STDF | STANDARDS and TRADE DEVELOPMENT FACILITY

Briefing note

Remote Audit and Inspection for SPS Compliance:

A 21st Century Approach to Safe Trade

Food and Agriculture Organization of the United Nations | WORLD BANK GROUP | World Health Organization | World Organisation for Animal Health Founded as OIE | WORLD TRADE ORGANIZATION

Innovations for safe trade facilitation: Remote audit and inspection

Traditionally, inspections and audits for agri-food exports required on-site visits. However, the COVID-19 pandemic spurred innovative practices, including remote audits and inspections, to ensure compliance with sanitary and phytosanitary (SPS) measures. These methods have evolved since 2020, offering cost savings, efficiency gains, and reduced trade costs, particularly benefiting micro, small, and medium enterprises (MSMEs).

Remote practices optimize resources, enhance compliance, and foster collaboration between government and industry. The growing use of information and communication technologies (ICT) enables virtual meetings and inspections, which are particularly beneficial for remote locations, such as small island developing states (SIDS). Additionally, these practices help reduce the carbon footprint of SPS verification and provide cost savings for exporters who traditionally fund inspectors' travel.

> ***Leveraging remote audit and inspection technologies has the potential to significantly improve efficiency, transparency and oversight in compliance monitoring.***
> Dr. Pham Quang Minh, ASEAN Economic Community Department

International standards, remote audit and inspection

In 2023, the Codex Alimentarius Commission introduced guidelines (CXG 102-2023) for integrating remote practices into regulatory frameworks. These guidelines promote remote audits as optional tools to improve efficiency and effectiveness under appropriate conditions. Similarly, the International Plant Protection Convention (IPPC) is drafting guidance on remote audits. The World Organisation for Animal Health (WOAH) also references audits and inspections in its codes, although it has not yet directly addressed remote practices.

Audit vs. inspection

While "audit" and "inspection" are used interchangeably, their roles differ. Audits — internal or external — evaluate past records to assess compliance, while inspections verify current conditions. Inspections are conducted by authorized personnel as part of statutory duties and can be unannounced. In contrast, audits are typically pre-scheduled.

PERSPECTIVES FROM REGULATORS AND THE FOOD INDUSTRY ON THE COST AND BENEFITS OF REMOTE AUDITS

STDF PPG: Remote food safety inspection practices for improved trade

A 2022 survey by UNIDO under an STDF project preparation grant gathered insights from 200 global respondents. While remote audits proved useful during the COVID-19 pandemic, most stakeholders supported a hybrid approach combining remote and on-site practices.

> ***The pandemic forced us to think in non-conventional ways to maintain control in our food safety program.***
> Anonymous survey respondent[1]

Respondents highlighted the need to consider risks, such as the nature of the food business or export product, when adopting remote methods. Find out more here

OECD research on the future of remote audits for food safety

OECD research in 2022 explored the benefits and limitations of remote audits. Key advantages include cost savings, reduced emissions, and increased training opportunities. Challenges include internet connectivity issues, limited evidence collection, and reduced interpersonal engagement. Most stakeholders found remote audits less effective than on-site visits, particularly for regulatory or physical establishment assessments. The study underscored the importance of harmonizing terminology and developing practical guidelines for remote audits. Find out more here

> ***Remote audits are becoming a tool in the toolkit and industry is leading the way in terms of adoption, uptake, and investment.***
> Jo Grainger, Department of Agriculture, Fisheries and Forestry, Australia

Source: UNIDO/STDF Survey 2022

REMOTE AUDIT AND INSPECTION IN PRACTICE

Remote Audit Success: Opening Up Fisheries Exports to China

Cambodia's aquaculture sector has grown rapidly over the last decade, with authorities improving food safety controls for fish and fish products. To gain market access to China, Cambodia submitted an export request to the General Administration of Customs China (GACC). GACC conducted an 8-day remote audit in January 2022 via Zoom, assessing aquaculture farms, processing establishments, laboratories, and a seaport. Documents were shared via email and WeChat.

The audit report proposed improvements to Cambodia's food safety system and required corrective actions at specific facilities. After Cambodia implemented the changes and reported back, GACC approved its exports in March 2022. This milestone highlights remote audits' potential to streamline international trade while enhancing compliance.

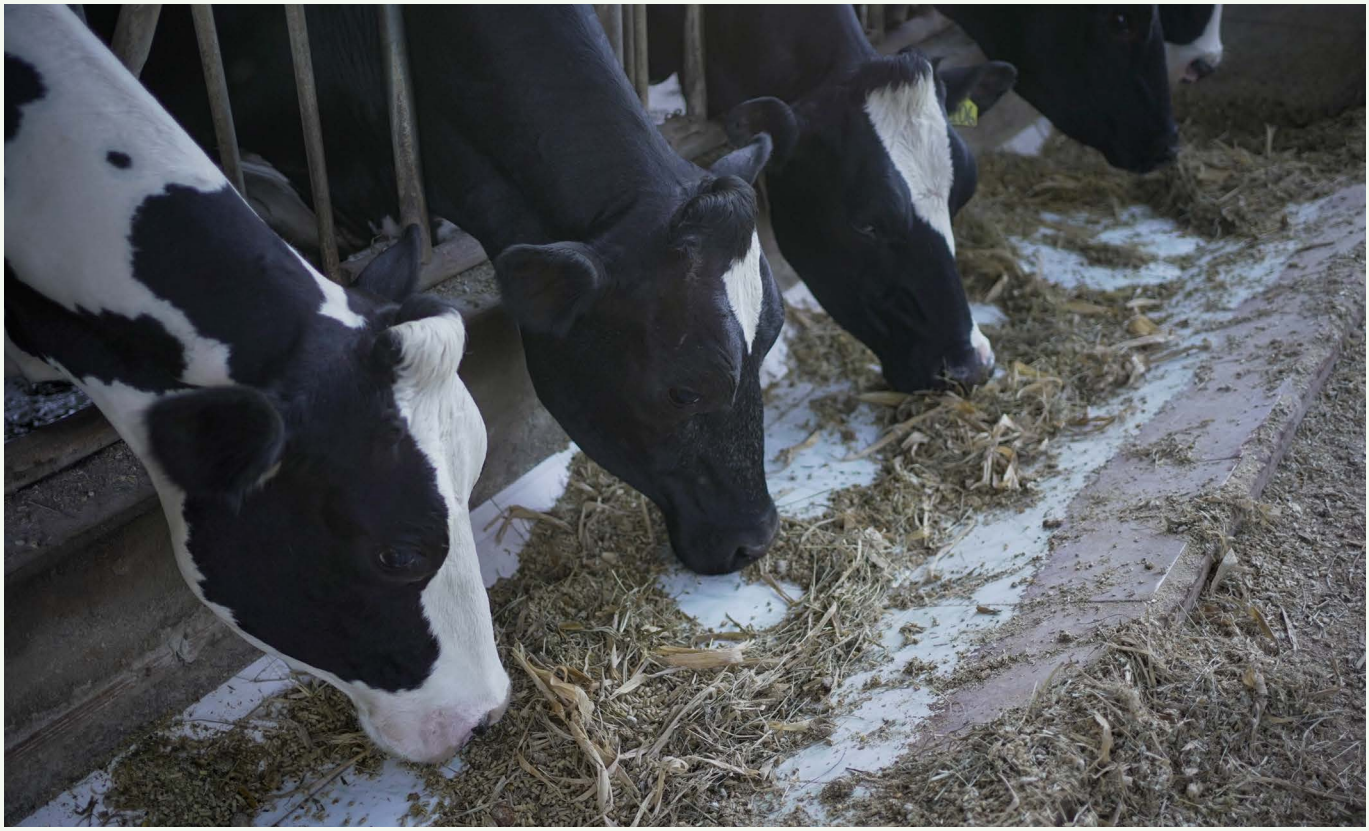
> ***Standardizing remote audit practices can reduce trade barriers and foster greater trust among international trading partners. Promoting harmonized practices can contribute to sustainable economic growth and development, benefiting producers, exporters, and consumers alike.***
> Dr. Chamnan Chhoun, Department of Fisheries Post-harvest Technologies and Quality Control, Cambodia

STREAMLINING EXPORTS: BRAZIL'S REMOTE AUDIT JOURNEY

Brazil has been performing and receiving remote audits since 2019, refining its processes during the COVID-19 pandemic. Remote audits have been applied to products like beef, pork, poultry, and fish, ensuring compliance for export and import certifications. Using video conferencing tools, the food industry provides ICT equipment, showcases the facilities and explains procedures in place, while the government verifies official procedures.

The process mirrors on-site audits, with broader specialist participation improving skills and harmonizing practices. Recording audits for confidential review has enhanced training and refined methodologies, showcasing Brazil's leadership in leveraging remote audits for effective oversight.

> ***We took the opportunity to develop new skills in remote auditing during the COVID-19 pandemic and took advantage of the situation for our benefit.***
> Cláudia Zucherato, Ministry of Agriculture, Brazil

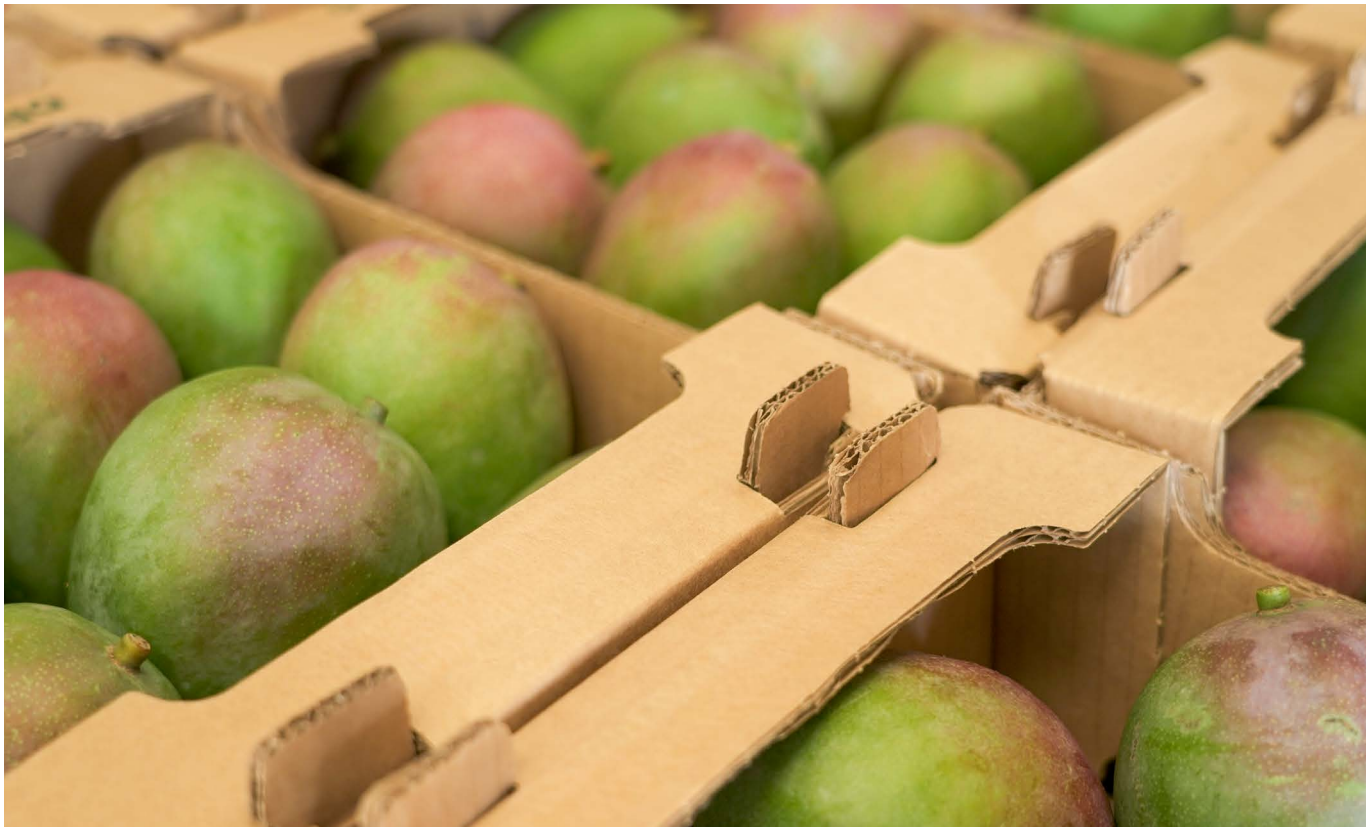


REMOTE OVERSIGHT: ENSURING AUSTRALIA'S SAFE MANGO EXPORTS

Australia exports mangoes to over 25 countries, with some Asian markets requiring Vapour Heat Treatment (VHT) to eliminate fruit fly infestations. VHT involves carefully monitored heating with water vapour to meet phytosanitary standards.

During the COVID-19 pandemic, when international travel was restricted, oversight of VHT—normally conducted on-site by foreign authorities—was delegated to Australian Authorized Officers. These officers ensured compliance by monitoring treatment conditions and providing supporting data for remote assessment. While this process relied on desktop verification rather than live digital inspections, it demonstrated how remote audits can maintain trade flows and uphold rigorous safety standards in challenging circumstances.

> ***"We are getting better and smarter at doing remote audits. It used to take almost twice as long as on-site audits but now we're nearly at parity.***
> Glen Edmunds, Department of Agriculture, Fisheries and Forestry, Australia



BALANCING THE BENEFITS AND THE CHALLENGES

Remote audits and inspections have emerged as an innovative tool to ensure compliance and facilitate trade in an increasingly interconnected world. Their adoption offers a range of benefits, particularly in reducing costs and enabling audits in remote or restricted locations. However, their effectiveness can be hampered by technical and procedural challenges. Key advantages and obstacles associated with remote audits and inspections are outlined below.

BENEFITS

1. Reduction of travel and accommodation costs for on-site visits which reduces the carbon footprint of audits and inspections. Allows for safe trade to continue when travel restrictions are in place such as during pandemics or outbreaks of animal diseases.
2. A more detailed examination of documents can be conducted remotely, as auditors have more time to review records thoroughly without the time constraints of on-site visits.
3. Particularly useful for physically remote locations (e.g. rural territories where orchards and farms are far from urban centres).
4. Broader team participation in remote audits which can lead to more learning opportunities.
5. Can enable competent authorities to reallocate resources and concentrate on advancing other critical priorities due to cost savings.

> ***Remote audits have a role to play in demonstrating compliance with assurance standards. They are proven to be robust and have picked up significant non-compliances.***
> Anonymous survey respondent[2]

CHALLENGES

1. Internet connectivity is the most common challenge, largely due to the nature and location of the premises being audited.

2. Signs or clues to noncompliance can be missed during the remote audit given the lack of a full organoleptic evaluation (e.g. taste, sight, smell, and touch). Informal or nonverbal cues such as body language may be difficult or impossible to capture which can limit ability to identify problems.

3. The use of interpretation services can pose challenges when videoconference audio quality is poor.

4. Screen time fatigue of inspectors/auditors in virtual settings. Excessive number of documents being shared can also lead to information overload.

5. Time zone differences can make it difficult to organize remote audits.

6. Reduced opportunity to build constructive relationships between national competent authorities or between auditors and auditees.

7. Data security concerns related to the sharing of documentation (via email, screensharing or uploading to servers). Auditees may be reticent to share sensitive documents in remote settings.

> ***It has pros and cons that have to be evaluated according to the risk, protection level, and stage of the process. Remote audits are a useful tool, but not a complete substitute.***
> Anonymous survey respondent[3]

SCALING UP THE USE OF REMOTE PRACTICES FOR SAFE TRADE FACILITATION: LESSONS & RECOMMENDATIONS

LESSONS

1. Remote practices may be favoured for surveillance audits of establishments that have a history of conformity rather than conducting initial certification audits.

2. The adoption of a hybrid approach (on-site and remote) may be favoured for a more thorough verification of compliance, particularly for high-risk facilities.

3. As technology improves in terms of Internet of Things (IoT) devices, augmented reality, wearable technology, etc., remote audits and inspections may become easier to conduct.

4. Costs may arise from internet connectivity and audio-visual equipment, although in some cases, a smartphone may suffice.

5. Authorities should assess when remote audits are more appropriate; for example, they may be better suited for laboratories than for slaughterhouses due to the higher background noise in the latter.

6. Though remote audits may appear to take less time to set up due to the simplicity of scheduling virtual meetings, they can demand greater planning and coordination than traditional on-site visits.

> ***The future of food safety auditing faces uncertainty, requiring substantial shifts to align with evolving expectations and technologies.***
> The Future of Food Safety Audits Think Tank White Paper[4]

RECOMMENDATION

Recommendations for ISSBs

1. Develop and adopt guidance on remote inspection/audit practices for food safety and animal and plant health.

2. Create practical guidelines to determine when and how remote audits/inspections should be conducted, addressing preparation and execution for both auditors and auditees.

3. Establish standards for the type and amount of documentation to be shared during the pre-audit phase to harmonize practices and avoid information overload.

Recommendations for regulators

1. Ensure remote audits do not overburden industry or disadvantage developing countries with limited ICT infrastructure.

2. Promote investments in pilot-tests, training, and capacity building to improve remote audit and inspection practices.

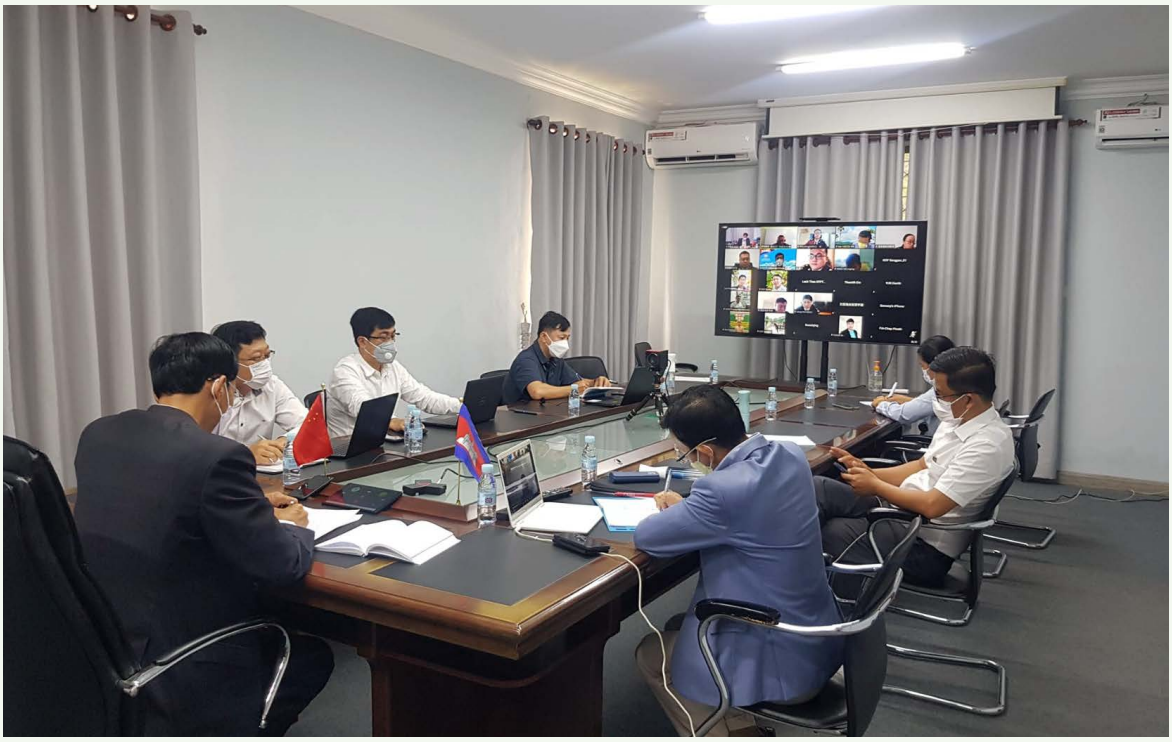
3. Define clear procedures for data storage and usage gathered during remote audits, including guidelines for deletion post-report completion. Conduct evaluations, in collaboration with industry, to assess the effectiveness of remote audits implemented in recent years.

UNDERSTANDING TERMINOLOGY

ISO DEFINITIONS:

According to ISO, an **audit** is a systematic, independent and documented process for obtaining objective evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled.[5] **Inspection** on the other hand is a determination of conformity to specified requirements.[6]

- **Internal audits,** sometimes called first party audits, are conducted by, or on behalf of, the organization itself.
- **External audits** include those generally called second and third party audits.
- **Second party audits** are conducted by parties having an interest in the organization, such as customers, or by other individuals on their behalf.
- **Third party audits** are conducted by independent auditing organizations, such as those providing certification/registration of conformity or governmental agencies.



DEFINITIONS FROM THE THREE SISTERS:

Codex:

Audit is a systematic and functionally independent examination to determine whether activities and related results comply with planned objectives.[7]

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.[8]

IPPC:

An audit in the phytosanitary context is a documented, systematic review of a phytosanitary system or procedure to evaluate the level of control, ensure that it conforms with the requirements set by the auditing NPPO (the NPPO responsible for the audit), and evaluate whether the system or procedure is achieving the expected phytosanitary objectives.[9]

Inspection is the official visual examination of plants, plant products or other regulated articles to determine if pests are present or to verify conformity with phytosanitary requirements.[10]

WOAH:

The *Terrestrial Animal Health Code* and the *Aquatic Animal Health Code* do not contain a definition of an audit but several chapters explain what an audit entails, for example, in relation to surveillance systems, vaccination campaigns, and the role of the veterinary services in food safety systems. For instance, Chapter 1.4 of the Terrestrial Animal Health Code specifies that animal health surveillance systems should be subjected to periodic auditing to ensure that all components function and provide verifiable documentation of procedures and basic checks to detect deviations of procedures from those specified in the design, in order to implement appropriate corrective actions.[11]

In the same vein, the WOAH Codes do not define the term “inspection”, though it is used frequently. For example, in the glossary, an Official Veterinarian is defined as a veterinarian authorised by the Veterinary Authority of the country to perform certain designated official tasks associated with animal health or public health and inspections of commodities. Chapter 3.4 notes that Veterinary legislation should provide a basis for actions to address the arrangement for and conduct of inspections.

ENDNOTES

1 A 2022 survey by UNIDO and STDF on the 'Experiences and Lessons on the Use of Remote Practices in Food Safety'

2 A 2022 survey by UNIDO and STDF on the 'Experiences and Lessons on the Use of Remote Practices in Food Safety'

3 A 2022 survey by UNIDO and STDF on the 'Experiences and Lessons on the Use of Remote Practices in Food Safety'

4 The Future of Food Safety Audits Think Tank White Paper

5 Guidelines for auditing management systems (ISO 19011:2018(en))

6 Quality management systems - Fundamentals and vocabulary - ISO 9000:2015(en)

7 The Principles for Food Import and Export Inspection and Certification (CAC/GL 20-1995)

8 The Principles for Food Import and Export Inspection and Certification (CAC/GL 20-1995)

9 ISPM 47 - Audit in the phytosanitary context (adopted 2022)

10 Glossary of phytosanitary terms (as adopted by CPM-18, 2024)

11 Quality assurance of surveillance systems (Chapter 1.4 Terrestrial Animal Health Code). An almost identical reference appears in Critical elements of surveillance (Chapter 1.4 of the Aquatic Animal Health Code) with the word "specified" being replaced with "documented".

The STDF is a global partnership to facilitate safe trade. It was established by the Food and Agriculture Organization (FAO) of the United Nations, the World Bank Group, the World Health Organization (WHO), the World Organisation for Animal Health (WOAH) and the World Trade Organization (WTO).

The STDF strengthens the sanitary and phytosanitary capacity of public and private sector stakeholders in developing countries, driving safe and inclusive trade that contributes to sustainable economic growth, poverty reduction, food security and climate resilience, in support of the UN Global Goals.

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October 2025

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