corridor.
 - iii. Trust + readiness: Attaches a CropLife verification path and generates a QR trade receipt (origin, compliance, quality).

- iv. Execution options: Offers trade-finance and carbon modules and, if regional supply is insufficient, proposes a documented international fallback.

What improvements this yields (pilot expectations):

- Time: Shift a portion of procurement from sea imports (~21 days) to regional delivery (~5–8 days) on selected corridors.
- Cost/FX: Lower landed cost and preserve FX by substituting regional for distant imports.
- Loss reduction: Cut timing-related spoilage through faster, policy-aligned routing.
- Transparency: Every match shows “why this route” (tariff status, corridor score, border time, quality verification).

Conclusion

We’re not claiming coordination is the only driver of Africa’s food security; we’re addressing the part that converts existing policy and surplus into executed, compliant movement—so more food crosses nearby borders faster and cheaper, with auditable quality.

Question #2: a substantive section, outlining how the proposed solution would appear in a Ministerial Declaration, General Council Decision, treaty change, etc. (500 words max.):

DRAFT WTO MINISTERIAL DECLARATION

“Strengthening Multilateral Trade for Food Security Through Regional Coordination Mechanisms”

Preamble

Ministers, mindful of persistent food insecurity and climate shocks, and recalling the WTO Agreement and the Trade Facilitation Agreement (TFA), agree to facilitate timely movement of essential foodstuffs by improving regional surplus–deficit coordination, including Africa-led pilots under AfCFTA/REC frameworks.

Article 1 — Establishment and Scope

A voluntary “Food Security Coordination Window” is established under the Trade Facilitation Committee (TFC) to operationalize digital surplus–deficit matching and compliant corridor routing.

This concerns transparency and facilitation only; it does not alter Members’ market-access or SPS/TBT rights and obligations. Preferential treatment, where applicable, derives from existing FTAs and rules of origin (e.g., AfCFTA).

This mechanism is without prejudice to MFN; any preferential rate derives solely from applicable FTAs and their rules of origin (e.g., AfCFTA).

Article 2 — Minimal Common Data (machine-readable)

HS6 code; commodity; quantity (MT); requested delivery window; origin + applicable FTA/rules-of-origin reference; SPS/quality certificate reference; intended corridor/border posts; expected border/transit time; digital-receipt identifier.

Participation and data sharing are voluntary and protect commercially sensitive and personal data.

Article 3 — Facilitation Practices (TFA-consistent, best-endeavour)

Pre-arrival processing and expedited release for perishables (TFA Art. 7 incl. 7.8).

Risk management/authorized operators to reduce inspections (Art. 7.4).

Acceptance/exchange of electronic documents where feasible (Art. 10.2–10.4).

Enquiry-point support for coordination queries (Art. 1.3).

Article 4 — Trust and Documentation

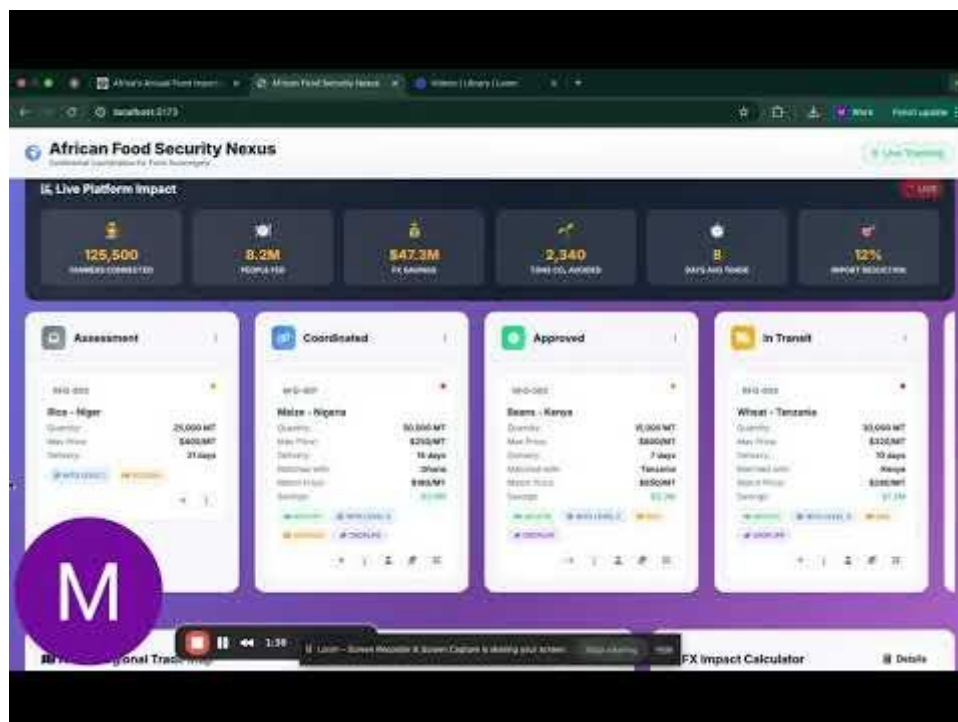
The Secretariat will circulate, within six months, a non-binding Digital Trade Receipt template linking origin/FTA reference, SPS/quality certificate, corridor identifier(s), and audit hash, interoperable with national single windows.

Article 5 — Pilots and Review

Members may notify pilot corridors and designate focal points (surplus/deficit signals, border performance, SPS/quality contacts). African Members/RECs (ECOWAS, EAC, SADC, etc.) are encouraged to pilot.

The TFC will review progress every six months (delivery days, border time, landed cost vs extra-regional alternatives, intra-regional share, spoilage reduction) and submit a stock-take to the General Council within twelve months.

Question 3: Video explanation (3 minutes, max)



Team #3

Team Name: Life Wire

Smart Food Chain Network: Harnessing Digital Trade Tools to Strengthen Global Food Security

Question #1: a narrative section explaining the element of the problem the submission is hoping to address, and how the solution is intended to address it (1,000 words max.):

Food security is one of the defining challenges of our era. Rising geopolitical tensions, climate-related shocks, and fragile supply chains have exposed the vulnerability of global food systems. The multilateral trading system was created to address precisely these cross-border challenges, yet food insecurity continues to rise, with over 735 million people undernourished in 2022 (FAO, 2023). Our proposal focuses on how digital traceability and data-driven tools, embedded within global trade rules, can improve transparency, efficiency, and trust in agri-food markets, particularly for vulnerable producers and consumers.

At the heart of the problem is a lack of visibility in the food supply chain. Food often travels thousands of kilometers before reaching consumers, yet data on origin, quality, safety, and movement remain fragmented or inaccessible. This opacity creates inefficiencies, food loss, and safety risks. Studies suggest that nearly 14 percent of food is lost post-harvest and before reaching retail, largely due to poor handling, storage, and transport coordination (World Bank, 2022). Without reliable traceability, consumers cannot be assured of safety, while smallholder farmers and exporters struggle to meet the rising food standards of international markets.

Digital tools offer a transformative solution. Radio Frequency Identification (RFID), blockchain, mobile applications, and data platforms can capture, store, and share information on food products across borders in real time. For instance, Namibia's Livestock Identification and Traceability System, launched in 2005, helped eradicate bovine disease risks and raised the livestock market by \$83 million in 2010 by assuring quality for export markets (World Bank, 2012). Similarly, the National Coffee Growers Association of Colombia has used RFID systems to track coffee beans from farm to export, improving quality control and global competitiveness (Karippacheril et al., 2011). These cases demonstrate that digital traceability not only enhances safety but also opens market opportunities for developing country producers.

Our proposal envisions a Smart Food Chain Network (SFCN) anchored in the WTO framework. This would support member states in integrating interoperable digital traceability systems, using open data standards to ensure compatibility across borders. The SFCN would lower compliance costs for smallholder farmers through shared platforms and cooperatives, while providing governments and consumers with trustworthy data on food flows. By facilitating secure payments,

quality verification, and logistics optimization, the network could reduce losses, shorten response times to disruptions, and build resilience against climate or conflict-related shocks.

The benefits are significant. Traceability enhances food safety, ensuring that contaminated products can be quickly identified and withdrawn, protecting public health (WHO, 2020). It improves transparency in trade by reducing information asymmetries that often disadvantage small producers (Bardhan, 1989). Digital tools also empower women and youth farmers by giving them access to markets and financial services through mobile platforms, as shown by the success of mobile money in Kenya (Jack and Suri, 2014). Furthermore, efficient logistics supported by digital coordination can lower transport costs and reduce waste, contributing to climate goals.

The multilateral trading system can play a catalytic role by embedding digital traceability into its agenda. While private sector initiatives exist, without a cooperative global framework they risk fragmentation, leaving poorer countries behind. A WTO-backed approach would provide legitimacy, ensure interoperability, and channel technical assistance to members in need. Just as the WTO's Trade Facilitation Agreement simplified customs procedures, a new initiative on digital food trade transparency could standardize traceability protocols and encourage adoption across the membership.

Our solution directly addresses the hackathon's themes by boosting resilience to shocks, expanding access for small producers, reducing food loss, and leveraging data for better outcomes. It combines proven technologies with multilateral cooperation, offering a pathway toward safer, fairer, and more resilient food trade. By investing in a Smart Food Chain Network, the WTO and its members can harness digital innovation to strengthen global food security, ensure inclusivity, and restore confidence in the multilateral trading system.

Question #2: a substantive section, outlining how the proposed solution would appear in a Ministerial Declaration, General Council Decision, treaty change, etc. (500 words max.):

A possible outcome would be a Ministerial Declaration on Digital Traceability for Food Security. This would affirm that food security is central to the Marrakesh Agreement and that transparent and inclusive digital systems are needed to strengthen resilience in global food trade.

The Declaration would first recognize the growing risks of climate shocks, market volatility and geopolitical disruption. It would underline that secure and predictable food supply chains require new tools. Ministers would highlight digital traceability as a means to reduce waste, increase trust and ensure access to food in times of crisis.

The Declaration would rest on three commitments.

Adoption of interoperable standards. Members would promote open standards that allow data on origin, safety and movement of food to be shared across borders, ensuring systems can connect without mandating a single technology.

Support for capacity building. The Declaration would create a mechanism to help developing and least developed countries adopt cost effective tools such as RFID, blockchain and mobile platforms, modeled on the assistance framework of the Trade Facilitation Agreement.

Integration into crisis response. Members would agree to share relevant data during pandemics, droughts or conflicts to trace contamination, identify bottlenecks and accelerate delivery of food to vulnerable populations.

Oversight would rest with the WTO General Council, with the Committee on Agriculture reviewing progress. Collaboration with FAO, the World Bank and regional bodies would be encouraged to avoid duplication.

In the long term, the Declaration could pave the way for a protocol or treaty change if traceability proves essential for predictable market access. The immediate purpose is to signal political will, encourage voluntary adoption and build momentum for innovation.

By adopting such a Declaration, WTO members would show that the multilateral trading system can address twenty first century challenges. It would allow both advanced exporters and smallholder based systems to benefit, while making trade a stronger driver of safe, affordable and reliable food for all.

Question 3: [Video explanation](#) (3 minutes, max)



Team #4

Team Name: TRADE4FOOD

EduSPS DataHub

Question #1: a narrative section explaining the element of the problem the submission is hoping to address, and how the solution is intended to address it (1,000 words max.):

EduSPS DataHub: Empowering Small Producers through Knowledge and Transparency

1. Introduction – The Global Food Security Paradox

In today's interconnected world, food security remains one of the greatest challenges. Despite progress and record levels of trade, millions still suffer from hunger while others face volatile prices. By 2050, the world's population will exceed 9 billion, putting immense pressure on agriculture and supply chains.

Geopolitical risks, market volatility, and climate change are reshaping trade and threatening global food systems. Smallholder farmers—who produce one third of the world's food—are especially vulnerable. They often lack the knowledge and tools to meet sanitary and phytosanitary (SPS) standards. Their products are frequently rejected at borders, leading to food loss, financial hardship, and exclusion from export markets.

The paradox is clear: while the multilateral trading system connects global consumers, the complexity of SPS rules often locks out those most in need. To strengthen food security, the WTO and its partners must help small producers transform barriers into bridges.

2. The SPS Challenge for Small Producers

SPS measures are essential to protect human, animal, and plant life, ensuring safe food and consumer trust. Yet, for many producers in developing and least-developed countries, SPS compliance is a major barrier.

Key challenges include:

- Fragmented information: Standards vary across markets and are frequently updated.
- Technical complexity: Understanding Codex limits, EU labeling, or U.S. fish requirements demands expertise smallholders lack.
- High rejection rates: WTO data show many exports from Africa face border rejection due to SPS non-compliance, causing financial losses and food waste.

- Limited training access: Most capacity-building targets governments or large exporters, excluding smallholders.

The result: systemic inequality. Those who need trade most benefit the least.

3. Our Solution: EduSPS DataHub

To address these gaps, we propose EduSPS DataHub, a two-pillar initiative combining education and information.

Pillar 1 – EduSPS: The Digital SPS Academy

A mobile and web-based academy offering practical training.

- Micro-learning: Short videos, tutorials, and quizzes tailored to value chains (e.g., mango exports, fisheries hygiene).
- Multilingual: English, French, Spanish, Swahili, and local languages.
- Digital certification: Recognized by national SPS agencies and shareable with buyers.
- Adaptive learning: Personalized modules based on product and target market.

EduSPS democratizes SPS knowledge, equipping farmers and SMEs to meet standards and compete.

Pillar 2 – SPS DataHub: The Global SPS Knowledge Bank

An open-access portal centralizing SPS requirements by product and country.

- Real-time updates: Linked via APIs to WTO notifications, Codex, and national databases.
- Simple search: Type “tomatoes, Canada” and instantly see applicable measures.
- Integration with EduSPS: Users receive automatic alerts and updated modules.
- Transparency: Ensures consistent interpretation for governments, NGOs, and firms.

Together, EduSPS and SPS DataHub create a cycle: producers learn, access live information, and apply knowledge for export success.

4. Alignment with Multilateral Trade Goals

EduSPS DataHub supports WTO’s mission and strengthens the multilateral system.

- Inclusivity: Empowers vulnerable producers to participate in trade.
- Transparency: Enhances predictability by centralizing SPS rules.
- Capacity-building: Scales training directly to producers, complementing WTO programs.
- Resilience: Reduces border rejections and waste, reinforcing food trade against climate and supply chain shocks.

This initiative translates WTO's vision into practical action, making trade a driver of sustainable food security.

5. Feasibility and Implementation

EduSPS DataHub is ambitious but feasible thanks to existing technology and institutions.

- Phase 1 (2026): Pilot – Focus on mangoes, fisheries, and rice in Cameroon, Senegal, and Kenya. Partners include WTO SPS Committee, FAO, ITC, AU, and national SPS authorities.
- Phase 2 (2027–28): Expansion – Scale to more African countries under AfCFTA, integrate new commodities (coffee, cocoa, vegetables), and engage private agritech firms.
- Phase 3 (2029–30): Global Rollout – Extend to all WTO members, add advanced features (AI risk analysis, farmer peer learning, integration with ePhyto).

Funding sources: WTO STDF, development banks (World Bank, AfDB), bilateral donors (EU, USAID, JICA), and private partners (agribusiness, mobile operators).

By leveraging partnerships and existing infrastructure, EduSPS DataHub avoids duplication and ensures cost-effectiveness.

6. Anticipated Impact

The expected benefits are significant:

- For producers: Fewer border rejections (target reduction of 30% within 3 years) and higher incomes from premium markets.
- For food systems: Less waste, improved compliance, and resilience to sudden regulatory changes.
- For governments: Stronger SPS records, fewer disputes, and better monitoring.
- For consumers: Safer, more affordable food and greater trust in supply chains.

7. Conclusion – From Barriers to Bridges

The future of food security depends on inclusive, transparent, and resilient trade. SPS measures are vital but should not be insurmountable barriers for those lacking resources.

EduSPS DataHub offers a practical and innovative response. By combining digital education with real-time information, it empowers small producers to comply, compete, and thrive. It turns SPS rules into stepping stones toward global markets.

This initiative is not just a tool—it is a bridge between local farms and global consumers, between policy and practice, between exclusion and empowerment.

Question #2: a substantive section, outlining how the proposed solution would appear in a Ministerial Declaration, General Council Decision, treaty change, etc. (500 words max.):

Ministerial Declaration on Strengthening Food Security through SPS Knowledge and Transparency

Preamble

Concerned that ongoing geopolitical risks, market volatility, and climate-related disruptions are undermining global food security, with disproportionate impacts on developing countries, least-developed countries (LDCs), and net food-importing developing countries (NFIDCs),

Recognizing that sanitary and phytosanitary (SPS) measures are essential to protect human, animal, and plant life, yet remain a major challenge for vulnerable food producers who lack the knowledge and resources to comply with complex international requirements,

Alarmed that border rejections and food losses due to SPS non-compliance continue to erode incomes and limit participation in agricultural trade, thereby weakening food security and resilience,

Determined to pursue a fair, market-oriented, and transparent trading system that supports sustainable food production, eliminates hunger, and enhances nutrition, Acknowledging the importance of innovative digital solutions and knowledge-sharing mechanisms in strengthening trade resilience, enhancing transparency, and empowering producers in all regions,

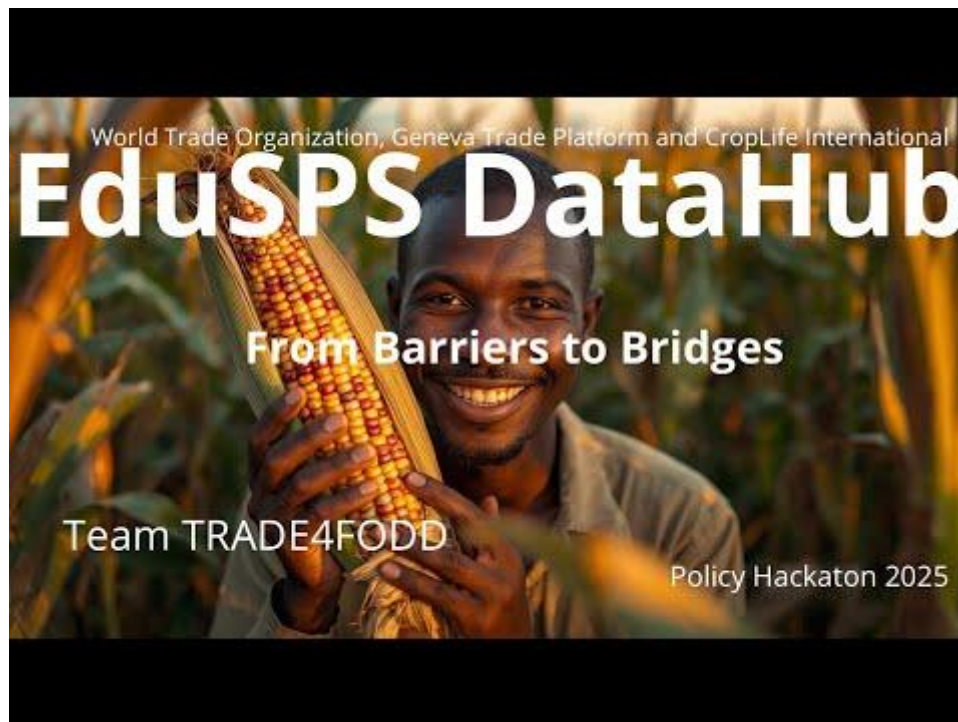
Decision

1. We, the Ministers, meeting in Yaoundé, March 2026 on the occasion of the Fourteenth Session of the WTO Ministerial Conference, adopt this Declaration on Strengthening Food Security through SPS Knowledge and Transparency.
2. We affirm that trade, alongside national production, plays a vital role in achieving global food security, and that inclusivity, transparency, and resilience in agri-food trade are essential to this objective.
3. We recognize the need for enhanced capacity-building, digital innovation, and information-sharing to ensure that vulnerable producers can effectively comply with SPS requirements and access international markets.
4. We welcome the establishment of the EduSPS DataHub, a two-pillar initiative consisting of:

- EduSPS, a digital academy providing multilingual micro-learning, adaptive training, and certification for small-scale producers and SMEs; and
 - SPS DataHub, a centralized knowledge platform offering real-time, open-access information on SPS requirements across WTO Members.
5. We instruct the Committee on Sanitary and Phytosanitary Measures, in cooperation with the WTO Secretariat, to support the operationalization of EduSPS DataHub as a voluntary, member-driven initiative that complements existing SPS transparency mechanisms.
 6. We encourage Members, international organizations, and relevant stakeholders to contribute technical and financial assistance for EduSPS DataHub, including through the WTO STDF, regional development banks, and public-private partnerships.
 7. We invite the WTO Secretariat to report annually to the General Council and the SPS Committee on progress in implementing EduSPS DataHub, including participation levels, knowledge dissemination, and its contribution to reducing food loss and trade disruptions linked to SPS non-compliance.
 8. We reaffirm the importance of ensuring that all SPS measures remain science-based, transparent, and consistent with WTO obligations, and that initiatives such as EduSPS DataHub strengthen—not substitute—Members' rights and obligations under the SPS Agreement.

Conclusion

9. We commit to continued cooperation to make the multilateral trading system a driver of sustainable and inclusive food security, where no producer is left behind.
10. We recognize EduSPS DataHub as a practical tool to transform SPS requirements from barriers into bridges, enabling safe, predictable, and resilient food trade for the benefit of all Members, especially the most vulnerable.

Question 3: [Video explanation](#) (3 minutes, max)

Team #5

Team Name: Spice Pacific

Redirecting Trade-Related Food Loss for Sustainable Biofuels

Question #1: a narrative section explaining the element of the problem the submission is hoping to address, and how the solution is intended to address it (1,000 words max.):

This policy brief tackles a crucial contradiction: even as vast quantities of food are lost in trade and supply chains, millions of hectares of farmland are still devoted to growing crops for fuel. This misalignment of incentives and trade structures undermines the efficacy of global food systems. Rerouting trade-related food loss toward biofuels production could free up food crops currently cultivated for biofuels, making them available for human consumption. Designed to reinforce the multilateral trading system, and implementable under the WTO, our proposal would strengthen global food security while generating broader spillover benefits.

Trade-related food loss remains a critical challenge for global food systems, reflecting inefficiencies and disruptions that occur across production and supply chains before food reaches retail shelves. In 2021, an estimated 13% of all harvested food, approximately 1.25 billion tons, was lost before reaching retail, even as nearly one third of the global population faced moderate or severe food insecurity. The implications are far-reaching: food loss generates around 10% of annual

greenhouse gas emissions, costs more than \$1 trillion, and places mounting pressure on the environment.

While Sustainable Development Goal (SDG) Target 12.3 calls for halving per capita food losses along supply chains by 2030, the SDGs Progress Chart of 2023 showed that progress has stalled, and in some cases reversed. Since 2016, global food loss has remained stagnant at an average of around 13%, with Western Africa (23%), the Caribbean (22%), and Southern Africa (20%) being among the worst-performing regions.

According to the Food and Agriculture Organization (FAO), underlying causes of trade-related food loss are diverse and particularly pronounced in perishable commodities. High rejection rates often occur during harvest and sorting due to stringent retailer standards. Farmers also overproduce as a safety net or harvest prematurely due to financial constraints, diverting surplus crops to less profitable uses. Despite the scale of these losses, in 2022 only 21 countries had incorporated food loss reduction targets into their national climate plans.

Instead of being diverted to composting or incineration, a significant portion of lost food stock holds potential for biofuels production. Redirecting food loss into the biofuel energy sector will offer multiple benefits. First, it will free agricultural output otherwise destined for energy production, allowing it to be redirected toward human consumption. For instance, in 2024, about 37% of U.S. corn was used for bioethanol. Similar shares of crops elsewhere, such as palm oil in Indonesia, sugarcane in Brazil, and wheat in Europe, were also directed to biofuels. Second, this approach will contribute to the decarbonization of the transport sector, supporting efforts to reduce greenhouse gas emissions and mitigate climate change, while also strengthening energy security in the face of global market shocks. Finally, it will enhance food trade resilience by increasing staple supplies and creating markets that compensate small farmers for otherwise lost produce.

Current IEA projections indicate that the share of biofuels in transport fuel is expected to rise from 5.6% in 2023 to 6.4% by 2030, reaching an estimated 215 billion liters annually. This expansion, representing an increase of nearly 30% relative to the previous five-year period, would be concentrated in the United States, Europe, Brazil, Indonesia, and India, which collectively account for 85% of demand. Additionally, these regions are often reinforcing regulations, emissions targets, and financial mechanisms that support biofuel adoption.

Existing biofuel frameworks such as the IEA Bioenergy Task 40, the Global Bioenergy Partnership (GBEP), the World Biogas Association (WBA), and the Global Biofuels Alliance (GBA) do not explicitly address trade-related food loss or consider surplus produce as viable input. Food governance initiatives, including the Codex Alimentarius Commission, focus on food safety but do not provide guidance on redirecting trade-related food loss. Agencies such as FAO and UNEP address food loss more broadly, but do not explicitly promote its rerouting for biofuels.

In this context, and given the global scale of the challenge and the diversity of actors involved, the multilateral trading system can be leveraged to address food loss by promoting its conversion into biofuels. Building on existing frameworks, we propose three primary policy instruments, supported by two complementary measures:

1. Enhance market access for producers. WTO agriculture and energy-related negotiations should recognize food loss-derived biofuels as an “environmental good,” qualifying it for preferential trade treatment. This creates incentives for producers to convert food loss into sustainable energy, generating both environmental and economic benefits. While previous initiatives, such as the Environmental Goods Agreement (EGA), stalled due to their broader scope, a more targeted approach focused on food loss reduction could garner stronger support from member states.
2. Reorient agricultural subsidies to support loss-to-energy initiatives. Current subsidies often incentivize overproduction, thereby contributing to food loss. These should be redirected toward projects with clear targets and objectives that encourage producers to channel food losses into the biofuel industry. Such measures could therefore be classified under the WTO “green box,” as defined in Annex 2 of the Agreement on Agriculture, which allows for non-trade-distorting subsidies, including payments under environmental programs.
3. Integrate food loss biofuels into carbon markets. Food loss biofuels should be linked to international carbon trading mechanisms, as established under Article 6 of the Paris Agreement. This would enable countries and corporations that convert food loss into biofuels to earn tradable carbon credits, providing both a financial incentive and a means to promote global emission reduction efforts.

In parallel, the effectiveness of these primary instruments can be reinforced through complementary measures. These include urging countries to reduce tariffs on equipment and services essential for food-to-biofuels conversion in order to facilitate technology transfer and adoption. Likewise, the continued promotion and adoption of global frameworks, such as the Voluntary Code of Conduct for Food Loss and Waste Reduction, would help to further address the challenge and better align international action.

Therefore, by integrating food loss into sustainable biofuel production, the multilateral trading system can simultaneously reduce food loss, support climate-change mitigation, enhance energy resilience, and strengthen food security, offering a multi-dimensional strategy aligned with the SDGs.

Question #2: Question #2: a substantive section, outlining how the proposed solution would appear in a Ministerial Declaration, General Council Decision, treaty change, etc. (500 words max.):

Ministerial Declaration on Redirecting Trade-Related Food Loss for Sustainable Biofuels

SUBMISSION BY: All WTO Members (co-sponsored by FAO and UNEP)

We, the Ministers and Representatives of the Members of the World Trade Organization (WTO), under the auspices of the WTO, with technical support from the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Environment Programme (UNEP),

1. RECALL the United Nations Food Systems Summit, the Paris Agreement, and the Sustainable Development Goals (SDGs), particularly Target 12.3 to halve per capita food loss and waste by 2030;
2. RECOGNIZE that trade-related food loss undermines food security, contributes to approximately 10% of annual greenhouse gas emissions, incurs economic losses exceeding USD 1 trillion, and imposes mounting pressure on land, water, and biodiversity;
3. NOTE that in 2021, an estimated 1.25 billion tonnes of harvested food, accounting for 13% of total production, was lost before reaching retail, even as nearly one-third of the world's population faced moderate or severe food insecurity;
4. AFFIRM the urgent need for international cooperation to reduce food loss, facilitate sustainable biofuels production, and build resilience at the nexus of food, energy, and climate systems;
5. In light of the above, the Ministerial Conference:
 - a. Recognizes biofuels derived from trade-related food loss as an “environmental good” under WTO disciplines, making them eligible for preferential trade treatment. This incentivises producers to promote the conversion of food loss into biofuels, yielding tangible environmental, economic, and social benefits;
 - b. Agrees to restructure agricultural subsidy programs to support food loss-to-biofuels initiatives under the WTO’s “green box” provisions for non-trade-distorting environmental measures. Clear and measurable targets are to be tracked and shared under the aegis of the WTO Committee on Agriculture, with FAO providing permissible technical support;

- c. Promotes the further development and exploration for linking food loss biofuels to Article 6 mechanisms of the Paris Agreement, to enable eligible biofuels producers to generate tradable carbon credits. Cooperation shall be conducted among Members to develop robust verification, transparency, and reporting frameworks with FAO and UNEP in support of environmental integrity;
 - d. Encourages Members to reduce or eliminate tariffs on essential equipment and services for food-to-biofuels conversion, including transesterification and fermentation technologies, to accelerate adoption, particularly in developing economies; and,
 - e. Stresses the importance of adherence to voluntary instruments such as the Code of Conduct on Food Loss and Waste Reduction, to align policy, technical, and trade-oriented efforts.
- 6. The WTO Secretariat, in collaboration with FAO and UNEP, shall facilitate technical cooperation, best-practice sharing, and capacity-building initiatives to support implementation of the above work points. Annual progress report shall be submitted by Members to the WTO General Council, including on the share of food loss biofuels in national energy portfolios, carbon credits issued/earned, and reductions in trade-related food loss.
- 7. By adopting this Declaration, Members reaffirm their commitment to the SDGs, particularly Target 12.3, and affirm their determination to take collective action to reduce food loss, promote sustainable biofuels, enhance climate mitigation, and reinforce global food and energy resilience through practical, trade-aligned strategies.

Question 3: [Video explanation](#) (3 minutes, max)



Team #6

Team Name: Global Grains

Harvest-to-Market Facilitation Pathway (H2M)

Question #1: a narrative section explaining the element of the problem the submission is hoping to address, and how the solution is intended to address it (1,000 words max.):

PROBLEM

Post-harvest food loss refers to the measurable reduction in the quantity of food between harvest and consumption, typically caused by spoilage, pests, or rot. Globally, the FAO estimates that about 30% of food produced is lost before reaching consumers; in Africa, this figure rises to as much as 40%, with losses exceeding USD 4 billion annually, enough to feed millions of people each year.

The consequences of food loss are profound. At the local level, post-harvest loss reduces food availability and undercuts the incomes of smallholder farmers, who make up the backbone of African agriculture but often lack access to modern storage or cold-chain infrastructure. This undermines their ability to invest in improved seeds, crop protection, and sustainable practices. At the systemic level, unreliable supply limits opportunities for African countries to participate in global value chains, weakens regional trade, and increases reliance on food imports. This dependency leaves countries particularly vulnerable to global price volatility, climate shocks, and geopolitical tensions.

The causes of post-harvest loss are both structural and environmental. Longer droughts, unpredictable rainfall, floods, and pest outbreaks, caused by climate change, accelerate spoilage and disproportionately affects Africa as one of the most climate-vulnerable regions in the world. Yet, much of the loss also stems from addressable constraints such as inadequate storage facilities, inefficient rural transport networks, long border wait times, and the absence of functioning cold chains. While technologies such as improved silos, sealed grain bags, and solar-powered cold storage have been developed to reduce food loss, they remain underutilized in rural Africa due to relatively high implementation costs (if those costs are to be borne by the farmers), and a lack of incentives. Closing this gap is essential for food security and trade resilience.

SOLUTION

To strengthen international trade flows and to ensure global food security, we propose the establishment of improved storage facilities in areas most affected by the negative impacts of post-harvest food loss. This approach is characterised by tackling the problem on the physical infrastructure level and the systemic level. Thus, it shall help in guaranteeing that agricultural produce is not just stored more efficiently, but that distribution and trade thereof is creating economic opportunity for producers on the margins.

On the physical infrastructure level, investments in improved vertical storage facilities are incentivized in strategically important areas that lack said infrastructure. Technical knowledge thereto is readily available, and reliance on geopolitical stability is minimized. Furthermore, vertical storage systems like silos are creating climate and supply-side risk resilient modes of food storage that can be built at relatively low implementation cost (for institutional actors), smoothen supply, and increase predictability and stability of markets. This has the potential to positively impact prices and the competitiveness of regions with geographical and infrastructural disadvantages. Thereafter, local, regional and international trade can benefit from the increased efficiency, and the improved storage facilities create conditions conducive to reliable, sustainable and equitable trade and growth.

On the systemic level, the creation of a network of facilities is envisioned to enable efficient trade flows from peripheries to trade centres. Through the implementation of TFA-enhanced Authorized Economic Operator (AEO) certified warehouses along the trade routes, information about stocks transit seamlessly, thereby reducing transaction- and opportunity cost. Empowered by vertical storage facilities, small-scale farmers can contribute their produce to larger trade endeavours, benefitting from economies of scale and increased returns on investment.

IMPLEMENTATION

A more detailed examination of these two levels of implementation illustrates the practical measures through which the proposal can achieve its intended impact.

Physical Infrastructure Level: Vertical Storage Warehouses for Export-Ready Consignments

With government backing through the Aid for Trade Initiative, farmer cooperatives can upgrade or establish certified storage hubs with vertical silos comprising basic quality testing equipment. While cooperatives have had limited success in bolstering economically viable trade in many parts of Africa, their role in aggregating farmers' crops provides an essential foundation for warehouse receipt systems and other mechanisms that enhance both storage capacity and market access. Local farmers deposit their harvests (e.g., maize, beans) in these facilities, where the transactions are authenticated through encrypted warehouse certificates. These certificates remain in a secure database and can be used as collateral for loans under the International Finance Corporation (IFC)'s Global Warehouse Finance Program (GWFP). In this way, farmers reduce post-harvest losses and gain access to the trade market by consolidating their produce into export-ready consignments.

Systemic Level: A TFA-Enhanced 'Green-Lane' for Grains and Perishables

In the long term, these certified warehouses can evolve into Authorized Economic Operators (AEO), under the World Customs Organization (WCO) SAFE Framework. This status—which necessitates some internal controls, financial solvency, and supply chain security—would grant them access to trade facilitation

measures under the WTO Trade Facilitation Agreement (TFA), such as low documentary, low rate of physical inspection, or deferred payment of duties (Art. 7.7). By securely sharing data along strategic trade routes, certified warehouses become trusted nodes in the TFA Framework, enabling joint inspection before shipment (Art. 8) and priority clearance for food in transit (Art. 11). Together, these measures create "fast-track" lanes for grains and perishable goods, linking improved storage at the farmer level with more efficient cross-border trade.

CHALLENGES

Vertical storage infrastructures require an important investment upfront, let alone maintenance costs. To address this financing gap, the IFC's Global Food Safety and Food Loss Prevention Advisory Program constitutes a good starting point. The Global Agriculture and Food Security Program (GAFSP), a multilateral financing platform dedicated to improving food and nutrition security worldwide, is one of its sponsors. The focus should be on public-private partnerships, blending concessional finance from development banks with private sector participation.

Given the risk of larger, export-oriented farmers capturing most of the benefits, leaving small-scale farmers behind, equity can be safeguarded by introducing subsidized access for smallholders, quotas ensuring a share of storage space for vulnerable farmers, and community oversight mechanisms to avoid elite capture. In addition, digital monitoring systems (blockchain-based inventories, for instance) could reduce corruption risks while ensuring a more transparent management of the structures.

Question #2: Question #2: a substantive section, outlining how the proposed solution would appear in a Ministerial Declaration, General Council Decision, treaty change, etc. (500 words max.):

Building on the last meeting of the Committee on Trade Facilitation (TFC)—which has the mandate to monitor and guide implementation of the TFA—and its dedicated session on transit, held on 4-5 June 2025, this proposal calls for the joint participation of concerned Members States and relevant observers organizations, such as the WCO, the World Bank's IFC, and UNCTAD, to hold a dedicated session on storage and fast-track transit to prevent post-harvest food loss at the next TFC meeting (1-3 December 2025). This session would allow Member states most affected by post-harvest food loss to bring the issue to the agenda and highlight the inefficiencies of current trade routes, along with the key steps necessary to implement the solution. Ad hoc discussion between concerned states and donors on the framing and implementation of such a solution under the TFA can be facilitated by the Committee itself, in accordance with Art. 23(1.8).

Ultimately, this initiative would be taken forward by a Committee Decision establishing the Harvest-to-Market Facilitation Pathway (H2M)—the proposal made above. Such an instrument would not amend or add binding obligations to the Agreement, but would rather mobilize and interpret existing provisions in the TFA, notably Art. 7.7 on trade facilitation measures for authorized operators, Art. 7.9 on perishable goods, Art. 8 on border agency cooperation, Art. 10 on formalities connected with importation, exportation, and transit, and Art. 11 on freedom of transit. By grounding the initiative in these provisions, Members would focus on strengthening implementation rather than reopening negotiations.

The Decision would establish an annual dedicated session on “Storage and Fast-Track Food Corridors”, open to Member States and observer organizations. This session would serve three functions: first, it would facilitate Members’ experience-sharing on cooperatives formation, financing mechanisms, or best practices or challenges related to AEO status; second, it would allow observers and technical agencies to present tools and financing opportunities related to the initiative; and third, it would provide a platform to track progress and identify remaining obstacles to implementation.

The outcome of each session would be compiled by the Secretariat into a Best Practices on Storage and Fast-Track Food Corridors Document, updated annually, that highlights concrete measures for Members willing to apply the Harvest-to-Market Facilitation Pathway. By providing detailed references as to how TFA provisions can be leveraged to reduce post-harvest food losses and facilitate export access to smallholders, this document would act as authoritative reference for other Members to rely on.

By framing the initiative within the long term work of the Committee on Trade Facilitation, Member States would ensure that the issue of post-harvest food loss remains embedded in the TFA framework. Additional instruments such as the Committee Decision, the Best Practice Document, and recurring dedicated

sessions would provide a coherent and sustainable pathway for translating existing TFA commitments into tangible improvements in food security and trade facilitation outcomes.

Question 3: [Video explanation](#) (3 minutes, max)

Implementation

1 Physical infrastructure level

Vertical Storage Warehouses for Export-Ready Consignments

- Government support via Aid for Trade Initiative enables farmer cooperatives to build/upgrade certified storage hubs with vertical silos comprising basic quality testing equipment.
- Farmers deposit harvests and receive encrypted warehouse certificates.
- Certificates are stored in a secure database and can serve as collateral for IFC's Global Warehouse Finance Program (GWFP).

2 Systemic level

A TFA-Enhanced 'Green-Lane' for Grains and Perishables

- Certified warehouses evolve into Authorized Economic Operators (AEOs) under the WCO SAFE Framework.
- Grants access to WTO TFA measures (Art. 7.7):
 - Reduced documentation requirements;
 - Lower rate of physical inspections;
 - Deferred payment of duties...
- Secure data sharing along trade routes makes warehouses trusted TFA nodes, enables joint inspections before shipment (Art. 8) and priority clearance for food in transit (Art. 11).

Team #7

Team Name: Rohit Barman

Food Security Credit & Corridors

Question #1: a narrative section explaining the element of the problem the submission is hoping to address, and how the solution is intended to address it (1,000 words max.):

Addressing the Problem and How the Solution Works

Global food security remains fragile. In recent years, climate extremes, supply chain disruptions, and geopolitical conflicts have combined to restrict the flow of essential food grains to the populations that need them most. When risk premiums rise or prices spike, exporters and shipping companies often divert their goods to safer, more profitable markets. This dynamic leaves vulnerable importers—especially Least Developed Countries (LDCs)—with delayed shipments, higher landed costs, and inadequate supplies of staple foods. Three elements reinforce this vicious cycle:

Misaligned Incentives for Exporters and Carriers

Exporters and carriers are rational economic actors. When delivering to unstable regions becomes costlier—because of war-risk insurance, piracy threats, infrastructure gaps, or payment delays—they prioritize lower-risk destinations. Without meaningful incentives, the private sector has little reason to absorb these costs or risks to serve vulnerable importers.

Opaque and Inefficient Supply Chains

Food grain trade often relies on paper-based systems, fragmented tracking, and slow customs clearance. The lack of transparent, verifiable data increases transaction costs, raises financing hurdles, and discourages insurers and banks from supporting shipments into high-risk markets. These inefficiencies magnify food insecurity by delaying deliveries and inflating prices.

Weak Logistics Infrastructure in LDCs

Many vulnerable countries lack the port handling facilities, storage systems, and last-mile security to manage grain imports efficiently. Even when food arrives, bottlenecks at ports or losses in storage can mean that a significant portion never reaches households in need. The cost of upgrading this infrastructure often exceeds domestic budgets, and investment inflows are limited.

How the Solution Addresses the Problem

The Food Security Credits & Corridors Framework (FSCCF) directly tackles these interlinked challenges through three mutually reinforcing pillars: incentives, digital transparency, and infrastructure development.

1. Incentivizing Deliveries through Food Security Credits (FSCs)

The first innovation is a credit system that aligns commercial interests with humanitarian needs. Exporters and carriers that deliver essential food grains to Food Security Destinations (FSDs)—countries identified as most at risk of shortages—earn Food Security Credits (FSCs). These credits can be redeemed for tax offsets or port-charge reductions on other trade activities, making it financially attractive to serve high-risk markets.

By design, FSCs reward additionality: they are granted only when companies provide shipments beyond historical baselines or when they accept higher-than-normal risk premiums. This prevents misuse and ensures the program mobilizes new, incremental flows of grain. The redemption mechanism—implemented domestically by each WTO Member but safeguarded under WTO law—creates a stable, rules-based incentive for exporters without distorting broader competition.

Problem addressed: Lack of incentive for firms to supply vulnerable markets.

Solution: FSCs turn humanitarian supply routes into commercially viable opportunities.

2. Improving Efficiency and Trust through Digital Transformation

To ensure FSCs are credible and that trade is smooth, the framework establishes a Digital Registry powered by blockchain and interoperable with global trade data standards. Every shipment seeking FSC eligibility is logged digitally, including electronic bills of lading, certificates of origin, IoT-based monitoring, and verified delivery confirmations.

This digital trail reduces fraud, prevents double-counting of credits, and builds trust among financiers and insurers. For banks, it means reliable verification that shipments reached their intended destinations, reducing the cost of trade finance. For insurers, it means real-time risk monitoring, lowering premiums for carriers. For governments and international organizations, it ensures transparency, accountability, and rapid data on where food is moving.

Problem addressed: Opaque supply chains and high financing/insurance costs.

Solution: Digital transparency lowers costs, accelerates flows, and enhances trust.

3. Strengthening Infrastructure through Public-Private Partnerships (PPPs)

The third pillar focuses on structural bottlenecks. A portion of FSC value—via a small levy on redemptions in high-income Members—is pooled into a Food Infrastructure Facility for LDCs (FIF-LDC). This fund co-finance logistics upgrades such as port berths, grain silos, temperature-controlled storage, customs single windows, and secure last-mile corridors.

Importantly, this is done through Public-Private Partnerships (PPPs), using a WTO-developed toolkit that standardizes contracts, shares risks, and attracts private investors alongside multilateral development banks. By tying LDC imports

at reduced prices (the Reference Delivered Price – LDC) to commitments that savings are reinvested in logistics, the framework ensures that today's emergency relief builds tomorrow's resilience.

Problem addressed: Weak logistics and post-harvest systems in LDCs.

Solution: PPP-driven infrastructure investment creates sustainable trade capacity.

Why the Framework Works

The FSCCF integrates short-term relief with long-term system building.

For exporters and carriers, it creates a financial upside for serving high-risk markets, making humanitarian supply chains commercially rational.

For financiers and insurers, digital verification reduces uncertainty, cutting transaction costs and premiums.

For LDCs, lower import prices are paired with infrastructure investment, creating a feedback loop that reduces dependency.

For WTO Members, the framework operates under a legal waiver that protects it from subsidy disputes, ensuring predictability.

By linking incentives, digital trust, and infrastructure, FSCCF creates a virtuous cycle: more food flows to vulnerable populations, delivered faster and at lower cost, while investments strengthen local logistics systems for the future.

Conclusion

The problem the submission addresses is the systemic mismatch between where food is most urgently needed and where trade flows naturally go under risk and profit considerations. This mismatch is worsened by opaque supply chains and fragile logistics in vulnerable economies. The FSCCF provides a holistic solution:

Credits realign incentives,

Digital tools cut inefficiency and de-risk finance, and

PPPs build lasting capacity.

Together, these measures transform emergency grain deliveries into a sustainable mechanism that improves resilience in the global food system—exactly the kind of innovation the WTO is well-placed to facilitate.

Question #2: a substantive section, outlining how the proposed solution would appear in a Ministerial Declaration, General Council Decision, treaty change, etc. (500 words max.):

FSCCF Aa A WTO Instruments

The proposed Food Security Credits & Corridors Framework (FSCCF) would be embedded in WTO law through a two-tier structure: (i) a Ministerial Declaration providing political mandate and policy direction, and (ii) a General Council Decision under Article IX establishing the operational and legal framework, including a temporary waiver under the SCM Agreement. This approach avoids the complexity of treaty amendment while giving Members legal certainty.

1. Ministerial Declaration

The Ministerial Conference would adopt a Declaration titled “Ministerial Declaration on Food Security Credits and Corridors.” This instrument would:

Recognize the urgent need to ensure predictable trade in food staples to vulnerable populations, particularly in Least Developed Countries (LDCs).

Affirm that Members will cooperate to pilot and scale mechanisms that align private sector incentives with public food security objectives.

Mandate the General Council to establish the FSCCF, oversee its implementation, and report annually to Ministers.

Call upon Aid-for-Trade facilities, the Trade Facilitation Committee, and relevant international agencies (FAO, WFP, MDBs) to support implementation.

The Declaration would thus provide political cover and collective endorsement without creating new binding rights or obligations by itself.

2. General Council Decision under Article IX

The operational details would be adopted as a General Council Decision (GCD), which is binding on Members. The GCD would:

(a) Establish FSCCF and its Objectives

Define the Framework as a cooperative mechanism to facilitate time-critical trade in designated “Food Security Destinations” (FSDs).

Specify its three pillars:

- (i) Food Security Credits (FSCs),
- (ii) a Digital Registry, and
- (iii) PPP-based infrastructure financing (FIF-LDC)

(b) Provide a Waiver under the SCM Agreement

Pursuant to Article IX:3 of the WTO Agreement, grant a waiver from Parts II and III of the SCM Agreement for Members that issue tax offsets or port-charge reductions linked to FSCs.

Limit the waiver to five years, renewable, and subject to conditions: transparency, caps on redemption, additionality requirements, and prohibition of export-contingent subsidies beyond FSC eligibility.

(c) Establish Transparency and Notification Disciplines

Require Members to notify quarterly:

- (i) FSC issuances and redemptions,
- (ii) lists of FSDs used, and
- (iii) results of independent audits.

Mandate the WTO Secretariat to maintain a consolidated public dashboard based on registry data.

(d) Authorize a WTO-Operated Digital Registry

Instruct the Secretariat to establish and maintain a permissioned blockchain registry (interoperable with WCO/UNCEFACT standards) recording shipments, eBLs, and delivery confirmations.

Allow accredited banks and insurers controlled access to verify shipments.

(e) Provide Special and Differential Treatment for LDCs

Enable LDCs to import at capped Reference Delivered Prices (RDP-LDC).

Provide for technical assistance in adopting eDocuments and integrating customs systems.

Grant LDCs access to the Food Infrastructure Facility (FIF-LDC).

(f) Endorse PPP Corridors

Endorse the PPP Toolkit (Annex F) and invite MDBs to co-finance.

Authorize a 1–2% levy on FSC redemptions in high-income Members, with proceeds directed to FIF-LDC (non-mandatory for developing Members).

(g) Review and Sunset

Require annual review by the General Council against KPIs (Annex G).

Provide for automatic lapse of non-compliant schemes.

Sunset the waiver unless expressly renewed.

3. Treaty Change (Not Preferred)

While possible, amending the SCM Agreement or GATT to permanently accommodate FSC-type mechanisms would be politically complex and time-intensive. The preferred legal pathway is a waiver-based framework under a General Council Decision, backed by a Ministerial Declaration. This balances urgency, flexibility, and legal certainty.

Question 3: Video explanation (3 minutes, max)



Food Security Credits & Corridors (FSCC)
"When shippers fail, grain arrives the people who need it most. FSCC flips the architecture."

The Problem:

- Disruptions: War, viruses, and market volatility cause shortages in vulnerable regions.
- Robustness: Safe, Exporters & Importers, efficient supply chain, efficient logistics.
- Impact: Rising freight costs, delays, and struggle for low-income exporters.

FSCC – A Three-Pillar Solution:

- 1. Credits**
 - Reserve exporters for delivering food to designated Food Security Destinations (FSDs).
 - Earn Food Security Credits (FSCs) and use them for performance and fair pricing.
 - Reserve FSCs for use in retail or value-added/processing activities.
 - Managed by WTC subject to audit, better supply, and compliance enforcement.
- 2. Digital Rail (Verification)**
 - Every shipment tracked via:
 - Shipment of Loading (SLL)
 - IoT – monitored performance metrics
 - Blockchain record-delivery logs
 - Outcome: Transparency for banks, insurers, and governments → cheaper financing, faster movement.
- 3. Corridors & Infrastructure (PPP)**
 - FSC, performance, confidence, a reserve only for a Food Security Destinations Family.
 - Facility, equipment, Port upgrades, sites, and sea infrastructure.
 - Climate-resilient, offset, no-pollution, sustainable.

How It Works: Flow Summary

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graph LR
    A[Deliver to FSDs] --> B[Credits issued]
    B --> C[Digital verification]
    C --> D[Create Verified Credits]
    D --> E[Redeem FSCs and Infrastructure]
  
```

Digital Rail, which ensures the

FastTrack Food

Video feed of presenter: **Ravi Sankar**

Video title: **SECURITY MEASURES IN RICE IN INDIA**

Team #8

Team Name: Policrafters

Tackling Rice Insecurity in Southeast Asia Through Adaptive Multilayered Food Network Intelligence System (AMFIS)

Question #1: a narrative section explaining the element of the problem the submission is hoping to address, and how the solution is intended to address it (1,000 words max.):

Global Food Trade Network (FTN)

An increasing number of countries are shifting from self-sufficiency to participation in the global food trade, fostering the emergence of a global Food Trade Network (FTN). Studies have shown that as fluctuations within this network intensify, uncertainties surrounding long-term food security are also exacerbated. Today's food production is deeply embedded in the FTN, allowing shortages to propagate across borders. Research indicates that such high-impact shocks have become more frequent in recent years.

The Rice Trade Dilemma

Under the current global FTN, rice is one of the most studied commodities due to its central role in global food security. At least 40% of global rice exports come from Southeast Asia (SEA). It is a daily staple for nearly half of the world's population including 690 million people in SEA. However, global rice production is now falling, driving up prices for over 3.5 billion people. Recent study warns of the largest shortfall of the global rice market in two decades. Intensifying El Niño events, IPCC predictions of increased extreme heat in Asia conditions unfavorable to rice yields, have collectively contributed to a global supply deficit. Research shows the region will be unable to produce a rice surplus in the future with current yield growth.

Rice is then a unique commodity for two reasons: it is simultaneously exported and imported largely within the same regions and highly traded in a region with idiosyncratic shocks or the same climate risks such as droughts or production shortfalls. Disruptions then are rarely isolated, localized events can quickly escalate into global food security crises, necessitating the need for adaptation strategies that operate at the network level.

Current Policy Response and the Role of FTN Modeling

ASEAN has adopted policies that prioritize intra-regional rice exports. While this may strengthen regional resilience, it could have adverse consequences for other global populations, including countries like the United States, which imports over half of its rice from SEA, and Sub-Saharan Africa, which is projected to overtake SEA as the world's top rice importer.

During crises, FTN modeling has been widely used to assess the stability, resilience, and predictability of the global food trade system. Examining shock transmission and dynamic resilience predictions can improve preparedness and provide response pathways.

For example, FTN modeling by the Stockholm Environment Institute projects that by 2099, rice import dependency will decrease for most communities suggesting a reorientation in global rice trade relationships, in response to climate and production shifts.

Moreover, FTN also serves as a tool to measure a country's adaptive capacity or the ability to reconfigure trade and production networks including changing trade partners, diversifying imports, or substituting commodities. This is what we refer to later as trade policy configuration.

FTN Gaps and AMFIS

Existing models of FTN have primarily focused on simulating trade flows and the propagation of shocks across global networks. While they successfully map which nodes (i.e., countries or regions) are impacted, they do not answer:

“Now that I know which networks are affected, what are my feasible options to respond, adapt, or recover?”

This gap highlights the need for a new layer in FTN modeling: (trade) policy configuration.

Policy configuration refers to a structured set of feasible adaptation strategies that a country can adopt when faced with a disruption in food trade. These strategies may include alternative trade flow routes (i.e., changing or expanding trade partners), diversification of suppliers to reduce dependency, or commodity substitution (e.g., replacing rice with wheat or other staples)

In essence, it's a decision-support system to help policymakers quickly answer questions like: “If Country A can no longer supply rice, who else can?”, “If rice is unavailable, what staple alternatives are viable and scalable?”, “How can trade routes be adjusted without deepening food insecurity?”

In the context of the multilateral trading system (MTS), identifying such feasible response paths is increasingly crucial. For individual countries, the ability to translate trade network simulations into policy configurations is essential for both crisis response and long-term preparedness.

Adaptive Multilayered Food Network Intelligence System (AMFIS) is a decision support system, integrated to Agricultural Market Information System (AMIS), that operates by simulating the effects of climate shocks on a nation's commodity trade network. AMFIS operates through a two-stage process designed to generate policy configuration.

1. Stage One: Automated Shock Identification and Forecasting

This initial stage is focused on proactively identifying and quantifying potential disruptions to the global food trade network.

- a. **Automated Data Ingestion:** The system continuously monitors and ingests real-time climate and agricultural news data from the World Meteorological Organization and the Group on Earth Observations Global Agricultural Monitoring (GEOGLAM) Crop Monitor.

Information Extraction: This stream of unstructured data is then processed by Natural Language Processing engine. This engine is trained to identify and extract key information relevant to the disruptions, such as the specific location, date, and duration; the type of climate event; and the affected commodities.

- b. **Forecasting:** If the reported event's timeline does not cover the required simulation period, our model projects the potential scale and duration of the impact, creating a "shock profile" that can be used for the simulation.

2. Stage Two: Simulation and Policy Configuration

Once a shock has been identified and quantified, it becomes the primary input for the AMFIS simulation.

- a. **Multi-Source Data Integration:** The "shock profile" is introduced into an adaptive, multi-layered food trade network model. This model is built upon the global trade data (FABIO database) and commodity pricing and market data from the AMIS database.
- b. **Network Intelligence and Simulation:** The model simulates the cascading effects of the shock throughout the multi-layered trade network. It calculates how export reductions from an affected country will impact direct trading partners and how those impacts will, in turn, ripple outwards to affect secondary and tertiary trade relationships, prices, and commodity availability on a global and national scale.
- c. Two final outputs will be generated:
 - i. A post-shock food trade network showing which trade routes are compromised, which nodes (countries) are most affected and where critical vulnerabilities lie.
 - ii. Policy configuration.

Question #2: a substantive section, outlining how the proposed solution would appear in a Ministerial Declaration, General Council Decision, treaty change, etc. (500 words max.):

Two substantive components are proposed:

An Agricultural Ministerial Declaration, to be adopted voluntarily by interested Members, and A Treaty, to be adopted by jurisdictions most affected by rice insecurity.

A. Agricultural Ministerial Declaration - Priority: Enhancing International Trade's Contribution to Food Security Through Adaptive and Multilayered Food Trade Network Intelligence

1. The interplay of global food trade is evolving : climate change increasingly transforms once idiosyncratic, state-isolated shocks into network-wide disruptions, exposing regions simultaneously to drought, floods, and salinity intrusion. In this context, Ministers agree on the importance of open, predictable and rules-based international trade policies, consistent with the WTO rules are essential to ensuring that food can move efficiently from surplus to deficit regions, thereby mitigating hunger and price volatility. While reinforcing domestic production remains essential, Ministers affirm that diversifying regional, and local supply routes, and fostering climate-resilient trade partnerships, are critical to strengthening the resilience of the global food trade network.
2. In light of transboundary climate shocks and other forms of idiosyncratic shocks, we recognize the growing emergence and importance of adaptive food trade network intelligence. Such intelligence can serve as a critical tool for improving the accuracy of trade predictability. We also acknowledge that transparency, cooperation, and resilience are essential components underpinning this intelligence effort. Studies examining shock transmission and dynamic resilience forecasting demonstrate that these tools can enhance preparedness by identifying potential vulnerabilities and response pathways.
3. We underscore the vital role of AMIS in delivering transparent and reliable market analysis of staple foods. We call for the integration of adaptive food trade network intelligence as a policy feature of AMIS. This offers an opportunity to enhance country participation through periodic use of the feature. We commit to exploring innovative mechanisms like Adaptive Multilayered Food Network Intelligence System (AMFIS) -a decision-support platform that integrates climate and trade data to guide adaptive food security strategies.

B. Amendment to the Agreement on Agriculture: Rice Security Mechanism Through Adaptive Multilayered Food Network Intelligence System (AMFIS)

Members recognize rice as a critical food security crop for a significant number of Members, particularly in Southeast Asia, and undertake adaptation strategies to manage risks and improve predictability of rice production and trade.

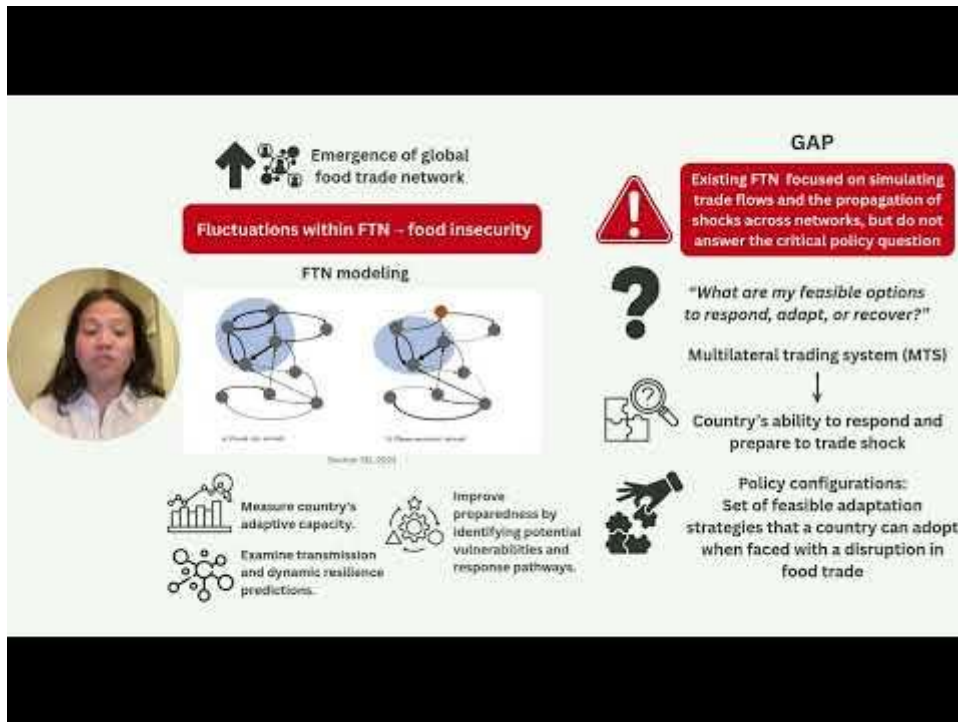
A dedicated institutional mechanism, Adaptive Multilayered Food Network Intelligence System (AMFIS), integrated to AMIS shall serve as a platform for transparency, cooperation, and resilience-building in the rice sector, with the following functions:

- a) Consolidating data on rice production and consumption, commodity price, climatic risks, and trade flows drawing on existing reporting systems;
- b) Developing adaptation recommendations for Members on trade strategy, domestic production, allocation, and commodity substitution trade policy adjustments with a view to adapting to shocks and maintaining predictable supplies.

3. Acknowledging the cascading risks posed by arbitrary disruptions, trade policy measures adopted by countries concerning rice under this Agreement shall be transparent.

4. The obligation under this Article shall be implemented in a manner consistent with Members' development needs and food security concerns. Members are supported through technical assistance, capacity-building, and appropriate transition periods.

Question 3: [Video explanation](#) (3 minutes, max)



Emergence of global food trade network.

Fluctuations within FTN – food insecurity

FTN modeling

GAP

Existing FTN focused on simulating trade flows and the propagation of shocks across networks, but do not answer the critical policy question

“What are my feasible options to respond, adapt, or recover?”

Multilateral trading system (MTS)

Country’s ability to respond and prepare to trade shock

Policy configurations:
Set of feasible adaptation strategies that a country can adopt when faced with a disruption in food trade

Measure country’s adaptive capacity.

Examine transmission and dynamic resilience predictions.

Improve preparedness by identifying potential vulnerabilities and response pathways.

Team #9

Team Name: Team Aurora**Decentralising Trade to Strengthen Global Food Security****Question #1: a narrative section explaining the element of the problem the submission is hoping to address, and how the solution is intended to address it (1,000 words max.):**

Introduction

Global food security is no longer a distant aspiration but an urgent imperative. With over 735 million people currently facing hunger, up from 613 million in 2019, the world is veering off course from its commitment to end hunger by 2030. The crisis is most acute in regions such as Western Asia, the Caribbean, and Sub-Saharan Africa, where compounding shocks are dismantling already fragile food systems. While national efforts to boost productivity, strengthen crops against pests, and adapt to climate change are vital, they remain insufficient on their own. Food security is inherently transnational: crops flourish in different soils and climates, and trade is the connective tissue that allows surplus to meet scarcity. When equitably governed, the multilateral trading system (MTS) can be the most powerful tool to ensure that nutritious, affordable food reaches every corner of the globe. Yet today, this system is under immense strain.

Climate disruptions, geopolitical tensions, and market volatility are fragmenting supply chains, inflating prices, and marginalising vulnerable producers of food. Political instability and conflict disrupt production, damage infrastructure, and close ports, driving up costs and delaying shipments. Geopolitical frictions add another layer of unpredictability, as sudden policy shifts - such as export bans or new regulatory barriers - send ripples through global markets, deterring investment and destabilising contracts.

At the same time, climate change is reshaping agriculture itself. Erratic rainfall, rising temperatures, and extreme weather events are depressing yields and straining distribution networks. Vulnerable regions, often heavily dependent on imports, face the dual burden of falling domestic production and volatile global prices. Without coordinated trade responses, climate shocks risk cascading into full-blown humanitarian crises.

Problem Statement

In its current form, the MTS has yet to evolve the responsiveness, inclusivity, and transparency required to address the crises of food insecurity. From our findings, the challenge is not trade itself but how trade is governed, particularly in moments of crisis when access to food becomes a matter of survival, sovereignty, and strategic leverage.

Since the institutional evolution from the General Agreement on Tariffs and Trade (GATT) to the World Trade Organization (WTO), the MTS has expanded in scope and membership. However, this growth has been accompanied by stalled decision-making processes. Achieving consensus, once a hallmark of WTO governance, has become progressively more complex, often delaying action on urgent global challenges.

The governance mechanisms of the WTO have not kept pace with the evolving nature of global shocks. Climate change, geopolitical instability, and supply chain fragility have intensified the politicisation of food trade. In recent years, there has been a marked increase in the strategic use of food as a geopolitical instrument. Export bans, excessive stockpiling, and opaque trade restrictions have been deployed not solely for domestic protection, but as tools of leverage, undermining trust, distorting markets, and exacerbating food insecurity in import-dependent regions.

These practices erode the foundational principles of the WTO: transparency, non-discrimination, and equitable access. They also threaten the credibility of the multilateral system at a time when global cooperation is most needed. Without targeted reforms to enhance agility, inclusivity, and accountability, the MTS risks becoming a conduit for exclusion and instability rather than a mechanism for shared prosperity and resilience.

Proposed Solution

To bridge this gap, our proposal advances a four-pillar strategy designed to embed resilience, equity, and digital intelligence into global food trade.

First, resilience must be strengthened through climate-adaptive trade corridors, flexible tariffs, and regional food reserves that buffer against disruption. Second, trade-related food loss and waste should be reduced by harmonising standards and incentivising circular trade models that repurpose surplus through regional redistribution. Third, transparency and predictability must be improved through technology, for example, a WTO-backed Agri-Food Trade Dashboard that aggregates real-time data on food stock, tariffs, quotas, and restrictions, paired with early-warning systems for sudden policy changes. Finally, digital tools such as blockchain and AI can be leveraged to streamline cross-border transactions, forecast demand, and identify bottlenecks in food trade flows.

To operationalise these pillars, we propose forming what we call Resilience Clusters: voluntary coalitions of WTO members grouped by shared vulnerabilities or strategic interests. These clusters would serve as platforms for coordinating policy, sharing data, and piloting climate-smart trade protocols. For example, they could facilitate regional grain reserves, harmonise labeling standards, or secure transport corridors for staple commodities. The WTO Secretariat would play a central role in ensuring coherence and inclusivity, reviewing cluster activities against guiding principles, convening cross-cluster dialogues, and linking members with technical and financial partners such as FAO, IFAD, and the World Bank. Annual reporting to the General Council would ensure that lessons from

individual clusters inform WTO-wide deliberations, creating a feedback loop that strengthens global food security.

Risks and Mitigation

While our proposed solution offers a pathway forward, we are cognisant of the implementation risks and have outlined measures to address them effectively.

Clusters could drift into exclusivity or inconsistency with WTO rules, but this can be mitigated through clear principles and Secretariat oversight. Efforts may also become fragmented, but cross-cluster coordination and annual synthesis reports will ensure shared learning. Resource constraints are real concerns as well, but partnerships and joint funding mechanisms can sustain initiatives without duplication.

Conclusion

By embedding resilience, equity, and innovation into the governance of trade, this proposal seeks to reimagine the multilateral trading system as a true guarantor of global food security. In an era defined by instability, the MTS must evolve to ensure that food flows predictably, sustainably, and fairly, even in times of crisis.

Question #2: a substantive section, outlining how the proposed solution would appear in a Ministerial Declaration, General Council Decision, treaty change, etc. (500 words max.):

MINISTERIAL DECISION ON RESILIENCE CLUSTERS FOR TRADE AND FOOD
SECURITY

ADOPTED ON 01 SEPTEMBER 2025

The Ministerial Conference,

In view of Sustainable Development Goal 2 on ending hunger, achieving food security, and promoting sustainable agriculture;

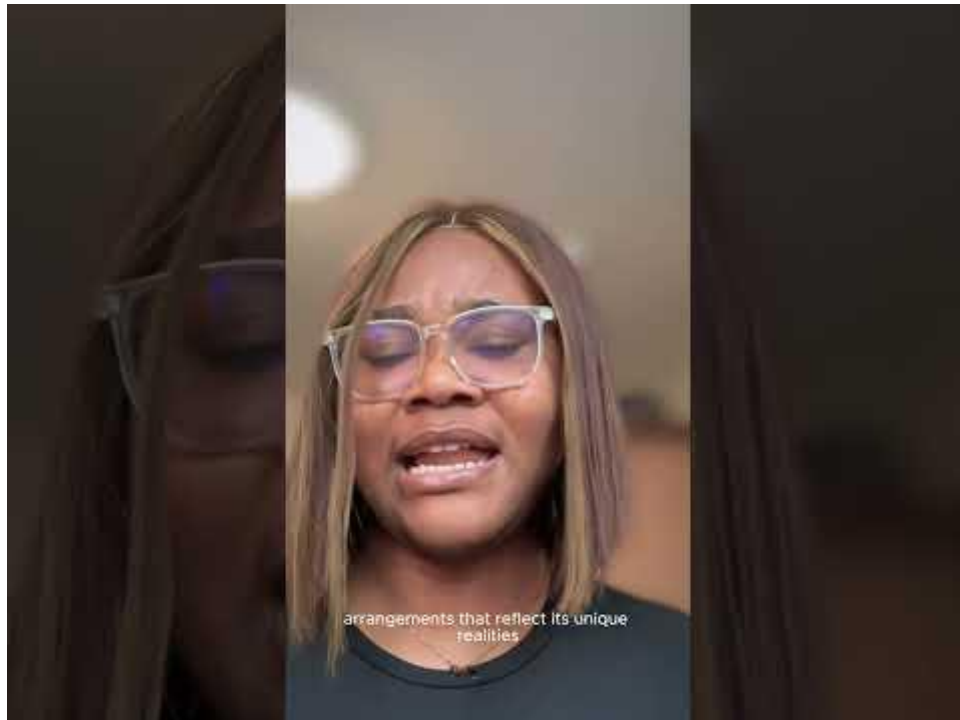
Recognising the need to strengthen resilience against climate shocks, market volatility, and supply chain disruptions;

Noting the emergence of voluntary, issue-based coalitions of Members, hereafter referred to as “Resilience Clusters”, as complementary mechanisms to facilitate targeted cooperation among Members facing shared vulnerabilities or strategic priorities;

Decides as follows:

1. The General Council encourages the formation and recognition of Resilience Clusters as voluntary, non-exclusive platforms for collaboration on trade-related challenges, including but not limited to food security, climate resilience, and digital infrastructure.
2. Resilience Clusters shall operate in a manner consistent with WTO principles, and may serve as incubators for policy innovation, data sharing, and coordinated action, with outcomes reported to the General Council to ensure transparency and institutional learning.
3. Members agree to contribute to and benefit from a WTO-backed Agri-Food Trade Dashboard, providing timely and accurate information on food stocks, tariffs, quotas, and export restrictions, and to utilise its early-warning functions to enhance transparency, predictability, and mutual trust in agri-food trade.
4. The Secretariat is requested to support Members in convening and documenting Cluster activities, and to explore modalities for integrating Cluster insights into broader WTO deliberations.

Question 3: [Video explanation](#) (3 minutes, max)



Team #10

Team Name: CropBridge

AgriTrade Watch: From Surprise to Signal

Question #1: a narrative section explaining the element of the problem the submission is hoping to address, and how the solution is intended to address it (1,000 words max.):

The element of the problem we are addressing is the lack of transparency and predictability in agri-food trade. In times of crisis, governments frequently impose export bans or restrictions on essential products such as wheat, rice, maize, or fertilizers. While these measures are sometimes justified under WTO rules, they are often announced suddenly, with limited notice and incomplete communication. This lack of transparency creates uncertainty, disrupts trade flows, and undermines food security.

The consequences are significant. Import-dependent countries cannot adjust in time, leaving shipments stranded and governments forced to secure replacements at higher costs. Humanitarian agencies, including the World Food Programme, face delays and increased expenses when restrictions are imposed without clear advance notice, even though WTO members have agreed to exempt WFP purchases from such measures. Markets themselves overreact when information is incomplete or late: a single unexpected export ban can trigger panic buying, hoarding, and copycat restrictions, driving prices higher and worsening shortages. The common thread across these challenges is the absence of timely, reliable, and accessible information.

Our solution, AgriTrade Watch, is designed to directly increase transparency and predictability in agri-food trade. It introduces a requirement for members to pre-notify the WTO at least ten days before implementing an export restriction, using a simple standardized form that specifies the products, dates, rationale, and any humanitarian carve-outs. Emergency actions remain possible, but notifications must follow immediately. Fertilizer measures are also included on a best-endeavour basis, reflecting their role in global food production.

To ensure this information is clear and accessible, all notifications are processed through an AI-powered system that cleans, standardizes, and publishes them in a single open feed. Natural language processing allows the system to extract the essential details from notifications submitted in different formats or languages. This information is integrated into existing WTO tools such as ePing and Ag-IMS, making it possible for governments, traders, SMEs, and humanitarian organizations to receive real-time alerts.

AgriTrade Watch also translates notifications into a public traffic-light dashboard that provides an at-a-glance picture of global food trade. Commodities and trade corridors are flagged green when stable, yellow when a restriction has been pre-notified, and red when a restriction is active. AI supports this dashboard by

analyzing market trends and highlighting potential risks in real time. This turns technical notifications into simple, actionable signals that anyone can use: from policymakers to millers and bakers.

Question #2: a substantive section, outlining how the proposed solution would appear in a Ministerial Declaration, General Council Decision, treaty change, etc. (500 words max.):

Recalling the objectives of the Marrakesh Agreement Establishing the World Trade Organization, including the promotion of transparency, stability, and predictability in international trade,

Recognizing the essential role of agri-food trade in sustaining global food security and the particular vulnerabilities of import-dependent developing and least-developed countries,

Concerned that sudden and non-transparent export prohibitions and restrictions on foodstuffs and fertilizers increase uncertainty, exacerbate price volatility, and threaten humanitarian operations,

Reaffirming Members' rights and obligations under the General Agreement on Tariffs and Trade 1994, the Agreement on Agriculture, and recalling the Decision of the Twelfth Ministerial Conference exempting World Food Programme purchases from export restrictions,

Decides as follows:

(1) Establishment of AgriTrade Watch

AgriTrade Watch is hereby established as a mechanism to enhance transparency and predictability in agri-food trade, with the aim of strengthening global food security.

(2) Pre-Notification of Export Prohibitions and Restrictions

- (a) A Member instituting an export prohibition or restriction on foodstuffs consistent with GATT 1994 Article XI:2(a) and Article 12 of the Agreement on Agriculture shall pre-notify the measure to the WTO not less than ten (10) days and not more than thirty (30) days prior to entry into force, except in circumstances of force majeure.
- (b) Such pre-notification shall include: the product scope (HS codes), the intended duration, the rationale, and measures to safeguard humanitarian carve-outs.
- (c) Developing country Members that are not net exporters of the product concerned shall retain the special and differential treatment provided under Article 12 of the Agreement on Agriculture.

(3) Application to Fertilizers

Recognizing the importance of fertilizers to agricultural productivity, Members agree, on a best-endeavour basis, to apply the pre-notification requirement to fertilizer export prohibitions and restrictions.

(4) Publication and Accessibility

The Secretariat shall implement an Open Agri-Trade Notification Standard (OANS) to ensure notifications are published in machine-readable format and made available through the WTO Notifications Portal, the ePing platform, and the Agriculture Information Management System (Ag-IMS).

(5) AgriTrade Watch Dashboard

The Secretariat shall maintain a public AgriTrade Watch Dashboard consolidating notifications and relevant market data, providing corridor- and commodity-level risk signals using a traffic-light system.

(6) Humanitarian Exemption

Members reaffirm that export prohibitions and restrictions shall not apply to foodstuffs purchased for non-commercial humanitarian purposes by the World Food Programme.

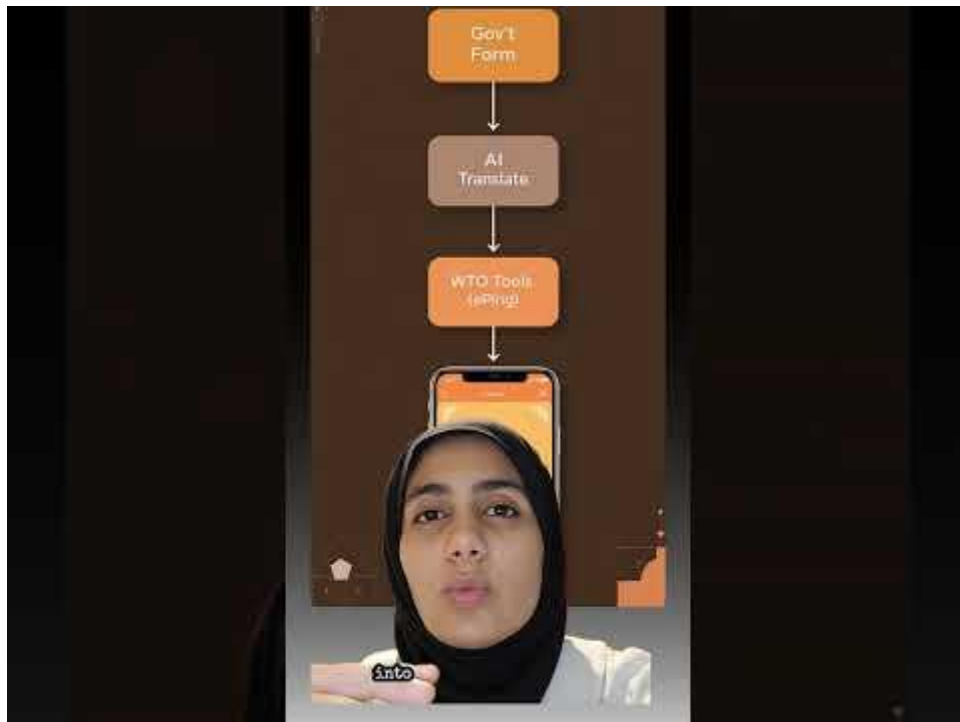
(7) Capacity Building

A facility shall be established to provide technical assistance and capacity-building support to developing and least-developed Members for implementing pre-notification requirements and adopting the OANS system.

(8) Oversight and Review

The Committee on Agriculture shall monitor implementation of this Decision, review its functioning annually, and report its findings to the General Council.

Question 3: [Video explanation](#) (3 minutes, max)



Team #11

Team Name: Bin's Bingo

Smallholder-Dedicated Green Trade Corridor Proposal

Question #1: a narrative section explaining the element of the problem the submission is hoping to address, and how the solution is intended to address it (1,000 words max.):

PART 1

Elements Concerning the Enhancement of Market Access for Small-Scale and Vulnerable Food Producers

Against the backdrop of multiple challenges facing the global food system, it is crucial to prioritize the status and development rights of small-scale and vulnerable food producers in international trade, ensuring their equal and effective access to global markets. Through discussions, we have identified three key elements requiring improvement, around which a reasonable solution will be proposed.

1. A Concise Green Product List

Defining a precise and refined list of green agricultural products within the global trade framework is vital for enhancing market access for small-scale vulnerable food producers—a point still under debate in many negotiations and proposals. The list should meet developed countries' demand for high-quality green products while creating market opportunities for the unique agricultural products of small-scale vulnerable producers. It should cover items with broad market demand and production processes compliant with green environmental standards. A shorter list facilitates management and promotion. International organizations can lead expert teams to screen products based on factors like market scale, environmental attributes, and production prevalence, ensuring effective global trade circulation.

2. A Specific Green Corridor Mechanism

The current complex certification procedures and customs clearance processes pose a major obstacle for small-scale producers. Thus, formulating an implementation mechanism to improve market access is key to enhancing trade efficiency. We propose establishing a "Green Corridor Mechanism" with modules including a "fast-track customs clearance system", "tailored simplified certification processes", "promotion of electronic certification and pre-clearance", and "mutual recognition of sustainability standards". This aims to reduce unnecessary documentation and duplicate testing, establishing a unified and widely recognized certification system for green agricultural products.

3. Implementation of Inclusiveness and Green Principles

Inclusiveness and greenness are core principles throughout the market access improvement plan. Policy formulation and implementation must fully consider the interests and needs of producers in different countries and of varying scales, providing inclusive support policies for small-scale producers to ensure fairer rules and promote balanced global agricultural trade. Meanwhile, small-scale producers should be encouraged to adopt green practices from the production stage, adhering to green standards in processing, packaging, and transportation to reduce energy consumption and enhance international recognition of their green agricultural products.

PART2

Smallholder-Dedicated Green Trade Corridor Proposal

To address the persistent challenge of enhancing market access for small-scale and vulnerable food producers, we propose the establishment of a Smallholder-Dedicated Green Trade Corridor, built on two mutually reinforcing components: a carefully curated Smallholder-Priority Green Product List, and a structured, legally neutral Green Corridor Mechanism. The initiative emphasizes inclusiveness, environmental sustainability, and compatibility with WTO frameworks.

1. Smallholder-Priority Green Product List

The product list includes a targeted group of commodities widely produced by smallholders but relatively low in global political sensitivity. These include coffee, cocoa, tea, spices, honey, and tropical fruits such as mango and avocado. These goods are cultivated by millions of small-scale producers in Africa, Asia, and Latin America. They are labor-intensive, climate-resilient, and often hindered not by tariffs but by procedural and compliance barriers. By avoiding politically charged sectors such as cotton or sugar, the list enables wide consensus while maintaining development impact.

2. Green Corridor Mechanism

The Green Corridor Mechanism focuses on two core pillars: expedited customs procedures and streamlined certification and compliance systems, aiming to reduce trade friction without requiring subsidy-based support or extensive legal revisions.

Firstly, the mechanism introduces a fast-track customs clearance system. Eligible shipments are digitally tagged at export and benefit from pre-arrival processing, simplified documentation, and prioritized inspection lanes at the border. These procedures, aligned with the WTO Trade Facilitation Agreement, reduce spoilage and transaction costs, especially for perishables.

Secondly, the mechanism enables simplified certification processes tailored for smallholders. Rather than requiring individual export documents from each micro-producer, the system supports group certification, allowing cooperatives or clusters to obtain unified sanitary/phytosanitary (SPS) and origin certificates. These consolidated “green certificates” lower documentation burdens and

improve traceability. Regulatory authorities may accept such documents through soft-law arrangements encouraged under WTO working groups.

Thirdly, the corridor also promotes electronic certification and pre-clearance, using systems such as ePhyto for plant health or eVetCert for honey and other animal-based goods. These digital tools enable faster border decisions with fewer manual checks. To complement this, rapid testing protocols—like pesticide residue kits—could be used at the border in place of time-consuming lab testing.

Lastly, the mechanism encourages mutual recognition and equivalence for sustainability standards. Products certified under credible international schemes (e.g., GlobalG.A.P., organic, Fair Trade) would be accepted with minimal duplication.

In conclusion, this proposal offers a low-cost, WTO-consistent, and scalable solution that directly addresses structural constraints facing smallholder exports. It strengthens inclusive trade while advancing global sustainability goals.

Question #2: a substantive section, outlining how the proposed solution would appear in a Ministerial Declaration, General Council Decision, treaty change, etc. (500 words max.):

Draft Ministerial Declaration on Enhancing Market Access for Small-Scale and Vulnerable Food Producers

The Ministers,

Recognizing the vital contribution of small-scale and vulnerable food producers to global food security, sustainable development, and rural livelihoods;

Acknowledging the persistent structural barriers faced by such producers in accessing international markets, including complex certification requirements, lengthy customs clearance, and lack of recognition for green production practices;

Reaffirming the importance of inclusiveness and environmental sustainability as guiding principles in the multilateral trading system.

Hereby declare the following:

1. Smallholder-Priority Green Product List

Ministers agree to support the development of a Smallholder-Priority Green Product List covering agricultural products widely cultivated by small-scale producers, including coffee, cocoa, tea, spices, honey, and selected tropical fruits. The list shall prioritize commodities with low political sensitivity, broad market demand, and compliance potential with environmental standards, thus ensuring both development impact and global sustainability.

2. Green Trade Corridor Mechanism

Ministers decide to establish a Green Trade Corridor Mechanism, consisting of:

- A fast-track customs clearance system, enabling digitally tagged shipments, pre-arrival processing, simplified documentation, and prioritized inspection lanes.
- Simplified certification processes, including group certification for cooperatives, unified “green certificates,” and soft-law arrangements for acceptance across borders.
- Electronic certification and pre-clearance systems, such as ePhyto and eVetCert, complemented by rapid testing protocols at borders.
- Mutual recognition of sustainability standards, whereby credible international certification schemes (e.g., GlobalG.A.P., organic, Fair Trade) are accepted with minimal duplication.

3. Principles of Inclusiveness and Greenness

All measures adopted under this framework shall fully account for the interests and needs of producers across diverse regions and scales. Ministers commit to encouraging smallholders to adopt sustainable practices throughout production, processing, and transportation, thereby strengthening their competitiveness in international trade.

Implementation and Review

The General Council is instructed to initiate, within twelve months, a structured work programme to operationalize the Green Trade Corridor and oversee the elaboration of the Smallholder-Priority Green Product List, in close consultation with relevant international organizations. Ministers request a progress report to the next Ministerial Conference.

Conclusion

Through this Declaration, Ministers commit to advancing inclusive and sustainable agricultural trade, ensuring that small-scale and vulnerable food producers are enabled to participate equitably in global markets.

Question 3: [Video explanation](#) (3 minutes, max)



SOLUTION 1: SMALLHOLDER-PRIORITY GREEN PRODUCT LIST

 Prioritizing green agricultural products characterized by low political sensitivity and widespread production

 Scope

 Coffee

 Coco

 Tea

 Spices

 Honey

 Tropical fruit

Advantages of the Green Product List
Creating a fairer trading environment for smallholders

-  Reduce certification complexity
-  Accelerate customs clearance
-  Increase smallholder income
-  Promote sustainable production
-  Expand international market access

Team #12

Team Name: UWI Mona Team

Caribbean Agro-processing Hub

Question #1: a narrative section explaining the element of the problem the submission is hoping to address, and how the solution is intended to address it (1,000 words max.):

Small Island Developing States (SIDS) in the Caribbean characterized by their small open economies, wherein agricultural, forestry and fisheries sectors represent contributions of an average of 7 - 17% of Gross Domestic Product in several islands (FAO and CDB, 2019). These critical sectors are one of the main sources of export for these islands (Smith and Martino, 2007). In establishing a global market presence and maintaining trade relations, they remain the foundation for food security across the region and support the livelihood of many small-scale farmers and their dependents.

Trade liberalization has provided numerous opportunities for Caribbean agricultural exporters; however, their inability to leverage economies of scale leaves them vulnerable to external shocks and market volatility when competing with larger developed markets and meeting global demands. These vulnerabilities are further compounded by the increasing effects of climate change.

Agriculture's global contribution to the emission of greenhouse gases (GHGs) has risen significantly in the last twenty years, accounting for 20% of CO₂eq in 2017 alone; however, small island states account for less than 1% of total GHG emissions (Doorga, 2022). Despite this fact, small island developing states are the most vulnerable to the effects of climate change intensified by the Caribbean's geographic positioning, in the Atlantic hurricane alley as low-lying coastal islands (FAO and CDB, 2019).

Additionally, the Caribbean region's development limitations have created barriers to its capacity to implement effective climate change mitigation practices in agriculture. Although the fact remains that any efforts of such are likely to be overshadowed by larger contributors to GHGs. This means that the current reality of more frequent and intense natural disasters, diminishing natural resources, less rainfall, and diseases-riddled crops and affected marine systems will continue across the region, limiting their ability to meet global demands, thus reducing their trade competitiveness.

Naturally, the direct impacts would fall on our small-scale agricultural producers, inclusive of farmers, fisherfolk and herdsmen who depend on this sector for their livelihood, but the further impact will see a fall in trade affecting all associated beneficiaries and a loss of food security, resulting in a fall in export revenues and nutrition and dietary concerns. This unmanageable ripple effect can undermine a

state's economic and social stability and should be viewed as a potential threat to Caribbean small island developing states, worth avoiding.

The proposed solution will directly address the vulnerabilities and insecurities of open economies that are susceptible to climate change, market volatility and global supply chain issues. These issues that Caribbean small island developing states experience can be mitigated by introducing a centralized regional hub for small-scale food producers, designed specifically to strengthen integration into the multilateral trading system while, in tandem, safeguarding regional food security.

This hub would operate as a coordinated platform through which food producers across the Lesser and Greater Antilles can pool resources, consolidate supply, and benefit from economies of scale that are inaccessible to fragmented producers. The hub would prioritise products where the Caribbean states gain a comparative advantage, and the proposed products will consist of tropical fruits, coffee, root crops, spices, and value-added agro-processed goods. When this is done, this ensures that regional exports are competitive in global markets while also reserving a portion of output for intra-Caribbean food security.

To ensure this vision and plan are realistic, two external processing and distribution plants would be strategically established, one in the Lesser Antilles with Barbados being the proposed country in that region, and the other in the Greater Antilles with Jamaica being the proposed country in that region thereby decentralizing operations, improving access to regional shipping routes, and reducing vulnerability to localized climate shocks.

Furthermore, from a logistical standpoint, the central hub would function as a resolution among Caribbean states that would comply and align with WTO principles and regional trade frameworks such as CARICOM's Single Market and Economy (CSME). The resolution would set out clear provisions for technical capacity building. This is significant because it encourages knowledge transfer and equips small producers with modern agricultural practices, including the use of climate-resilient crops, precision agriculture technologies, and greenhouse-based farming supported by large-scale rainwater harvesting systems.

Funding is crucial to any plan and solution, so grants and concessional loans would be mobilised through regional development banks and international partners to finance infrastructure such as cold storage, irrigation, and processing facilities, all of which are critical for ensuring product consistency and reducing post-harvest losses. Furthermore, the treaty would include mechanisms for harmonised food safety and export certification standards, ensuring that Caribbean products meet the requirements of external markets and maintain consumer trust globally.

The proposed plan is not entirely new, and this is evident when one looks at comparable regional models. This is significant because it gives credibility to our proposal. For instance, SPAR's rural fresh-produce hubs in South Africa aggregate output from around 30 farmers per hub and distribute regionally while shifting ownership to producers as hubs (SPAR International 2024). Similarly, the

Expanded Cassava Village Processing Project in East Africa increased yields nearly twofold through village-level processing centres (Farm Concern International). These success stories show that centralised aggregation, processing infrastructure, and smallholder inclusion backed by capacity building and market access can deliver real, scalable benefits.

This solution is also long-term and sustainable, because it carries multiple structural benefits for the Caribbean region. Currently, the region's agricultural systems remain highly unstable, as frequent climate shocks, reliance on food imports, and fragmented production structures expose small states to recurring crises. Climate resilience will be enhanced through the diversification of crops, greenhouse cultivation, and investments in water security, which together mitigate the destructive impact of hurricanes, droughts, and flooding on agricultural output.

Therefore, by consolidating production and strengthening trade capacity, the hub is expected to contribute to an increase in agricultural GDP by boosting export earnings and reducing the costly dependency on food imports. This is significant because, as it stands, food imports for Caribbean states currently strain foreign exchange reserves. Simultaneously, improved trade competitiveness and export performance will arise from economies of scale, shared technology, and harmonised standards, positioning the Caribbean as a reliable supplier of agricultural goods within global supply chains.

Importantly, by balancing export growth with regional provisioning, the initiative would directly strengthen food security, ensuring that Caribbean populations maintain access to affordable, locally produced food even in times of external supply chain disruption.

Finally, the project advances the principles of sustainable trade, as it embeds environmental stewardship through water harvesting and greenhouse systems, economic sustainability through increased income for small-scale farmers, and social sustainability by integrating rural communities into international markets. The central hub represents not just a response to the present challenges of climate and market volatility, but a forward-looking framework for embedding Caribbean agriculture within a more resilient, competitive, and sustainable multilateral trading system.

Question #2: a substantive section, outlining how the proposed solution would appear in a Ministerial Declaration, General Council Decision, treaty change, etc. (500 words max.):

The proposed solution adopts a two-tiered approach, taking the form of a resolution to the Revised Treaty of Chaguaramas (RTC), the foundational legal instrument of the Caribbean Community (CARICOM). This resolution would modernize the treaty to reflect contemporary priorities, creating an updated framework for regional cooperation in agro-processing, food security, digital trade facilitation, and preferential market access. Its adoption would demonstrate CARICOM's commitment to tackling structural vulnerabilities while embedding mechanisms that enhance resilience, competitiveness, and innovation across member states.

Central Agro-Processing Hubs

The resolution mandates the establishment of two central agro-processing hubs, strategically located in Jamaica and Barbados. These hubs would process agricultural and marine products in which the Caribbean holds comparative advantage. Coffee, tropical fruits, root crops, and spices would dominate land-based processing, while fisheries and aquaculture would anchor the marine hub.

Both hubs would be equipped with modern technology to meet international sanitary and phytosanitary (SPS) standards, enabling value-added production and entry into premium global markets. As shared regional facilities, the hubs would reduce costs, overcome diseconomies of scale, and serve as a platform for branding Caribbean agro-products collectively.

Shared Marine Space and Ecosystem Protection

The resolution further provides for a shared territorial marine space, enabling the sustainable use of marine resources while safeguarding coastal ecosystems. By codifying collective maritime governance, this initiative would reduce boundary disputes and ensure joint stewardship of biodiversity. Ecosystem restoration measures, including mangrove rehabilitation, coral reef protection, and biodiversity monitoring, would be enshrined as safeguards. This reflects the recognition that marine health and food security are deeply interconnected.

Technical Assistance and Climate Resilience

The resolution formalizes CARICOM's collaboration with international partners such as the Food and Agriculture Organization (FAO) and regional development banks. Through small grants and concessional loans, member states would install rainwater harvesting systems near the hubs, provide farmer training in climate-smart practices, and develop a seed bank of climate-resilient crops. These measures would strengthen food security, enhance adaptive capacity, and protect against the volatility of climate change.

Digital E-Marketplace

A major innovation is the creation of a CARICOM e-marketplace—a regional digital platform designed to support the sale and distribution of goods produced through the hubs. This online marketplace would connect producers with regional and global buyers, facilitate transparent pricing, and ensure traceability and compliance with trade standards. By lowering barriers to global e-commerce, it would expand opportunities for small and medium-sized enterprises (SMEs) across the Caribbean.

AI-Powered Data Platform

The resolution also introduces an AI-powered data platform to improve evidence-based policymaking. This system would analyze climate, agricultural, and trade data to forecast food security risks, monitor climate variability, and guide regional trade strategies. Predictive analytics would support timely interventions, while specialized staff training would build expertise in digital governance, data science, and climate risk management.

Preferential Market Access

The resolution proposes a CARICOM Protocol on Special and Differential Treatment (SDT), aligned with WTO and GATT provisions. This would empower CARICOM to negotiate preferential trade arrangements, such as a Japan–CARICOM Free Trade Area, under the WTO’s Enabling Clause. Such agreements would secure preferential market access while accounting for the vulnerabilities of small economies.

Governance and Oversight

Implementation would be overseen by the Council for Trade and Economic Development (COTED), which would monitor compliance, publish annual reports on trade and food security outcomes, and apply RTC dispute settlement provisions to ensure enforceability.

Question 3: [Video explanation](#) (3 minutes, max)



Team #13

Team Name: M-PACT

ADAPTIVE CIRCULAR RESILIENCE HUB NETWORKS FOR SUSTAINABLE AGRICULTURAL TRADE

Question #1: a narrative section explaining the element of the problem the submission is hoping to address, and how the solution is intended to address it (1,000 words max.):

The Interconnected Challenge: Where Market Access Meets Food Waste:

Small-scale producers face a documented systemic challenge where constrained market access perpetuates waste-generating pathways, while food waste reinforces their exclusion from profitable markets. This creates a self-reinforcing cycle where farmers lacking adequate storage and market connections are compelled to sell through intermediary channels experiencing up to 50% post-harvest losses, while simultaneously being excluded from premium markets requiring consistent quality and volume standards. Current data indicates approximately 649,000 tons of food valued at \$1.13 billion are rejected annually at international borders, while 500 million smallholder farmers remain constrained in subsistence agriculture.

Contemporary policy frameworks typically address these as isolated challenges. This fragmented approach fails because these problems are systemically interdependent such as poor market access creates temporal pressures generating waste, while elevated waste levels undermine the reliability required for premium market access.

A System-Oriented Solution: Adaptive Circular Resilience Hub Networks:

Our policy proposal addresses these systemic limitations through a proposed "Adaptive Circular Resilience Hub Networks", a graduated implementation framework simultaneously improving market access and reducing waste through three mutually reinforcing pillars designed to create positive feedback loops while acknowledging documented implementation challenges.

Pillar 1: Progressive Circular Trade Finance Mechanisms:

Acknowledging Financial Infrastructure Constraints: Current on-ground situation demonstrates that traditional trade finance faces a \$2.5 trillion global gap, with Small and Medium Enterprises (SME) rejection rates reaching 45% in developing regions due to collateral requirements and information asymmetries. Mobile money adoption in agriculture shows promising but uneven results, ranging from 67% in Kenya to 9% in Nigeria, indicating significant infrastructure and literacy prerequisites.

Additionally, delays in customs processing can lead to extended transit times (for perishable products, delays can reduce shelf life by 50%), resulting in increased costs and greater risks of food spoilage.

Graduated Implementation Approach: The system begins with hybrid digital-manual mechanisms building on proven mobile money infrastructure where available.

Phase 1: Mobile money integration for basic transactions in regions with >30% mobile money penetration, manual verification systems elsewhere.

Phase 2: Smart contracts integration to enable automatic payment to cooperatives to achieve verified waste reduction targets, eliminating manual processing delays and reducing transaction costs.

Phase 3: Full blockchain integration with real-time performance monitoring.

Phase timelines should be based on agricultural development project cycles, where investment periods typically require considerable timeframe for infrastructure establishment and technology adoption.

Pillar 2: Technology-Adaptive Market-Waste Management Hubs:

Infrastructure Reality Assessment: Digital agriculture adoption rates vary significantly, from 8/10 in developed European countries to 4/10 in least developed countries. Major barriers include limited digital infrastructure (85%), low digital literacy (78%), and high implementation costs (82%).

Graduated Technology Deployment: Hubs operate with appropriate technology solutions matching local infrastructure capabilities (to be adopted depending on country or region-specific requirements):

Basic Hubs: Manual record-keeping with mobile phone data collection, solar-powered storage, and radio-based market information systems.

Intermediate Hubs: Smartphone-based inventory management, satellite weather data integration, and digital payment systems.

Advanced Hubs: IoT sensors, AI-powered demand forecasting, and automated processing systems.

Proven Cooperative Models: Building on documented successes like Rwanda's Land Sharing Cooperatives (serving 100+ members with 95% success rate) and Cambodia's Modern Agricultural Cooperatives (achieving 20,000 tonnes organic rice sales). Democratic governance structures maintain member control while enabling professional management through graduated management training programs.

Pillar 3: Context-Responsive Trade Standards Framework:

Regulatory Reality: Current trade finance systems reject 74% of applications due to inadequate information rather than credit risk. Electronic trade documents are legally recognized in only 7 countries despite technological feasibility.

Adaptive Compliance Pathways: Multi-tier market access (i.e., in this case: Basic, Enhanced, Premium) based on improvement trajectories rather than absolute standards:

Basic Access: Manual documentation with mobile-verified quality indicators.

Enhanced Access: Digital documentation with third-party verification.

Premium Access: Blockchain-verified supply chain records with automated compliance. Blockchain can provide immutable waste reduction verification addressing the 74% rejection rate due to inadequate documentation, essential for cross-border trade finance credibility.

Regional Harmonization: Building on existing frameworks like ECOWAS agricultural standards agreements, expanding coverage gradually rather than requiring immediate global coordination. Building on Regional Economic Cooperation Frameworks like BIMSTEC and CAREC that demonstrate how coordinated agricultural trade policies enhance market access while reducing barriers which will entail coordination of agriculture-related policies, regulations and projects with cross-border spillover effects.

Systems Logic: Creating Evidence-Based Reinforcement Cycles:

The proposed integration framework creates measurable feedback loops amplifying impact beyond individual interventions:

Financial Performance Loop: Documented trade performance data (mobile money transaction records, quality certifications) automatically improves access to credit facilities, with interest rates decreasing by verified percentages for waste reduction achievements.

Technology Adoption Loop: Hub infrastructure investments become financially viable through combined market access revenues and waste valorization income streams, with proven business models from successful cases like Ghana's Serendipalm Project generating 15-20% income increases.

Standards Progression Loop: Waste reduction achievements unlock better market access through progressive compliance pathways, with performance data directly informing both financing decisions and standards adaptation.

Implementation Through Phased Systems Integration:

Phase 1 (Pilot Implementation: Years 1-3):

Establish a pre-defined range of pilot hubs in regions with existing cooperative structures and mobile money penetration >30%.

Focus on proven crops (rice, coffee, vegetables) with existing market demand.

Manual-digital hybrid systems with basic mobile money integration.

Phase 2 (Network Expansion: Years 4-6):

Scale to more hubs (5 to 8 times of the pilot phase to assess regional variability) across multiple countries.

Implement inter-hub coordination systems and shared logistics.

Introducing smart contract automation where technically feasible.

Phase 3 (Full Integration: Years 7-10):

Achieve a comprehensive hub network across multiple regions.

Full blockchain integration with automated compliance systems.

Cross-border direct trade relationships by-passing traditional intermediaries.

Risk Mitigation and Adaptive Management:

Technology Risk Management: Technology-appropriate solutions with automatic degradation capabilities, if advanced systems fail, hubs can operate on basic mobile-manual backup systems.

Financial Risk Management: Government guarantees limited to maximum 70% coverage with mandatory risk-sharing from private sector partners. Insurance mechanisms building on successful examples like Ethiopia's weather-indexed insurance achieving 30 million farmer reach.

Cooperative Governance Risk: Professional management training programs address documented cooperative failure factors, with performance-based management contracts ensuring accountability while maintaining democratic member control.

Scalable Impact Through Network Effects:

Success metrics focus on systems-level transformation: 25% waste reduction combined with 15% producer price increases within 3 years, 40% expansion in formal finance access with <5% default rates, and 30% increase in marketed surplus per participating farmer. These outcomes emerge from synergistic integration of market access and waste reduction rather than treating them as separate challenges.

This adaptive approach transforms global food trade from a system systematically excluding smallholders into a circular economy creating prosperity for small-scale producers while achieving dramatic waste reduction through market-driven incentives embedded in policy frameworks designed for evidence-based, graduated systems-level change.

Question #2: a substantive section, outlining how the proposed solution would appear in a Ministerial Declaration, General Council Decision, treaty change, etc. (500 words max.):

Preamble:

Recognizing that constrained market access and high post-harvest waste are interlinked barriers undermining small-scale producer incomes and global food security; Acknowledging the rejection of comprehensive tonnage of food valued at over USD 1 billion annually due to inadequate documentation and cold-chain failures; Affirming the need for integrated, scalable solutions that align finance, technology, and trade standards.

Article I: Progressive Circular Trade Finance Mechanisms

Section 1.1: Technology-Appropriate Financial Systems:

Participating States shall establish Progressive Circular Performance Bonds, with implementation tiers reflecting financial infrastructure maturity. Regions achieving mobile-money penetration greater than 30 percent must deploy fully digital payment integration within 18 months; all other regions shall adopt hybrid verification with mandatory upgrades aligned to documented agricultural project timelines (2 to 5 years).[1]

Interest rates on cooperative financing shall decrease by 0.5 percent per 10 percent verified waste reduction, up to 3 percent maximum, triggered via smart contract enactment upon third-party audit of cooperative performance.[2]

Section 1.2: Risk-Sharing Financial Architecture:

Participating States shall jointly establish Cross-Border Market-Access Guarantee Facilities covering up to 70 percent of trade finance risk, with at least 20 percent mandatory private co-financing. Guarantee instruments shall provide the following:

- a) 48-72-hour disbursements for pre-certified cooperatives.
- b) Guarantee portability across signatory borders.
- c) Private partner performance bonds to ensure project sustainability.

Article II: Technology-Adaptive Market-Waste Management Hubs

Section 2.1: Graduated Technology Deployment:

States commit to establishing Adaptive Market-Waste Management Hubs aligned with local infrastructure capacities, progressing from basic to advanced levels as needed. These hubs integrate appropriate technologies to enhance efficiency, improve data flow, and strengthen resilience in agricultural supply chains.

Section 2.2: Cooperative Governance and Perishability Safeguards:

Hub certification requires evidence of democratic member governance, professional management training, and contingency protocols for perishable goods, including expedited customs processing to avoid shelf-life losses due to delays. States shall provide regulatory sandboxes, streamlined permitting, and mandatory technical assistance for cooperative governance and conflict resolution.

Article III: Context-Responsive Trade Standards Framework

Section 3.1: Multi-Tier Adaptive Compliance Pathways:

States agree to implement a three-tier market access model based on improvement trajectories:

- a) Basic Access: manual quality documentation with mobile-verified indicators, quarterly assessments, domestic/regional market entry.
- b) Enhanced Access: digital documentation with third-party verification, semi-annual inspections, premium domestic market entry.
- c) Premium Access: blockchain-verified supply chain records, monthly expedited inspections, full international market access.

Section 3.2: Regional Economic Cooperation:

States shall negotiate and adopt Bilateral Recognition Agreements enabling automatic hub certification reciprocity, harmonized quality categories, and dispute resolution via mediation within 15 days and binding arbitration within 45 days.

Article IV: Implementation and Monitoring

Section 4.1: Phased Targets:

- a) Phase 1: Launch of pre-defined pilot hubs.
- b) Phase 2: Expand 5 to 8 times hubs across multiple regions with demonstrated financial and operational sustainability.
- c) Phase 3: Achieve network of 100+ hubs, cross-border hub federations, and automated compliance.

Section 4.2: Performance Metrics

Mandatory monitoring shall track:

Waste reduction (≥ 25 percent).

Producer price increase (≥ 15 percent).

Marketed surplus growth (≥ 30 percent).

Formal finance access expansion (≥ 40 percent, < 5 percent default).

Section 4.3: Adaptive Management:

Annual Performance Reviews shall trigger automatic policy adjustments. Technology upgrade milestones, finance mechanism recalibrations, and standards harmonization expansions will be based on empirical results. States shall ensure multi-stakeholder Hub Governance Councils, including farmers' representatives, private sector, and regulators to oversee transparent reporting and knowledge sharing.

Adoption of this Declaration shall guide Participating States towards an inclusive, circular agricultural trade ecosystem that enhances small-scale producer resilience, reduces waste, and strengthens food security.

References:

[1] [http://ndl.ethernet.edu.et/bitstream/123456789/90286/6/PROJECT-All chapters-Handout.pdf](http://ndl.ethernet.edu.et/bitstream/123456789/90286/6/PROJECT-All%20chapters-Handout.pdf)

[2] <https://www.spydra.app/blog/processing-of-complex-agriculture-transactions-through-smart-contracts>

Question 3: Video explanation (3 minutes, max)

The Vicious Cycle: Market Access & Food Waste



Small-scale producers face systemic exclusion from premium markets, lacking storage and direct access. As a result, up to 50% post-harvest losses occur in intermediary channels. (Source: <https://www.hugobosch.com/2024/food-trade-finance-facilitator-train-to-aid-outlet-access/>)



649,000 tons of food (worth \$1.13 billion) are rejected at borders annually; 500 million smallholders remain limited to subsistence agriculture. (Source: <https://www.globalvolunteers.org/publication/reducing-food-losses-international-trade/>)



These problems are interlinked and self-reinforcing, yet are often treated separately by policy frameworks.

Adaptive Circular Resilience Hub Networks For Sustainable Agricultural Trade

Project by GTP/Geneva Trade Platform | 2023-2025

YG

GTP/Geneva Trade Platform

DD

GTP/Geneva Trade Platform

Team #14

Team Name: AgroStrategos

Reforming Agricultural Export Restrictions: A Step to Build a Resilient Trade System for Global Food Security

Question #1: a narrative section explaining the element of the problem the submission is hoping to address, and how the solution is intended to address it (1,000 words max.):

Global food security faces a profound paradox characterized by aggregate sufficiency alongside persistent distributional imbalances. According to data from the Food and Agriculture Organization (FAO), global per capita grain availability reached a historic high of 410 kg in 2024, demonstrating that global grain supply is sufficient in aggregate terms. Nevertheless, approximately 720 million people worldwide continue to face the threat of hunger.

The core challenge to food security primarily resides in systemic issues, including regional disparities in distribution and disruptions in supply chains. The widespread imposition of agricultural export restrictions has emerged as a significant man-made obstacle that distorts global grain distribution. Historical evidence indicates that such measures tend to cluster during periods of food crisis, thereby reinforcing a self-perpetuating cycle of instability.

Amid escalating global food crises, export restrictions have proliferated dramatically across both time and geography, intensifying systemic fragility in agricultural trade. During the 2008 global food crisis, 31 countries implemented a total of 1144 restrictive measures. This number rose sharply to 635 during the COVID-19 pandemic, and to 1730 during the Russia-Ukraine conflict. Combined, these three periods account for 73% of all global measures implemented over the past two decades.

Geographically, over 90% of restrictive measures are highly concentrated in Asia, Africa, and Europe, with harsh export bans being the predominant form. The commodities targeted are central to food security—primarily grains and oils. During the Russia-Ukraine conflict, export restrictions impacted 44% of global grain trade (US\$60.82 billion) and 44.5% of global oil trade (US\$61.21 billion), causing widespread disruption to international supply chains.

This “beggar-thy-neighbor” policy triggers catastrophic ripple effects across global food systems.

Firstly, it directly drives up global grain prices. The empirical studies shows that export restrictions increased rice prices by 45% and wheat prices by 30% during the food crisis, with an further 18% increase during COVID-19 pandemic.

Secondly, export restriction measures inflict severe welfare losses on net grain-importing countries. Price surges pushed 44 million people into poverty between

2007 and 2009, with particularly severe impacts on highly import-dependent regions such as Africa.

Lastly, export restriction measures also harm the implementing countries themselves. For example, Tanzania's maize export ban caused producer prices to plummet by 7%~26% , while policy uncertainty led to a 26% decline in wheat planting intentions in Argentina.

The widespread adoption of export restrictions by nearly 90% of net grain-exporting countries reflects unprecedented strain on the global grain distribution system. Concurrently, FAO projections indicate that climate change could render up to 10% of current agricultural land unsuitable for cultivation by mid-century, compounding pressures on worldwide food security.

Addressing the paradox of “adequate aggregate production coexisting with acute localised famine” calls for urgent multilateral action to prevent the excessive use of trade barriers. This highlights a central challenge in establishing a more resilient international grain market: overcoming institutional constraints that hinder progress toward a more secure and equitable global food system.

As a cornerstone of global food trade governance, the WTO's existing rules and ongoing reform efforts are critical to preventing the misuse of export restrictions. However, agricultural negotiations within the WTO have historically prioritized market access issues—particularly the liberalization of import markets.

By contrast, regulatory frameworks on the supply side, especially those governing export restrictions, remain underdeveloped and lack clear, enforceable disciplines. This asymmetry has resulted in inadequate oversight of export markets, thereby undermining the stability of global food supply chains.

The WTO has established a preliminary regulatory framework to guide the implementation of export controls in a reasonable manner and to help promote stability in global agricultural markets. However, an examination of the legal provisions governing agricultural export restrictions under the GATT and the WTO reveals significant limitations in several key areas: preconditions, buffer periods, transparency, and exemption criteria:

- i. **Ambiguity in Preconditions:** Article XI of the GATT permits members to adopt “temporary” export restrictions in cases involving “essential products” or “critical shortages.” However, the terms “essential products” and “critical shortages” are not clearly defined, leaving their interpretation open to discretion. This lack of clarity has, in some instances, enabled members to impose export constraints even in the absence of significant domestic supply shortfalls.
- ii. **Unclear Buffer Period Requirements:** Article 12.1(b) of the Agreement on Agriculture stipulates that members introducing new export restrictions must notify the Committee on Agriculture in advance and provide relevant information. Nevertheless, the rule does not specify the required advance

- notice period nor the minimum content of such notifications, resulting in inconsistent implementation.
- iii. **Weak Transparency Mechanisms:** Although Article 12.1(b) of the AoA also encourages members—where practicable—to submit written notifications prior to imposing export restrictions, compliance remains low. Many notifications are submitted late, and a substantial number of measures go unreported, undermining oversight and predictability.
 - iv. **Poorly Defined Exemptions:** Article 12.2 of the AoA exempts developing countries that are “net-food exporter of the specific foodstuff concerned” from the obligations under Article 12.1. Yet the Agreement offers no clear methodology for determining “net-food exporter” status, nor does it provide a definitive list of eligible countries, leading to ambiguity in application.

To strengthen the governance of export restrictions, WTO member have consistently pursued negotiations on agricultural trade measures during successive Ministerial Conferences. MC11 featured a dedicated session focused on export restrictions, highlighting their growing prominence within multilateral discourse.

At MC12, members adopted a decision to exempt humanitarian purchases made by the World Food Programme from export prohibitions or restrictions. While MC13 did not yield consensus on broader exemptions for food-insecure countries, it facilitated substantive dialogue that helps prepare the ground for future legal refinements. Going forward, continued evolution of the WTO framework on export restrictions will be critical to enhancing the resilience of global food trade, particularly in response to climate-related disruptions and supply chain volatility.

Question #2: a substantive section, outlining how the proposed solution would appear in a Ministerial Declaration, General Council Decision, treaty change, etc. (500 words max.):

Understanding that global climate change and supply chain shocks are exacerbating worldwide food insecurity, and that unimpeded trade plays a vital role in improving global food security and enhancing nutrition. The provisions on agricultural export restriction measures under the WTO framework are not only key to maintaining the stability of the international food market order but also essential for safeguarding the basic subsistence rights of the global hungry population and elevating the level of world food security.

Recalling Article XI.2(a) of the GATT 1994 and Article 12 of the Agreement on Agriculture. Acknowledging the 2022 Ministerial Declaration on World Food Programme Food Purchases Exemption from Export Prohibitions or Restrictions.

Agreeing to continue advancing the optimization and improvement of the provisions on export restriction measures in the Agreement on Agriculture, thereby constructing a comprehensive strategic framework that is both institutionally binding and accommodates the interests and concerns of all members.

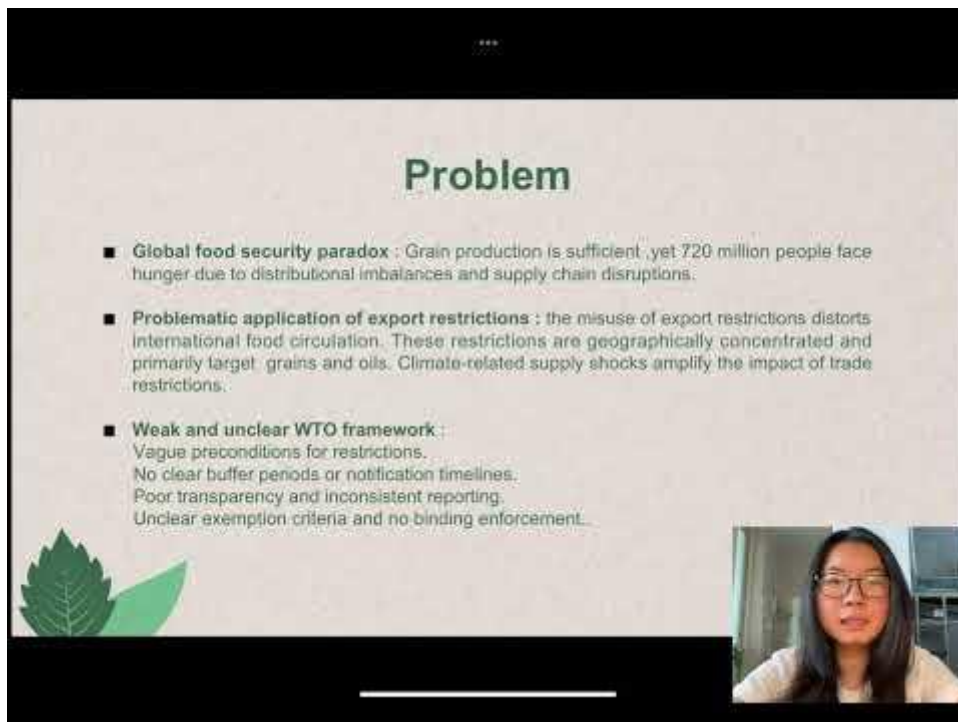
We have reached the following shared understandings:

- Clarifying the core concepts and operational parameters of export restriction measures is essential for their justified application. A per capita food availability level falling below the FAO's safety threshold of 400 kg may serve as an objective criterion for determining whether an implementing country or region is experiencing a critical shortage of food supplies.
- Specifying temporal constraints for export restriction measures is critical to ensuring predictability and minimizing trade disruptions. This includes establishing a mandatory advance written notification period to the Committee on Agriculture prior to implementation, as well as clearly defining the maximum duration for which such measures may be temporarily applied by the implementing country or region.
- Developing and maintaining a regularly updated list of members eligible for exemptions from export restriction measures is essential, with particular consideration given to the food security import needs of vulnerable countries—especially Least Developed Countries (LDCs) and Net Food-Importing Developing Countries (NFIDCs).
- Establishing an efficient international consultation mechanism for export restriction measures should include: i) a dedicated platform clarifying members' rights and obligations to ensure equal and fair dialogue; ii) detailed procedural guidelines for initiating, preparing, and conducting effective consultations; iii) transparent and timely notification of

consultation outcomes to all relevant members.

- Strengthening technical support and assistance for developing countries is critical, and should include:
 - i. establishing a global technical assistance network focused on export restriction measures, prioritizing specialized training, technology transfer, and regular workshops to enhance developing countries' capabilities in information access and notification compliance;
 - ii. encouraging voluntary experience-sharing among members, particularly those that have implemented export restrictions, to facilitate the exchange of practical insights on policy design, implementation, and impact evaluation.

Question 3: [Video explanation](#) (3 minutes, max)



Problem

- **Global food security paradox** : Grain production is sufficient , yet 720 million people face hunger due to distributional imbalances and supply chain disruptions.
- **Problematic application of export restrictions** : the misuse of export restrictions distorts international food circulation. These restrictions are geographically concentrated and primarily target grains and oils. Climate-related supply shocks amplify the impact of trade restrictions.
- **Weak and unclear WTO framework** :
Vague preconditions for restrictions.
No clear buffer periods or notification timelines.
Poor transparency and inconsistent reporting.
Unclear exemption criteria and no binding enforcement.



Team #15

Team Name: Gold Coast Team

Strengthening Global Food Security Through Multilateral Trade System Innovation

Question #1: a narrative section explaining the element of the problem the submission is hoping to address, and how the solution is intended to address it (1,000 words max.):

In an era of unprecedented geopolitical tensions, financial volatility, and climate disruption, the multilateral trading system must evolve to safeguard global food security. This proposal presents a comprehensive framework for transforming international food trade from a vulnerability into a cornerstone of resilience, addressing systematic inefficiencies that leave millions exposed to hunger despite adequate global food production.

Threat to Food Security

Global food security faces an interconnected crisis spanning three critical dimensions that current multilateral frameworks inadequately address.

Geopolitical Disruption and Trade Weaponization: Recent conflicts have exposed the fragility of global food supply chains. The Russia-Ukraine war disrupted 30% of global wheat exports, triggering food crises across vulnerable regions. Unilateral export restrictions such as India's 2023 rice export ban affecting 40% of global rice trade demonstrate how sovereign decisions can cascade into humanitarian emergencies.

The current World Trade Organization (WTO) framework lacks robust mechanisms to prevent such trade weaponization during crises, leaving food-importing nations, particularly in Sub-Saharan Africa and South Asia, vulnerable to supply shocks beyond their control.

Market Volatility and Financial Exposure: Food prices exhibit extreme sensitivity to global financial fluctuations, currency devaluations, and logistical disruptions. The COVID-19 pandemic illustrated this vulnerability: despite adequate global food stocks, shipping cost increases of 300% and container shortages created artificial scarcity, driving food inflation to levels not seen since 2008. For import-dependent countries, these price volatilities translate into fiscal crises as governments struggle to maintain food subsidies, ultimately compromising household food access for the most vulnerable populations.

Climate-Induced Production Instability: Climate change increasingly threatens agricultural productivity through extreme weather events, shifting precipitation patterns, and rising temperatures. Recent droughts in East Africa have reduced maize yields by up to 50%, while unprecedented floods in Pakistan destroyed crops affecting 33 million people. These climate shocks disrupt both production

capacity and transportation infrastructure, creating cascading effects that extend far beyond affected regions through integrated global markets.

Solution Framework

Our proposal introduces three interconnected interventions designed to transform the multilateral trading system into a proactive instrument of food security resilience.

1. Global Food Security Resilience Fund (GFSRF)

Mechanism: Establish a mandatory contribution system where all WTO members contribute proportionally to GDP, creating a \$10 billion annual fund dedicated to climate-resilient agricultural innovation and emergency food reserves.

Implementation:

- Deploy 60% of funds for developing climate-adapted seed varieties, drought-resistant crops, and precision agriculture technologies through international research consortiums
- Allocate 30% for strategic food reserves managed regionally but governed multilaterally
- Reserve 10% for rapid response to food security emergencies with predetermined trigger mechanisms

Impact: This approach distributes the financial burden of agricultural innovation equitably while ensuring universal access to climate-resilient technologies, preventing the concentration of food security solutions in developed nations.

2. Expedited Perishable Foods Trade Protocol (EPFTP)

Mechanism: Implement a globally standardized "fast-track" clearance system for perishable food commodities, reducing post-harvest losses that currently account for 30% of global food production.

Key Components:

- Harmonized Classification System: Establish internationally recognized perishable food categories with standardized documentation requirements
- Priority Processing Infrastructure: Mandate dedicated customs lanes and 24-hour processing capabilities at major trade hubs
- Digital Integration: Deploy blockchain-based tracking systems providing real-time visibility into shipment status and condition
- Cold Chain Standards: Implement universal temperature-controlled logistics protocols with international certification

Quantifiable Outcomes: Reduce perishable food losses from current 30% to 15% within five years, effectively increasing global food availability by 450 million tons annually without additional production.

3. Integrated Digital Agricultural Platform (IDAP)

Mechanism: Create a comprehensive digital ecosystem connecting smallholder farmers to real-time market intelligence, climate forecasting, and agricultural best practices.

Platform Features:

- Weather-Crop Modeling: AI-powered systems providing hyperlocal climate predictions and planting recommendations
- Market Price Transparency: Real-time commodity pricing across regional and international markets
- Knowledge Transfer Modules: Localized training content delivered through mobile technology in indigenous languages
- Supply Chain Integration: Direct connections between farmers, processors, and international buyers

4. Storage and Preservation Infrastructure:

- Solar-powered cold storage facilities strategically positioned to serve rural farming communities
- Mobile processing units capable of extending shelf life of harvested crops
- Surplus aggregation centers that coordinate regional food distribution during scarcity periods

Implementation Roadmap

Phase 1 (Months 1-12): Establish GFSRF governance structure and initial country commitments; launch pilot EPFTP programs at 20 major trade hubs; begin IDAP development with focus on three priority regions.

Phase 2 (Months 13-24): Scale EPFTP to 100 trade hubs; deploy IDAP across 15 countries; establish first regional food reserves; begin climate-resilient seed distribution programs.

Phase 3 (Months 25-36): Achieve full global implementation; conduct comprehensive impact assessment; refine mechanisms based on empirical outcomes.

Expected Impact and Sustainability

This integrated approach addresses food security's four pillars simultaneously:

- Increase effective global food supply by 15% through reduced waste and enhanced productivity
- Stabilize food prices through strategic reserves and improved market efficiency
- Improve nutritional outcomes through year-round availability of diverse foods
- Create shock-resistant food systems capable of withstanding geopolitical, economic, and climate disruptions

Financial Sustainability: The GFSRF operates on a revolving fund model where successful agricultural innovations generate returns that sustain long-term operations. Cost-benefit analysis indicates a 4:1 return on investment through reduced humanitarian aid requirements and increased trade efficiency.

Conclusion

Global food security cannot be achieved through humanitarian responses to crises it requires proactive transformation of the systems that govern international food trade.

This proposal provides a pragmatic pathway for harnessing the multilateral trading system's power to prevent food insecurity rather than merely respond to its consequences. By addressing systemic inefficiencies, building climate resilience, and ensuring equitable access to agricultural innovations, we can create a world where geopolitical tensions, market volatility, and climate disruption no longer translate into human hunger.

The time for incremental reform has passed. The international community must embrace bold, systemic change to ensure food security becomes a foundation of global stability rather than a source of perpetual vulnerability.

Question #2: a substantive section, outlining how the proposed solution would appear in a Ministerial Declaration, General Council Decision, treaty change, etc. (500 words max.):

Preamble

We, the Ministers of the World Trade Organization, recognizing that global food security constitutes a fundamental prerequisite for international stability and sustainable development, and acknowledging the inadequacy of current multilateral mechanisms to address interconnected challenges of geopolitical disruption, market volatility, and climate change, hereby adopt this Declaration establishing a comprehensive framework for trade-based food security resilience.

Article I: Global Food Security Resilience Fund

1.1 Ministers agree to establish the Global Food Security Resilience Fund (GFSRF) as a permanent WTO institution, funded through mandatory annual contributions calculated at 0.1% of member GDP, administered by a governing board with equal regional representation.

1.2 Fund allocation shall be: (a) 60% for climate-resilient agricultural technology development through international research consortiums; (b) 30% for regionally managed strategic food reserves with multilateral governance; (c) 10% for emergency food security response with predetermined activation triggers based on FAO Early Warning Systems.

1.3 All members commit to technology transfer provisions ensuring universal access to GFSRF-funded agricultural innovations, with intellectual property protections limited to 5 years for food security-related technologies.

Article II: Expedited Perishable Foods Trade Protocol

2.1 Members shall implement harmonized perishable food classification systems and establish dedicated fast-track customs processing within 24 months, with technical assistance provided to developing country members.

2.2 Priority processing infrastructure requirements include: (a) dedicated customs clearance lanes for perishable foods; (b) 24/7 processing capabilities at designated trade hubs; (c) standardized cold-chain certification systems; (d) blockchain-integrated tracking systems ensuring real-time shipment visibility.

2.3 Members commit to reducing perishable food trade processing times by 60% within three years, with performance metrics monitored through annual WTO Trade Policy Reviews.

Article III: Integrated Digital Agricultural Platform

3.1 The WTO Secretariat shall coordinate development of a multilateral digital platform providing smallholder farmers access to: (a) real-time weather forecasting and crop modeling; (b) transparent market pricing across regional and international markets; (c) localized agricultural training modules; (d) direct supply chain integration opportunities.

3.2 Developed country members commit to financing platform development and deployment, while all members ensure domestic regulatory frameworks enable farmer access without discriminatory restrictions.

Article IV: Implementation and Governance

4.1 A Committee on Food Security Resilience, reporting directly to the General Council, shall oversee implementation with quarterly progress assessments and annual impact evaluations.

4.2 Phase I implementation begins immediately upon Declaration adoption, achieving full operational capacity within 36 months.

4.3 Emergency provisions allow temporary export restriction waivers only when: (a) domestic food security is demonstrably threatened; (b) alternative supply arrangements for affected importers are secured; (c) restrictions are time-limited and subject to Committee oversight.

Article V: Final Provisions

This Declaration enters into force upon acceptance by two-thirds of WTO membership and shall be reviewed every five years for effectiveness assessment and necessary modifications. Members recognize that global food security requires unprecedented multilateral cooperation and commit to implementing these measures with urgency proportionate to the challenge.

Question 3: [Video explanation](#) (3 minutes, max)



Team #16

Team Name: Green Roots

AI for Sustainable Trade: Green Roots of Global Commerce

Question #1: a narrative section explaining the element of the problem the submission is hoping to address, and how the solution is intended to address it (1,000 words max.):

Today, more than 735 million people go to bed hungry each night, even though global food production is sufficient to feed the world's population. The paradox of hunger in abundance underscores a systemic issue: food insecurity is not solely about producing enough food, but about ensuring equitable distribution, reliable access, and resilient supply chains.

Several structural challenges highlight the fragility of the current system:

1. Climate Change & Environmental Shocks

Extreme weather events are becoming more frequent and intense. Droughts in East Africa, floods in South Asia, and heatwaves in Europe have significantly reduced agricultural yields. For example, the 2022 drought in the Horn of Africa contributed to food shortages that placed over 36 million people at risk of hunger. Climate change is not only lowering crop outputs but also increasing volatility in global food prices.

2. Supply Chain Disruptions & Geopolitical Instability

The COVID-19 pandemic exposed how vulnerable food supply chains are to sudden border closures and logistical breakdowns. The war in Ukraine one of the world's leading exporters of wheat, maize, and sunflower oil triggered a global spike in food and fertilizer prices, with the FAO Food Price Index hitting a record high in March 2022. This illustrates how localized conflicts can ripple across global markets, worsening insecurity for millions.

3. Unpredictable Trade Restrictions

Export bans and protectionist measures during crises further destabilize the multilateral trading system. In 2022 alone, more than 30 countries imposed export restrictions on food, amplifying scarcity and inflating global prices. While governments act to protect domestic consumers, these unilateral actions often worsen hunger in import-dependent countries.

4. Lack of Real-Time and Predictive Data

Perhaps the most critical weakness of the current multilateral trading system is the absence of reliable, real-time, and predictive data. Policymakers, traders, and farmers are often forced to make decisions

based on outdated or incomplete information. As a result, global responses to shortages or surpluses are reactive rather than proactive. This leads to food being wasted in one region while populations in another region face famine.

The WTO, as the guardian of the multilateral trading system, is uniquely positioned to lead reforms that address these gaps. Yet, current mechanisms focus primarily on rule-setting and dispute settlement, not on harnessing digital innovation to actively prevent and manage crises.

The Solution: The WTO Digital Food Security Platform

Our team, Green Roots, proposes a WTO-led Digital Food Security Platform, powered by artificial intelligence, blockchain, and big data analytics. The platform would function as a global early-warning and response system for food security, ensuring that trade flows are predictable, transparent, and resilient.

Core Features:

1. AI Forecasting and Early Warning

- a. The platform integrates satellite imagery, weather models, crop monitoring systems, and international trade data.
- b. AI models can predict harvest failures, supply shortages, or surpluses weeks or months in advance.
- c. For example: If maize yields in East Africa are projected to decline due to drought, the system could immediately flag the shortage, enabling importing countries to secure alternative suppliers before a crisis escalates.

2. Blockchain-Based Transparency

- a. Each food shipment from bulk grains to perishable goods is recorded on a blockchain ledger, ensuring traceability, trust, and accountability.
- b. This reduces corruption, fraud, and food diversion, while also speeding up border clearances.
- c. By enabling “digital trust,” blockchain can minimize losses from delays that currently account for up to 30% of food waste in trade logistics.

3. Smart Trade Matching Algorithms

- a. The system recommends optimal trade flows, connecting surpluses to shortages in real time.
- b. It also calculates efficient logistics routes, minimizing costs, delivery times, and food waste.

- c. For example, if Southeast Asia has a rice surplus while West Africa faces a shortage, the platform suggests the most cost-effective and sustainable shipping options.

4. Inclusion of Smallholder Farmers

- a. Small-scale farmers who produce one-third of the world's food often lack access to international markets.
- b. Through digital registration and certification, these farmers can showcase their products directly to global buyers.
- c. This strengthens livelihoods in developing countries and aligns with the WTO's principle of inclusivity.

5. Crisis Response Mechanism

- a. During emergencies, the platform issues real-time alerts to WTO members.
- b. Instead of resorting to unilateral export bans, members can coordinate food supply responses through collective agreements, reducing panic-driven disruptions.

The Transformational Impact

1. Resilience

By forecasting shortages in advance, governments and markets can act preemptively. This shifts the system from crisis management to crisis prevention.

2. Fairness and Inclusivity

Transparent, data-driven trade ensures that vulnerable countries are not left behind and that small farmers gain fair access to international markets.

3. Efficiency and Sustainability

Streamlined logistics and reduced food loss directly increase the availability of food. Reducing waste also lowers carbon emissions, contributing to climate goals.

4. Global Cooperation under the WTO

This platform strengthens the multilateral trading system by giving the WTO a more proactive role. Instead of merely arbitrating trade disputes, the WTO would serve as the hub of digital intelligence for global food security.

Feasibility

The solution is ambitious but technologically feasible:

- AI for agriculture is already applied by organizations such as the FAO's GIEWS (Global Information and Early Warning System) and private platforms like IBM's Watson Decision Platform for Agriculture.

- Blockchain in food supply chains has been piloted by Walmart and Maersk for traceability of perishable goods.
- Global trade data systems already exist (UN Comtrade, FAOSTAT), but they remain siloed and reactive.

Our innovation is to integrate these tools under WTO leadership, ensuring multilateral legitimacy, global reach, and policy coherence.

Food security is the defining challenge of our era. The WTO, with its mandate to ensure predictability and stability in trade, must evolve to meet this challenge. By establishing a Digital

Food Security Platform, the WTO can transform trade into a proactive, intelligent force for global good.

At Green Roots, we believe this is not only possible but urgently necessary. With AI, blockchain, and big data, the WTO can strengthen the multilateral trading system, reduce hunger, and ensure that food reaches every table, in every nation, at the right time.

Question #2: a substantive section, outlining how the proposed solution would appear in a Ministerial Declaration, General Council Decision, treaty change, etc. (500 words max.):

The proposed solution would be best advanced through a Ministerial Declaration within the World Trade Organization (WTO). Such a declaration would allow Members to collectively acknowledge the urgency of food insecurity while committing to a practical, technology-driven mechanism to strengthen agri-food trade resilience.

Ministerial Declaration

We, the Ministers representing the Members of the World Trade Organization,

- Recognizing that global food insecurity affects over 735 million people, despite sufficient overall global production;
- Acknowledging the compounded challenges posed by climate change, supply chain disruptions, and restrictive trade measures to stable food access;
- Affirming the central role of the multilateral trading system in ensuring transparency, predictability, and fairness in agricultural and food trade;

Decide as follows:

1. To establish a WTO Digital Food Security Platform, leveraging advanced technologies such as artificial intelligence, blockchain, and big data analytics, with the objective of enhancing resilience in food trade.
2. To utilize this platform to:
 - a. Provide early warning systems on potential food shortages and surpluses;
 - b. Strengthen traceability and transparency in food supply chains, thereby improving trust among trading partners;
 - c. Facilitate efficient, fair, and sustainable trade flows, minimizing disruptions;
 - d. Promote the inclusion of small-scale farmers and vulnerable producers into international markets;
 - e. Enable coordinated crisis responses that discourage unilateral export restrictions and foster cooperative solutions.
3. To instruct the General Council to oversee the platform's development and implementation, in close collaboration with relevant international organizations including the Food and Agriculture Organization (FAO), World Food Programme (WFP), and World Bank.



We reaffirm our commitment to ensuring that global trade serves as a driver of food security, inclusivity, and resilience in the face of current and future challenges.

Question 3: [Video explanation](#) (3 minutes, max)

