Piloting the use of Third-Party Assurance (TPA) Programme in Central America (Belize and Honduras) to improve food safety outcomes for public health and trade

STDF/PG/682

END OF PROJECT REPORT

December 2024

PROJECT INFORMATION

STDF/PG/682
Title Piloting the use of Third-Party Assurance (TPA) Programme in Central America (Belize and Honduras) to improve food safety outcomes for public health and trade
Implementing agency Inter-American Institute for Cooperation on Agriculture (IICA)
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Beneficiary/ies Belize: Ministry of Agriculture - Belize Agricultural Health Authority Honduras: Secretaria de Agricultura y Ganadería– Servicio Nacional de Sanidad e Inocuidad Agroalimentaria
Budget Project Total Value: US$942,612 STDF contribution: US$619,916 Other contribution: US$322,696

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LIST OF ABBREVIATIONS

BAHA: Belize Agricultural Health Authority
BSS: Belize Bureau of Standards
CCFICS: Codex Committee on Food Import and Export Inspection and Certification Systems
CFIA: Canadian Food Inspection Agency
Codex: Codex Alimentarius Commission
EU: European Union
FBO: Food Business Operator
FSA: Food Standards Agency
FSSC: Food Safety System Certification
GAP: Good Agricultural Practices
GFSI: Global Food Safety Initiative
GMP: Good Manufacturing Practices
HACCP: Hazard Analysis and Critical Control Points
IICA: Inter-American Institute for Cooperation on Agriculture
ISO: International Organization for Standardization
MSME: Micro, Small, and Medium Enterprises
PG: Project Grant
PPG: Project Preparation Grant
PPP: Public-Private Partnership
RA: Regulatory Authority
SENASA: National Service for Agricultural Health and Agri-Food Safety
SPS: Sanitary and Phytosanitary
STDF: Standards and Trade Development Facility
ToT: Training of Trainers
UNIDO: United Nations Industrial Development Organization
USDA: United States Department of Agriculture
vTPA: Voluntary Third-Party Assurance
WTO: World Trade Organization

LIST OF DEFINITIONS

Assessment: A process of determining the presence or absence of a certain condition or component, or the degree to which a condition is fulfilled. (CXG 91-2017)

Accreditation: third party attestation related to a conformity assessment body conveying formal demonstration of its competence to carry out specific tasks. (Adapted from ISO.IEC 17000:2020)

Accreditation body: authoritative body that performs accreditation (Adapted from ISO.IEC 17000:2020)

Audit: is a systematic and functionally independent examination to determine whether activities and related results comply with planned objectives. (CXG 20-1995)

Certification body: Third party conformity assessment body operating certification services. (Adapted from: ISO/IEC 17065:2012).

Conformity assessment: demonstration that specified requirements are fulfilled. (Adapted from ISO.IEC 17000:2020)

Governance: the processes and arrangements through which organizations are administered, in particular how they are directed, controlled and led including the way management systems are structured and separated to avoid potential conflicts.

Inspection: is the examination of food or systems for control of food, raw materials, processing, and distribution including in-process and finished product testing, in order to verify that they conform to requirements. (CXG 20-1995)

Review: verification of the suitability, adequacy and effectiveness of selection and determination activities, and the results of these activities, with regard to fulfilment of specified requirements. (Adapted from ISO.IEC 17000:2020)

Specified requirement: need or expectation that is stated. (Adapted from ISO.IEC 17000:2020)

vTPA Standard: specified requirements contained in the vTPA programme. Voluntary Third-Party Assurance Programme: An autonomous scheme comprising of the ownership of a standard that may utilise national/international requirements; a governance structure for certification and conformity assessment that provides for periodic onsite audits of FBO operations for conformity with the standard, and in which FBO participation is voluntary.

vTPA Owner: Person or organisation responsible for developing and maintaining a specific vTPA programme. (Adapted from ISO IEC 17065:2012)

1. EXECUTIVE SUMMARY

The project *Piloting the Use of Voluntary Third-Party Assurance Programs (vTPA) in Central America* (STDF/PG/682) was launched to enhance food safety systems in Belize and Honduras by integrating Voluntary Third-Party Assurance (vTPA) programs into national regulatory frameworks. With a total budget of US$942,612—of which US$619,916 was contributed by the Standards and Trade Development Facility (STDF) and US$322,696 came from in-kind contributions—the initiative was implemented by the Inter-American Institute for Cooperation on Agriculture (IICA). Originally scheduled to conclude in October 2023, the project was extended through December 2024. Key partners included regulatory authorities in both countries, private sector stakeholders, and international organizations such as the Global Food Safety Initiative (GFSI), Codex Alimentarius Commission, Canadian Food Inspection Agency (CFIA), Food Standards Agency (FSA), Red Tractor Assurance (RTA), Agricultural Industries Confederation (AIC), and the United Nations Industrial Development Organization (UNIDO).

Food safety remains a critical concern in developing economies, where regulatory authorities often lack sufficient resources to conduct effective inspections. This project addressed that gap by introducing vTPA programs as complementary tools within risk-based food safety systems. The goal was to reduce the regulatory burden on government agencies while ensuring that food businesses maintain compliance with international safety standards. Codex Alimentarius guidelines and other international best practices provided the foundation for implementation.

The initiative engaged a broad set of stakeholders. On the public side, regulatory agencies such as the Belize Agricultural Health Authority (BAHA) and the National Service for Agricultural Health and Agri-Food Safety (SENASA) in Honduras played a central role. From the private sector, food business operators (FBOs) in the shrimp, fresh produce, and processed food sectors were involved, along with certification bodies such as KIWA and LSQA.

Key results included the development of a risk-based food inspection system in Belize and enhancements to existing vTPA mechanisms in Honduras. Capacity-building activities, including training workshops, mentoring sessions, and study visits to Canada and the United Kingdom, enabled stakeholders to gain direct insights into functioning vTPA systems. A roadmap was developed for both countries to guide the integration of vTPA into regulatory frameworks, taking into account contextual differences. This roadmap was endorsed by both public and private sector actors and remains central to the project's post-implementation strategy.

The project also prioritized international engagement. Belize and Honduras actively participated in the Codex Alimentarius Commission, the WTO SPS Committee, and other global platforms, where they shared lessons learned and promoted best practices from the initiative.

Several challenges required adaptive responses. The COVID-19 pandemic caused significant delays, prompting a shift to virtual training sessions and a phased approach to roadmap development. Natural disasters—including Hurricane Lisa in November 2022, Hurricane Beryl in July 2024, and Tropical Storm Sara in November 2024—also disrupted implementation, especially in Belize, necessitating adjustments to the project timeline. Additionally, turnover among key personnel created a need for ongoing onboarding and training.

Among the lessons learned was the importance of tailoring implementation strategies to each country’s regulatory and industry context. Early and consistent stakeholder engagement helped build trust and foster buy-in for the vTPA approach. The value of regional and global collaboration also became evident, as knowledge exchanges accelerated learning and institutional strengthening.

To ensure sustainability beyond the project's conclusion, several strategies are being pursued. These include continued support for integrating vTPA principles into national regulatory systems, development of a regional digital platform to coordinate vTPA activities, and sustained engagement with the private sector—particularly small and medium-sized enterprises (MSMEs)—through targeted training and support programs.

Recommendations moving forward include closely monitoring the implementation of the roadmap within six months of project closure, developing a regional digital vTPA coordination platform for Central America (with potential expansion to other parts of Latin America and the Caribbean), enhancing MSME participation through dedicated support, and conducting trade impact studies to assess the effectiveness of vTPAs in improving market access and regulatory efficiency.

This initiative has laid a strong foundation for more resilient, efficient, and internationally aligned food safety systems in the region. Continued collaboration among regulatory authorities, industry stakeholders, and international partners will be essential to scale up the adoption of vTPAs and unlock new opportunities for food trade and compliance in Central America.

2. OVERVIEW

To initiate this project, a Project Preparation Grant (PPG) was first developed. STDF/PPG/682 facilitated the preparation of the project proposal and enabled government agencies and private sector stakeholders in the applicant developing countries to jointly discuss and agree—together with other relevant experts—on the substance and details of a regional project.

It provided a platform for in-depth discussions on the design and implementation of a pilot project that would use Third-Party Assurance (TPA) programs through a public-private collaborative approach. Stakeholders were able to: (i) assess the context, needs, and opportunities for regulatory authorities to use voluntary TPA programs to enhance food safety outcomes; (ii) define key elements of the regional project, including objectives, approach, logical framework, budget, timeline, roles and responsibilities, assumptions and risks, implementation, and monitoring and evaluation; and (iii) agree on their expected roles and involvement in the project.

Following the PPG, the Project Grant (PG) was launched to address food safety challenges in Belize and Honduras by integrating voluntary Third-Party Assurance (vTPA) programs into national regulatory frameworks. Implemented between October 2020 and December 2024, the project aimed to strengthen food safety governance, enhance regulatory efficiency, and support compliance with international trade standards.

Both countries rely significantly on agricultural exports, making food safety a key factor in their economic development. Regulatory agencies continuously work to reinforce their food safety systems, balancing limited resources and institutional capacities with the need for effective inspection along the food supply chain. The project sought to complement these efforts by leveraging private sector compliance data through vTPA schemes, thereby enhancing risk-based inspection systems and optimizing regulatory oversight.

Sanitary and Phytosanitary (SPS) measures are essential for ensuring safe food trade and protecting consumers. The project addressed specific challenges faced by Belize and Honduras, including:

- Optimization of Inspection Resources: Regulatory authorities operate within constrained capacities. The project introduced risk-based approaches to maximize efficiency.
- Encouraging Broader Adoption of Food Safety Standards: While some businesses already implement private food safety certifications, further capacity-building was needed to

increase voluntary compliance, particularly among Micro, Small, and Medium Enterprises (MSMEs).
- Enhancing Coordination Between Stakeholders: Strengthening public-private collaboration was key to aligning regulatory oversight with industry practices for more effective implementation of food safety measures.
- Facilitating Market Access: Meeting SPS requirements is essential for international trade. The project aimed to support mechanisms that streamline compliance for food business operators (FBOs).

By integrating vTPAs into national inspection frameworks, the project promoted a structured, risk-based approach to improve food safety outcomes and support regulatory efforts.

The project was designed based on a theory of change emphasizing regulatory modernization, capacity building, and public-private collaboration. The approach included:

1. Strengthening Regulatory Frameworks

- Conducted assessments of existing inspection systems to identify opportunities for vTPA integration.
- Developed risk-based inspection models to enhance regulatory efficiency.
- Created a roadmap for vTPA implementation in Belize and Honduras.

2. Building Institutional and Private Sector Capacity

- Provided training for food safety inspectors and authorities on risk-based inspection methods.
- Organized workshops and technical exchanges with international vTPA experts.
- Facilitated study visits to Canada Food Inspection Agency and the Food Standards Agency UK to observe established vTPA models in practice.
- Delivered training programs for food business operators to improve awareness and voluntary adoption of food safety standards.

3. Facilitating Public-Private Collaboration

- Engaged regulatory agencies, private sector actors, and international partners to create a shared understanding of vTPA benefits**.**
- Conducted multi-stakeholder dialogues to ensure alignment between industry needs and regulatory goals when developing the national roadmaps.
- Organized international knowledge-sharing forums to disseminate best practices and lessons learned.

The project followed a structured implementation plan, achieving key milestones each year:

2021: Project launch, stakeholder surveys, and initial training sessions.

2022: National workshops on regulatory gap analysis and training for inspectors.

2023: Advanced technical training, study visits, and policy framework development.

2024: Finalization of risk-based inspection models, roadmap implementation, and dissemination of project findings.

By adopting a risk-based approach to food safety inspections, the project successfully demonstrated how voluntary third-party assurance programs can complement regulatory oversight and promote industry compliance. The lessons learned and strategies developed through this initiative provide a sustainable pathway to enhancing food safety governance, supporting trade opportunities, and strengthening regulatory systems in Central America.

3. PROJECT IMPLEMENTATION

The project was approved in October 2020 and officially launched for implementation in January 2021. The original end date was set for 11 October 2023. However, a no-cost extension was granted until 11 October 2024 to accommodate delays caused by the COVID-19 pandemic. Subsequently, a further two-month no-cost extension was approved, extending the project through 11 December 2024, following Belize's submission of a Thematic Session Proposal for the SPS Committee Meeting held in November 2024.

The project was implemented by the Inter-American Institute for Cooperation on Agriculture (IICA) through a collaborative approach involving multiple partners:

- Regulatory Authorities**:** National agencies in Belize and Honduras oversaw regulatory alignment and risk-based inspection integration.
- Private Sector Partners**:** Food business operators (FBOs) participated in pilot activities, training programs, and consultation processes.
- Technical Experts and Service Providers**:** Specialized consultants and institutions provided capacity-building support, developed training materials, and conducted regulatory assessments.
- International Partners**:** Organizations such as the Standards and Trade Development Facility (STDF), UNIDO, and the Global Food Safety Initiative (GFSI) provided technical assistance and facilitated global knowledge exchange.

Project coordination was ensured through regular meetings between the implementing agency (IICA) and designated Points of Contact (POCs) in each beneficiary country. These meetings facilitated alignment on project activities, addressed implementation challenges, and supported strategic decision-making.

To coordinate national-level activities and ensure inclusive stakeholder engagement, working groups were established in both Belize and Honduras. These groups were primarily composed of representatives from the national regulatory authorities responsible for food safety. In Belize, the group was led by the Belize Agricultural Health Authority (BAHA) and included Delilah Cabb Ayala, Coordinator at BAHA; Kenrick Witty, Deputy Technical Director for Sanitary and Phytosanitary Measures; and Dr. Nathalie Gibson, Acting Technical Director for Food Safety. In Honduras, the working group was formed under the National Service for Agricultural Health and Agri-Food Safety (SENASA), with the participation of Mirian Bueno, Technical Director for Food Safety; Erika Ochoa, Coordinator of Special Food Safety Projects; and Maria Eugenia Sevilla, Technical Manager for Food Safety. These multidisciplinary teams played a pivotal role in adapting the project to the specific institutional and regulatory contexts of each country.

Throughout implementation, regular progress reports and monitoring frameworks helped ensure project milestones were met. Collaboration with international institutions further contributed to the project's success by facilitating study visits, technical workshops, and knowledge-sharing exchanges. Thanks to a structured management framework and the active involvement of diverse stakeholders, the project achieved effective oversight, strategic execution, and adaptive planning, leading to the

successful implementation of voluntary Third-Party Assurance (vTPA) programs in Belize and Honduras.

4. ACHIEVEMENT OF RESULTS

4.1 Project goal and outcome level results

The project aimed to enhance food safety systems by integrating Voluntary Third-Party Assurance (vTPA) programs into national regulatory frameworks. Progress toward this overall objective was demonstrated through several key achievements:

- Number of policy frameworks integrating vTPA data: Both Belize and Honduras developed and endorsed national strategies for incorporating vTPA-generated data into regulatory decision-making, one per country.
- Percentage of regulatory personnel trained: A total of 72 government inspectors (of which 37 were women (52%) and 35 were men (48%) and regulatory staff received specialized training on risk-based food safety approaches.
- Extent of risk-based inspection model implementation**:** A structured risk-based inspection framework was successfully developed and piloted in each country, with Belize formally launching a risk-based inspection system.
- Percentage of Food Business Operators (FBOs) adopting improved food safety practices: More than 49 participated in training programs.

4.2 Outcome 1: Conducive enabling environment in place in pilot countries for regulatory authorities to assess and use data/information generated by vTPA programmes

The project successfully contributed to establishing an enabling environment in Belize and Honduras, supporting regulatory authorities in integrating data from voluntary Third-Party Assurance (vTPA) programmes into national food safety control frameworks. Both countries endorsed national strategies and roadmaps with tailored recommendations reflecting their specific contexts, outlining clear pathways for vTPA integration. Key outcomes included strengthened policy frameworks, enhanced institutional capacities, and improved collaboration between public and private sector stakeholders. These advancements fostered increased confidence in the effectiveness and practicality of vTPA programs as complementary tools to regulatory inspection systems. The strong engagement of key stakeholders and the emphasis on collaborative decision-making fostered a sense of ownership, enhancing the prospects for sustained vTPA adoption and long-term implementation.

4.2.1 Output 1.1: National policy papers / strategies drafted in pilot countries on implementation options for potential assessment and use of data generated by vTPA programmes as part of the national food control system

The implementation of activities under this project significantly strengthened food safety systems and advanced the integration of voluntary Third-Party Assurance (vTPA) programs into national frameworks. A structured, multi-phased approach was adopted to achieve these objectives, with a strong focus on stakeholder engagement, capacity building, international collaboration, and roadmap development.

Initial assessment and stakeholder engagement

A key component of the project was the initial assessment of national food safety systems in Belize and Honduras. This assessment reviewed the existing institutional frameworks and the use of vTPA programs, laying the foundation for developing risk-based inspection models and selecting relevant value chains. Findings were shared through national workshops, fostering open discussions and guiding the overall project strategy.

These workshops played a critical role in identifying priorities and refining implementation strategies. Participants included regulatory agencies—such as the Belize Agricultural Health Authority (BAHA), Belize Bureau of Standards, Ministry of Health, Servicio Nacional de Sanidad e Inocuidad Agroalimentaria (SENASA), and Organismo Hondureño de Acreditación (OHA)—alongside private sector representatives from companies including Texbel, LSQA, Global Standards, and the Banana Growers Association. The objective was to ensure that all stakeholders understood the benefits, challenges, and regulatory implications of adopting vTPA.

Mentoring and knowledge transfer

To support knowledge transfer, a mentoring initiative was established, enabling regular online exchanges with private sector representatives engaged in GFSI-recognized vTPA programs in countries such as Argentina, Canada, Colombia, Mexico, and the United Kingdom. These interactions allowed participants to learn from international experts, understand effective implementation strategies, and identify adaptable approaches suited to their national contexts.

Capacity Building

A series of capacity-building activities were conducted to enhance stakeholders' understanding of vTPA requirements. One of the first activities was an awareness-raising and gap-mapping workshop involving 72 participants (37 women and 35 men). A practical component was included through visits to a certified packinghouse, which involved multiple stages of the supply chain (farm, warehouse, packing facility). This provided hands-on insight into the real-world implementation of food safety measures.

Study Visits

To deepen exposure to international best practices, two study visits were organized:

- **United Kingdom:** Participants—two female representatives from Honduras, one female and one male from Belize, and one female from IICA—engaged with the UK Food Standards Agency and vTPA program owners like Red Tractor. Site visits to food processing facilities helped illustrate how vTPA is integrated into regulatory systems.
- **Canada:** A second visit was made by two female representatives from Honduras, one female and one male from Belize, one male consultant, and one female from IICA. Meetings with the Canadian Food Inspection Agency (CFIA) provided insight into Canada's vTPA oversight model, which was found to be more applicable to the Central American context than other models. This visit informed the development of tailored national approaches

Roadmap Development

A key project outcome was the participatory development of a roadmap for integrating vTPA into national food safety control systems. Both regulatory authorities (RAs) and food business operators (FBOs) were involved in the process. The roadmap included a two-phased action plan aligned with the CXG 93-2021 Codex guidelines and the UNIDO/STDF vTPA assessment tool (STDF/PG/665).

The roadmap outlined four integration levels, depending on each country's readiness:

Step 1 entailed preliminary actions such as stakeholder mapping and the formation of technical working groups through public-private partnerships. Key stakeholders were identified, including food business operators (FBOs), certification bodies, and regulatory agencies. A comprehensive vTPA database was developed based on surveys conducted to collect data on FBOs holding third-party certifications. The database includes detailed information on certification schemes, accredited certification bodies, and relevant risk indicators.

Key indicators were established, such as the percentage of FBOs with third-party certifications relative to the total number of FBOs, and the percentage of certified FBOs among exporters. Additionally, a decision was made regarding the integration of vTPA into official control frameworks, based on criteria such as the functionality of the technical working group, the number of FBOs with vTPA certifications, and the prioritization of high-impact value chains.

Step 2 focused on developing a national risk-based inspection model. This involved categorizing food safety risks in accordance with Codex and WHO guidelines, assigning risk levels to food establishments using Multi-Criteria Decision Analysis (MCDA), determining inspection frequencies based on risk profiles, and implementing a risk scoring algorithm.

Step 3 established a tiered evaluation approach for vTPA schemes, designed to accommodate varying levels of available resources:

- The **first level**, *automatic recognition*, applies to schemes already compliant with GFSI or ISO 22000 standards. This level requires minimal resources from national authorities, as no further evaluation is needed.
- The **second level**, *partial assessment*, involves a desktop comparison of the vTPA scheme with official inspection checklists and a shadow audit conducted by the competent authority. This level also requires certification bodies to meet minimum governance requirements, and FBOs to demonstrate over 90% regulatory compliance in food safety audits, with no critical violations or product recalls within the previous 12 months.
- The **third level**, *full assessment*, is the most resource-intensive and involves a comprehensive review of the vTPA's governance structure, audit quality, and auditor qualifications. This assessment follows the Codex CXG 93-2021 Guidelines and utilizes UNIDO's vTPA evaluation tool. Key evaluation criteria include conflict of interest management, formal approval processes, accreditation of certification bodies by internationally recognized entities, audit frequency and type, auditor competency, procedures for managing non-conformities (such as corrective actions and certification withdrawals), and transparent data sharing and communication with regulatory authorities

Step 4 proposed the development of a legal framework for vTPA implementation. This step considered different regulatory approaches—automatic recognition, partial assessment, and full equivalence—along with the need to update national regulations accordingly. It also included provisions for periodic reviews to ensure continued alignment with evolving regulatory standards.

Final Roadmap

The final roadmap provided actionable guidance for vTPA implementation, including general integration strategies, country-specific recommendations, and assessments of each country's current status and next steps. The participatory process ensured the roadmap addressed both regulatory and industry priorities.

Country-specific roadmaps were clearly defined:

Belize, lacking a pre-existing risk-based inspection model, developed and implemented a new model tailored to its national context. This included conducting risk assessments for various food categories and establishments, and modernizing inspection checklists by transitioning to a quantitative format. The country adopted the low-resource vTPA evaluation model, automatically recognizing schemes certified under GFSI and ISO 22000. Additionally, vTPA data were integrated into the risk scoring model used to classify food business operators (FBOs). A Ministerial Decree is expected to be published within six months to formalize the adoption of the risk-based inspection system.

Honduras, which already had a fully implemented risk-based inspection model, focused its efforts on mapping and evaluating vTPA schemes within the shrimp and fresh produce sectors. This included conducting a desktop audit of Global Seafood Alliance, Primus, and GLOBALG.A.P., as well as an on-site shadow audit of a GLOBALG.A.P. certification process. The country employed a moderate-resource evaluation model, conducting a partial assessment of the schemes. It plans to integrate partial governance requirements for vTPA schemes into upcoming food safety regulations, with updates expected within 12 to 24 months.

Challenges identified included limited vTPA adoption due to the small scale of Belize's food industry, initial regulatory hesitance toward private certifications, and the necessity for formal legislative updates. Nonetheless, stakeholder engagement was pivotal in ensuring practical and effective policy implementation.

4.2.2 Output 1.2: Risk-based inspection policy and updated inspection operating procedures for the selected value chain formulated

The development and implementation of the risk-based inspection model involved several critical activities, including risk categorization, algorithm development, regulatory training, and pilot testing.

A comprehensive risk assessment was conducted for food categories and establishments to classify biological and chemical hazards associated with different food products. Risk categorization was guided by international frameworks, including the WHO/FAO Codex Alimentarius Guidelines and methodologies from the Pan American Health Organization (PAHO). A Multi-Criteria Decision Analysis (MCDA) tool was used to evaluate and rank establishments based on food safety risk factors.

A scoring system was developed to determine the overall risk level of food establishments. The risk algorithm calculated total risk using two key factors:

- Food Risk Score (based on product type and contamination risks).
- Establishment Risk Score (based on compliance history, hygiene practices, and past infractions).

The total risk score determined the inspection frequency for each establishment, ensuring that high-risk businesses received more frequent inspections, while low-risk, compliant businesses were subject to reduced oversight.

Inspection checklists were modernized to include quantitative scoring criteria, making the assessment process more objective and data-driven. Standardized risk-based inspection protocols were developed to ensure that all inspectors followed consistent evaluation methods. A training program was conducted for regulatory inspectors in Belize and Honduras to familiarize them with the new risk-based procedures and the integration of vTPA data into risk assessments.

Pilot Implementation in Belize and Honduras

- In Belize, the new risk-based inspection model was applied to selected food business operators (FBOs) under the jurisdiction of Belize Agricultural Health Authority (BAHA).

- The model included risk-based categorization of food establishments.
- BAHA modernized its inspection checklist to make it fully quantitative, incorporating risk criteria for noncompliance.

- In Honduras, the National Service for Agricultural Health and Agri-Food Safety (SENASA) conducted pilot tests of the new risk algorithm to refine inspection scheduling.
  - SENASA also introduced a shadow audit approach, where vTPA-certified FBOs were evaluated alongside official inspections to assess data reliability.
  - The inspections of low-risk FBOs were reduced, demonstrating the efficiency gains of the risk-based model.

4.3 Outcome 2: Improved food safety compliance in FBOs in selected value chains in the pilot countries following capacity development

The project significantly enhanced compliance with food safety standards among participating Food Business Operators (FBOs), particularly within targeted value chains such as shrimp production in Honduras and fresh produce in Belize. Through focused capacity-building efforts, FBOs demonstrated notable progress in adopting and adhering to international food safety standards and practices. These improvements were further supported by increased access to voluntary certification processes, contributing to greater competitiveness and improved market access potential for these businesses.

4.3.1 Output 2.1: Voluntary Food Safety Capacity-Building Programme Developed, Customized, and Piloted Among Food Business Operators from Selected Value Chains

A voluntary Food Safety Capacity-Building Programme was developed, customized, and successfully piloted among food business operators (FBOs) within selected value chains. This initiative included comprehensive training and practical skill-building activities, notably through a structured training-of-trainers (ToT) program. Inspectors from Belize participated in the vTPA Forum held in Egypt in February 2023, while Honduran participants, unable to attend, benefited from subsequent knowledge-sharing sessions organized by IICA, with simultaneous interpretation provided by their Belizean colleagues.

Key capacity-building efforts involved targeted sector surveys and training workshops designed to identify critical sectors requiring food safety improvements in Belize and Honduras. An initial assessment selected value chains most in need, which was later refined through additional surveys to account for external disruptions such as the COVID-19 pandemic and climate change impacts. This process allowed precise targeting of 16 establishments in Honduras. Complementary value chain mapping facilitated a thorough analysis of compliance challenges and informed intervention planning.

To avoid duplication, existing certifications and food safety programs were meticulously mapped in both countries, ensuring alignment of project initiatives with ongoing efforts. Customized training materials were developed covering critical topics, including Hazard Analysis and Critical Control Points (HACCP), Good Manufacturing Practices (GMPs), Good Agricultural Practices (GAPs), traceability, third-party certification processes (such as GLOBALG.A.P., FSSC 22000, and PrimusGFS), and national regulatory compliance.

Between late 2022 and mid-2024, five training workshops were held in Belize and Honduras, engaging regulatory officials, FBO representatives, and certification bodies. These workshops averaged 55 participants per session, with approximately 40% female participation, and employed interactive learning methods such as case studies, practical exercises, and group discussions.

A notable milestone was the 2024 vTPA workshop in Tegucigalpa, Honduras, attended by 37 participants. The event welcomed both public sector officials (23 participants: 12 men and 11

women) and private sector representatives (14 FBOs: 9 men and 5 women). This workshop significantly enhanced collaboration and capacity-building efforts.

As a direct result, the programme substantially improved food safety practices among FBOs. It trained 49 FBO representatives, with significant female participation, promoting gender inclusion. The initiative increased alignment with international standards such as Codex guidelines, GFSI benchmarks, and UNIDO's vTPA assessment tools. It also raised awareness and deepened understanding of food safety, particularly regarding third-party certifications, and strengthened public-private collaboration, leading to effective data-sharing mechanisms. Some participating FBOs began pursuing third-party certifications, demonstrating their commitment to improved food safety standards. Overall, the programme fostered a stronger food safety culture, reflected in better hygiene practices, enhanced traceability, and improved risk management procedures.

4.4 Outcome 3: Improved awareness about how to assess and use data generated by vTPA programmes to help improve food safety outcomes in developing countries

The project significantly enhanced awareness and technical understanding among regulatory authorities and private sector stakeholders regarding best practices for assessing and effectively utilizing vTPA-generated data. Stakeholders from Belize and Honduras actively participated in international discussions, forums, and knowledge-sharing platforms, including the Codex Alimentarius Commission and WTO SPS Committee meetings. These engagements fostered regional and global dialogue, positioning both countries as active contributors to international food safety standard-setting and promoting the broader adoption and harmonization of vTPA practices.

4.4.1 Output 3.1 - Food safety regulators and private sector stakeholders have more in-depth knowledge on global best practices on the assessment of vTPA programmes and utilisation of generated data to improve food safety outcomes, based on the experiences and lessons learned through the regional pilot project.

Food safety regulators and private sector stakeholders acquired in-depth, specialized knowledge on global best practices for assessing voluntary Third-Party Assurance (vTPA) programmes and effectively utilizing the generated data to enhance food safety outcomes. The project emphasized structured engagements and collaborative international forums to maximize stakeholder learning and involvement.

Initially, a regional workshop was planned under the South-South cooperation framework, aligned with the Codex Committee on Food Import and Export Inspection and Certification Systems (CCFICS) guidelines on vTPA applications. However, scheduling conflicts and shifts in national priorities disrupted the original format. As a targeted solution, representatives from Ecuador and Paraguay were invited to participate in the Sanitary and Phytosanitary (SPS) Committee session in November 2024. Their direct involvement facilitated detailed, firsthand knowledge exchanges regarding vTPA experiences from Belize and Honduras, significantly enriching regional dialogue and cooperation.

During this SPS Committee session, Belize initiated and successfully led a thematic discussion explicitly focused on sharing detailed experiences and lessons from the regional pilot projects. Presentations by representatives from the Belize Agricultural Health Authority (BAHA) and the National Agricultural Health and Food Safety Service of Honduras (SENASA) outlined specific methodologies, practical challenges, measurable benefits, and implications for trade facilitation and regulatory compliance stemming from vTPA integration.

Session 3 addressed insights from other Standards and Trade Development Facility (STDF) pilot projects applying Codex vTPA guidelines, emphasizing their role in reinforcing compliance with international standards and informing future initiatives. Session 4 focused on capacity-building

initiatives, highlighting tools and practical strategies to support vTPA adoption and strengthen national food control systems.

The project's findings were also showcased at international forums such as the Codex Alimentarius Commission (CAC), where it was presented as a practical case study illustrating the real-world application of Codex standards within national regulatory frameworks, fostering targeted international learning and dialogue.

Despite operational challenges, including COVID-19-related delays and disruptions caused by natural disasters, the project maintained momentum by adapting strategies such as virtual meetings and digital interactions. These adaptations ensured continued knowledge dissemination and robust stakeholder engagement.

The project explicitly enhanced competencies among food safety regulators and private stakeholders regarding vTPA, laying a solid foundation for future collaborative endeavors and more harmonized, regionally and internationally aligned food safety governance.

The project successfully facilitated international knowledge-sharing and collaboration. Forums held in Vienna and Cairo were pivotal in expanding stakeholders' understanding of vTPA programme assessments. Participation in platforms such as the SPS Committee, the Government-to-Business (G2B) Technical Working Group, and Codex Alimentarius forums effectively maintained regional knowledge exchange momentum. These platforms enabled regulators and private sector stakeholders to gain valuable insights into applying vTPA programmes. Although some activities were adapted due to external constraints, the project consistently reinforced its commitment to fostering South-South cooperation and utilizing international forums to sustain engagement in food safety standards implementation.

Other Unexpected Results

During the implementation of the vTPA regional pilot project, several unexpected yet positive outcomes emerged. These included knowledge spillovers strengthened regulatory practices, institutional advancements, and enhanced regional collaboration, significantly expanding the project's impact beyond its initial objectives.

Knowledge Spillovers

A study visit to Canada played a significant role in advancing risk-based food safety inspections. Initially, a visit to the UK model was planned but later deemed too advanced for Central American contexts. Instead, Canada's risk-based inspection system served as a practical reference, guiding participants in developing and refining their approaches. Participation in UNIDO events in Egypt provided regulators with hands-on experience with the vTPA toolkit, which was subsequently integrated into roadmap developments in Belize and Honduras.

Good Regulatory Practice Spillovers

Engagement with certification bodies such as Kiwa and LSQA significantly improved regional aquaculture supply chains by strengthening food safety certification processes. Connections established with Global Food Safety Initiative (GFSI) groups from Mexico, Colombia, and Argentina enhanced regional collaboration and knowledge-sharing on food safety certification standards.

Institutional Spillovers

The project advanced South-South learning by facilitating participation from Paraguay and Ecuador in the SPS Committee thematic session on Codex Principles and Guidelines for evaluating third-party voluntary assurance programmes. Additionally, Mali—a beneficiary of another pilot project—joined this session through vTPA-CA funding, further reinforcing international cooperation and collaborative learning.

5. CROSS-CUTTING

The project recognized the importance of gender inclusion in food safety initiatives and took deliberate steps to promote gender equality throughout its activities. A gender mapping survey was conducted to assess the level of gender inclusion among participating organizations, providing valuable insights into women's representation in key roles and identifying areas requiring further support.

Key Actions Taken

- Engagement with IICA's Gender and Youth Program: The project worked closely with IICA's Gender and Youth Program to align its efforts with broader gender mainstreaming strategies.
- Collaboration with other STDF projects: Engagement with coordinators of two other STDF initiatives within IICA strengthened the project's gender-inclusive approach.
- Equitable representation in workshops: The project ensured balanced gender participation at training sessions and capacity-building workshops. Selection processes were carried out without gender bias, guaranteeing equal opportunities. To overcome geographical and logistical barriers that disproportionately affect women and other underrepresented groups—especially those from border regions with Mexico and Guatemala—transportation support was provided for participants from remote or peripheral areas attending in-person activities.
- Gender equity in expert selection: Special attention was paid to selecting expert presenters, actively including female experts in events targeting Food Business Operators (FBOs). Experts invited to the FBO development workshop were chosen for their strong technical expertise and broad regional representation across Latin America, with a deliberate focus on gender balance, resulting in 50% of speakers being women.

Specific measures were incorporated into workshops and project activities to minimize resource consumption and food waste.

Key Actions Taken

- Sustainable event management: A no-paper policy was enforced during workshops and meetings, limiting paper usage unless absolutely necessary.
- Reduction of food waste: Special consideration was given to managing food waste at events, implementing measures to reduce overall waste.
- Awareness on climate adaptation: Although the project did not have a dedicated climate adaptation policy, its operational choices aligned with environmentally responsible practices.

6. FINANCIAL OVERVIEW

As of project completion, the total expenditure amounted to US$473,093.68, leaving an unspent balance of US$146,822.32. This variance was primarily due to:

- Cost savings from technical support provided by various partners.
- Adjustments to activities in response to external factors, particularly the COVID-19 pandemic.

- The modification of planned in-person events, such as the regional workshop, which was scaled down or adapted due to shifting priorities across the region.

Deliverable	Budget Allocation (US$)	Expenses (US$)	Remaining Balance (US$)
Project Implementation and Management	132,925.00	114,913.00	18,012.00
Outcome 1	184,335.00	158,488.31	25,846.69
Outcome 2	137,300.00	74,499.42	62,800.58
Outcome 3	109,000.00	82,184.43	26,815.57
Subtotal	563,560.00	430,085.16	133,474.84
IICA (10%)	56,356.00	43,008.52	13,347.48
Total	619,916.00	473,093.68	146,822.32

Efficiencies were achieved through:

- Hiring a single consultant to provide technical assistance to both Belize and Honduras, instead of contracting separate experts.
- Virtual sessions with GFSI and other stakeholders, reducing travel and logistics costs.
- Engagements with partners such as CFIA (Canada), GlobalG.A.P., Global Standards México, Más Control Consulting Colombia, La Anónima Argentina, Kiwa Centroamérica, and LSQA Centroamérica, all of whom covered their own participation costs.

In-Kind Contributions

The initial total in-kind estimate for the project was US$322,696. However, after implementation, BAHA and SENASA provided in-kind contributions totaling US$145,112.85 (US$135,315.05 from Belize and US$9,797.80 from Honduras), which were utilized to support training initiatives, technical expertise, and overall project implementation.

This variance is primarily attributed to the cancellation or partial implementation of activity 2.1.5. and 3.1.2., which significantly reduced the anticipated level of in-kind resource mobilization, particularly in terms of staff time, logistical support, and venue provision.

Two specific activities were especially impacted:

1. Activity 2.1.5: Deliver training to selected food business operators and establish linkages with buyers (including high-value retail, tourism, and export markets) – This activity was partially completed due to pandemic-related travel restrictions, limited availability of stakeholders, and challenges in coordinating in-person sessions across multiple sectors. The reduced scope of implementation meant that fewer national staff hours, venues, and logistical resources were required than initially planned, leading to a lower valuation of in-kind support.
2. Activity 3.1.2: Organize a regional workshop on the assessment of vTPA programmes and their data utilization, in line with CCFICS guidance – This was not implemented as originally intended. The regional scope of the activity presented logistical and financial obstacles, particularly during the initial years of the project when cross-border travel restrictions and limitations on in-person gatherings were in effect. In the later stages, significant scheduling conflicts and evolving policy priorities further hindered implementation. Consequently, anticipated in-kind contributions from participating countries—such as personnel, venues, and organizational support—did not materialize.
3. Despite these setbacks, the project team adapted effectively by reallocating resources and leveraging virtual platforms, which enabled continued progress and achievement of core objectives. However, the shift to remote modalities also reduced the demand for some in-kind contributions, further accounting for the lower final amount.

The project successfully maximized available funds while adapting to external constraints. Despite initial slow progress, strategic budget reallocations and in-kind support allowed for effective

implementation. The cost-saving measures, stakeholder engagement, and virtual adaptations contributed to the efficient use of resources, ensuring that the project met its objectives within the allocated budget.

7. CHALLENGES, RISKS & MITIGATION

Throughout the implementation of the vTPA pilot project, several challenges arose, requiring adaptation and strategic mitigation to ensure progress and maximize impact. These challenges mainly resulted from external disruptions, institutional changes, and financial constraints, each posing obstacles to the smooth execution of planned activities.

One of the most significant disruptions was the COVID-19 pandemic, which delayed the project start by approximately 12 months and necessitated a shift to virtual formats for many activities. While virtual training and remote coordination maintained stakeholder engagement, they limited the depth of hands-on capacity-building sessions and direct interactions.

For example, the regional workshop on vTPA evaluation could not take place as planned due to scheduling conflicts and logistical barriers. As a mitigation measure, the project leveraged alternative engagements—such as participation in Codex and SPS Committee discussions—to sustain knowledge exchange and policy alignment efforts.

Although high stakeholder engagement was critical for ownership and sustainability, it also contributed to delays in planning. With multiple partners involved, reaching consensus on project direction and operational decisions required extended dialogue and coordination. This collaborative approach, while time-consuming, ultimately resulted in a more inclusive and context-responsive implementation.

Institutional and capacity-related constraints further influenced implementation. In Belize, the smaller industry size and export volumes made widespread adoption of vTPA certification less immediately viable. The Belize Agricultural Health Authority (BAHA) faced capacity limitations that necessitated targeted support to strengthen inspection and enforcement mechanisms. In contrast, Honduras was at a more advanced stage, already working towards integrating risk-based inspection models into its regulatory system. To address these differences, the project emphasized institutional knowledge transfer and technical training, with critical support from partners such as CFIA, GlobalG.A.P., and GFSI.

Personnel transitions within implementing agencies and project teams—due to generational shifts and staff turnover—posed additional challenges. Onboarding new focal points required time and effort to align them with project objectives and technical content. For instance, it took approximately six months after the UK study visit for regulatory authorities to deliberate on next steps. However, subsequent engagements with CFIA, the Canada study tour, and GFSI helped realign project momentum and consolidate institutional understanding.

Engagement with the private sector presented both opportunities and challenges. While many food business operators (FBOs) showed interest, awareness of vTPA benefits was limited, and certification costs remained a concern—especially for micro, small, and medium-sized enterprises (MSMEs). To mitigate this, the project intensified outreach and education efforts, emphasizing improved market access and competitiveness. Additionally, it explored cost-sharing mechanisms inspired by models such as those used by the Banana Association, where collective certification and resource pooling proved effective.

Despite these challenges, the project demonstrated resilience and adaptability. Strategic pivots, including virtual engagement and leveraging ongoing national regulatory reforms, allowed it to remain relevant and impactful. The focus on capacity-building—particularly in Belize—reflected a

pragmatic, long-term approach that prioritized institutional strengthening as the foundation for sustainable food safety systems.

8. COMMUNICATIONS AND OUTREACH

The project implemented a range of communications and outreach initiatives to enhance its visibility among key stakeholders, including public sector agencies, private enterprises, academia, and international organizations. These efforts aimed to promote awareness of the vTPA model, share project outcomes, and facilitate knowledge exchange at the national, regional, and international levels.

To disseminate project findings and ensure broad stakeholder engagement, various communication materials were developed, including:

- Press releases and online articles highlighting project milestones and impact.
- LinkedIn posts and social media engagement to reach a wider audience.
- Presentations showcasing how the project contributed to strengthening food safety systems in Belize and Honduras.
- Visual media content, including interactive roadmaps, to support capacity-building efforts.
- Interactive Roadmaps in Spanish and English version.

The project was featured in several official publications and social media platforms, increasing its reach and engagement:

Website Publications

- Project led by Honduras' Ministry of Agriculture, supported by IICA, to promote food safety improvements
- Promoting voluntary third-party assurance tools in Honduras and Belize

LinkedIn Posts

- Canadian Food Inspection Agency - vTPA Initiative
- Promoting voluntary third-party assurance tools in Honduras and Belize

The project's success was reflected in the positive feedback from stakeholders across different sectors. Below are some quotes from participants:

"This was an excellent opportunity to showcase the work we are doing within the South LATAM local group of GFSI, particularly the certification journey of La Anónima's processing center. I was honored to present our facility and learn from the experiences of other countries." - Participant from FBOs Workshop

"I am grateful for the invitation and the valuable knowledge I gained through this workshop." – Participant from FBOs Workshop

"The project created a much-needed space for dialogue between regulators and private sector actors, helping us understand how voluntary third-party assurance systems can complement official controls in our countries." - Regulator from beneficiary country

9. SUSTAINABILITY & FOLLOW-UP

Ensuring the long-term impact of the vTPA pilot project in Central America has been a central focus, with efforts aimed at consolidating achievements and identifying opportunities for scaling up and regional integration. The project provided countries with a structured roadmap for implementation, designed as an incremental four-step process. Step 1 involves preliminary actions such as stakeholder mapping, the formation of technical working groups, and the development of a national vTPA database to assess the feasibility of integrating vTPA into official food control systems. Step 2 focuses on adopting a risk-based inspection model that incorporates food and establishment risk categorization, inspection frequency definitions, and the implementation of risk algorithms to improve oversight efficiency. Step 3 outlines the development of a vTPA evaluation approach, offering three levels of assessment—automatic recognition, partial assessment, and full assessment—tailored to each country's resources and regulatory capacity. Step 4 centers on updating the legal framework, including formal recognition of vTPA-certified operators, integration of vTPA data into national inspection systems, and the development of legislative instruments to sustain long-term application. This stepwise approach aims to build institutional confidence, promote alignment with international standards, and ensure the sustainability of vTPA integration within national food safety governance.

Both Belize and Honduras have made significant progress in incorporating these recommendations into their regulatory frameworks. Honduras has advanced towards updating its national regulatory instruments, while Belize has initiated the adoption of a risk-based inspection system.

In Honduras, the foundation for vTPA integration was already established, with risk-based inspection practices providing a solid groundwork for scaling up implementation. The country has focused on integrating vTPA principles into key sectors with existing certification capacity, allowing for a smoother transition. Additionally, the planned update to its National Instrument will embed risk-based inspection and vTPA components into its regulatory framework, sustaining these advances. The active involvement of the National Codex Committee throughout the process has further reinforced long-term regulatory alignment with international food safety standards.

In contrast, Belize faces unique challenges in ensuring the sustainability of vTPA adoption. While the introduction of a risk-based inspection model marks significant progress, the country's small industry size and relatively low export volumes reduce the immediate incentive for businesses to pursue third-party certification. Strengthening BAHA's capacity for direct inspections may be a more practical approach to ensuring food safety compliance in the near term.

Policymakers in Belize have shown growing recognition of vTPA's relevance for expanding export opportunities, but the roadmap's ultimate success will depend on political will to integrate vTPA into the national legal framework. The financial burden of certification remains a key barrier, particularly for small and medium-sized producers. Exploring cost-sharing mechanisms, such as collective certification programs modeled after the Banana Association, could help address these challenges by providing training, shared resources, and improved access to international markets.

Beyond national implementation, the potential for regional integration of vTPA approaches is an important consideration. The success of this model will depend on leveraging economies of scale, reducing certification costs, and streamlining compliance mechanisms for resource-limited countries.

Countries such as Costa Rica and Guatemala, which already have well-established certification bodies, could play pivotal roles in informing best practices and supporting regional adoption. A broader regional study could identify common market demands and regulatory requirements, providing insights into how vTPA certification can be standardized and effectively applied across Central America.

One of the most promising initiatives under development is the creation of digital solutions at the regional level to harmonize vTPA implementation efforts. This solution aims to enhance collaboration between food safety regulators, certification bodies, and private sector stakeholders, facilitating information sharing and policy coordination. To support this effort, IICA—the project implementing agency—has sought seed funding to develop a proposal for submission to the STDF.

10. LESSONS LEARNED

The implementation of the vTPA pilot project provided valuable insights that contributed to its overall success. Several key factors played a role in achieving positive outcomes.

One of the most notable achievements was the pilot implementation of risk-based inspection models, which introduced a structured, data-driven approach to food safety regulation. This method enhanced the efficiency of official controls, particularly in Honduras, where regulatory updates were already in progress. Additionally, active engagement of both public and private sector stakeholders fostered a collaborative environment, incorporating industry perspectives into regulatory decision-making. This approach helped build trust and encouraged voluntary compliance among businesses. Looking ahead, the development of digital tools to support vTPA implementation could improve scalability and promote harmonized food safety efforts across the region.

The project also fostered effective synergies and cross-sector collaboration, strengthening ties between public institutions, private sector actors, certification bodies, industry groups, and regional organizations. Notably, partnerships with CFIA, GlobalG.A.P., and GFSI provided access to global best practices and technical expertise, reinforcing the capacities of national authorities. Furthermore, the active participation of Honduras and Belize in Codex and SPS Committee discussions elevated their visibility within the international food safety community, positioning them as contributors to global standard-setting processes.

Beyond direct outcomes, the project generated positive spillover effects that extended beyond its initial scope. The adoption of risk-based approaches led to better-targeted food safety interventions, benefiting domestic food control systems and strengthening regulatory oversight beyond export-oriented businesses. The project also increased awareness of food safety certification among food business operators (FBOs), fostering a culture of compliance and higher food safety standards.

Despite these achievements, the project faced several challenges that impacted implementation, providing valuable lessons for future initiatives. One major obstacle was the disruption caused by COVID-19, which led to delays and a shift toward virtual engagements. While this adaptation allowed continuation, it initially limited stakeholder interaction, making it more difficult to engage participants as deeply as in-person activities. Additionally, the regional workshop on vTPA evaluation was not conducted as planned due to scheduling conflicts and shifting policy priorities. Alternative participation through SPS Committee discussions was arranged, but this experience highlighted the complexities of aligning regional priorities with global food safety agendas. Moreover, the low initial awareness of vTPA programs required significant time and effort to sensitize key stakeholders, resulting in slower progress in the early stages.

Ensuring the long-term sustainability of vTPA implementation will require addressing several key considerations. In Belize, the small industry size and limited export volumes raise concerns about the cost-effectiveness of vTPA certification. Future efforts may need to explore alternative models, such as capacity-building for local inspection agencies or collective certification approaches, to make vTPAs more accessible. While Honduras demonstrated strong institutional commitment, Belize faced greater challenges in securing long-term vTPA integration, primarily due to resource limitations and shifting policy priorities. Additionally, the continuation and expansion of digital vTPA solutions will

depend on securing further financial support, with potential funding opportunities through STDF and other donors.

To enhance the effectiveness of future initiatives, a structured cost-benefit analysis of vTPA adoption would provide valuable data for decision-makers, helping justify investment in certification systems for both public and private sector stakeholders. Strengthening gender inclusion strategies and ensuring equitable access for small businesses would further enhance the impact of vTPA certification, allowing smaller producers to benefit from improved market access and participation in regional and international trade.

Ultimately, the lessons learned from the vTPA pilot project offer valuable insights for scaling up risk-based inspection models, strengthening food safety governance, and ensuring the sustainability of vTPA approaches in Central America and beyond.

11. RECOMMENDATIONS

To ensure the long-term sustainability and impact of the vTPA pilot project, a series of actionable recommendations have been identified for regulatory authorities, private sector stakeholders, and international partners. These recommendations aim to strengthen institutional adoption, enhance regional cooperation, and secure financial sustainability for continued implementation.

At the national level, regulatory authorities should prioritize the institutionalization of risk-based inspection models, integrating vTPA principles into national food safety regulations. This process includes expanding capacity-building efforts for inspectors and technical staff, ensuring they are well-equipped to assess and utilize vTPA data effectively. Additionally, greater engagement with the private sector is necessary to promote voluntary adoption of vTPA certification. Raising awareness through targeted outreach efforts and exploring financial incentives—such as co-financing schemes or tax benefits—can encourage food business operators (FBOs) to see vTPA as a viable tool for enhancing market access and compliance with international standards.

At the regional level, greater coordination among food safety authorities would enable harmonized vTPA implementation across multiple countries. Establishing regional technical working groups can facilitate policy alignment, knowledge exchange, and shared resources, reducing costs and improving certification accessibility. Further, efforts to develop and operationalize a digital solutions incorporating vTPA implementation would enhance data-sharing, regulatory coordination, and monitoring efforts. Securing long-term funding for this initiative is essential to ensure its continued accessibility and effectiveness.

For international partners and donors, increasing financial support for vTPA capacity-building initiatives will be critical to ensuring that developing economies can successfully adopt and integrate vTPA programmes. Investments in training programmes for regulators, industry stakeholders, and small businesses can help build the necessary expertise to sustain vTPA efforts beyond the pilot phase. Additionally, conducting a cost-benefit analysis of vTPA certification would provide data-driven evidence on the economic and trade benefits of certification, reinforcing its value to both governments and the private sector.

By implementing these recommendations, national authorities, regional actors, and international organizations can work together to strengthen food safety systems, enhance market access, and promote trade facilitation. The successful continuation of vTPA programmes will depend on institutional commitment, private sector participation, regional coordination, and long-term financial sustainability, ensuring a lasting impact on food safety governance in the region.