





THEMATIC EVALUATION SERIES

# Evaluation of FAO's Contribution to Strategic Objective 4: Enabling Inclusive and Efficient Agricultural and Food Systems

Review of the implementation of FAO's Strategy  
for Improving Food Safety Globally

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## Acronyms and abbreviations

FAO	Food and Agriculture Organization of the United Nations
JECFA	Joint Expert Committee on Food Additives
SPS	Sanitary and Phytosanitary
JEMRA	Joint Expert Meeting on Microbiological Risk Assessment
JMPR	Joint Meeting on Pesticides Residues
INFOSAN	International Food Safety Authorities Network
OIE	World Organisation for Animal Health
EMPRES	Emergency Prevention System
TBT	Technical Barriers to Trade
STDF	Standards and Trade Development Facility
CAC	Codex Alimentarius Commission



## 1. Introduction

- 1 At its 120th session in November 2016, the Programme Committee reviewed the "Indicative rolling work plan of evaluations 2017-2019" (PC 120/8) and "recommended evaluation of FAO's major thematic strategies on a cyclical basis". The Committee considered and endorsed a proposal in this regard at its 121st session, which stated that "the FAO food safety strategy will be considered during the evaluation of Strategic Objective 4" (PC 121/7, CL 156/3). The present annex responds to this request by the Committee.
- 2 The food safety strategy was developed to direct and facilitate the contribution of the food safety programme to the achievement of the main goals of the Organization. While the food safety programme contributes to all five Strategic Objectives (SOs), the strategy's outcomes emphasize the global governance functions and food chain dimensions as the key elements of enabling efficient and inclusive food systems, which is the objective of SO4. Structurally, the food safety programme also reports the highest number of deliverables under SP4. Against this background, the assessment of this report focuses on the relevance and appropriateness of the strategy, and the contribution of the food safety work under SP4 to expected organizational results.
- 3 The assessment in this report draws upon evidence obtained from relevant documents and interviews of FAO staff and other stakeholders, including during field missions to a selection of countries. These were collected as part of the evaluation of SO4.

## 2. Evolution of FAO's strategy on Food Safety and Quality

- 4 FAO's involvement in food safety dates back to the 1950s and was given a firm institutional foundation first with the creation of the Joint FAO/World Health Organization (WHO) Expert Committee on Food Additives (JECFA) in 1956, which was followed by the creation of the Codex Alimentarius Commission in 1963—a joint FAO/WHO body with the mandate to set international food safety and quality standards based on scientific evidence and principles. Over time, the emphasis and scope of food safety has evolved and broadened in response to shifting trends, including the rapid growth in food trade and consumption resulting from trade and globalization; improved knowledge of the transmission of food safety risks across food chains; and the need for integrated approaches to mitigate as well as prevent the occurrence of food safety threats, instead of post facto regulatory enforcement controls. These led to the endorsement of a food chain approach involving a matrix of interventions, regulatory and non-regulatory, targeted at various points along the chain.<sup>1</sup> The approach recognized that engagement with a diversity of institutions is necessary to achieve the objective of ensuring safe and nutritious food: food regulatory agencies; agricultural extension and technical services; academia; private sector actors along food chains; farmer organizations; civil society organization; and consumers.
- 5 The central principle of the 2005 strategy was risk management, with rising emphasis on prevention and assurance aspects while complying with international requirements and standards. Thus, the strategy aims to minimize food safety risks; involve the food and agriculture sector in decision-making related to the cost-effective application of standards; improve efficiencies in the production, post-production, processing and distribution of foods; reduce nutritional losses; minimize economic risks associated with direct losses and the loss of trade opportunities; and better coordination and management of crises affecting food safety and nutrition.
- 6 As stated at the 19th Session of the Committee on Agriculture (COAG), FAO's strategy proposed an interdisciplinary approach to provide normative, policy and technical advice for implementing prevailing international norms through a mixture of regulatory and non-regulatory interventions, at the most outcome-effective points in the food chain. This calls for not only the technical science-based standard setting, but also technical assistance and capacity building activities, policy advice to countries to mitigate increased costs and improved investment by both public and private institutions at appropriate stages in the food chain. It also includes a major role for awareness raising and communication on food safety issues and measures, and inter-agency cooperation to implement the integrated, 'whole of chain' approach which involves plant, animal and human health aspects.
- 7 The strategic directions proposed in 2005 consisted of:
  - strengthening the international regulatory framework and its scientific basis;
  - strengthening national regulatory systems and other programmes;
  - building capacities;
  - mitigating costs of application;
  - stressing information and advocacy;
  - addressing needs for emergency response and rapid alert;
  - improving cooperation and coordination.
- 8 While continuing traditional work in standards setting and regulatory frameworks, the strategy also called for emphasis on non-regulatory aspects, especially building awareness, engagement and technical capacities, and investments in improving infrastructure, services and technical and management capacity along food chains for ensuring a safe and nutritious food supply. FAO's food safety programmes have largely followed this strategic direction, providing global leadership (along with WHO) in standards setting; and

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1 Report of the 19<sup>th</sup> session of the Committee on Agriculture, 2005.

supporting national capacities to strengthen regulatory frameworks for food control, and improve compliance with good practices.

- 9 A further reorientation of the strategy followed in 2014, taking into account new drivers of food safety concerns, especially: increasing international trade and importance of standards compliance; emergence of deep, global value chains and private voluntary standards; the need for efficiency in trade facilitation; and international dimensions and spread of transboundary diseases and antimicrobial resistance. At the same time, FAO's new Strategic Framework identified Food Safety as an important corporate technical area of work, with potential contributions to all five Strategic Objectives.
- 10 FAO's 'Strategy for Improving Food Safety Globally', was endorsed at the 24th Session of the Committee on Agriculture in September 2014. The Strategy has five areas<sup>2</sup> of focus, retaining the logic of the earlier strategy, but also emphasizing foresight and intelligence aspects, to strengthen preventive responses:
  - strengthening national food control regulatory capacities;
  - supporting science-based food safety governance;
  - promoting improved food safety management along food chains;
  - facilitating access to information through relevant platforms and databases;
  - contributing to food chain intelligence and providing foresight on food regulatory issues.
- 11 Collectively, these aim to build and strengthen food safety governance systems at national and international levels, through support to:
  - setting international reference standards based on scientific advice;
  - implementing effective national food safety control systems based on/harmonized with international standards;
  - strengthening standards compliance along value chains through risk-based food safety management;
  - global networks and platforms for exchange of information and intelligence including on emerging issues to avert food safety threats.
- 12 The strategy is implemented through a mix of global corporate technical products and services and technical assistance support through regional and national programmes (mainly technical cooperation projects). A large part of this support falls under and is reported under Strategic Objective 4 'Enable Inclusive and Efficient Agricultural and Food Systems'.
- 13 The Field Programme Management Information System (FPMIS) database lists 92 projects since 2014 that are relevant to the themes of food safety (see Table 1). Of these, 67 were supported at the national level. Asia had the majority share of projects (24), which is in line with their large shares in food exports and participation in global and regional value chains, while Africa had a large number (20) of smaller projects. In addition to project support, between 2014 and 2017 there were over 280 capacity development activities (e.g. workshops, trainings, seminars, etc.) that were also enabled by projects not explicitly on food safety.

**Table 1:** Food safety project footprint 2014-2017

<b>Geographical Coverage</b>	<b>Number of Projects</b>	<b>Budget (USD)</b>
Country	67	48 871 377
Global	16	22 747 118
Regional	9	4 089 831
<b>Grand Total</b>	<b>92</b>	<b>75 708 326</b>

Source: FPMIS

### 3. Assessment of intervention logic

#### 3.1 Strategic relevance

- 14 Agricultural and food systems are becoming increasingly complex, shaped by the interlinkages among production, consumption and trade with access to a diversity of markets and consumers enabled by trade and globalization.
- 15 A growing proportion of the world's food production is traded on global markets. International trade as a share of world food production had risen from 15 percent in the 1980s to over 23 percent in 2009, and 16 percent of the global population depends on international trade to meet their food needs.<sup>3</sup> For instance, between 2013 and 2015 more than 30 percent of milk powder, vegetable oils and soya bean production was traded internationally. Food systems will need to optimize resource efficiencies in the production and delivery of cost-effective, healthy and safe products for all, while ensuring the inclusion and integration of smallholder producers and economically weaker countries into global food systems.
- 16 The organization of value chains at the national, regional and global level, as well as regulatory measures, demand attention to improved trade facilitation, compliance with market requirements and improving market information to enhance efficiencies. At the same time, inclusive approaches for the integration of small producers into the production value chains in agriculture, forestry and fishery needs to be promoted. There are also increasing demands to safeguard food safety and plant/animal health to avert food chain crises.
- 17 Rules and standards are fundamental for trade agreements to result in effective market access. In the case of agriculture trade, this brings in an important dimension of harmonization of quality standards, and sanitary and phytosanitary (SPS) requirements. Increasingly, trade agreements seek to promote environmental sustainability and social standards. These call for the establishment of international reference standards by consensus and based on objective and scientific approaches.
- 18 Policies, institutions and processes need to address not only the trade, food safety and SPS regulations imposed by countries under agreements, but also enable value chain development to meet the requirements of international market operators. Particular attention is needed to ensure that smaller and medium scale players are not crowded out of value addition opportunities from a narrowing, vertical integration and consolidation of supply chains.
- 19 An important element is the growing challenge and need for prevention/mitigation of food chain crises arising from plant and animal diseases, and establishing effective food safety control and quality assurance systems which are parts of the same continuum: building stable, reliable and safe food systems. The transboundary spread of plant pests and animal diseases is particularly relevant, considering its ramifications for international trade and markets through the impact on the productive asset bases of value chains. Both emergency and preventive interventions involve the same institutions dealing with plant, veterinary and public health, and intersect in their prevention and mitigation aspects. The transboundary nature of food chain crises necessitates international cooperation through networks and platforms, for exchange of alerts and mitigation practices.
- 20 There is an increasing body of evidence of the transmission pathways of diseases across the plant-animal-human ecosystem interfaces, which call for 'One Health' approaches, combining expertise from each of these domains. These call for multidisciplinary approaches and partnerships.

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3 Jennifer Clapp, Food Policy 66 (2017) 88–96.

- 21 All of these issues are appropriately reflected in the pillars of FAO's food safety strategy, and also covered under numerous projects as evidenced by the project portfolio. The focus areas of the strategy and associated interventions are presented in Table 2.

**Table 2:** Food safety strategy focus areas and interventions

Focus Areas	Thrust and interventions	Outcomes	Strategic Objective Outputs
Strengthening national food control regulatory capacities and global trade facilitation	Provide leadership in supporting countries in the assessment and progressive development of food control systems.  <b>Food Control Assessments, Technical Cooperation Programmes, Knowledge Products, Guidance Materials and Tools.</b>	Increasing numbers of countries are able to demonstrate improved capacities for food control that support national food safety goals and market access.	4.1.4, 1.1.1, 1.3.1
Supporting science-based food safety governance	Provide sound scientific advice to underpin food safety standards. <b>Support to the Codex Alimentarius Commission (a joint body of FAO and WHO) and Scientific Advice bodies JECFA, JEMRA, JMPR and Scientific Advice to countries and partners.</b>	Timely setting of risk-based standards that address current and emerging food chain issues and consumer confidence in a global food system based on sound science.	4.1.1
Enhancing food safety management along food chains	Support developing countries to apply risk-based food safety management along food chains that are appropriate for national and local production systems and in compliance with Codex texts.  <b>Technical Cooperation Programmes.</b>	Reduced trade disruption due to non-compliance with food safety requirements.	4.1.4, 4.2.
Food Safety Platforms and Databases	Provide mechanisms which support networking, dialogue and access to information and facilitate effective communication internationally on key food safety issues. <b>FAOLEX, INFOSAN, and JECFA Experts Network.</b>	Efficient communication and effective collaboration internationally on food safety issues.	4.1.1
Food Safety Intelligence and foresight	Play a major role in the collection, analysis and communication of food chain intelligence.  <b>Whole Genome Sequencing Antimicrobial Resistance One Health approaches - FAO/OIE/WHO.</b>	Countries are better prepared for emerging food chain issues and sustainability of food systems is promoted.	4.1.4, 5.2.1, 5.4.1

Source: COAG 2014/5, IMIS

- 22 The strategy provides a clear mapping of the key areas of work that underpin FAO's food safety programme, as well as providing a vision of the objectives that FAO seeks to contribute toward. However, there was either limited awareness of the strategy or a lack of application of the strategy among the relevant stakeholders with whom the evaluation team met. There is potential for better communication on the strategy, including for resource mobilization purposes.

### 3.2 Cross-SP synergies

- 23 FAO's Food Safety strategy supports and contributes to all of FAO's Strategic Objectives: food and nutrition security (through standards and safe production/storage practices); sustainable production and resource management (through efficiency, quality and lowering waste); reducing rural poverty (through enhanced livelihood opportunities linked to good agriculture practices and integrating into value chains); inclusive and efficient food systems (transparent trade, market access, quality and resource efficiency); and resilience (through surveillance, food chain crisis prevention). However, operationally, the closest links are between SO4 and SO5.

- 24 Since 2008, FAO has adopted an integrated approach toward preparedness, prevention and responses to food chain crises, under a Food Chain Crisis management framework. Also, structurally, the Emergency Prevention System (EMPRES) is coordinated under the same department, the Agriculture and Consumer Protection Department (AG). FAO's Emergency Response programme, EMPRES, reported under Strategic Objective 5 (Resilience) makes an important contribution to strengthen food control systems to prevent, control and manage food chain crises and threats. The Emergency Prevention System (EMPRES) has recently undergone its first evaluation, which observes that "SO5 is a good home for EMPRES, as long as it works in close collaboration with SO4 on policy, legislation and quarantine systems shaping the food safety environment as well as with specific risk implications on value chains".<sup>4</sup>

### 3.3 Links to Sustainable Development Goals (SDGs)

- 25 Given the centrality of safe food to public health and the role of food and agriculture to sustainable development, there are several links between food safety and sustainable development goals, connected through FAO's five strategic objectives and programmes. Food Safety outcomes contribute to: food and nutrition security; sustainable use of food system resources; rural poverty reduction through sustained income and livelihoods along value chains; and resilience in food chain resources to crises and shocks. These in turn contribute to several indicators under SDGs, particularly SDGs 1, 2, 3, 10, 12, 14 and 17.

### 3.4 Comparative advantage

- 26 A mapping of the various development partners concerned with this area of work shows a dense landscape consisting of several United Nations agencies, bilateral cooperation agencies, development finance institutions and donors engaged in food safety management and SPS compliance. Table 3 presents a comparative advantage mapping of FAO in the food safety landscape.

**Table 3:** FAO comparative advantage mapping in food safety

Trade related Capacity Needs	Other Key Players	FAO strengths/constraints
International Standards Setting	WHO OIE - in cases where there are inter-relations with animal health	Unique positioning- from mandate
Surveillance, monitoring and crisis control in food chains	WHO, OIE	Technical strengths, presence at country level and active international networks.
SPS-related legislation and regulatory frameworks	WTO, World Bank, United Nations Industrial Development Organization (UNIDO), International Trade centre (ITC), European Union, European Union member states, United States Agency for International Development (USAID), Canada, Japan	Unique combination of expertise that covers all of the SPS domains, institutional entry points. However, bilateral cooperation linked to regional trade agreements, free trade agreements and funding sources determine selection of agencies
SPS compliance and quality infrastructure development	World Bank, Asian Development Bank (ADB), UNIDO, European Union, Japan, USAID, European Union member states, Global Food Safety Partnership (GFSP)	Unique combination of expertise that covers all SPS domains. Role limited by country-level strengths and ability to sign and implement extra-budgetary-funded projects
Technical capacities in institutions and value chains	European Union member states, USAID, UNIDO, ITC, United Nations Development Programme (UNDP) World Food Programme (WFP)	Role limited by country-level strengths and ability to sign and implement extra-budgetary -funded projects

Source: compiled by the evaluation team

4 FAO Office of Evaluation (OED), Evaluation of the EMPRES Programme, forthcoming.

- 27 FAO shows **strong and distinct comparative advantage** in: international standards setting (along with WHO); development of national legislation and regulatory frameworks for food safety, plant and animal health surveillance; monitoring, surveillance and emergency response support to control plant and animal diseases, including transboundary interventions. The **comparative advantage is also strong** in the area of trade facilitation, especially in SPS standards implementation and compliance monitoring infrastructure. However, in these spaces, the institutions more traditionally identified with trade-related capacity development seem to have more ready access to important funding mechanisms linked to trade. The World Bank and Asian Development Bank (ADB) have a large presence, as well as the European Union and other bilateral cooperation agencies, especially from Europe. Among United Nations agencies, United Nations Industrial Development Organization (UNIDO) and International Trade Centre (ITC) have a far larger footprint, demonstrated by much higher levels of success in mobilizing and implementing field projects. **FAO's role in this area is limited by two important factors: the extent of resource mobilization for technical cooperation programmes; and regional/country office capacities to adequately engage in relevant formulation or analytical processes and to implement and coordinate large field programmes.**
- 28 Within the United Nations system, several agencies provide trade-related technical assistance for food safety. Related to trade standards on agriculture and food products, the work of three other agencies – UNIDO, ITC and United Nations Conference on Trade and Development (UNCTAD) – is closely related to FAO's work.
- 29 **UNCTAD:** UNCTAD specializes in the upstream areas of: trade negotiations and commercial diplomacy; trade analysis capacities and information systems (including TRAINS and WITS), and collection and quantification of non-tariff measures; and support to trade policy mainstreaming. Given the commodity dependence of several developing countries, there is good potential for cooperation between FAO and UNCTAD: UNCTAD's main constituencies are the trade negotiators in capitals and in the permanent missions in Geneva, while FAO has good presence at country level, allowing good linkages to be built not only with the Ministry of Agriculture but also other relevant Ministries.
- 30 **UNIDO:** UNIDO's Trade Capacity initiatives help countries improve capacity to meet standards and demonstrate compliance with the requirements of international markets. FAO and UNIDO provide similar kinds of technical support for capacity development relating to food safety systems. However, **UNIDO's principal target is the export-oriented food processing industry and trade practitioners, while the majority of FAO's interventions have targeted policymakers and institutions connected to food safety legislation and implementation mechanisms, especially related to aspects of food safety risk management.** Compared to FAO, UNIDO has been more successful in resource mobilization for larger field projects targeting export standards compliance, and there is a natural fit between the offerings of the two agencies. **The trade standards compliance footprint also serves as an excellent entry point for both agencies in developing food safety policies and programmes.** FAO and UNIDO have made due attempts in formulating joint projects, on an opportunistic basis. A salient partnership is the African Agribusiness and Agro-industries Development Initiative (3ADI), involving the International Fund for Agricultural Development (IFAD), African Development Bank (AfDB), UNIDO and FAO in agribusiness value chains, food security, policies, financing and related trade. The pilot countries are: Comoros, Democratic Republic of the Congo, Ghana, Liberia, Madagascar, Nigeria, Rwanda, Sierra Leone, Sudan and Tanzania. There are recent signs of growing FAO-UNIDO collaboration on food safety regulatory issues which recognize the different but complementary comparative advantages of each organization.
- 31 **ITC:** ITC's technical assistance relating to international trade standards is covered under its Export Quality Management Service, which builds capacities and competencies of SMEs through expert teams (certified by ITC) attached with quality-related trade support institutions (i.e. National Standards Bodies, Conformity Assessment Bodies, and National Enquiry). The coverage includes SPS- and technical barriers to trade (TBT)-related compliance, standards and conformity assessments, and food safety management systems. As an Enhanced Integrated Framework core agency, ITC also participates in the diagnostic trade integration study assessments, which inform trade-related gaps to be addressed in technical assistance projects. ITC's main counterpart stakeholders are the national trade promotion agencies and trade support institutions, which fall under the Ministry

of Trade; however, several ITC projects are in the agri-food sector and involve private sector institutions, especially associations of food producers and traders. ITC has over 150 projects covering export quality standards, several of them addressing agri-food products. Although **FAO and ITC are active in the United Nations Forum on Sustainability Standards, there is little collaboration between the agencies implementing projects together on standards in the trade and market access domain.** The evaluation learned that FAO and ITC are currently discussing a Memorandum of Understanding for broad cooperation in food safety, standards and value chains. A recently approved Standards and Trade Development Facility (STDF)-funded project for Tajikistan will be jointly implemented by FAO and ITC.

- 32 **Broadly, FAO's distinction from the agencies analysed above** is its specialization and focus on a systems approach to food safety by encompassing plant, animal and human health/safety aspects, which are the rationale for SPS measures. Furthermore, where a range of SPS constraints have been identified within a country, FAO is the only agency with the technical specialization, competence and mandate to address the situation holistically. Also, FAO has a much wider country presence than these agencies, and strong entry points with the Ministry of Agriculture, which is a key stakeholder for SPS compliance interventions. Also, FAO has access to field extension service networks and smaller producer groups, which make up over 80 percent of the production output in agriculture. These attributes complement the strengths of agencies like ITC and UNIDO in planning standards compliance programmes in agri-food products. Another distinction is FAO's unique positioning to coordinate and facilitate cooperation in transboundary issues, surveillance, early warning systems and risk prevention or management systems, which have large-scale and longer duration adverse impacts on trade and markets.

## 4. Assessment of implementation

### 4.1 Key partners

- 33 The Food Safety Strategy underscores the importance of partnerships to deliver the integrated approach necessary to effectively address the food chain. The inter-relatedness of human health, animal health, environment and food safety underlies the importance of holistic One-Health approaches to analysing and identifying optimal strategies for sustainably addressing these issues. In this direction, FAO's engagement in the Tripartite Partnership (FAO, WHO and World Organisation for Animal Health - OIE) enhances the work of the Organization in prevention detection and management of disease risks to humans originating directly or indirectly from domestic or wild animals. The 2017 Tripartite Strategy notes the intention to strengthen collaboration on food safety. FAO partnerships with WHO, OIE (bilaterally or through the Tripartite) and other organizations (such as United Nations Environment Programme – UNEP - and International Atomic Energy Agency - IAEA) covers a range of activities including normative work, research, public communication, pathogen detection, risk assessment and management, and technical capacity building.
- 34 There are mutually reinforcing elements in the core standards setting work of the three agencies:<sup>5</sup>
- FAO and WHO are the parent organizations of the Codex Alimentarius Commission and are providing all scientific advice requested by the Codex Alimentarius Commission to develop science-based, health-protective and trade-inclusive international food safety standards, which in turn provide the dispute settling benchmark instruments under the World Trade Organization's (WTO's) SPS and TBT agreements. Many FAO members implement Codex standards directly in their national food safety laws, while others harmonize national legislation on a continued basis.
  - FAO and WHO participate in the OIE Working Group on Animal Production Food Safety to develop guidelines to enhance effectiveness of Veterinary Services in improving food safety.
  - OIE is an observer to the Codex Alimentarius Commission (CAC) and participates in selected meetings of Codex subsidiary bodies where animal health issues are of relevance.
  - The FAO-OIE-WHO Global Early Warning and Response System for Major Animal Diseases, including zoonoses, combines the alert and response mechanisms of the three organizations.
  - The joint FAO/WHO International Food Safety Authorities Network (INFOSAN), a global voluntary network of officially designated government authorities, contributes to strengthening countries' prevention, preparedness and response to food safety events or emergencies in particular by facilitating the rapid exchange of relevant information during food safety events/emergencies.
- 35 FAO and OIE have developed a joint Network of Expertise on Animal Influenza (OFFLU) to support international efforts to monitor and control infections of avian influenza, which also links with WHO's Global Influenza Programme through joint technical projects and activities. The bulk of their partnership falls under resilience and emergency response, covered under SO5. However, food safety-related collaboration between FAO and WHO (e.g. Codex, Food Control Assessments) are under SP4.
- 36 Another important inter-institutional partnership is the Standards and Trade Development Facility, consisting of five founding partners – WHO, OIE, FAO, World Bank and WTO. FAO is currently chair of the steering committee. The STDF is a facility to support member countries in implementing their national Sanitary and Phytosanitary systems and mechanisms in accordance with WTO regulations. FAO has implemented several STDF-funded projects related to food safety compliance, with good results achieved. For instance, in a project to develop the ginger value chain in Nepal, FAO, with support from the STDF and the Enhanced Integrated Framework, contributed to reducing post-harvest losses by 30 percent, as well as an increase in farm gate prices for fresh ginger so that farmers' incomes grew by more than 60 percent.<sup>6</sup>

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5 Largely drawn from the Tripartite Cooperation Concept note <http://www.fao.org/docrep/012/ak736e/ak736e00.pdf>

6 [www.standardsfacility.org/PG-329](http://www.standardsfacility.org/PG-329)

37 Table 4 presents a mapping of some of the key partners and related areas of partnership.

**Table 4:** Partnerships mapping – food safety

Partner	Key areas of partnership
WHO	Codex, JECFA, JMPR, JEMRA, INFOSAN, Joint Food Control Assessments, One Health, Antimicrobial Resistance
OIE	Transboundary animal disease control/eradication strategy and related global networks, antimicrobial resistance
UNCTAD	Capacity, knowledge, policy, partnership, advocacy, data, standards, international agreements
STDF	FAO is a founding member of this trade-related technical assistance funding mechanism focused on SPS-related capacity development
UNIDO	Joint projects for trade standards compliance

Source: Compiled by the evaluation team from assorted documents

## 4.2 Human resources

38 Although FAO enjoys an excellent reputation globally for its expertise in the food safety domain, this reputation rides on a rather thin core of capacity at headquarters and the decentralized offices. The headquarters team plays a lead role in:

- ground work to produce tools that support the delivery of field work;
- translating knowledge/methodologies emerging out of normative global leadership and networks to enable updated and informed action in the field;
- direct technical support according to the specific needs;
- ensuring that there is a “One-FAO” approach and messaging applied in the field across all regions.

39 Regional offices, which are mainly tasked with supporting country offices, are either without Food Safety Officers or have a single officer to backstop a large and increasing footprint of small country projects, which limits their substantive contribution. It is recognized that FAO resources for implementing food safety work goes beyond designated “food safety officers” and many food safety activities actually involve strong collaboration with fisheries, animal production, plant production and protection officers, etc. FAO has also made effective use of Emergency Centre for Transboundary Animal Diseases (ECTAD) field units to combine emergency response and preventive capacity development in countries, thus strengthening the SPS capacities as a whole (discussed in paragraphs 75-77 and Box 2). However, better engagement with the Emergency Centre for transboundary Animal Diseases to link aspects related to zoonoses in food safety approaches could be further explored, in line with a food systems approach advocated under SO4.

### 4.3 Financial resources

- 40 Data available for 2014-2015 indicates a total delivery of almost USD 35 million for Outputs 4.1.1 and 4.1.4 of SO4; however, this includes budgets for plant protection areas, including the International Plant Protection Convention (IPPC).
- 41 Ring fenced areas: the following areas linked to Outcome 4.1 are recognized as Corporate Technical Areas and 'ring fenced' in the Regular Budget, with budgets under the control of respective technical units:
- support to Codex Alimentarius Commission – USD 7.1 million (SO4);
  - joint FAO/WHO Expert Committee on Food Additives (JECFA); Expert Meeting on Microbiological Risk Assessment (JEMRA), and Joint Meetings on Pesticide Management (JMPM), Pesticide Residues (JMPPR), and Pesticide Specifications (JMPS) – USD 1.6 million (jointly with SO2).
- 42 This has ensured a predictable, stable level of delivery of key global normative products and services, such as: standards-setting, scientific advice provision.
- 43 FAO/WHO joint contributions for scientific advice to Codex have been at around USD 10 million per biennium.<sup>7</sup> Including staff costs, the biennial contributions for 2016-2017 funded under the FAO Regular Programme Budget are USD 2.9 million. The evaluation noted concerns expressed by a number of respondents regarding inadequacy of funding to meet the increasing requests for scientific advice, leading to a mounting backlog. This was confirmed by data in documents presented at the Codex Alimentarius Commission sessions. Table 5 shows the significant underfunding for scientific advice activities (over 30 percent for 2014-2015). Gaps were partly met by voluntary contributions, mainly USA, Japan, Canada and France, with Canada also seconding a food safety officer to FAO for two years.<sup>8</sup>

**Table 5:** FAO contributions to scientific advice food safety, USD million

Heads	2012-13 actual	2014-15 estimates	2014-15 resources	Funding gap	2016-17 budgets
Activity	1.350	1.877	1.405	0.472	
Staff	1.805	2.312	1.735	0.577	
Total	3.155	4.189	3.140	1.049	2.904

Source: Compiled by the evaluation team from data provided to CAC sessions.

- 44 Concerns over sustained funding for scientific advice have also been raised by CAC members in CAC meetings. The 39th session of the CAC notes that "current funding levels and staffing levels at the joint secretariats are inadequate to undertake this work... At current funding levels the pace of answering requests for scientific advice is expected to become even more the limiting factor for the standard setting work of Codex". To meet the emerging needs and retain the global authoritative standing of the scientific advice programme, an increased financial commitment of USD 1.7 million per year, as well as the addition of at least two professional staff, has been requested of each organization, assessed over a six-year horizon. With a constant regular budget and a policy of not seeking private contributions from private entities, the evaluation notes that this will be a key challenge for support to substantive work.
- 45 Notably, the 25th session of the Committee on Agriculture<sup>9</sup> agreed to convene an informal open-ended Working Group to consider options for adequate and sustainable funding for WHO/FAO's Food Safety Scientific Advice Programme, building on the recommendations of the Codex Alimentarius Commission. The Working Group has been tasked to present its recommendations for consideration to an appropriate FAO Governing Body during 2017-2018.

7 CX/CAC16/39/17 Agenda item 14.3.

8 CX/EXEC/17/73/10 CAC Agenda item 6.2.

9 COAG/2016/12, <http://www.fao.org/3/a-mr241e.pdf>

#### 4.4 Monitoring and review

- 46 Although there is no dedicated results monitoring framework for the strategy, results from the food safety programme are reported under the Outputs 4.1.1 and 4.1.4 of Strategic Objective 4. Results indicators used there relate to the number of standards improved or developed, the quality of participation of less developed countries and the number of countries that provided support to design and implement policies and regulatory frameworks. Results are self-reported and appear on the corporate PIREs data at the end of each year and biennium.
- 47 FAO's Results Framework as endorsed in the Medium-term Plan 2014-2017 includes targets at three levels: SO; Outcome, and Output. FAO contributes to Objective level results but does not have control over these high-level, long-term results, which involve collective accountability of FAO, member states and development partners, with no attribution to any one entity. Outcome level results are the collective responsibility of FAO, member states and development partners. FAO contributes to the changes and has some accountability, but does not fully control outcome results. However, output level results are fully attributable to FAO: FAO produces, controls and is fully accountable for their delivery.
- 48 As can be seen from Table 6, indicators are all numeric, and indicate the number of countries/standards/agreements on which FAO provides support. While these are measurable, they reflect more the input side than the qualitative impact of FAO's work. The evaluation also notes that the targets under Outputs 4.1.1 and 4.1.4 include targets related to contributions to plant and animal health, and are not directly related to the food safety programme. The evaluation team had several observations on the appropriateness and quality of the indicators used; however, these may not have much value for future programming, as they have been revised in the new Medium-term Plan 2018-2021.

**Table 6:** FAO self-reported results under SO4.1, Output wise, 2014- 2016

Level	Description of Indicator	Target 2014-15	Actual 2014-15	Target 2016-17	Actual 2016
Outcome 4.1a	Number of countries that have aligned national trade policies, regulations and mechanisms (related to international trade in agriculture, forestry, food, products) to conform to agreements.	5	6	15	
4.1b	Percent of low income and lower-middle income countries effectively participating in international standard setting under the auspices of Codex Alimentarius and the International Plant Protection Convention (IPPC) or Codex standards development.	15.12%	17%	15.84%	
<b>Results Indicators - Output 4.1.1</b>					
	New standards considered	42	30	16	12
	Drafts progressed	56	69	105	58
	New standards adopted	30	35	34	42
<b>Results Indicators - Output 4.1.4</b>					
<b># of countries/regional bodies provided with FAO support to design and implement policies and regulatory frameworks</b>					
	Plant health	134	147	21	10
	Animal health	25	30	18	21
	Food safety and quality	175	155	23	26

Source: Compiled by the evaluation team from MTR 2014-17, PIREs reports 2014-15, 2016

- 49 Therefore, while the evaluation takes note of these numeric results, qualitative aspects have been ascertained through desk reviews of relevant ongoing and past evaluations, besides interviews with FAO's contributing units at headquarters, regional offices and country offices, and with external stakeholders. Given the large footprint of activities, the evaluation considered a selection of interventions that are significant and representative of the nature of qualitative contributions FAO makes, and the emerging evidence of results and outcomes.

## 5. Assessment of contribution to results

### 50 Overall findings:

- FAO, including its statutory bodies and key partners played a central role in supporting national and regional governments and institutions implement policies and institutional measures to strengthen sanitary and phytosanitary controls in line with international regulations.
- Codex is an important international reference point for developments associated with food standards, and the scientific evidence base provided to Codex was seen as a key element of Codex's relevance and strong normative guidance.
- FAO demonstrated strong cross-SP synergies between surveillance, emergency response and preventive capacity development initiatives in the management of inland and transboundary plant pests and animal diseases, especially those with significant commercial and trade implications.
- FAO and partners, with strong donor support, have helped put together regional and global networks for cooperation in surveillance and monitoring, early warning and emergency response to prevent and contain the spread of transboundary plant pests and animal diseases.
- With the emergence of new knowledge on risk factors and transmission pathways of diseases and of antimicrobial resistance, FAO and partners are adopting 'One-Health' approaches to biosecurity and food safety and implementing the Global Action Plan to address antimicrobial resistance.
- FAO's capacity to support future demands, which will increase on the ground along specific value chains, will depend largely on adequate staff capacities, at headquarters and in the field, and successful partnerships, including with private sector actors. These necessitate a review of strategies and resources in countries offering potential for transformation.

51 Contributions to results are presented against each of the five areas of focus contained in the strategy. As work on strengthening national capacities under SP4 addresses both focus areas A and C, for example, strengthening national capacities for SPS and food safety control, and animal/animal product chains, the following sections will first present contributions to results on focus areas A and C, then on areas B, D and E.

### 5.1 A. Strengthening national food control regulatory capacities and global trade facilitation

#### C. Enhancing food safety management along food chains

##### 5.1.1 Strengthening national capacities for SPS and food safety control

52 This output focuses on the supply side enabling environment to assure health and safety in the production, trade and utilization of agriculture and food products. FAO supports developing countries in setting up policies, legislation and institutional processes and mechanisms to comply with international regulations, especially the SPS agreement provisions. In most cases, assistance has been in the form of policy advice; guidance in creation, review or revision of food safety laws and institutions; and training in formulation of national standards based on or aligned with Codex standards, delivered through a mix of knowledge products and technical assistance projects.

53 **Guidelines, tool kits and knowledge products.** Over time, FAO has created a large repertoire of guidelines, manuals, and tool kits for use by technical practitioners and policymakers.<sup>10</sup> The evaluation reviewed a selection of these and found them very relevant and practically useful for a diversity of stakeholders. These include:

- risk-based food inspection manuals;

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10 [http://www.fao.org/fileadmin/user\\_upload/agns/pdf/Publications/Elist\\_AGDF\\_publications\\_March\\_2015.pdf](http://www.fao.org/fileadmin/user_upload/agns/pdf/Publications/Elist_AGDF_publications_March_2015.pdf)

- strengthening national food control systems - Quick guide to assess capacity building needs;
  - Food Safety Risk Analysis: A guide for national Food safety authorities;
  - training manual and tools on Risk Assessment;
  - guidance and tools on food sampling, including guidance on sampling for mycotoxin contamination
- 54 **Food Control Assessment Tool (FCAS).** FAO launched the development of this tool in the last biennium to facilitate the structured assessment of a national food control system's performance effectiveness. The tool helps to identify gaps and weak areas along the value chain that require improvement and technical assistance for rectification. Development of the tool included a number of country pilots and technical review processes involving regulatory experts from various national and regional authorities. WHO has joined the FAO initiative and the assessment tool has become a joint FAO/WHO tool. Pilot assessments have been implemented in Morocco, Gambia, Zambia, Zimbabwe, Moldova, Sierra Leone, Iran and Indonesia. The latter two were carried out jointly with WHO. The evaluation also learned that the FAO Regional Office for Asia and the Pacific (RAP) carried out assessments in Sri Lanka, Mongolia and Myanmar using adaptations of the tool.
- 55 **Technical Assistance Projects.** FAO implements direct technical assistance projects in countries to strengthen compliance with SPS regulations to promote and facilitate trade. The evaluation took note of the large number of Technical Cooperation Programmes and extra-budgetary-funded projects across regions:
- Asia: Bangladesh, Bhutan, Lao PDR, Myanmar, Nepal, Thailand, Viet Nam; besides regional/subregional projects in the Association of Southeast Asian Nations (ASEAN) and South Asian Association for Regional Cooperation (SAARC);
  - Africa: Cameroon, Gambia, Kenya, Mali, Senegal, Tanzania, Uganda, besides regional/subregional programmes in eastern, southern and west Africa;
  - Europe and Central Asia: Georgia, Kyrgyz Republic, Moldova, Serbia, Ukraine, Tajikistan;
  - Near East: Lebanon, West Bank and Gaza Strip, Yemen;
  - Latin America and the Caribbean: Barbados, Chile, Guyana.
- 56 Most projects focus on upstream aspects: review and assessments of food safety and SPS legislation, institutional structures, and technical capacity building in monitoring, surveillance, testing and analysis. A majority of these are regular budget supported Technical Cooperation Programmes. However, there are also a few integrated programmes covering food safety that address both public health and agriculture or food production. The evaluation team's observations on a selection of projects visited during field missions and/or covered in recently concluded evaluations (Bangladesh and Cameroon) are summarized below.
- 57 In **Bangladesh**, FAO implemented a cluster of projects (three projects since 2008, funded by the European Union, Netherlands and United States respectively) to build a comprehensive national food safety system, covering food safety legislation, institutional mechanisms, standards development, diagnostic testing and analytical capacities, surveillance and food safety advocacy. With interventions covering the whole spectrum of food safety, **FAO's intervention in Bangladesh** has been very successful, leading to changes in legislation, institutional arrangements and improved capacities, as presented in Box 1.
- 58 The evaluation of the Bangladesh Country Programme<sup>11</sup> cites that "FAO's vanguard role in shaping and operationalizing a policy framework, institutional architecture and technical capacity of food safety in Bangladesh is recognized by the government and development partners. The projects have been effective in improving technical and functional capacities in food safety inspections, surveillance, and analysis/validation methods for food microbiology and chemical analysis. Successful pilot shipments of mango to a retail chain in the United Kingdom demonstrated conformance to food safety and market requirements, besides tangible economic benefits in pilot clusters. There is

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11 FAO OED, Evaluation of FAO's contributions to Bangladesh, forthcoming.

significant strengthening of the field formations in inspection and surveillance functions and there are positive indications of increased budgetary provisions for food safety in the forthcoming five-year plans”.

### Box 1: Strengthening food safety and quality in Bangladesh

FAO played a lead role in establishing legislative policy, institutional structure and capacity along value chains, in order to strengthen food safety and quality in Bangladesh. Interventions addressed a wide range of issues:

**Institutionalization.** With the establishment of the Bangladesh Food Safety Authority (BFSA) in September 2015, a basic governance structure was in place. FAO assisted BFSA in developing its strategic plan, organizational structure and operational plan.

**Laboratory and testing capacities.** The National Food Safety Laboratory (NFSL) is fully operational, equipped with a full range of testing equipment and manned by trained staff. The lab can conduct routine testing as well as provide commercial services for testing food safety parameters and validating test methods as the national reference laboratory.

**Science-based risk analysis.** An informal network of government-controlled and independent laboratories has been created for risk categorization exercises to aid in standards formulation. Market samples were drawn for eight key items in the food basket, and tested for heavy metals, pesticides, microbiology, pharmaceuticals, trace minerals and chemical dyes.

**Drafting Regulations and Standards.** FAO facilitated the National Codex Contact Point and four sub committees, a national Codex manual, training on Codex and participation in Codex meetings. The project is now assisting BFSA to develop and formulate a whole new set of regulations, rules and operational guidelines for standards, which now fall under its scope.

**Food-borne Illness Surveillance.** The cluster supported the Institute of Epidemiology, Disease Control and Research to include enteric food borne illness in its surveillance. Web-based, mobile phone and community-based surveillance were created to monitor outbreaks relating to food consumption. Manuals, guidelines and trainings were developed for rapid response teams for investigations and analysis. Thirty incidents related to water or food consumption were handled between 2013 and 15.

**Risk-based Inspections.** FAO assisted in the development of manuals, guidelines and procedures for food safety investigations; inspection of primary production (meat and poultry); supervision and monitoring of risk based food inspections; food recall; and import inspection. Training was provided to 150 senior officials of DGHS, 950 sanitary inspectors and staff from municipal corporations.

**Academic Curriculum.** The three-year diploma course for sanitary inspectors was upgraded to a four-year graduate course to be taught at the Institutes of Health Technology. At the same time, BFSA is being assisted with developing, a four-year Bachelor of Science programme at the Bangladesh Agriculture University, designed in collaboration with Dublin Institute of Technology.

**Safe value chains.** The cluster focused on training four pilot value chain actors in food safety guidelines: two in horticulture, and one each in poultry and fisheries. 98 Master Trainers and 300 Lead Trainers completed and 90 percent obtained certification in the internationally certified training on food control guidelines. More than 2 000 farmers and over 250 value chain actors were trained in food safety control measures. The government extension units were closely involved and participated in the trainings. There have been positive results in all the pilot clusters in the form of enhanced production, productivity and savings.

**Safe Street Food.** In Khulna, in partnership with the city municipal corporation, 500 street food vendors were trained on hygiene and food safety aspects and issued street food carts with distinctive designs that enabled clean preparation and display. These vendors were also given licenses and uniforms and monitored regularly by food inspectors from the KCC, who were trained on inspections and provided kits. The model has worked very well, and vendors and consumers have witnessed economic and health benefits, respectively.

**Informed and empowered consumers.** The project included a major component to strengthen food safety advocacy targeting women (key food preparers in households), school children and teachers, and social leaders. A comprehensive package of awareness materials was prepared and disseminated in primary schools in 17 districts, and covered more than three million children, with an emphasis on 'five keys to safer food'. The Bangladesh Safe Food Network of leading NGOs was formed for cooperation on food safety.

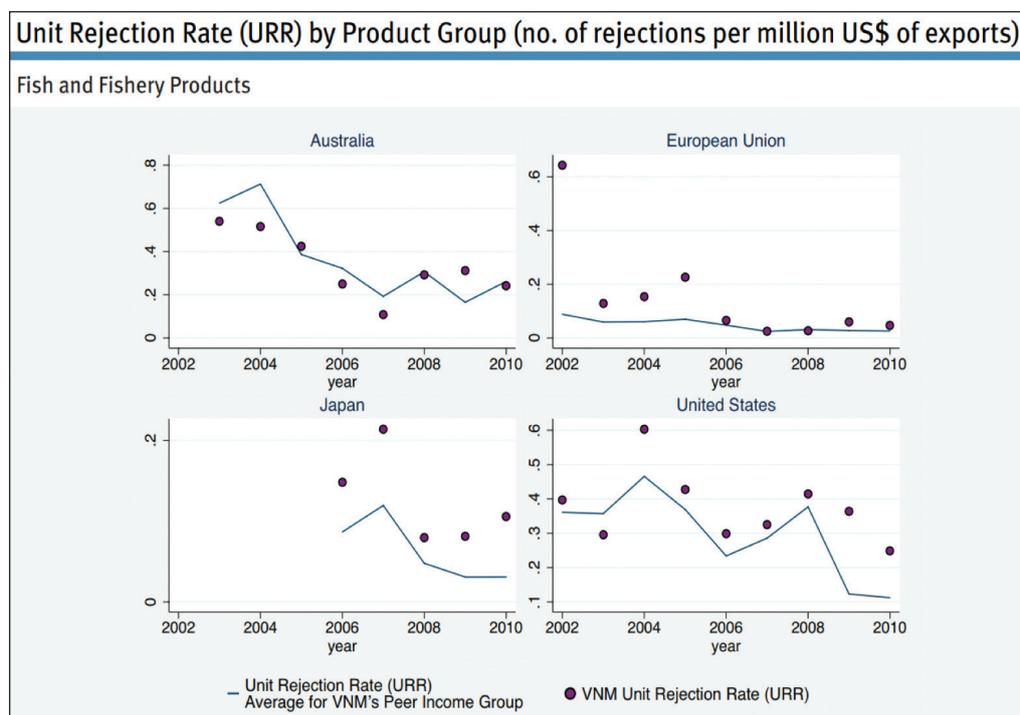
- 59 Another interesting example is the Standards and Trade Development Facility-financed project, *Building trade capacity of small shrimp and prawn farmers (MTF/BGD/046/STDF)*, which responded to the rejections of Bangladesh shrimp by the European Union for containing unacceptably high levels of pesticide residues. Given the extensive smallholder cultivation model, the project developed model clusters, created a pool of master trainers, facilitators and lead farmers to propagate and disseminate good practices drawing on FAO guidelines and success stories in India and Indonesia. At the farm level, results were significant: major productivity gains (from 250kg/ha to over 600kg/ha), reduced mortality rates (from 30 percent to less than 5 percent); and reductions in input costs. These practices resulted in a **two-to-three-fold increase in gross incomes** as well as improved quality. However, due to its limited (pilot) scale, despite improved quality, the volumes were sub-scale for direct procurements by export processing companies. Moreover, products could not fetch a price premium in the open market due to a lack of physical differentiation. However, **the project has demonstrated the benefits of its cluster approach, which now needs to be replicated in major shrimp production areas and scaled up under larger programmes** targeting the subsector as a whole.
- 60 **Viet Nam.** FAO has a long history of supporting Viet Nam with technical assistance in food quality and safety issues. FAO assisted the national food control and quality assurance agency (NAFIQAD)<sup>12</sup> and Viet Nam Food Administration (VFA) in building capacities as national food safety control authorities. **More recently, FAO assisted Viet Nam in implementing the National Strategy for Food Safety 2011-2020 and Vision 2030, and also provided inputs to the food safety law, which came into force in 2011.** Viet Nam also participates in FAO's regional projects for food safety standards development and implementation (Japan-funded projects GCP /RAS/295/JPN and GCP /RAS/280/JPN). **FAO also coordinates the Food Safety Working Group in Viet Nam, which has emerged as the main forum for government and development partners to discuss and exchange experiences on food safety issues.**
- 61 With Viet Nam prioritizing a commercially focused restructuring of the agriculture sector, there is a new emphasis on strengthening food safety through value chain approaches. Recent FAO support has focused on preparing risk profiles of important value chains – vegetables, tropical fruit, pork, chicken, shrimp, fish – and identifying food safety hazards, causes and prevention measures at all stages - production, collection, slaughter, preliminary processing, processing, preservation and distribution. Based on these areas, stakeholder trainings have been designed to provide an understanding of the risks associated with processes and practices, as well as guidance on mitigation, risk-based control systems, traceability, food safety legislative improvements, regulatory compliance and food safety communications.
- 62 Since 2010, FAO assisted the Fruit and Vegetable Research Institute, a unit under the Ministry of Agriculture and Rural Development, with a series of projects to help communities in remote areas produce safe, pesticide-free vegetables and fruit. This support included pre-processing, packaging and labelling to meet the requirements of private label suppliers and supermarkets in major cities, and in some cases, export markets. The supplies follow good practices, certified under a participatory guarantee scheme between producers and buyers. Despite a long involvement of the implementing partners, the initiative does not show signs of scalability and uptake on a larger scale, although it has contributed to Resolution 26 of Viet Nam's Agriculture, Farmers and Rural Areas: A Comprehensive Agenda for the years 2010-2020, which plans to scale up such initiatives under a Safe Vegetables Production Master Plan.
- 63 FAO's efforts complement support from other partners. Over time, Viet Nam has built a nationwide network of inspection, testing and certification laboratories including several private, international laboratories. **The European Union recognizes NAFIQAD as the national control agency for certification of agri-food exports to the European Union** and is assisting with alignment of laws, procedures and systems to European Union requirements under the imminent free trade agreement.
- 64 An independent indicator of the effectiveness of Viet Nam's improvement in food safety is the trend of Unit Rejection Rate in key markets on SPS/TBT grounds. UNIDO's annual

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12 The National Agro-Forestry-Fisheries Quality Assurance Department (NAFIQAD) of the Ministry of Agriculture and Rural Development

compilation, Trade Standards Compliance Footprint, tracks the rejections normalized to the value of exports over time. The following diagram shows the improvements over time for fish and fish products from Viet Nam.

**Figure 1:** Improvements over time for fish and fish products exports from Viet Nam



Source: UNIDO – Trade Standards Compliance Footprint 2012: Import rejection analysis

- 65 **In Cameroon**, public interest and civil society activism has been a driver of food safety actions. In 2009, FAO supported the development of a national food safety law, whose passage lay embroiled in an inter-ministerial debate on jurisdiction. Progress is expected due to the Prime Minister's interest in expediting the law. Meanwhile, FAO continued to support capacity development of the National Codex Alimentarius Committee and results are evident with Cameroon taking up responsibilities as Regional Coordinator from 2011 to 2016. FAO also supported the Pasteur Institute to conduct studies in four sub-Saharan countries, including Cameroon, to analyse the risks of chemical contamination of food. These studies will provide the first national data on this issue to initiate awareness and consider other actions. Support needs to continue to arise linked to the National Nutrition Policy 2017-2025, which contains actions toward: (i) strengthening the legislative and regulatory framework for food quality control; and (ii) strengthening the surveillance system.
- 66 **In Tanzania**, following cases of acute aflatoxin poisoning in two regions in 2016, including 19 deaths, from consumption of contaminated maize, FAO was called upon to provide technical assistance and policy support to the government. Through a Technical Cooperation Programme, FAO is addressing the mitigation of aflatoxin contamination of maize in the affected regions through the development of guidance and training on best practices during primary production and post-harvest, as well as awareness raising and promoting regulatory coordination. The knowledge gained from this targeted project has positioned FAO as one of the key advisers supporting the design of a multi-year, multi-million African Development Bank-led country project comprehensively addressing the issue of mycotoxin contamination in Tanzania. At the regional level, FAO is working with the Common Market for East and Southern Africa to promote risk-based harmonization of mycotoxin regulations.
- 67 **In Moldova**, the uppermost economic and trade priority is the implementation of the Deep and Comprehensive Free Trade Agreement with the European Union, which requires alignment of policies, and harmonization of legislation, including on sanitary and phytosanitary controls, food safety and hygiene. Since the country office was only opened

in 2014, FAO is somewhat a late entrant on the scene and its presence was overshadowed by several larger ongoing technical assistance programmes. FAO's project "Support to Strengthening Food Safety System in Moldova" focused on trainings on food safety risk analysis; good hygiene and manufacturing practices for business operators; strengthening national Codex structures with standards formulation and participation in regional Codex Committee events. A follow-on phase of the project was approved in 2016. Through another regional project (FMM RER 056) FAO is also supporting the Ministry of Agriculture with harmonization of SPS-related legal acts under the Association agreement (183 acts).

- 68 The evaluation observed that while the current portfolio in Moldova is small, FAO is well placed to step up its technical support to strengthen food safety in specific value chains, especially animal products, which are presently not exportable to the European Union due to technical and SPS-linked deficiencies. FAO has already conducted an analysis and mapping of products for export diversification and opportunities. Under a recent Technical Cooperation Programme, an assessment of the national food control system was implemented to enable better planning for further investment in improving the system. A few important donors and partners met by the evaluation expressed high appreciation of FAO's expertise and were open to expanding cooperation to improve the competitiveness, safety and quality of Moldovan products, particularly from smallholder producers, which are a key constituency of FAO. Notwithstanding the appreciable backstopping and support from the regional office and from headquarters, there is scope for increasing resource and time investments in development partner engagement and resource mobilization to build a larger country programme portfolio for which the potential, clearly, exists.
- 69 **In Ukraine**, the thrust of FAO's work has been in building export-competitive value chains and market development (grain, flour, organic products and meat), mostly European Bank for Reconstruction and Development (EBRD)-financed projects implemented by FAO's Investment Centre Division (TCI) unit. These projects address market standards, access to finance and other issues affecting competitiveness at the downstream level. Directly linked to food safety aspects is FAO's work under the "Partnership Agreement between Ukraine Government and Private Sector", which facilitates dialogue and partnership for priority reforms and an enabling agribusiness environment. This also **included drafting legal/regulation materials in private veterinary practice and SPS, food safety for consultations between food safety regulator and sector associations, with FAO technical leadership**. Development of a framework for self-regulation is a key theme in these dialogues. A new project has been developed with funding from Norway, focusing on a national food safety system for fishery products towards harmonization with the European Union, as well as measures related to fisheries governance (illegal, unreported and unregulated fishing).
- 70 Stakeholders in government and the private sector note significant scope for FAO to support Ukraine in export diversification and to resolve non-tariff issues through technical consultation. Ukraine's competitive advantage in edible oilseeds, grains and animal feed offer good potential for exports of beef and livestock to Africa, China and Gulf/Middle East markets. FAO's technical expertise and global knowledge networks position it strongly to support Ukraine in becoming a reliable and competitive supplier of safe livestock products.
- 71 **In Tajikistan**, FAO's main relevant intervention is a project component under the European Union programme "Enhanced Competitiveness of Tajikistan Agri-competitiveness Project (ECTAP)", which supports institutional strengthening of the State Veterinary Inspection Service for policy formulation, improving the provision of veterinary services and breed improvement to enhance the competitiveness of livestock value chains. **This builds on FAO's long history of support since 2000, spanning more than 20 projects, including the flagship Brucellosis programme**. The evaluation noted that ECTAP has other components relating to post-WTO accession support, equipping and strengthening food safety laboratories and certification of Tajikistan's quality assurance and standards institutions, but these are being implemented by other agencies. \_
- 72 The situation in Tajikistan also provides useful insights on the importance of national ownership and inter-ministerial coordination for effectiveness of technical assistance. FAO and WHO have a long presence and cooperation with counterpart agencies on health and food safety issues, especially in the livestock sector. In 2015, inter-sector working groups on

health and food safety were discontinued, which affected activities relating to Codex and standards setting. Also, the absence of agreement on a singular national food safety agency has resulted in multiple ministries (agriculture industries, health, trade) having jurisdictions over different parts of value chains. In these conditions, the drafting of national food safety legislation, strategy and action plans were coordinated by the Ministry of Trade, rather than the ministries having jurisdiction on public health, and plant/animal health and food safety. Interestingly, the task was assigned to ITC, which is more known for its specialization and expertise on export strategy development and trade promotion than expertise on food safety legislation and standards development. There were some concerns from implementing ministries that FAO and WHO – which each have expertise and mandates in the domain and are counterparts of the relevant ministries – were not sufficiently consulted or involved in the process. Although further consultations have now taken place with all agencies, this illustration emphasizes the need for improved coordination among line ministries and technical agencies on multidisciplinary domains. These issues have been addressed in a subsequent STDF-funded project in Tajikistan to be jointly implemented by FAO/ITC with clear agreement on the responsibilities of each. At the same time, the lack of technical specialists at the FAO country office also limits the ability to harness the potential for partnership opportunities even in areas under its mandate.

### 5.1.2 Animal health

- 73 Animal products are among the most traded categories in agriculture and food (SOCO 2016). This international dimension makes animal health and disease control aspects important elements in the development of commercial, market-oriented value chains and food systems. Their importance is enhanced in extensive, smallholder farming systems given the interplay of animal and human health aspects and biosecurity risks involved. Outbreaks of notified diseases can cause an immediate and indefinite ban on imports and exports of animal products under the SPS agreement.
- 74 Of particular significance are Transboundary Animal Diseases, which can spread easily across borders and reach epidemic proportions, and where control, management and exclusion requires cooperation among countries. TADs cause several types of economic impact: livestock mortality and production losses; trade disruptions and loss of markets; and in case of zoonotic diseases, adverse public health effects. Depending on their commercial significance, they entail significant investments in prevention and control measures to comply with regulations and market requirements. According to the OIE, TAD occurrences are only expected to increase due to the increasingly connected world, large increase in consumption and trade of livestock products, and the increased pathways and probabilities for transmission.
- 75 FAO partners with WHO and OIE under a Global Framework for the Control of Transboundary Animal Diseases (GF-TADs), to assist regions in controlling specific, priority diseases through threat monitoring mechanisms, early warning systems, vulnerability analyses and operating procedures and protocols for mitigation and control. Support has covered several high-impact animal diseases, including: Avian Influenza, Rinderpest, foot and mouth disease, peste des petits ruminants (PPR), classical and African swine fever.
- 76 The long presence of ECTAD in several countries has enabled the strengthening of national veterinary services and surveillance capacities to respond to other endemic diseases. The evaluation came across specific instances that demonstrate progressive improvements in national capacities to address transboundary animal diseases. Examples from field missions to Viet Nam and Ukraine are summarized below.
- 77 **Vietnam:** The evaluation considers FAO's approach and the build-up of the ECTAD portfolio a good representation of the transition from an emergency response to a preventive and resilience-building modality. Important factors in this steady trend of achievements have been the sustained presence (the ECTAD unit was set-up in 2006), a series of complementary projects for building national capacities for Highly Pathogenic Asian Avian Influenza (HPAI) control (and eventually other diseases), and sustained funding over multiple phases.

**Box 2:** ECTAD's cross-SP work in Viet Nam – a good practice example

ECTAD's work in Viet Nam began with emergency support to avian influenza H5N1 in 2006. Early interventions (mainly funded by USAID) focused on mass vaccinations, but evolved over time to a mix of surveillance and risk-based targeted vaccination programmes, based on studies of value chain practices especially in smallholder environments. These were followed by technical assistance programmes to progressively build resilience and emergency preparedness against H5N1 in Vietnam and reduce global pandemic risks emanating from Viet Nam.

There has been a progressive building of national human, institutional and infrastructural capacities in surveillance, including border surveillance; detection; diagnostics and intervention control. Capacities over time have expanded to include other important diseases, such as foot and mouth disease, Classic Swine Fever, Porcine Reproductive and Respiratory Syndrome, and Newcastle disease.

**Surveillance Capacities.** To equip field formations in surveillance of disease outbreaks, FAO/ECTAD developed an Applied Veterinary Epidemiology Training course and implemented it with government and university partners. So far, over 200 inspectors have been trained and receive updates and learning materials, covering key diseases: avian influenza, rabies and others, including wild life diseases.

**Diagnostics.** Viet Nam's National Centre for Veterinary Diagnostics and a network of reference labs were equipped to conduct the essential molecular, bacterial and virology tests for influenza (except gene sequencing), and regional animal health offices equipped for outbreak investigations and surveillance tests. In 2012, systematic surveys and real-time sample tests were conducted at 147 live bird markets to understand the prevalence intensity of different virus types (Influenza A being most prevalent). Migrating ducks in border areas were noted to be significant carriers of H5N1.

Viet Nam's surveillance and intervention capabilities were tested again with the outbreak of H7N9 in China in 2013, which resulted in several human deaths. With risks linked to a long border with China, Viet Nam conducted intensive surveillance of live bird markets in the northern region; although no H7N9 infections were found, value chain studies were made to identify trade routes from China and a H7N9 risk communication campaign was implemented in high-risk areas to spread awareness. Targeted preventive measures were adopted in markets and among stakeholders with the highest probability of risk occurrence.

**Biosecurity.** To reduce risks in the value chain, especially in poultry farms and at live bird markets, ECTAD implemented biosecurity training activities for traders, vendors, hatcheries and parent flock farmers and trained master trainers to implement biosecurity guidelines for small- and medium-scale hatcheries. These are being scaled up nationally based on the success of pilot trainings in two provinces.

**Farm to chopsticks.** The later phases focused on public-private partnerships to strengthen biosecurity and poultry health aspects in production systems. Using a 'One-Health' approach there has been a gradual transition to address food safety control aspects spanning entire value chains (i.e. from 'farm-to-chopsticks'). FAO conducted field trainings for farmers, government extension service staff and other stakeholders on surveillance, disease detection and information gathering in live bird markets, farms, and border and forest areas inhabited by wildlife. Biosecurity guidelines for hatcheries and parent flock farms have been prepared and disseminated. Complementing projects (Japan, One UN) addressed veterinary public health capacities and coordination of surveillance and diagnosis networks, and provided support to a food safety law to reduce the risk of food-borne pathogens.

**Cross-border activities.** Cross-border surveillance of livestock and associated disease movements from Cambodia, China and Lao PDR has assumed major importance for Viet Nam, with the imminence of the European Union-Vietnam free trade agreement, which requires Viet Nam to establish food controls and traceability systems that meet European Union requirements for a trade partner. Vietnam's Department of Animal Health established regular annual dialogue with the counterpart in China for information sharing on livestock value chains and movement patterns around borders; surveillance and risk analysis compartmentalization approaches. They also developed a road map for safer trade of livestock and livestock products through cross-border risk management approaches. A similar exercise is being done with Cambodia.

**Antimicrobial resistance.** FAO assisted in consultations and drafting of a national action plan for antimicrobial usage and antimicrobial resistance reduction in the livestock sector. The priority activities identified were: risk assessments along the food chain, especially in semi-industrial farms; AM treatment guidelines for specific animal diseases; education for farmers and vets; surveillance programme involving certified laboratories; and creation of an antimicrobial resistance database. The action plan is awaiting endorsement by the government.

There has been a systematic progression of ECTAD's role over time, from a direct emergency response provision to technical assistance support for resilience building and strengthening legislation and value chain practices. These will be important steps to demonstrate Viet Nam's readiness for the European Union-Vietnam free trade agreement, which has the potential to expand trade in agriculture products significantly.

- 78 **The Government of Viet Nam awarded to FAO a merit certificate for substantial contributions in the livestock sector.** This was in recognition of the work done in: poultry value chain studies; biosecurity standards in hatcheries and grandparent flock farms; poultry traceability; and food safety control laws and measures.
- 79 **Ukraine:** FAO's role in Ukraine for the control of African Swine Fever is a good example of the importance of transboundary animal diseases in trade flows. This is of special importance to Ukraine given the opening of market opportunities from the Deep and Comprehensive Free Trade Agreement with the European Union, which presently does not allow import of any animal products from Ukraine (other than honey, poultry and dairy milk, according to the national food safety agency). Meanwhile, the weak cross-border surveillance of wild animals makes Ukraine's eastern borders highly vulnerable to transmission of porcine diseases from its neighbours.
- 80 After the first African Swine Fever detection in Ukraine in 2011, FAO supported the country with quarantine/containment, culling/stamping-out and carcass disposal, and farmer compensation mechanisms, as well as knowledge of disease transmission and preventive practices (such as discouraging swill feeding). Ukraine was also a beneficiary of periodic trainings and capacity building workshops arranged by FAO, OIE and other partners, and a United States-supported regional FAO project for prevention, control and public awareness.
- 81 After a second detection in 2014, FAO with EBRD implemented a comprehensive risk mitigation programme in cooperation with the Association of Pork Breeders, including veterinary knowledge and lab/diagnostic capacities and awareness raising of breeder farms. FAO and EBRD's decision to work with the industry association is also well-reasoned, given the huge economic impact of the African Swine Fever on the pork industry, especially in view of the inadequate coverage of compensation for culled animals. FAO also assisted the State Veterinary and Phytosanitary Service with surveillance and laboratory diagnostic capacities, trainings and risk analysis tools, besides a detection and diagnosis manuals.
- 82 According to data reported by Ukraine to OIE, since 2012 Ukraine has registered only 61 cases of infection and has controlled them through aggressive monitoring and compartmentalization measures, as well as stamping out of wild boars in high risk areas. In 2016, 55 of the 61 infected areas have been de-notified as affected areas.<sup>13</sup> Ukraine's success in containing African Swine Fever despite its growing footprint in the region is particularly significant for the European Union, where already detections have been reported in Poland, which adjoins Germany, the world's biggest producer of pork.

## 5.2 B. Supporting science-based food safety governance and decisions

- 83 The Codex Alimentarius is the compendium of internationally adopted standards, guidelines analysis and sampling methods, and codes of practices for food products, developed by the FAO/WHO Codex Alimentarius Commission, an intergovernmental organization created in 1963. Codex coverage spans: general standards for food additives, hygiene and contaminants; commodity standards for several product groups; labelling; methods and analysis and sampling; food import and export inspection and certification; and nutritional aspects. Decisions are adopted by consensus based on the best scientific and technical knowledge available. Codex standards, though not mandatory until adopted into national legislation, are recognized under the WTO SPS agreement as the international reference/benchmark standards for food safety.
- 84 While an important part of FAO's work on food safety relates to Codex and thus falls within the scope of this evaluation, the Codex Alimentarius Commission is a joint body of FAO and WHO, has its own governing body, charter, strategy and operation plans and reporting structures. This not being an evaluation of Codex, the evaluation limited its assessments only to FAO's contributions, notably the scientific advice, and Codex-related capacity development aspects. However, findings of the evaluation of the Codex Trust Fund have been noted, as these are relevant for an understanding of the quality of participation of developing countries, which are reported under SO4 results.

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13 briefing by State Veterinary Service to Ukraine Minister of Agriculture, 2016

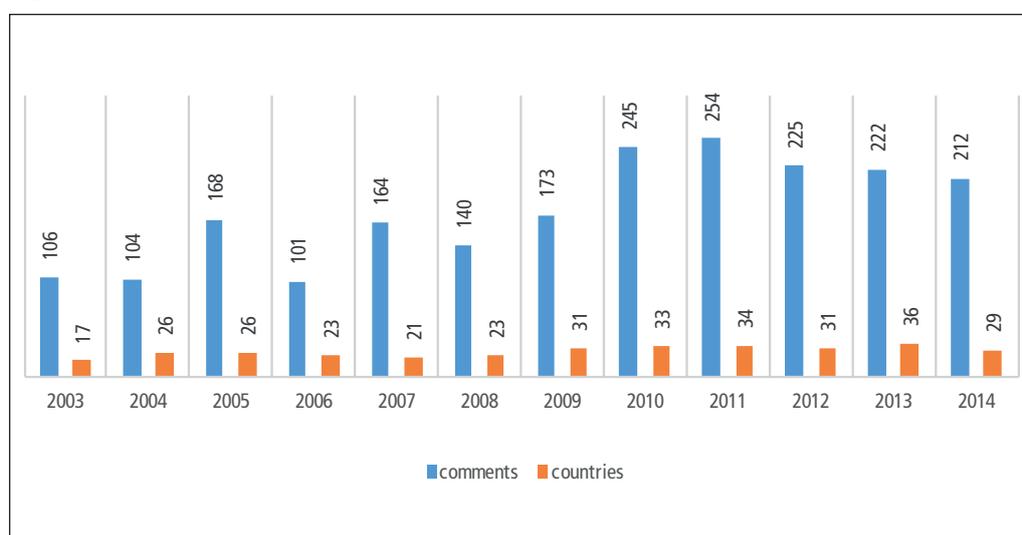
- 85 **Secretariat.** The Codex Secretariat is housed in FAO and is funded from regular budgets in line with an Article VI body. There is very little interaction with SP teams, although the Secretariat operates in coordination within the Agriculture and Consumer Protection Department (AG), especially the Food Safety section. Senior staff at the Secretariat considered the Strategic Framework as useful in principle, but observed that the relevant SO4 output indicators do not adequately reflect the results of their work. An appropriate assessment of FAO's contributions to Codex can be seen in the support to member capacities, provision of scientific advice and resource mobilization.
- 86 **Scientific Advice.** The availability of independent, expert scientific advice is the backbone of the Codex standard setting process. This is provided by a number of joint FAO/WHO expert bodies that are independent of CAC: Joint Expert Committee on Food Additives, Joint Meeting on Pesticide Residues, and the Joint Expert Meeting on Microbiological Risk Assessment, as well as ad hoc consultations and expert meetings on specific Codex-related issues. The secretariats of these bodies are divided between FAO and WHO according to the relevant areas (food production and inputs (FAO); human health and toxicity (WHO)).
- 87 A survey commissioned by FAO in 2011 to review FAO's (JECFA and JEMRA) food safety scientific advice provided to three Codex Committees (Codex Committee on Food Additives (CCFA), Codex Committee on Contaminants in Food (CCCF), Codex Committee on Food Hygiene (CCFH)) found that the scientific advice provided was rated as good or excellent, and useful for development of Codex standards and for national food safety management. Explanations provided by the secretariat were adequate or more than adequate, although there were some concerns over delays in the issue of detailed reports.
- 88 **Participation in Codex processes.** A related area of support is to strengthen national institutional processes to improve participation in Codex deliberations and standard setting. This includes creating National Codex Committees and nominating Codex Contact Points in an appropriate ministry, defining procedures for standards drafting and adoption, and preparing submissions including collection of scientific/technical data to inform the expert bodies and relevant Codex committees. Support to member delegates attending Codex meetings include two useful tools: a joint FAO/WHO training pack, and an interactive e-learning course on enhancing participation in Codex activities. These tools are in the process of being updated to reflect the changes that have occurred in Codex over the last several years. FAO, in collaboration with WHO, also led the development of a "diagnostic tool" to assist countries in identifying the weaknesses in their national systems that limit the effectiveness of their Codex engagement. FAO and WHO also facilitated networking among delegates to exchange information and foster collaboration for food safety at bilateral and regional levels. More recently, another type of support to developing countries has been through co-hosting arrangements for regional Codex committee events and electronic working groups.
- 89 **Codex Trust Fund.** To support developing countries' effective participation in Codex processes and activities (e.g. through trainings) to support national capacities, a FAO/WHO Codex Trust Fund was set up in 2003, funded by aggregate contributions of USD 21 million from 15 members and the European Commission. Using a clear set of criteria for profiling of beneficiaries, including the need for consultations with FAO/WHO country offices, support was provided for three to seven years and included a progressive increase in self-funding or alternative financing. Table 7 illustrates some examples of support to countries.

**Table 7:** Codex trust fund supported activities

Area of Support	Countries supported (non-exhaustive)
Strengthening national Codex committees	Africa: Angola, Benin, Cabo Verde, Cameroon, Côte d'Ivoire, East African Community; Bangladesh, Lao PDR, Moldova, Mongolia
Harmonization of national standards with Codex	Fiji, Solomon Islands, Vanuatu
Evidence-based positions on food safety issues	Types and levels of mycotoxin contamination in sorghum – Burkina Faso, Ethiopia, Sudan, Mali, – in preparation for Codex MRLs for mycotoxins in sorghum

- 90 An evaluation of the CTF in 2015<sup>14</sup> noted that the fund had been successful in enhancing participation of developing countries and countries in transition, supporting over 2 350 participations from 145 countries to 192 Codex sessions, between 2004 and 2013, representing 14 percent of the eligible participations, with an average of over USD 4 600 per participation. Additionally, CTF also trained 1 200 participants from 149 countries at 42 regional workshops and events. In support to scientific evidence building, the CTF contributed to evidence gathering on mycotoxin in sorghum in four African countries. The evaluation noted that strengthening participation in Codex meetings can be effective only when key elements at the national level function well. The successor phase if approved should emphasize support to national Codex programmes and less of supporting participation at Codex meetings.
- 91 FAO gauges the results of its support to Codex through the progress and magnitude of standards-setting at Codex, and the level of participation by developing countries in the Codex committee discussions. While these can be preliminary indicators, they have their shortcomings. The CAC's data on participation of members shows positive trends, even after countries graduated from CTF support. There has also been a marked increase in participation measured by submission of comments to the committees (see Figure 2).

**Figure 2:** Submissions of comments to Codex Committees



Source: Codex documents

- 92 A survey<sup>15</sup> carried out by the CAC of its entire membership (188 members, 117 responded) on the use of Codex standards by members yielded the following insights:
- Although adoption rates varied across type of standards, a high percentage of respondents (ranging 87 to 97 percent) had partly or fully adopted Codex standards for the categories surveyed: pesticide maximum residue limits (MRLs); food additives; contaminants; and labelling.
  - 85 percent of respondents (100 countries) reported aligning legislation with general food hygiene principles;
  - 62 percent (73 countries) have legal requirements for hazard analysis and critical control points systems.
- 93 An important, independent indicator of the increasing use of Codex standards in national legislation is the trend of official SPS and TBT notifications to the WTO. Data released by a recent FAO and WTO joint publication<sup>16</sup> shows the sharp increase in the share of SPS notifications referencing Codex standards, which attests to their use in setting national standards.

14 CX/CAC15/38-18-Add.3: FAO/WHO Project and Fund for Enhanced Participation in Codex – Final evaluation

15 survey results- use of Codex Standards, March 2017.

16 FAO & WTO. 2017. Trade and Food Standards, [https://www.wto.org/english/res\\_e/booksp\\_e/tradefoodfao17\\_e.pdf](https://www.wto.org/english/res_e/booksp_e/tradefoodfao17_e.pdf)

**Table 8:** SPS AND TBT regulations referencing Codex standards

Year	2007 (total =100%)			2016 (total =100%)		
	Food Safety Notifications	Notifications referencing Codex	Other	Food Safety Notifications	Notifications referencing Codex	Other
SPS Notifications	35	9	56	47	27	26
TBT Notifications	13	5	86	23	5	72

Source: FAO/WTO Publication 2017

- 94 However, there have been some good indicators of transfer of experiences and learnings among countries, including formal technical cooperation activities, all of which contribute to enhancing food safety outcomes. In field missions, **the evaluation also received anecdotal evidence of the improved capacities of developing countries in standards setting and providing scientific evidence.**
- 95 Viet Nam delegates regularly attend meetings of some Codex Committees – Food Hygiene, Food Import and Export Certification systems, Labelling and Sampling and Testing. These are now funded by government. Viet Nam is also active in the standards setting processes at Codex, its participation improving over the past ten years, by providing national data and comments relating to draft standards, responding to all questionnaires of JECFA and JEMRA, and furnishing national data on metal and pesticide residues. Viet Nam has joined the debate on tea MRLs in the European Union, joining China, India and Kenya in representing against the European Union measure with national data.
- 96 **Ethoxyquin in shrimp.** In 2012 there was an interesting illustration of the use of Codex data in raising specific trade concerns at the WTO SPS Committee: there was a specific trade concern against Japan's imposition of mandatory testing for residue levels (0.01 ppm) of the antioxidant Ethoxyquin in shrimp. The concern was raised by India, at the time the largest exporter to Japan, on these grounds: Japan had yet to complete risk assessments to justify the notified level of 0.01 ppm; Codex had already set higher threshold levels of the same antioxidant in fish and pear; and no level had yet been set for shrimp, which was on the priority list for Codex. Faced with a decline in trade shipments without due scientific justification, a specific trade concern was the recourse to initiate consultations. The issue was resolved mutually in 2014 with a limit of 0.2 ppm.

### 5.3 D. Providing food safety platforms and databases

- 97 Two specific contributions under this area of support are the FAOLEX database and INFOSAN, the network of food safety institutions.
- 98 **FAOLEX.** As part of its core mandate to collect, interpret and disseminate information relating to nutrition, food and agriculture, over the last few decades FAO has built the world's largest database of national legislation, policies and bilateral agreements on food, agriculture and natural resources management. FAOLEX, a product of FAO's Development Law Service, contains legal and policy documents drawn from more than 200 countries, territories and regional economic integration organizations, and receives an average of 8 000 new entries per year. FAOLEX is a ready reference for members in considering food safety legislation and international cooperation, as evidenced by the results of an in-site search of 'food safety legislation' (12 August 2017) which turned up 97 800 articles in the database.
- 99 **INFOSAN** The joint FAO/WHO International Food Safety Authorities Network is a global voluntary network of officially designated government authorities. INFOSAN's mission is to strengthen countries' prevention, preparedness and response to food safety events and emergencies by promoting the rapid exchange of relevant information during food safety related events; sharing information on important food safety-related issues

of global interest; promoting partnerships and collaboration between countries and between networks; and helping countries strengthen their capacity to manage food safety emergencies. Currently over 500 participants from 188 countries are members of INFOSAN. Each country designates one INFOSAN Emergency Contact Point and one or more INFOSAN Focal Point(s) in various sectors relevant to food safety. So far, it has responded to 50 food safety events. EMPRES has produced a handbook 'Enhancing Early Warning Capabilities for Food Safety', which has been further adapted for regional projects and trainings in Africa, Near East and North Africa (NENA) and Asia. Through such trainings, FAO enhances the capacities of countries to contribute meaningfully to INFOSAN and to make optimal use of the network.

- 100 **FAO-GM Platform** This FAO Platform was created at the request of the Codex Alimentarius Commission to facilitate implementation of the Codex Guidelines on the management of Low Level Presence events affecting trade. It therefore has a high relevance to trade facilitation and demonstrates one of the many linkages between FAO's normative food safety role and its capacity development role.

#### 5.4 E. Developing food safety intelligence and foresight

- 101 FAO, along with partners WHO and OIE, is spearheading new approaches to improve food safety outcomes. In this regard, two specific areas are noteworthy: raising awareness of the potential of whole genome sequencing (WGS) in supporting food-borne disease prevention and control, and dealing with antimicrobial resistance.

- 102 **Whole Genome Sequencing (WGS)** There is rising evidence of successes in the use of WGS for rapid identification and characterization of food-borne pathogens, including antimicrobial resistance, with higher levels of accuracy in tracing origin, causes and transmission pathways. With falling costs of diagnosis, WGS offers new opportunities for integration into laboratory-based risk management approaches and control in food inspection, outbreak detection/investigation and studies on antimicrobial resistance. However, its application is limited, particularly in developing and transitional countries. FAO facilitates dialogue and knowledge sharing on WGS, covering both technological and legal/regulatory aspects, and the development of harmonized and accredited processes and methods to ensure the quality of data and analysis. FAO's document "Applications of Whole Genome Sequencing for Food Safety Management"<sup>17</sup> provides an analysis of benefits and drawbacks, and provides a framework for feasibility assessments to incorporate WGS in food control systems.

- 103 **Antimicrobial resistance.** The rise of antimicrobial resistance in microorganisms from adaptive immunity and mutations is a new threat to public health and sustainable food production. To a large extent, these are caused by the irresponsible and excessive use of antimicrobials in health and agricultural systems. Antimicrobial resistance is a key theme under the overall FAO-WHO-OIE One Health approach which links animal-human transmission of diseases (zoonosis) and biosecurity approaches. Recognizing its significance, FAO has adopted a four-point Action Plan (2016-2020) on antimicrobial resistance, consisting of: awareness raising; surveillance and monitoring capacities on antimicrobial use; strengthening governance aspects; and promotion of good, prudent use practices. The five-year work plan (2015-2020) envisages a budget of USD 10 million, to be supported largely from extra-budgetary resources.

- 104 In collaboration with WHO and OIE, FAO has initiated activities to compile evidence on antimicrobial usage and antimicrobial resistance to provide the necessary scientific information to Codex and member countries to adopt international standards. FAO and WHO are conducting field projects to study antimicrobial resistance of food-borne pathogens in poultry, pig and beef value chains. FAO and WHO's scientific committees have supported these efforts with scientific advice. Codex Alimentarius has issued guidelines for Risk Analysis of Food-borne Antimicrobial Resistance, codes of practice and recommendations on maximum residue limits of veterinary drugs in foods and animal feeds to guide the management of antimicrobial resistance by national food control authorities.

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17 <http://www.fao.org/documents/card/en/c/61e44b34-b328-4239-b59c-a9e926e327b4/>

- 105 A number of projects have been developed to assist countries in developing and implementing national action plans for antimicrobial resistance and antimicrobial usage control in several regions (Table 9). The evaluation took note of some projects during field missions to Asia and East Europe.

**Table 9:** FAO's project supporting national action plans for antimicrobial resistance (in partnership with WHO and OIE)

Project	Coverage	Funding
Helping countries develop national strategies 2016	Zimbabwe, Kenya, Ghana, Cambodia	Fleming Fund, UK
Combat AMR using One Health approach 2016-19	Ghana, Sudan, Zambia, Zimbabwe, Tanzania, Kenya, Ethiopia, Bangladesh, Cambodia, Lao PDR, Vietnam, Philippines	Fleming Fund, UK
Addressing AMU in Asia's production systems 2016-18	Indonesia, Thailand, Vietnam, India, China	USAID
Food safety - preventing spread of medicine resistant super-bugs (2017-2020)	Armenia, Belarus, Kazakhstan, Kyrgyzstan, Tajikistan	Russia

Source: compiled by the evaluation team from info in Assistant Director General-Agriculture and Consumer Protection Department (AG) presentation to COAG 25

- 106 In Viet Nam, FAO's ECTAD unit supported development of the "National Action Plan for the safe and strategic use of antimicrobials in livestock" in cooperation with the relevant ministries (Health, Agriculture and Rural Development; and Livestock and Animal Health). Actions include: a survey of antimicrobials found in food products and strengthening of surveillance capacity in the prescription and sale of antimicrobials. The plan has been finalized and passed legislative review, and now awaits endorsement by the Government. On the ground, surveillance measures as suggested by WHO/FAO integrated surveillance guidelines have been introduced across the value chain. For instance, residue monitoring has been implemented in farms, live bird markets, slaughter houses and prepared foods in order to detect the prevalence of food-borne pathogens (*E. coli*, salmonella, campylobacter) and antimicrobial residues.
- 107 **EMPRES-Food Safety.** In 2009, a food safety component was established within EMPRES to address international food safety emergencies (including those caused by microbial and chemical contamination). The **EMPRES Food Safety Strategic Plan** consists of three pillars of **early warning; emergency prevention; and rapid response**. FAO's engagement in INFOSAN is an important part of the EMPRES-Food Safety activities. A recent evaluation of EMPRES noted a number of key contributions under its food safety component, such as its involvement in the Fukushima incident where the team contributed emergency advice and developed guidance, the development of a framework for the use of risk analysis during food safety emergencies (2011), and a multi-country incident of *E. coli* contamination in vegetables was managed also in 2011.<sup>18</sup>

**Table 10:** EMPRES food safety plan elements

Early warning	Emergency Prevention	Rapid Response
<ul style="list-style-type: none"> <li>• Provide early warning of food safety threats through INFOSAN</li> <li>• Conduct Horizon Scanning/ foresight – anticipate threats through analytical intelligence</li> </ul>	<ul style="list-style-type: none"> <li>• Prevent escalation of imminent threats – short-term response to prevent occurrence, escalation or recurrence</li> <li>• Prioritize food safety threats</li> <li>• Fill knowledge gaps</li> <li>• Formulate prevention projects</li> <li>• Provide tools, advice and activities for preparedness</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct rapid response in identified emergencies</li> </ul>

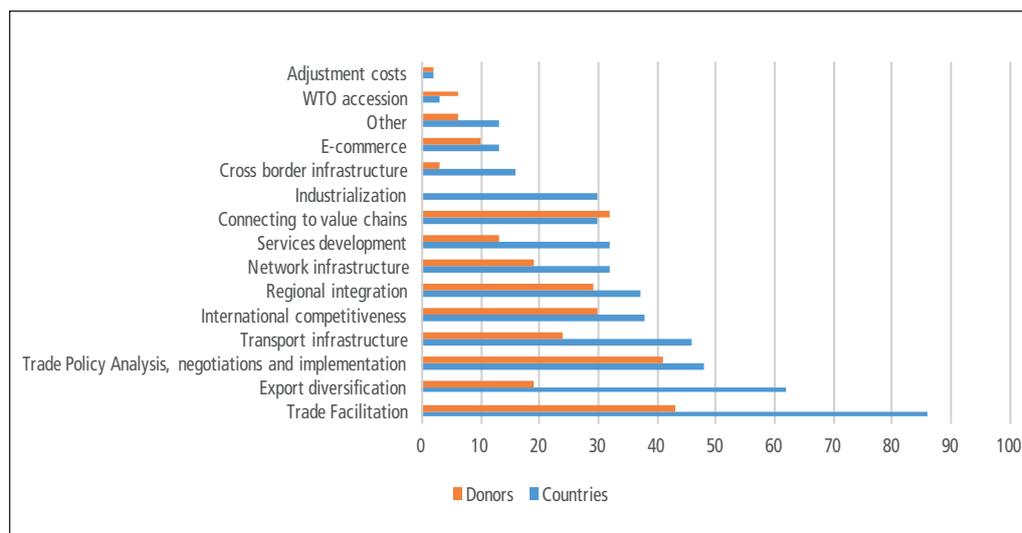
Source: FAO EMPRES Documents

18 FAO, 2017, Evaluation of the EMPRES Programme, forthcoming.

## 6. Emerging areas of work for the food safety programme

108 The recent Aid for Trade Review 2017 report carries results of a survey of Aid for Trade assistance priorities expressed by 63 developing countries and 42 donors. These confirm the evaluation's field mission observations that technical support needs will progressively shift downstream and to the levels of specific value chains, while at the same time, the need for understanding trade issues will increase.

**Figure 3: Emerging Aid for Trade Priorities**



Source: Aid for Trade Report 2017, WTO - OECD publication.

109 In 2016, the Codex Secretariat surveyed its membership to indicate the three to five most critical and emerging issues in food safety/quality.<sup>19</sup> The top issues identified as critical were: **food fraud and food adulteration** (55 percent); **antimicrobial resistance** (36 percent); **contaminants** (36 percent); **issues related to the globalization of trade** (36 percent); **challenges in food safety management along the chain** (32 percent); **food-borne pathogens** (32 percent); and **new distribution channels** (32 percent). These are consistent with the views observed by the evaluation missions to several countries.

110 In Europe and Central Asia, there is growing interest and specific demand for incorporating food safety approaches in halal certification. For instance, the evaluation took note of requests in this regard from industry stakeholders in Ukraine, as well as the FAO office. The evaluation also noted an Asian Development Bank (ADB)<sup>20</sup> analysis in the Central Asia Regional Economic Cooperation region which observed that although 'halal' reflects a cultural-religious requirement, markets are poorly regulated, and 'halal' lacks a uniform and harmonized standard and accreditation system. Studies have explored parallels between halal and hazard analysis and critical control points concepts, and private management systems such as HAL-Q (which consists of Halal-GMP and Halal- hazard analysis and critical control points parts) already exist that assure consumers hygiene as well as compliance with religious requirements.

111 Given the large market dimensions, a certified, standardized approach to Halal certification consistent with food safety scientific principles serves both consumer and producer interests. Agencies such as the Asian Development Bank have shown increasing interest in this area. The evaluation also took note of discussions in the Codex Committee on Food

19 Codex Alimentarius Commission (2016): "Food Safety and Quality Situation in the Countries of the Region", Joint FAO/WHO Food Standards Programme, FAO/WHO Coordinating Committee for Europe. 30th Session, 3 - 7 October 2016 Astana, Kazakhstan.

20 <http://www.carecprogram.org/uploads/events/2012/SPS-Workshop/Halal-Food-Safety-and-Halal-Critical-Control-Points.pdf>

Labelling, specifically on the proposal to revise the general guidelines for the use of the term 'halal' (CAC/GL24-1997). In this regard, specific mention was made of the ongoing work of other organizations; notably, the Standards and Metrology Institute for Islamic Countries on a global halal certification scheme, recognizing that OIC/Standards and Metrology Institute for Islamic Countries standards are based on Islamic rules and principles, and refer to ISO/IEC and Codex standards. In some regions, FAO's support to national capacities will also need to consider the compliance requirements of Standards and Metrology Institute for Islamic Countries standards with the international reference standards. These will have implications for the national standards setting processes, institutional structures and arrangements in countries and cultures where halal certification is an important consideration for market and consumer access.

## 7. Conclusions

- 112 Food safety is an important area of FAO's contribution to sustainable development. Food safety outcomes contribute to food and nutrition security; sustainable use of food system resources; rural poverty reduction through sustained income and livelihoods along value chains; and resilience in food chain resources to crises and shocks. These in turn contribute to the Sustainable Development Goals, particularly 1, 2, 3, 10, 12, 14 and 17.
- 113 FAO (along with WHO) shows a distinct comparative advantage in international standards setting; development of national legislation and regulatory frameworks for food safety, surveillance; and monitoring, surveillance and emergency response support to control plant and animal diseases, including transboundary interventions. However, there is a crowded landscape of technical assistance providers in downstream areas of SPS standards implementation, compliance monitoring and trade facilitation infrastructure.
- 114 Good results were found in all five areas of the food safety strategy, particularly in supporting science-based food safety governance and decisions; support to national food control regulatory capacities; and enhancing food safety management along food chains. Each of these areas are key elements in enabling trade flows for safe food. Thus, FAO's food safety programme has made clear contributions towards SO4.
- 115 Anchor partnerships with WHO and OIE have been instrumental to FAO's food safety work. These partnerships are becoming stronger in view of the increasing need for 'One Health' approaches straddling the plant-animal-human ecosystem interfaces. These partnerships have been instrumental in developing global knowledge and evidence-based approaches, as well as the introduction and propagation of best practices, standards and operating procedures among food safety practitioners. FAO and partners, with strong donor support, have helped put together regional and global networks for cooperation in surveillance and monitoring, early warning and emergency response to prevent and contain the spread of transboundary plant pests and animal diseases.
- 116 FAO has demonstrated strong cross-SP synergies between surveillance, emergency response and preventive capacity development initiatives, and has made judicious use of its emergency response support structures to strengthen resilience of national structures and systems to handle the recurrence of food safety threats. However, the dependence on emergency support resources is a potential risk: reductions and withdrawal of emergency support budgets will deplete FAO's field strength and ability to backstop country offices, as well as counterparts in transboundary disease management and food safety threats. Thus, FAO's continued reliance on emergency support funding and project-supported staff to implement preventive surveillance and control assistance programmes carries the risks associated with withdrawal/downscaling of donor support, which impact FAO's technical assistance capacities in several agriculture-exporting developing countries.
- 117 Notwithstanding the effectiveness of support, there are concerns regarding FAO's limited capacities to service the growing magnitude and complexity of demands. These include increasing demands for food safety support from countries, as well as requests for FAO's support on emerging issues such as food fraud and adulteration and an ever increasing demand for scientific advice to provide the basis for the international food safety standards of the Codex Alimentarius Commission.
- 118 The bulk of FAO's work related to standards setting falls under Corporate Technical Areas and is ring fenced, thus benefiting from predictable regular budget funding. This has been an important element in progressing work on standard setting and scientific advice provision. However, the growing demand for standards, as well as the emergence of new technical areas and issues, place growing demands on scientific advice and standard-setting support amidst constant levels of resource allocations across biennia. The importance of neutrality limits the sources of extra budgetary support that can be accessed to support standards-setting.

- 119 FAO's capacity to support future demands, which will increase on the ground along specific value chains, will depend largely on maintaining a range of core competencies in the Food Safety Programme to be able to respond effectively to complex food safety problems. Recognizing that it would be impossible to have experts within FAO in every single specialty area related to food safety, it is imperative to have effective partnerships with specialists (from public and private sector) to complement the core staff expertise at headquarters and in the field. These necessitate a review of the strategy to strengthen field level implementation aspects and appropriate resource mobilization and partnership approaches.





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