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Organization of the  
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Project evaluation series

# Bangladesh Food Safety Cluster Evaluation

September 2017



**PROJECT EVALUATION SERIES**

# **Bangladesh Food Safety Cluster Evaluation**

**FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS  
OFFICE OF EVALUATION**

**September 2017**

Food and Agriculture Organization of the United Nations

Office of Evaluation (OED)

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For further information on this report, please contact:

Director, Office of Evaluation (OED)  
Food and Agriculture Organization  
Viale delle Terme di Caracalla 1, 00153 Rome  
Italy  
Email: [evaluation@fao.org](mailto:evaluation@fao.org)

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### **Evaluation team**

Ms Nanae Yabuki, Evaluation Manager, FAO Office of Evaluation

Ms Subramanyam Vidalur Divvaakar, Senior International Consultant

## Acronyms and abbreviations

BFSA	Bangladesh Food Safety Authority
DGHS	Directorate General of Health Services
FAO	Food and Agriculture Organization of the United Nations
FSC	Food Safety Cluster
GAP	Good Agricultural Practices
GHP	Good Hygiene Practices
MoHFW	Ministry of Health and Family Welfare
NFSL	National Food Safety Laboratory
NGO	Non-governmental Organization
RAP	FAO Regional Office for Asia and the Pacific
SO	FAO Strategic Objective
SPA	Specially Protected Area
USAID	United States Agency for International Development
WHO	World Health Organization



## Executive summary

### Introduction

- 1 In accordance with the Food and Agriculture Organization of the United Nations (FAO) policy governing the evaluation of extra-budgetary funded projects, projects exceeding USD 4 million must be evaluated during their lifetime. In late 2015, the FAO Bangladesh Country Representative and the Office of Evaluation agreed to conduct an evaluation of the following two projects as one cluster evaluation: "Improving Food Safety" (GCP/BGD/047/NET), and "Institutionalization of Food Safety in Bangladesh for Safer Food" (GCP/BGD/054/USA).
- 2 The majority of FAO's interventions to enhance food safety capacity in Bangladesh were implemented under these two projects. Both projects focused on the development of an effective and well-coordinated food control system, and built upon previous FAO projects (particularly "Improving Food Safety, Quality and Food Control in Bangladesh" (GCP/BGD/038/EC)).
- 3 The overall objective of the evaluation was to identify lessons learned and make recommendations for FAO's current and future interventions in food safety in Bangladesh. The specific objectives were to i) assess the strategic relevance of the Food Safety Cluster (FSC) to national policies, strategies and development objectives; and ii) assess FSC's contributions to the results identified under the priority areas and strategic framework of the Country Programming Framework.
- 4 The evaluation reviewed the relevance, design, coherence and synergies, impact and effectiveness, and sustainability of the FSC, and covered issues related to gender mainstreaming, partnerships and capacity development.

### Main findings

- 5 The main findings, based on the evaluation criteria, are presented as follows:
- 6 **On relevance**
  - The cluster addressed specific national priorities as articulated in national policy documents. The projects coordinated by the cluster represent the largest intervention in terms of scope and financial resources allocated to food safety management in Bangladesh.
  - The cluster is aligned with FAO's Strategic Objective 4 and Sustainable Development Goals 2 and 3 through the development of inclusive and efficient agriculture and food systems. FAO's global knowledge and strategic position in the international governance mechanisms are critical elements of the cluster.
- 7 **On design**
  - Both project designs reflected FAO's longstanding and global mandate in food safety and quality, and benefited from continued engagement with the Government of Bangladesh in these areas. Project activities were well-sequenced and served as building blocks for comprehensive regulatory, institutional and technical capacity strengthening.
  - The cluster received significant cooperation, technical backstopping and knowledge support from FAO headquarters and the regional office. Lessons from the field implementation can be applied to improve technical assistance in other countries and to enrich FAO's institutional knowledge.

**8 On coherence and synergies**

- The cluster's two projects were complimentary in achieving the expected outcomes of building institutional and grassroots capacities. The activities and their implementation sequence were well-adjusted to ongoing policy and institutional developments in consultation with the Government of Bangladesh.

**9 On impact and effectiveness**

- There were visible results in all three outcome areas of the cluster. There was evidence of strengthening the institutional coordination, standards and regulation setting mechanisms; technical capacities in analysis, surveillance and inspection; consumer awareness; and grassroots adoption of good practices resulting in food safety. These results are attributable to FAO interventions, which benefitted from the contribution of implementing partners.
- The cluster built capacities at the individual and organizational levels, and to a lesser extent in the enabling environment. Technical and functional capacities were built upstream, especially at the Bangladesh Food Safety Authority (BFSA), midstream (food control monitoring units) and downstream (value chain actors), and awareness was enhanced.

**10 On sustainability**

- It was too early to assess the sustainability of results from project GCP/BGD/054/USA, as it was in the initial implementation stages when this evaluation took place. In the Ministry of Health and Family Welfare (MoHFW), interventions from project GCP/BGD/047/NET helped to build technical and functional capacities for food safety inspections, surveillance, and analysis/validation methods for food microbiology and chemical analysis. These activities will be sustainable if the technical capabilities of field laboratories are improved. Financial sustainability will depend on the Government of Bangladesh's provision of adequate budgetary resources to cover operational expenditures. There are positive indications of the government making specific budgetary provisions for food safety in the relevant sectoral five-year plans.
- Most institutions, except BFSA, existed before the cluster activities began. These institutions have been equipped with the skills to improve food safety management. Continued capacity development and adequate financial support are needed to upscale the current benefits.
- While the cluster has established basic building blocks for a national food safety management system, the capacities need to be translated into effective field programmes to produce results across the food chains. While attention so far has been on products, more attention should be given to important areas such as market hygiene, expansion of analysis capabilities, cost-effective risk-based inspection models, institutional coordination and governance. Some of these would require FAO's support, while others can be addressed by other partner organizations for upscaling.

**11 On gender**

- In the project designs, only a few activities and indicators (largely in GCP/BGD/054/USA) addressed gender issues. However, participation by women in the cluster's activities was fair and gender-disaggregated data reporting is included in progress reporting.

**12 On capacity development**

- The cluster had a significant focus on capacity development, in terms of both beneficiary coverage and depth of coverage. There was encouraging evidence that these results could produce both technical and functional benefits. Capacity development accounted for 60–65 percent of project budgets.
- FAO managed diverse partnerships in the cluster, including ministries and line agencies; technical and scientific institutions; consumer networks; private sector organizations;

and donors. While some of these are core partners that have long-term relationships with FAO, partnerships with the others will depend on the continuation of activities and availability of resources.

- The cluster design and activities engendered meaningful collaboration among government agencies and between government and private sector actors; however these results were driven by the cluster's activities and resources. Their post-intervention continuation remains uncertain in the absence of complementary interventions building on the cluster's activities. The interagency coordination mechanisms of the BFSA will continue, as they are mandatory under the BFSA 2013.

## Conclusions, recommendations and lessons learned

### Conclusions

**Conclusion on strategic relevance.** FAO's interventions were highly relevant to the national context, United Nations' values and FAO's comparative advantage. The cluster addressed critical areas of an effective food control system; strengthened linkages between food safety measures and food and nutrition security and public health outcomes; and utilized FAO's expertise, global knowledge and appropriate model practices.

**Conclusion on programme contribution.** FAO's support to the FSC is making a difference, with perceptible results at technical and grassroots levels. The right steps are being taken toward institutionalization and governance, although much work remains.

**Conclusion on sustainability.** In order to maintain the continuity of programme results, strategies to upscale project activities should be built into the programme design and developed with technical assistance; the identification of potential upscaling partners should be included in the programme activities.

### Recommendations

**Recommendation 1. To FAO.** Regarding institutionalization, FAO should continue to use adaptive approaches and to calibrate support to the pace of implementation and extent of ownership.

**Recommendation 2. To FAO.** Continue grassroots engagement to promote behavioural change among practitioners and consumers by demonstrating food safety benefits, while also strengthening market linkages.

**Recommendation 3. To FAO.** Link success models to complementing initiatives for upscaling and linkage to markets.

**Recommendation 4. To FAO and the Government of Bangladesh.** Engage in public dialogue for effective and accountable food control based on scientific evidence and good governance principles.

**Recommendation 5. To the Government of Bangladesh.** Showcase food safety as an example of good governance.

**Recommendation 6. To development partners.** Prioritize support to pilot-tested and scalable interventions.

### Lessons learned

**Lesson 1.** Food safety is a complex and multi-dimensional issue that requires sustained efforts delivered through well-coordinated partnerships.

**Lesson 2.** National ownership and commitment demonstrated through actions are prerequisites for implementing effective food safety management systems based on good governance principles: neutrality, transparency and accountability.

**Lesson 3.** Interventions should be flexible and adapt swiftly to changes in the external environment, and should receive continued support based on milestones in key outcome areas.

## 1. Introduction

- 1 In accordance with the Food and Agriculture Organization of the United Nations (FAO) policy governing the evaluation of extra-budgetary funded projects, projects exceeding USD 4 million must be evaluated during their lifetime. In late 2015, the FAO Bangladesh Country Representative and the Office of Evaluation agreed to conduct an evaluation of the following two projects as one cluster evaluation: “Improving Food Safety” (GCP/BGD/047/NET), and “Institutionalization of Food Safety in Bangladesh for Safer Food” (GCP/BGD/054/USA).
- 2 The majority of FAO’s interventions to enhance food safety capacity in Bangladesh were implemented under these two projects. Both projects focused on the development of an effective and well-coordinated food control system, and built upon previous FAO projects (particularly “Improving Food Safety, Quality and Food Control in Bangladesh” (GCP/BGD/038/EC)).

### 1.1 Purpose, scope and objectives

#### Purpose

- 3 This evaluation aimed to assess the overall contribution of the food safety portfolio to the enhancement of food safety capacities and capabilities in specialized areas, as well as the progress towards the development of an effective, well-coordinated food control system in Bangladesh. It assessed the extent of improved technical capabilities and considered the outcomes of demonstrated safe production and service systems piloted in the country. The evaluation recommends actions to maximize the strategic relevance of FAO’s work in Bangladesh on food safety, and especially in terms of policy support, institutional strengthening and capacity development. This cluster evaluation was an integral part of the Bangladesh country programme evaluation conducted in 2016.
- 4 The primary stakeholders and main target audiences for the evaluation are the FAO country office and government counterparts in Bangladesh, and donors. Secondary stakeholders include other FAO staff and partners whose work may be indirectly affected by the projects.

#### Scope

- 5 This evaluation assessed the two projects as one cluster, focusing on outcome level results and key outputs. It covered the entire project period for GCP/BGD/047/NET, which had completed its first phase of 2012–2015 and was extended until 2018 with top-up funding of USD 3.12 million. Project GCP/BGD/054/USA began in October 2014 and was approaching its mid-term when the evaluation was conducted; therefore, the full assessment of its impacts and outcomes was not feasible. However, its assessment covered important aspects like the adaptation of its design based on the results attained and challenges encountered in GCP/BGD/047/NET. The evaluation also examined how progress achieved under GCP/BGD/054/USA contributed to improving food safety in Bangladesh. It emphasized both intended and unintended results, with less emphasis on the management and processes for GCP/BGD/054/USA.

#### Objectives

- 6 The overall objective of the evaluation was to identify lessons learned and make forward-looking recommendations for FAO’s current and future interventions in food safety in Bangladesh. The specific objectives were to i) assess the strategic relevance of the Food Safety Cluster (FSC) to national policies, strategies and development objectives; and ii) assess FSC’s contributions to the results identified under the priority areas and strategic framework of the Country Programming Framework.

- 7 The evaluation reviewed the relevance, design, coherence and synergies, impact and effectiveness, and sustainability of the FSC, and covered issues related to gender mainstreaming, partnership and capacity development.

**Box 1: Evaluation questions**

**Relevance:** What is the strategic positioning and role of the food safety cluster intervention toward achieving Bangladesh’s development objectives?

**Design:** Did the design adequately articulate/draw on FAO’s comparative advantages and competencies? To what extent and in what ways did the regional office and headquarters’ support add value to the cluster? How appropriate were the activities to achieving the planned outcomes?

**Coherence and synergies:** Have resources been used efficiently in producing the envisaged results? Has FAO realized synergies with partner institutions technically, financially and operationally? Were appropriate synergies foreseen among different streams of activities (technical cooperation programme, normative, emergency assistance)?

**Impact and effectiveness:** What changes can be observed that are attributable to the FSC’s interventions that are directly linked to the FSC’s main objectives? What capacities did the cluster build upstream and downstream? Which tangible benefits have been achieved?

These changes would include: (i) capacities of the beneficiaries developed in the areas of food safety; (ii) changes related to policy advice, technical assistance and direct support (e.g. behavioural changes, institutional changes, policy changes, technical adaptations, tangible benefits); (iii) public health, livelihoods and incomes; (iv) partnerships and coordination mechanisms among central government institutions, decentralized offices, community-based organizations and private sector; (v) empowerment of women, youth and minor groups.

**Sustainability:** To what extent can the results be considered sustainable? Was there a systematic approach to an exit strategy agreed among key partners to ensure post-project sustainability? How robust are the institutions established and how can they ensure the continuance of benefits? What are the specific needs and challenges that justify further interventions? What areas justify further interventions by FAO?

**Gender:** How effectively has gender been addressed in project design and implementation?

**Capacity development:** To what extent has the cluster aimed and contributed to the capacity development of stakeholders?

**Partnerships:** To what extent has FAO leveraged partnerships to improve the implementation and sustainability of the projects?

**1.2 Methodology and limitations**

- 8 A cluster is a group of synergistic and complementary projects contributing to a common specific objective. Its aim is to guarantee complementarity among projects, to maximize FAO’s added value within a given field and to establish a critical mass of resources to address a priority issue. Clustering is useful in solving multi-dimensional challenges. The two projects fit this description well and were grouped into a cluster for the purpose of this evaluation.
- 9 Both projects had different implementation timelines, counterparts and results matrices. They were grouped under three outcome areas: effective food control system institutionalization and governance, safe value chains, and informed and empowered consumers. A combined assessment was made for the cluster, drawing on observations from each project to substantiate the findings and conclusions. Both projects were still being implemented when the evaluation was conducted, which made it premature to assess the full impacts. The evaluation therefore based its conclusions on the potential for impacts and the conditions and factors that could influence them. This was done meaningfully for GCP/BGD/047/NET, which had completed its first phase, but was not possible for GCP/BGD/054/USA, which was still at an early stage of implementation.
- 10 To address the key evaluation questions, an evaluation matrix consisting of sub-questions, target respondents and sources of information was prepared and discussed with the

country office. Supporting data was collected through a desk review of materials and discussions with the technical officers (see Appendix 1 for the evaluation matrix).

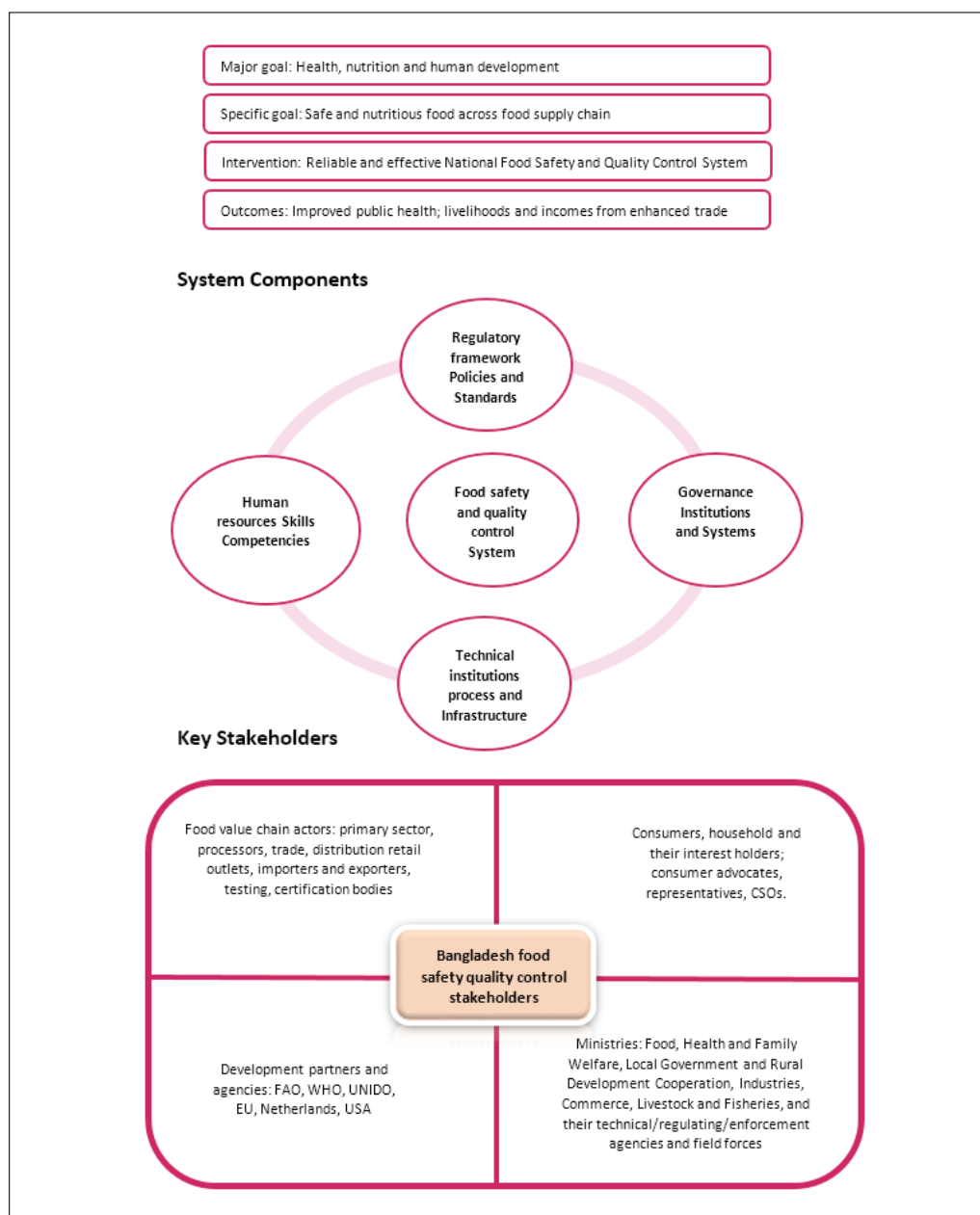
- 11 The main tools and methods used to answer the evaluation questions were:
  - in-depth desk review of relevant documents;
  - semi-structured interviews with key informants, namely FAO staff at the country office, regional office and headquarters, implementing partners, donors and other development partners, immediate and intermediate beneficiaries affected by/involved in the projects; and
  - field visits to see specific outputs.
- 12 The list of documents consulted and people met are included in Appendices 2 and 3.
- 13 The evaluation adopted a consultative and transparent approach with internal and external stakeholders. Triangulation was applied to validate the evidence and information gathered, and to support the evaluation's conclusions and recommendations.
- 14 One limitation of the evaluation was the inability of the evaluation team to meet the chair or any senior member of the Bangladesh Food Safety Authority (BFSA), despite providing sufficient advance notice. Another limitation was limited field trips due to the security situation at the time of the mission. However, the evaluation team met a representative selection of the final beneficiaries to obtain information needed for evidence-based findings and conclusions.

## 2. Background and context

### 2.1 National context

- 15 Food safety is a priority issue of the Government of Bangladesh and is seen as essential to attaining the national goals of food and nutrition security. Although food availability is no longer a main concern at the national level, food access and utilization remain challenging for some people. Establishing an effective and well-coordinated food control system has important implications in both domestic (e.g. public health) and external (e.g. trade) markets. Accordingly, food safety has been identified as a priority area of work and is an essential prerequisite for achieving the broad development goals of food security and nutrition.
- 16 Food safety has remained an archaic and fragmented space in Bangladesh for several years. The Bangladesh Pure Food Ordinance 1959, implemented under the Bangladesh Pure Food Rules 1967, governed Bangladesh's food regulations up to 2013. Although the ordinance was amended in 2005 by the Bangladesh Pure Food Amendment Act, it continued to use the outmoded rules formulated in 1967, which focused on end-product inspection and controls rather than preventive measures across the food chain.
- 17 In 2013, a new Act, the Bangladesh Food Safety Act 2013, was passed, which supersedes the previous legislation. The Act includes provisions for national governing and implementing structures, and legitimizes the establishment of a national food safety authority, the Bangladesh Food Safety Authority, to implement the Act and coordinate all food safety and food control activities in Bangladesh. The BFSA is also tasked with the responsibility of revising all older rules and guidelines and enacting fresh regulations covering not only products, but all stages of the food system (production, inputs, storage, processing, transportation, distribution and markets). National coordination for food safety and control is vested with the National Food Safety Management Advisory Council chaired by the Minister of Food.
- 18 The current Bangladesh model of food safety control is based on an integrated approach; the BFSA does not have unitary control over inspection and control functions, but collaborates with several central and local government agencies responsible for food safety controls over different parts of the food sector. This entails coordination with 11 ministries and hundreds of field units across the food chain, especially in food safety enforcement and compliance monitoring; laboratory networking; food safety risk assessments; and communication. The complexity in the food safety structure in Bangladesh is illustrated in Figure 1 and Table 1.





**Figure 1.** Bangladesh food safety landscape

Source: elaborated by the evaluation team, based on project data

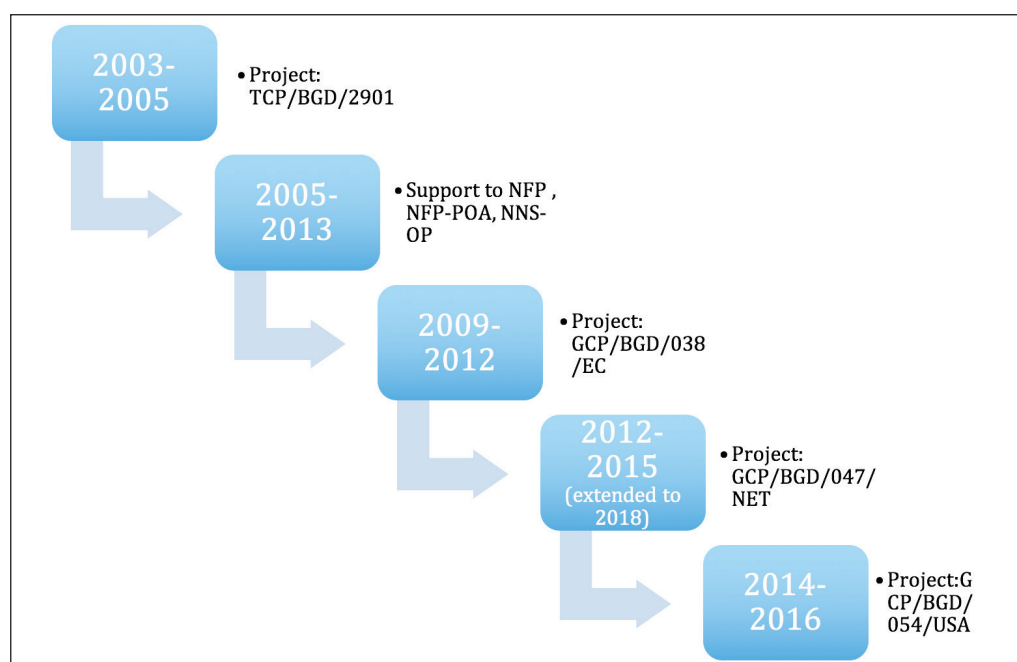
**Table 1.** Partial list of ministries and agencies having jurisdiction over food safety issues

Ministry	Food inspection and enforcement agencies and departments
Food	Bangladesh Food Safety Authority
Local Government, Rural Development and Cooperatives	308 municipalities and eight or nine city corporations
Health and Family Welfare	Directorate General of Health Services (seven divisions, 64 districts, 480 upazilas); Institute of Public Health; Institute of Epidemiology, Disease Control and Research
Agriculture	Department of Agriculture Extension
Fisheries and Livestock	Department of Fisheries; Department of Livestock Services
Industries	Bangladesh Standards and Testing Institution
Finance	Department of Customs
Home affairs	Department of Police
Establishment	Executive magistrates in mobile courts
Law	Food courts

Source: elaborated by the evaluation team, based on project data

## 2.2 FAO support

- 19 FAO has had a long and successful track-record of cooperation with the Government of Bangladesh in providing technical support to strengthen food safety control structures and upgrade food standards and regulations (Figure 2). There has been a continuum of FAO interventions to develop Bangladesh's food safety, quality and food control systems, beginning with a Technical Cooperation Programme for Strengthening Food Control in 2003. This programme focused on supporting the health sector and aimed to develop and implement food safety and quality policies. These interventions were further reinforced under the overarching framework of the National Food Policy 2006 and its Plan of Action, which included specific measures related to food safety and control systems.
- 20 FAO also implemented the National Food Policy Capacity Strengthening Programme 2005–2013 with the Ministry of Food and Disaster Management. Since then, there has been continued and progressive involvement by FAO in policy formulation and institutional support related to food safety in the country. This includes the establishment of the National Food Safety Advisory Council and its empowerment by statute; training and support for food laboratory analyses; and development of food safety management systems based on international benchmarks such as the Hazard Analysis and Critical Control Points system.
- 21 In 2009, FAO initiated the European Commission-funded project, "Improving Food Safety, Quality and Food Control in Bangladesh" (GCP/BGD/038/EC), which was the precursor to the two projects covered as a cluster under this evaluation (GCP/BGD/047/NET and GCP/BGD/054/USA). Project GCP/BGD/047/NET continued a number of initiatives already started under the European Commission project and advanced progress on these initiatives. Project GCP/BGD/054/USA was initiated as a result of the decision to form the BFSA.



**Figure 2.** Progression of FAO's support to food safety and quality issues in Bangladesh

Source: elaborated by the evaluation team, based on project data

## 2.3 The portfolio

- 22 This cluster evaluation comprises two projects, GCP/BGD/047/NET and GCP/BGD/054/USA. GCP/BGD/047/NET, and is a comprehensive capacity development project whose outputs provided human and material resources, best practices and science-based evidence that could be used by the nascent BFSA to commence its operations. GCP/BGD/054/USA is a knowledge-based project that is expected to lay the foundation for a well-coordinated food control system and pave the way for institutionalized development and adoption of best practices. Both projects were implemented independently by two different partner ministries

and in close cooperation through joint workshops, sharing training materials and expert staff as resource persons for joint initiatives, and stimulating interagency cooperation between those agencies of government responsible for food control. The projects were managed by FAO Bangladesh, with the FAO Representative as Budget Holder and technical oversight provided by the Lead Technical Officers in the regional office and the Lead Technical Unit at headquarters. Table 2 summarizes the main features of the projects and Table 3 provides information on the relationship between components of the two projects.

- 23 **Improving Food Safety in Bangladesh (GCP/BGD/047/NET):** The overall goal of this project was to support the establishment of an efficient and well-functioning food safety control system in Bangladesh, which would lead to improved public health and enhanced trade in food commodities. The expected impacts are: i) strengthening food security through improved food safety and reduced incidence of foodborne illness within the population; and ii) improving stakeholder involvement and coordination leading to enhanced trade in selected food commodities (e.g. fish, fish products and fruits and vegetables). Table 2 presents the seven specific expected outputs of the project, which concluded its planned activities in December 2015. On request of the Ministry of Health and Family Welfare (MoHFW) and with the agreement of the Government of the Netherlands, the project was granted a three-year cost extension with the objective of converting the improved technical capability to full operational implementation, emphasizing governance and accountability.

**Table 2.** Brief description of the cluster's two projects

Code	Description	Duration	Budget	Expected outputs
GCP/BGD/047/NET	Improving food safety in Bangladesh (counterpart - MoHFW)	2012–2015 (42 months) extended to 2018	USD 12.5 million + USD 3 125 million (top up)	<ul style="list-style-type: none"> <li>Strengthened food safety analysis capacity</li> <li>Strengthened capacity of standards formulation based on risk assessment</li> <li>Strengthened institutionalization within MoHFW</li> <li>Enhanced public awareness and education on food safety and consumers' health</li> <li>Enhanced foodborne illness surveillance</li> <li>Strengthened preventive risk-based approaches in the food chain</li> <li>Capacity development in identified sub-sectors of the food industry to enhance food safety and market access</li> </ul>
GCP/BGD/054/USA	Institutionalization of food safety in Bangladesh for safer food (counterpart Ministry of Food)	2014–2017 (36 months)	USD 4.46 million	<ul style="list-style-type: none"> <li>Coherent and effective national food safety and quality governance</li> <li>Effective and integrated control of food chain threats demonstrated in poultry supply chain</li> <li>Enabling environment for third party inspection and certification</li> </ul>

Source: elaborated by the evaluation team, based on project data

- 24 **Institutionalization of Food Safety (GCP/BGD/054/USA):** This project aims to support the process of institutionalizing food safety in Bangladesh by improving integration of the national food safety control system and enhancing interagency collaboration and cooperation. It provides technical assistance to the Ministry of Food to operationalize the BFSA. Before the establishment of the BFSA, there was limited coordination and the different agencies and ministries involved in food safety operated independently. BFSA is now working to ensure overall coherence in food control. Coordinating the efforts of these agencies and developing a transparent and accountable national food safety control programme is now a priority. The project aims to achieve three key outputs (Table 2).

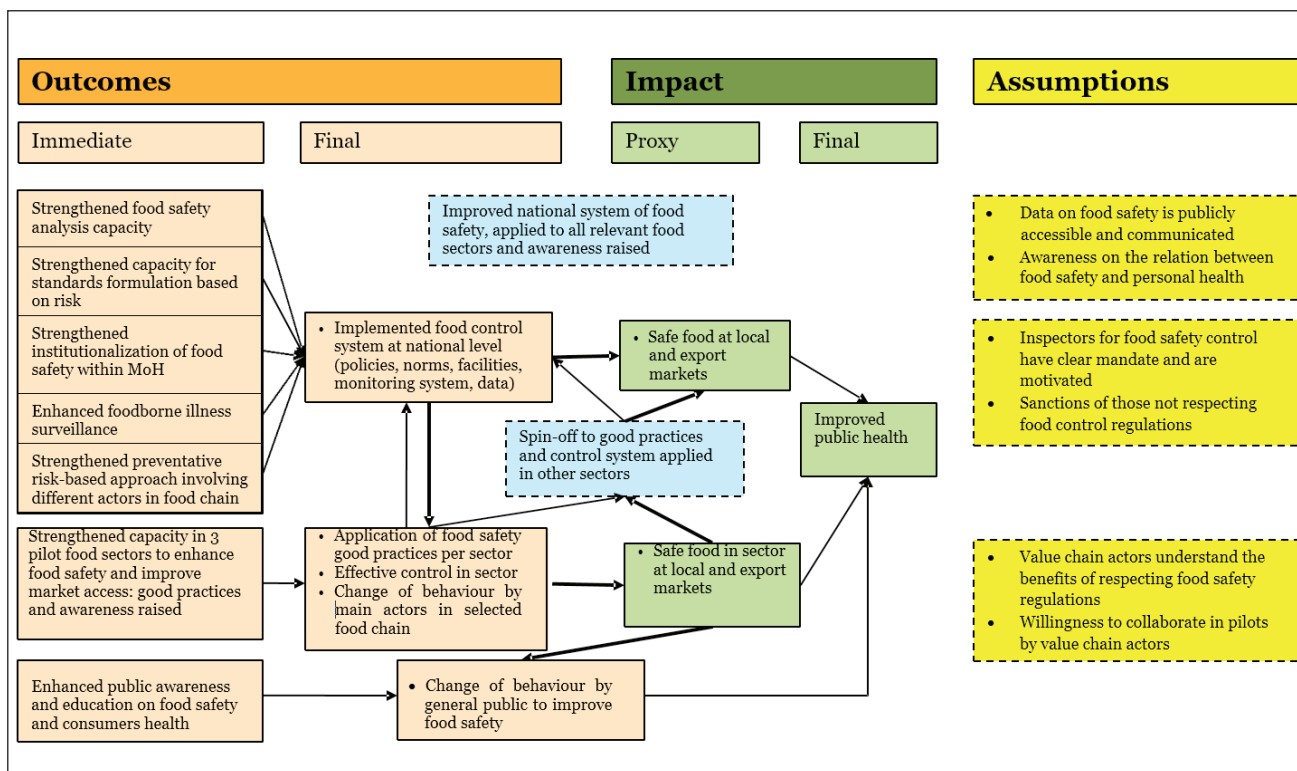
**Table 3.** Correspondence between the GCP/BGD/047/NET and GCP/BGD/054/USA project components

GCP/BGD/047/NET	GCP/BGD/054/USA	Relationship between project components
Food safety analysis capacity	Coherent and effective national food safety and quality governance	GCP/BGD/047/NET: Focused on the National Food Safety Laboratory services, staff and facilities and a national laboratory network; abilities to perform risk assessments and a single standard approach across multiple ministries, and setting-up a Directorate of Food Safety in MoHFW. GCP/BGD/054/USA: Reconfigures the institutionalization of food control and safety governance functions under the Ministry of Food in place of MoHFW. Implications for National Food Safety Advisory Council-BFSA technical function areas. Focus on regulatory and legal drafting.
Standards formulation capacity based on risk		
Strengthened institutionalization of food safety		
Public awareness and education on food safety and consumer health		GCP/BGD/047/NET: Focused on a rights-based approach to safe food and highlighted hygiene awareness at the grassroots level.  GCP/BGD/054/USA: No equivalent component.
Enhanced foodborne illness surveillance	Effective integrated control of food chain threats by coordinating food safety, animal health and environmental surveillance demonstrated in the poultry supply chain	GCP/BGD/047/NET: Initiated a pathogen-specific surveillance system for diarrhoea and other foodborne diseases and for collecting data, and outlined an emergency response system in case of outbreaks.  GCP/BGD/054/USA: Takes a value chain intensive approach to create capacities in a single key value chain (poultry) to provide replicable models. The One Health approach is reassessed and reinforced, piloted in one important chain.
Preventive risk-based controls across the chain	Coherent and effective national food safety and quality governance	GCP/BGD/047/NET: The emphasis was on reforming the institutional system to create a functional, competent inspection authority overseeing food processing, preparation and marketing, and strengthening the inspection system for domestic and imported foods. The project also aimed to establish a role for the private sector and control, recognized by the government.  GCP/BGD/054/USA: With the new apex role of the BFSA, the entire institutional structure will be recast, reflecting the provisions of the new Act and its Regulations and Procedures.
Capacity in identified sub-sectors for improved food safety and market access	Enabling environment for improved third party inspection/verification and certification to national food control	GCP/BGD/047/NET: Sought to create sector-specific guidelines based on international reference standards and apply them to three sectors, and to develop a model food chain to serve as a pilot for others. Studies were done in fisheries, fruits and vegetables, and street food vending.  GCP/BGD/054/USA: Refocuses the agenda by looking at accredited product and systems certifications across the value chain, and extends to voluntary standard requirements in addition to minimum regulatory requirements, bringing in a cross-border market dimension. The sector supply chain work was reconstituted into Output 2 and confined to the poultry sector.

Source: elaborated by the evaluation team, based on project data

## 2.4 Theory of change

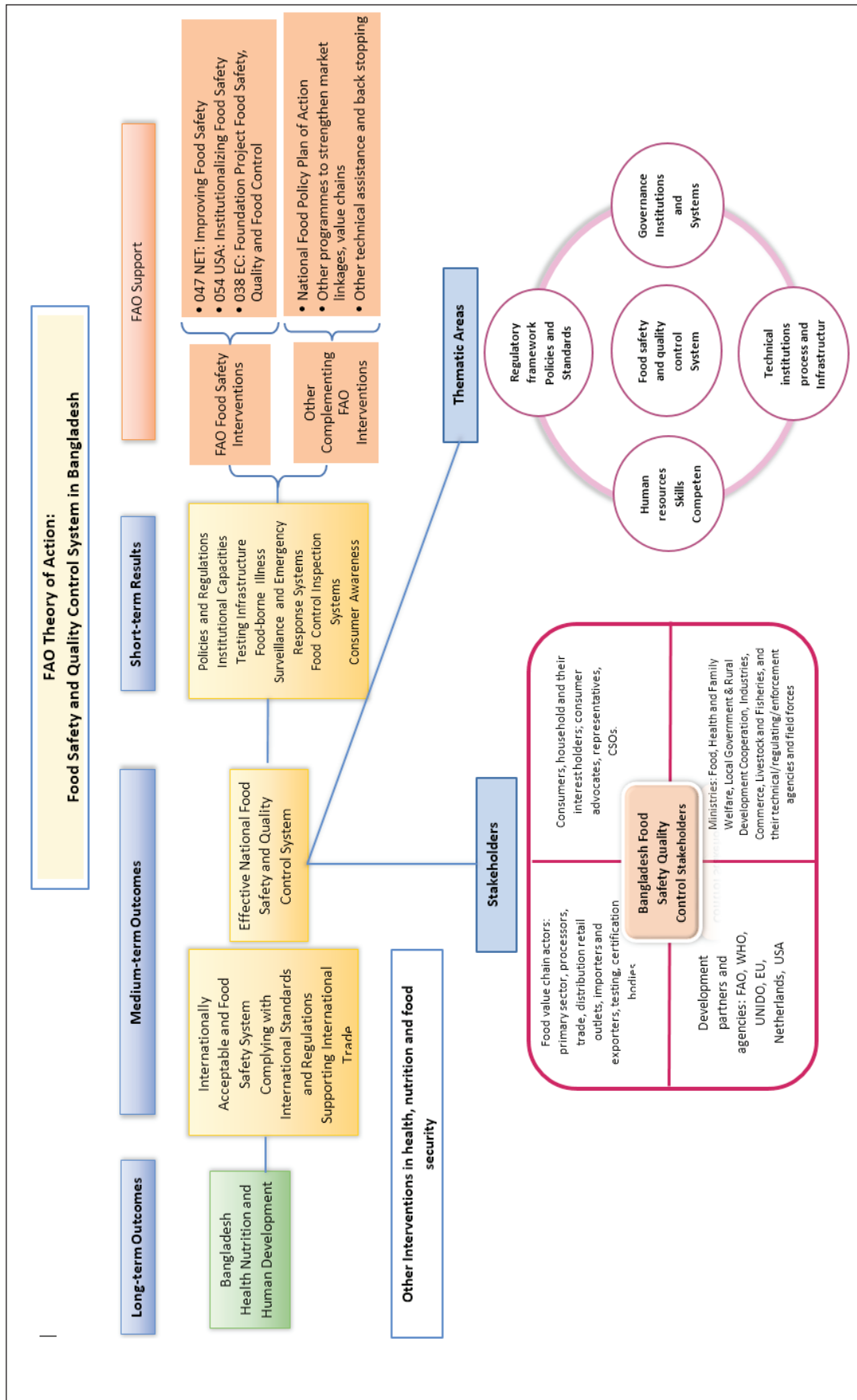
- 25 Taking into account the synergies and complementarities between GCP/BGD/047/NET and GCP/BGD/054/USA (Table 3), a common results framework was adopted, which encompassed the two project logframes and highlighted the confluence of results from the projects. Both projects contributed to three outcome areas: i) food control systems institutionalization and governance; ii) food safety practices in value chains; and iii) consumer attitude changes resulting in demand for safe food.
- 26 The desired outcomes of public health and improved livelihoods are not entirely influenced by interventions in food safety systems alone as there are several other factors at play. Thus, effective national food safety systems may be positioned as intermediate goals in achieving public health and livelihoods goals. On the other hand, the failure of food safety systems can reverse development outcomes; therefore, an effective national food safety system should be seen as a key component of the public health strategy. The creation and enforcement of such a system would add costs to non-compliant and wilfully defaulting actors in the value chain, while improving health outcomes for the whole population, in particular the economically weakest who are most susceptible to the deleterious effects of unsafe food.
- 27 Once a fully functional and effective national food safety system is established and accredited, this will provide new economic opportunities from trade, based on market differentiation and competitive advantage. This aspect is very important in the context of Bangladesh with its target of reaching a middle-income country status by 2021. Thus, the economic gains from trade and livelihoods also justify and support differentiated regimes and private/voluntary standards based on specificities of the markets and consumers. This is already taking place in shrimp exports, which meet the stringent requirements of the European Union at a time when the domestic food safety landscape requires considerable upgrading. However, food safety concerns and demands of the domestic market and international market are expected to converge, as they are rooted in international food safety guidelines and standards that are common to all. It is assumed that market and consumer awareness will result in demand for safe and hygienic food in domestic and global markets alike. Figures 3 and 4 present a preliminary schematic of the Theory of Change and Theory of Action respectively, outlining the pathways of FAO influence toward intermediate and long-term outcomes.



**Figure 3.** Theory of Change for the food safety cluster

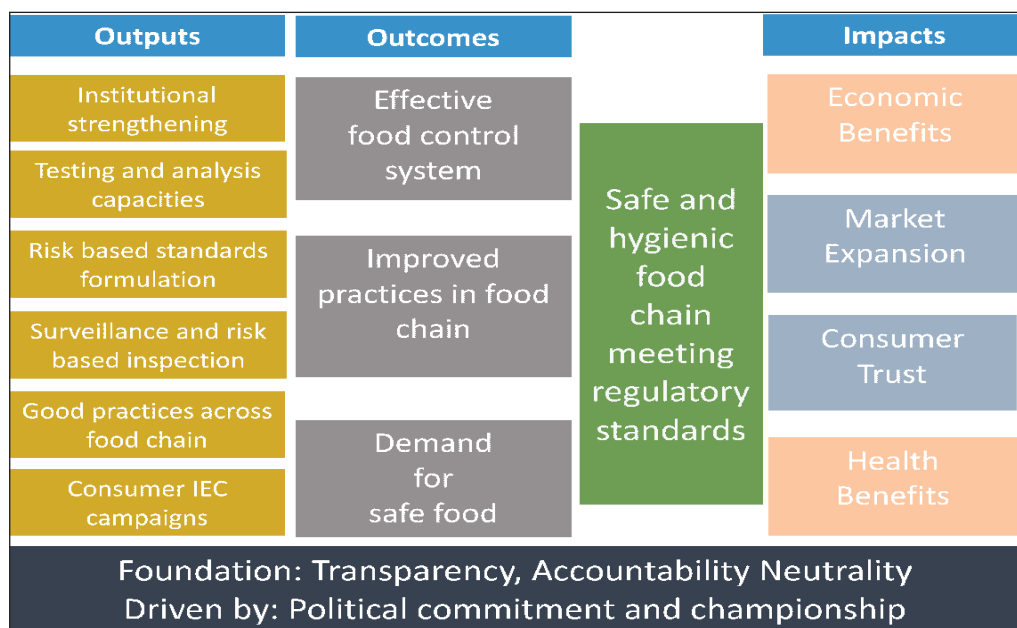
Note: thick lines are feed-back loop with potential upscaling

Source: elaborated by the evaluation team, based on project data. Brief report for identification of key issues on Theory of Change, indicators and research questions (Project: Food Safety)



**Figure 4.** Theory of Action: FAO’s pathways of influence in Bangladesh’s food safety landscape  
 Source: elaborated by the evaluation team, based on project data

28 Figure 5 shows the results chain of the food safety cluster based on the Theory of Action devised by FAO through a series of interventions.



**Figure 5.** Result chain for the food safety cluster

Source: elaborated by the evaluation team, based on project data

29 Food safety is a fundamental requirement for public health and economic well-being, and is thus a form of public good, enabled and overseen by the state. Consumption of unsafe food and water affects millions of citizens in Bangladesh, especially the economically weaker sections, and poses a burden on the public health system. Consuming foods contaminated by chemicals, toxins and microbiological pathogens have long-term health and economic impacts on social and economic development.

30 Effective food safety management – systems, processes, institutions and standards – have the potential to create a trust seal for markets and consumers in Bangladesh and enable both domestic and international trade opportunities. Bangladesh has witnessed several challenges relating to food safety: incidence of higher than permissible levels of drug residues; chemical colours and additives; heavy metals; mycotoxins and pathogens in horticulture, fish and livestock products. These have resulted in foodborne illnesses among citizens, in addition to huge commercial losses from rejections of non-compliant export consignments by importing markets, and periodic bans on exports of some products. Safe food and water is also key to leisure and business tourism, which is a priority sector for Bangladesh.

31 In Bangladesh, food safety control is a multi-dimensional domain, and food safety controls are fragmented because of overlapping and multiple jurisdiction of several ministries and agencies. An effective food safety management system calls for coordinating these diverse stakeholders and approaching food safety as an issue to be addressed end-to-end; that is, from farm to fork, from pond to plate. Accordingly, due political commitment and championship is essential to create a food control system built on the foundations of transparency, neutrality and accountability.



### 3. Findings

32 This chapter presents the main findings of the evaluation by evaluation question.

#### 3.1 Relevance

##### **What was the strategic positioning and role of the food safety cluster intervention toward achieving Bangladesh's development objectives?**

**Finding 1:** The cluster addressed specific national priorities as articulated in national policy documents. The projects coordinated by the cluster represent the largest intervention in terms of scope and financial resources allocated to food safety management in Bangladesh.

33 Food contamination and food adulteration are significant problems in Bangladesh. They occur due to the absence of a satisfactory food regulatory and control system and the lack of education and awareness among food producers, food handlers and consumers.

34 There has been an increasing demand for safer food from domestic consumers, and the Government of Bangladesh recognizes food safety as a national priority. Food safety received specific attention in the Poverty Reduction Strategy Paper 2005, which emphasized the importance of food safety, quality, safe water and sanitation, especially for children. Since then, it has been mainstreamed in policy and planning, including budgetary allocations. The National Food Policy 2006 addressed food safety, hygiene and quality through sub-programmes aimed at improving the regulatory framework and encouraging private sector initiatives. The National Food Policy Plan of Action areas 1.8 and 3.6 specify the thrust of food safety interventions, and the Country Investment Plan (Programme 12), which is fully embedded in the 6th Five-Year Plan (2011–2015), includes a planned outlay for food safety control management. The Health Population and Nutrition Sector Development Plan of the MoHFW identifies food safety as one of 20 components in its operational plan for National Nutrition Services, and outlines actions for strengthening laboratories, surveillance and enhancing public awareness.

35 The FSC has a strategic position because it addresses the essential elements of a food control system – institutional, technical analysis and monitoring capacities, and awareness of food safety practices – in order to achieve comprehensive improvements in the food safety landscape. There is no other development intervention related to food safety and quality systems in Bangladesh that has this comprehensive focus and a matching resource envelope. The monitoring report 2015 reveals that the Government of Bangladesh contributed USD 11 million of the USD 38 million for completed and ongoing projects.

36 Food safety falls under FAO's Strategic Objective 4 which aims to enable inclusive and efficient agricultural and food systems. It is an important part of Priority Area 4 (improving market linkages, value addition, and quality and safety of the food system) of the FAO Bangladesh Country Programming Framework.

##### **To what extent is the cluster aligned with FAO's areas of competence, United Nations normative values and FAO's revised Strategic Framework?**

**Finding 2:** The cluster is aligned with FAO's Strategic Objective 4 and Sustainable Development Goals 2 and 3 through the development of inclusive and efficient agriculture and food systems. FAO's global knowledge and strategic position in the international governance mechanisms are critical elements of the cluster.

37 The cluster contributes to FAO's global goals of food security, poverty alleviation and sustainable management, and utilization of resources through improved food systems and supply chains for safer food products, and is directly aligned with FAO's Strategic Objective 4. By improving the agriculture and food systems for safer food through the adoption of international governance mechanisms and related instruments (e.g.



standards, guidelines and recommendations), the cluster contributes to: Sustainable Development Goal 2, to end hunger, achieve food security, improve nutrition and promote sustainable agriculture; and Sustainable Development Goal 3, to ensure healthy lives and promote well-being for all.

## 3.2 Design

### Did the design adequately articulate/draw on FAO's comparative advantages and competencies?

**Finding 3:** The design reflected FAO's long-standing and global mandate in food safety and quality, and benefited from a continued engagement with Bangladesh in these areas. Project activities were well-sequenced and served as building blocks for comprehensive regulatory, institutional and technical capacity strengthening.

- 38 **Mandate.** FAO has a strong intergovernmental mandate in food safety. Under the FAO/World Health Organization (WHO) framework, FAO provides independent scientific advice, risk assessments and related guidance concerning food safety to the Codex Alimentarius Commission and to governments. FAO and WHO joint expert mechanisms – the Joint FAO/WHO Expert Committee on Food Additives, and Joint FAO/WHO Expert Meetings on Microbiological Risk Assessment – provide scientific inputs to risk assessments and the development of general principles, as well as specific testing methods for an increasing array of chemical/food additives and microbial risks. The FAO Emergency Prevention System for Food Safety Unit assists FAO members and other partners in the prevention and management of global food safety emergencies through early warning, emergency prevention and rapid response.
- 39 **Unique expertise.** Other agencies also support Bangladesh in specific areas of food safety and quality. The United Nations Industrial Development Organization provides assistance in industrial processing. Under a European Union-funded project, it supported the fisheries sector with inspection capacity, laboratory upgrading and Hazard Analysis and Critical Control Points training for operators. It also supported the strengthening of capacities in standards, metrology, testing and quality, focusing on ISO 14000, Hazard Analysis and Critical Control Points and lead auditor training through another regional project. The Asian Development Bank is supporting the rehabilitation of a number of public health laboratories.
- 40 Despite the large number of recent activities in the area of food safety under the European Union-funded food safety project, which have been instrumental in focusing government attention to food safety issues, food inspection and control activities across Bangladesh are still fragmented with inadequate coordination. As a result, they fail to adequately cover the entire food production and distribution chains. FAO provides comprehensive support throughout the value chain – from 'farm to fork'. The Organization's unique strength is its ability to identify problems and reflect on them in building a system for safe food. The World Health Organization does not have the field strength to undertake projects and therefore confines itself to knowledge creation and dissemination, relying on partnerships to apply these in practice.
- 41 **Global network of experts.** Another unique advantage of FAO is that it has ready access to a global network of experts specialized in specific functional areas, product value chains, and geographical territories. This network can be called upon to provide short-term and longer-term technical expertise to specific projects, and is unparalleled according to a wide cross-section of stakeholders interviewed by the evaluation team. The composition and profile of the project team are adequate in delivering specific outputs in standards and laboratory analysis.

### To what extent and in what ways did the regional office and headquarters add value to the cluster?

**Finding 4:** There was considerable cooperation, backstopping and knowledge support provided by FAO headquarters and the regional office to the cluster. Lessons from the field implementation can be applied to improve technical assistance in other countries and to enrich FAO's institutional knowledge.

- 42 Those interviewed referenced the good cooperation with FAO headquarters and the regional office. A full-time Chief Technical Adviser was assigned to the GCP/BGD/047/NET project during the initial phases. Due to the satisfactory progress in implementation, however, the Adviser was withdrawn (in consultation with donors) and the Technical Assistance Team took charge of implementation. The project then received periodic guidance from the regional office and headquarters. In addition to monthly review calls, there were semi-annual visits by the Lead Technical Officers stationed in the regional office until 2015. For the GCP/BGD/054/USA project, FAO appointed a Senior International Adviser with experience in setting-up and managing a national food safety authority and a long track record of working with FAO and WHO, including on the Codex Commission. Thus, Bangladesh benefited from best-in-class technical expertise to implement its food control systems.
- 43 The cluster also made good use of a number of knowledge products and guidance materials from FAO headquarters. These included: the FAO/WHO guidelines for strengthening national food control systems; food control assessment tools; codex training materials; food incident management; early warnings and emergency response guidance; and food recall systems. Bangladesh was also selected for a global study on antimicrobial resistance.
- 44 FAO headquarters considers Bangladesh to be by far FAO's largest and most integrated field intervention in food safety and quality control. The scale and scope envelop the whole range of FAO's specialization in food safety: regulations and institutional arrangements; standards setting; risk-based inspection protocols; foodborne illness surveillance; food control laboratory analysis capacities for chemical and microbial risk assessments; and a broad-based information, education and communication package. The FSC has served as an important pilot for FAO's guidelines and codes. The technical teams have improvised and contextualized several knowledge products using the reference knowledge products. Thus, there is a bottom-up flow of knowledge from Bangladesh to the corporate knowledge repository. It is up to headquarters to utilize the experience of Bangladesh in implementing similar programmes in other countries.

#### How appropriate were the activities to achieving the planned outcomes?

**Finding 5:** The cluster's two projects were complimentary in achieving the planned outcomes of building institutional and grassroots capacities. The activities and implementation sequence were well-aligned to ongoing policy and institutional developments of the Government of Bangladesh.

- 45 The cluster collectively aims at three broad outcomes, which are essential for an effective end-to-end food control system (Table 4). The design is logical and drew on FAO's global experience and model guidelines.

**Table 4.** Mapping of project outputs to outcome areas

Outcome areas	GCP/BGD/047/NET	GCP/BGD/GCP/BGD/054/USA
Effective national food control system	Food safety analysis capacity	Coherent and effective national food safety and quality governance
	Standards formulation capacity based on risk	
	Strengthened institutionalization of food safety	
	Enhanced foodborne illness surveillance	
	Preventive risk-based controls across the chain	
Safe food value chains	Capacity in identified sub-sectors for improved food safety and market access	Effective integrated control of food chain threats by coordinating food safety, animal health and environmental surveillance (regulatory GAP analysis in poultry and food and vegetable sectors)
		Enabling environment for improved third party inspection/verification and certification to national food control
Informed and empowered consumers	Public awareness and education on food safety and consumer health	

- 46 **Effective national food control system.** The bulk of the cluster's resources were directed at this outcome, and addressed needs and gaps in several agencies (mainly MoHFW, Ministry of Food, BFSA, Bangladesh Standards and Testing Institution, and the Ministry of Agriculture), thereby reflecting the multi-dimensional nature of the national food control system in Bangladesh.
- 47 The cluster's two projects were complimentary in building institutional and grassroots capacities. They used a multi-dimensional approach with three outcomes to attain balanced progress across different aspects (Table 4). The designs had built-in discrete outputs to address the three outcomes, with well-delineated activities and progress indicators monitored semi-annually. A second project was necessitated by an important external development – the enactment of the Food Safety Act in 2013 and the mandate to create an apex institution (BFSA) outside the MoHFW, where the first project was housed.
- 48 The sequencing of project activities in the cluster requires some reflection, given that GCP/BGD/047/NET was designed and commenced implementation while the new legislation, the Bangladesh Safe Food Act 2013, was under formulation. Project GCP/BGD/047/NET's outputs were designed on the premise that the Directorate General of Health Services (DGHS) (MoHFW) would have principal jurisdiction over the food safety domain. Several outputs, especially Codex-related coordination and standards setting, risk-based inspection guidelines and training of sanitary inspectors, had been undertaken on the premise that the MoHFW would take lead responsibility.
- 49 The enactment of the Food Safety Act and the creation of the BFSA (which came into operation in 2015) created a need for additional capacity development. The human resources at BFSA are minimal and presently unable to assume the operational responsibility of an apex food control agency. Several activities carried out by the organs of the MoHFW are officially the mandate of BFSA, and need to be endorsed and approved through agreements of cooperation. Institutional adjustments are needed to improve the coordination between the MoHFW and BFSA to avoid duplicating activities. FAO's *in situ* technical support to both ministries provides an opportunity to facilitate this transition and readjustment.
- 50 The cluster established a system to ensure institutionalization of food safety, a system that requires greater interagency coordination and capacity development within each institution, in particular BFSA. While the initial cost was covered by the cluster, the Government of Bangladesh needs to bear the operational cost to continue its activities. The eventual quality of interagency cooperation will be the litmus test for Bangladesh's integrated model for food safety governance, and this depends on factors beyond technical capacities.
- 51 **Safe food value chains.** The emphasis has been on primary producers, post-harvest, primary processing and extension service providers. Based on the importance and likelihood of food safety risks, three sub-sectors (fish, horticulture and poultry) were selected for the adoption of food safety practices. Additionally, hygienic street food vending models were piloted in selected cities to demonstrate the concept of 'safe food' for street food consumers. Marketplaces, especially wet markets and slaughterhouses, were not covered given the absence of specific food safety regulations at the time.
- 52 **Informed and empowered consumers.** Project GCP/BGD/047/NET designed a comprehensive consumer awareness initiative, building on the outputs of the predecessor GCP/BGD/EC/038 project, targeting school children, teachers and housewives through a partner network of civil society organizations. The contents consisted of educational materials, mass media campaigns and community events, in addition to advocacy aimed at appropriate levels of government, especially education, health and agriculture extension.
- 53 Project GCP/BGD/047/NET successfully empowered consumers by delivering safe street food, but the results were limited in geographical scope and deserve upscaling, possibly by the Asian Development Bank and/or the World Bank.

### 3.3 Coherence and synergies

**Have resources been used efficiently in producing the envisaged results? Has FAO tapped synergies with partner institutions technically, financially and operationally? Were appropriate synergies foreseen among different streams of activities (Technical Cooperation Programme, normative, emergency assistance)?**

**Finding 6:** The cluster has made effective use of resources and completed activities without delays. It secured inter-project synergies, made good use of national expertise and resources and applied FAO expertise and knowledge. The use of funds was satisfactory in GCP/BGD/047/NET and is likely to accelerate in GCP/BGD/054/USA with the adoption of strategic plans and work programmes.

- 54 As noted earlier, the cluster design shows a logical and well-sequenced flow of intervention across contributing projects, from the predecessor project GCP/BGD/038/EC, through GCP/BGD/047/NET and now GCP/BGD/054/USA. This sequencing has built on the foundations of previous projects and maintained the engagement with implementing partners over several years. The cluster has balanced interventions aimed at government institutions, private sector practitioners and consumers to achieve results in three dimensions: an awareness-led demand for food safety from consumers; capacity and training-led good practices in value chains; and enabling regulatory frameworks in food control agencies. The cluster projects are complementary, with GCP/BGD/054/USA focusing on building the BFSAs' institutional (technical and functional) capacities and GCP/BGD/047/NET focusing on improving technical capacities in analysis, monitoring and adoption of good practices.
- 55 **In situ.** Another unique feature is that the technical assistance team is embedded in the implementing partners' structure. In GCP/BGD/047/NET, a food safety unit was created in the Institute of Public Health, which housed all members of the project's technical team. Officers from the MoHFW were posted to the unit as part of the Technical Assistance Team, in preparation for the transition at the end of the project. Similarly, through GCP/BGD/054/USA the BFSAs had ready access to best-in-class expertise needed to set-up and manage a national food safety agency. The cluster used and worked within existing structures and arrangements to the extent possible. This was evident for the most resource-intensive components: surveillance and risk-based inspections, and to a lesser extent, laboratory and consumer networks (although the was established under the project). The grouping of 1 500 producers in clusters was based on considerations of efficiency and the 'network effect' and did not result in any additional formal structures.
- 56 **Inter-project synergies.** In addition to design, the cluster secured operational synergies; joint activities, especially training workshops and seminars; and sharing of knowledge products. The technical teams have interacted regularly, including at internal progress reviews at the FAO office in Bangladesh, and maintained a healthy flow of information between the projects, although informally.
- 57 **Local partnerships and resources.** The cluster's wide coverage was made possible by good field partnerships with government departments, extension units, non-governmental organizations networks, technical/scientific institutions, and other development actors (e.g. Solidaridad). In all cases, the partners contributed human and time resources with little or no financial contribution. The cluster's financial support covered only the costs of field activities and external expertise. National expertise was used wherever considered appropriate and available. The most visible example of this was the training of laboratory analysts in food microbiology, provided by experts from global health research institutes.
- 58 **Headquarters and regional office support.** The cluster benefited from technical support from both FAO headquarters and the regional office. These included a resident full-time Chief Technical Adviser (in the initial stages) and a Lead Technical Officer backstopping with annual visits (until 2014), who contributed to improving and fine-tuning project design and work programmes. The use of an international consultant for institutionalizing the BFSAs is also a good example of the cluster drawing on the best available technical expertise appropriate to Bangladesh's needs. The cluster made good use of relevant knowledge products, particularly risk assessment tools, model guidelines for food control systems, food safety emergency response systems and recall guidelines. Some in-house

resources, such as the legal department, were less used. This was compensated for by the expertise of the international consultant in developing food control legislation, and hands-on experience in managing a national food safety authority.

- 59 **Reverse flow of knowledge.** The cluster is FAO's largest national technical assistance intervention in food safety and control. As such, there are many lessons from Bangladesh that can inform global practice and projects in other countries. Important lessons can be learned, for example from the experience of implementing an 'integrated model', the sequencing of activities, and the institutionalization challenges faced. This reverse flow of knowledge is important and should be channelled through regular stocktaking and lessons learned exercises, in addition to project evaluations.
- 60 **Certification ecosystem.** Building an ecosystem of accredited independent certification and inspection agencies is recognized as an important element in food control, and project GCP/BGD/054/USA addresses these through its Output 3. While substantive work is yet to begin, some complementary steps have been initiated. Although GCP/BGD/047/NET project activities were concentrated downstream, it was recognized that having Good Agricultural Practices (GAP) certification facilities in Bangladesh would be a prerequisite for export markets. These were addressed under a regional Technical Cooperation Programme, which aimed to create regional GAP standards for the South Asian Association for Regional Cooperation. The project supported the adoption of BANGLA GAP standards, with the Department of Agricultural Extension having certification authority. The evaluation learned that some private enterprises linked to the clusters are setting up GAP certification services, which will need to be accredited by the Bangladesh Accreditation Board or other international accreditation body.
- 61 **Resource use.** The cluster (mainly GCP/BGD/047/NET) managed its resources efficiently and completed its activities broadly on schedule, despite a few interruptions caused mainly by external factors. Delays in delivering field activities were primarily due to travel advisories based on the overall security situation, and some technical positions being unfilled. The first phase obtained a six-month no-cost extension and activities were completed as foreseen. The project has received further extension to consolidate results towards the outcomes. At the time of the evaluation, the project had used close to 80 percent of its budget (Table 5).
- 62 GCP/BGD/054/USA could not commence activities until the formation of the BFSA in February 2015, and use of funds has been slower than targeted because of delays in recruiting the minimum number of staff to begin programme implementation. These initial challenges are expected to be resolved with the imminent approval of the 2016–2017 work programme. The cluster has demonstrated prudence by restricting overseas study tours and missions to a bare minimum despite frequent demands, and exercising due quality control on the selection of beneficiaries to ensure effectiveness. At just over mid-term, the resource use is marginally under 50 percent (Table 6).

**Table 5.** Budget expenditure as at 31 July 2016 (GCP/BGD/047/NET)

Output Description	Budget	Total expenditure
Output 1. Strengthened food safety analysis capacity	3 882 589	2 421 969
Output 2. Strengthened capacity for baseline and standards formulation based on risk	407 189	355 010
Output 3. Enhanced public awareness and education	760 700	578 020
Output 4. Strengthened institutionalization of food safety within the MoHFW	112 540	76 273
Output 5. Enhanced foodborne illness surveillance	615 459	505 639
Output 6. Strengthened preventative risk-based approach involving different actors in the food chain	1 671 762	1 361 830
Output 7 Capacity further developed in identified sectors of food industry	3 413 235	2 929 834
Project management, monitoring and evaluation	2 963 960	2 248 523
Support costs (13 percent)	1 797 566	1 267 890
<b>Total</b>	<b>15 625 000</b>	<b>11 744 988</b>

**Table 6.** Budget expenditure as at 31 July 2016 (GCP/BGD/054/USA)

Output Description	Budget	Total expenditure
Output 1. Coherent and effective national food safety governance	856 752	451 855
Output 2. Effective integrated approaches to food safety in all primary sources of production (fish, animal and crop)	595 790	178 281
Output 3. Enabling environment for third party certification	419 913	210 091
Project management/support unit and monitoring and evaluation	2 082 315	1 235 501
Support costs (13 percent)	514 120	210 063
<b>Total</b>	<b>4 468 890</b>	<b>2 285 791</b>

### 3.4 Impact and effectiveness

#### What changes can be observed that are attributable to the FSC's interventions that are directly linked to the FSC's main objectives?

**Finding 7:** There were visible results in all three outcome areas of the cluster. The evaluation team found evidence of strengthening of institutional coordination, standards and regulation setting mechanisms; technical capacities in analysis, surveillance and inspection; consumer awareness; and grassroots adoption of good practices resulting in food safety. These results are attributable to FAO interventions, which benefitted from the contribution of implementing partners.

- 63 Results and impacts at this stage are attributable more to GCP/BGD/047/NET than to GCP/BGD/054/USA, mainly because of their timelines and budget sizes. The two projects operate with different timelines. GCP/BGD/047/NET commenced implementations in 2012, completed its initial course in December 2015 and is now under a three-year extension to ensure long-term gains. Project GCP/BGD/054/USA (institutionalization) started implementation in July 2014 and had a mid-term review in May 2016. With a budget of USD 15 million, GCP/BGD/047/NET is three times the size of GCP/BGD/054/USA (USD 4.8 million). However, the potential long-term impact of the United States-funded project may be far greater because it addresses the most critical institutional element in Bangladesh's food control system, building on the results achieved under the Dutch-funded project.
- 64 The evaluation findings under each of the three outcome areas are summarized in the following section. Further details of findings under each output appear in Appendix 4 and the details of capacity building appear in Appendix 5.

#### Outcome 1. Effective food control systems

- 65 **Institution.** The BFSA was established in February 2015 with the vision of establishing a modern, efficient, effective, scientifically-based national authority for regulating, through coordination, activities relating to food production, import, processing, stockpiling, supplying, marketing and sales. The BFSA also aims to assure people's rights to access safe food through the appropriate application of scientific processes and state-of-the-art technology. Under the Food Safety Act, BFSA's responsibilities include: coordinating food controls across the food chain; collaborating with other government agencies for food inspections; setting food standards; and providing scientific and technical advice to strengthen food safety policy.
- 66 It is still premature to assess institutional strengthening outcomes related to the BFSA, given its infancy as an organization and the work-in-progress status of project GCP/BGD/054/USA. So far, the basic governance structure has been established: the BFSA is administratively located in the Ministry of Food, and is led by a five-member board reporting to the National Food Safety Management Advisory Council. It chairs the statutory Central Food Safety Management Coordination Committee for coordination of all agencies involved in food inspection and enforcement of regulations, and is assisted by scientific



and technical committees to access specific expertise. The principal documents developed with FAO technical assistance are: a strategic plan for 2016–2021 outlining six strategic goals with activities and outcome indicators; and a detailed organizational structure with divisional and unit-level delineation of tasks and job descriptions of unit heads. These have been submitted to the Board for approval. These two foundation documents constitute the BFSA's operational plan and resource projections for 2016–2021 and are the core of its institutionalization. The endorsement of the strategic plan and organizational structure by the Board, the administrative ministry and the Ministry of Finance is critical and urgent for the BFSA to become truly operational. The BFSA was to hold a public stakeholder consultation in May 2016, but this had not taken place when this evaluation was conducted.

- 67 **Coordination.** Initially, interagency coordination of food safety work was planned under a Food Safety Working Group in the MoHFW. However, with the BFSA coming into existence, interagency coordination has been mandated under the BFSA. As a result, the Food Safety Working Group has been reduced to an internal coordination mechanism which has met only once with the BFSA (in October 2015) to update the latter on MoHFW's food safety initiatives.
- 68 With its establishment, the main responsibility of planning and directing food inspections is now vested in the BFSA. Section 51 of the Act empowers it to authorize food inspectors to conduct inspections and report on their activities. Accordingly, the BFSA has initiated processes to authorize over 700 suitably qualified and trained inspectors from the field formations under the Ministry of Health, Ministry of Food, and city corporations to conduct food control inspections and report to the BFSA. Guidelines have been drafted for collection of official monitoring and inspection samples with proper procedures and chain of custody, based on standard principles used by food control agencies. Moreover, five government laboratories (Ministry of Fisheries and Livestock, MoHFW, Ministry of Food, Bangladesh Council of Scientific and Industrial Research, Bangladesh Standards and Testing Institution, Bangladesh Supply Chain Council) are being designated to support the national food control system and the reporting requirements are under development.
- 69 The BFSA has constituted and chairs the Central Food Safety Management Coordination Committee for institutional coordination, and is developing bilateral framework agreements as the instruments of coordination with relevant ministries and agencies, using its powers under the Act. These agreements provide for more specific service-level compacts and memorandums of understanding between the parties. In this regard, a draft 'Framework Agreements for Cooperation on Food Control between the BFSA and Food Control Agencies' has been produced and is awaiting discussion and eventual approval by the Board. The BFSA has made a start with the authorization of food inspectors and designation of food control laboratories.
- 70 **Laboratory and testing capacities.** The cluster supported modernization of the public health laboratory and building of a new food safety laboratory, now called the National Food Safety Laboratory, to provide mandatory and commercial services for microbiology and chemical testing. A food safety documentation centre has been set up in the National Health Library. The National Food Safety Laboratory is fully operational, equipped with the full range of testing equipment for food analysis and staffed by trained personnel (some posts on loan from other units). The laboratory now validates test methods for several food safety parameters: veterinary drugs, chemical dyes and colours, additives, preservatives, alcohols, heavy metals and pathogens. An organigram with 59 positions has been developed and is under administrative approval. Preparations are underway to obtain ISO 17025 certification or testing and calibration labs.
- 71 **Science-based risk analysis.** The cluster facilitated an informal networking of government-controlled and independent laboratories to map their testing capabilities and undertake a risk categorization exercise that would aid standards formulations. Over 3 500 market samples were collected for eight key items in the food basket and tested for heavy metals, pesticides, microbiology, pharmaceuticals, trace minerals and chemical dyes. The sampling and testing was apportioned among the laboratories based on specialization and facilities available. Protocols for testing and inter-laboratory comparisons were developed for the network. The results are under review and will soon be shared as an example of evidence-based risk analysis to aid setting rules and regulations.

- 72 **Market basket survey.** A one-off exercise funded under the cluster. The laboratory network is informal and not officially authorized for food risk analysis. Therefore, the survey results, however useful, have to be officially endorsed. BFSA has however drafted the Food Safety Technical Committee Rules 2015 to establish technical and scientific committees that will provide high quality, independent scientific and technical advice for developing food regulations and standards. Also, plans are underway to authorize a number of food control laboratories, mostly from the public sector, to support food regulatory control measures based on scientific evidence.
- 73 **Drafting regulations and standards.** The cluster facilitated the National Codex Contact Point and the formation of four sub-committees, the creation of a national Codex manual, training on the Codex, and participation in Codex meetings. Prior to the formation of BFSA, the Bangladesh Standards and Testing Institution was the only national standards-setting body, and had the task of setting mandatory product/process standards for 158 products, including 58 processed products. These are addressed through 650 individual standards, including 153 codex standards. Accordingly, the Bangladesh Standards and Testing Institution was designated as the National Codex Contact Point. Codex-related activities were few due to limited technical support and financial resources to participate at sessions. Only one National Codex Contact Point meeting has been held so far, against a target of four.
- 74 As the Bangladesh Food Safety Act 2013 superseded earlier food regulations, this has created the need to formulate a whole new set of regulations, rules, operational guidelines and standard operating procedures covering food safety and quality issues across the food landscape. The project GCP/BGD/054/USA is assisting BFSA in developing an initial set of food regulations and rules for hygiene and safety, food sampling, contaminants, additives and labelling. Standard operating procedures are being designed for developing these regulations. Rules have been drafted for the establishment of technical and scientific committees to provide independent, scientific and technical advice on these regulations. The Bangladesh Standards and Testing Institution is also a member of relevant technical committees chaired by BFSA, and the two agencies have to set out their cooperation framework for standards setting and coordination of codex activities.
- 75 The BFSA, with the cluster's support, has commissioned in-depth regulatory gap analyses for poultry and horticulture value chains. Gaps have been identified in approvals related to the use of agro chemicals (pesticides and veterinary medicines), control of sale and use of agro chemicals, poor hygiene in wet markets, and weak enforcement of regulations due to legal/regulatory gaps. Based on these analyses, appropriate changes must be made in regulations, national codes of practice in production, handling and storage, and regulations for hygiene and sanitation in marketing.
- 76 **Foodborne illness surveillance.** The cluster supported the Institute of Epidemiology, Disease Control and Research in the addition of enteric foodborne illness to its nine other surveillance systems. Ten sentinel sites were equipped and web-enabled, and mobile phone and community-based surveillance systems were created to monitor outbreaks relating to food consumption.
- 77 Manuals, guidelines and training for outbreak investigations, and a food safety emergency response plan were developed with the cluster's support. The existing rapid response teams have been equipped to conduct food-based outbreak analyses. In 2013–2015, 30 outbreaks related to water or food consumption were analysed. Given the health implications and despite the BFSA's overall responsibility, the surveillance function will remain embedded in the MoHFW, which is also the designated International Food Safety Authority Network counterpart. However, cause analysis of outbreaks will identify needs for corrective and legal measures at the points of origin of foodborne risks. This may lie beyond the jurisdiction of the MoHFW, and call for close cooperation with BFSA to take regulatory actions.
- 78 **Risk-based inspections.** The cluster assisted the DGHS in implementing a risk-based food inspection system through the field formations in district and upazila levels. With FAO guidance, manuals, guidelines and procedures were developed for field inspections and these were formally approved, bearing the insignia of the MoHFW and Government of Bangladesh.



- 79 Within the MoHFW, a Strategy and Action Plan for Prevention and Control of Food Adulteration and Contamination in Bangladesh was formulated. Technical training on risk-based inspection planning, supervision and monitoring of food safety were coordinated on sanitary inspector field formations at upazila and district levels. Over 950 sanitary inspectors and close to 150 senior officials of the DGHS were trained on risk-based food inspections, in addition to officials from other agencies such as municipal corporations. The DGHS also expanded its field strength to carry out these inspections. Samples collected from the field are being analysed by the National Food Safety Laboratory and other laboratories.
- 80 **Academic curriculum.** Both GCP/BGD/047/NET and GCP/BGD/054/USA are providing support to upgrade and develop curricula for relevant graduate and diploma courses. The support is expected to create a new cadre of food safety professionals in Bangladesh in line with the needs of a modern and technology-based system as envisaged in the Vision 2021 goals.
- 81 **Accreditation.** GCP/BGD/054/USA has initiated important steps toward strengthening the capabilities of the Bangladesh Accreditation Board to accredit inspection and certification bodies based on international standards (ISO 17020 and ISO 17021), including supporting the Board's application for membership to the International Accreditation Forum. The National Accreditation Board for Certification Bodies of India has been contracted to train lead assessors from the Bangladesh Accreditation Board, and to participate in National Accreditation Board for Certification Bodies accreditation missions to build direct, hands-on exposure. Strengthening the Bangladesh Accreditation Board's capacities to accredit independent, third party inspection and certification systems will help expand the certification and inspection ecosystem in Bangladesh beyond government-owned institutions.

## Outcome 2. Safe food value chains

- 82 The cluster's emphasis was on training value chain actors in food safety guidelines and preparing for GAP/Good Handling Practice implementation in selected sectors. The initiative focused on four pilot clusters: two in horticulture and one each in poultry and fisheries. Ninety-eight master trainers and 300 lead trainers were assisted to complete internationally certified training on food control guidelines, and more than 90 percent of them obtained the certifications. The successful trainees then trained 2 000 farmers (including 500 trained by Solidaridad's related initiative) and over 250 value chain actors to implement food safety control measures. Notably, the government extension units were closely involved in these activities and some even participated in the trainings. Officials from livestock and agriculture departments were sponsored for study tours to learn about the food safety systems in Malaysia and Thailand.
- 83 In preparation for GAP certification, the cluster supported farm record books and supervision visits, which the trainers monitored. Buyer-seller meetings were organized with international retailers, in partnership with Solidaridad. There have been positive results in all the pilot clusters (explained in the next paragraph). However, this cannot be considered a unique contribution of the cluster because there were several other projects, many with the same partners, addressing grassroots practices. The distinct contribution of the cluster was the development of the cluster model and creation of a large complement of trainers, which can be used by other interventions as well.
- 84 Hygiene and quality of street food vending has been improved in selected urban areas. This was initiated in the city of Khulna on a considerable scale, in partnership with the city municipal corporation. Five hundred street food vendors were trained on hygiene and food safety and issued street food carts with distinctive designs that enabled clean preparation and display. These vendors were also given licenses and uniforms and were monitored regularly by trained food inspectors from the Khulna City Corporation, who also provided kits. The carts operate in a number of designated public areas and outside several schools. The model has worked successfully and spawned a number of imitators, who lack formal recognition and licensing but follow similar practices. Vendors and consumers have witnessed economic and health benefits respectively, and the initiative has continued for four years with plans to upscale to 1 000 vendors. Following the success in Khulna, the model was repeated in other cities (Dhaka, Barisal), although on a smaller scale.

### Outcome 3. Informed and empowered consumers

- 85 **Campaign on food safety.** The cluster supported awareness-raising to establish a food safety culture and strengthen food safety advocacy. The target segments for the initiative were women (key food preparers in households), schoolchildren 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'. Two hundred scouts' groups were mobilized to spread the message further in their communities. FAO also supported the Global Handwashing Day campaigns in several districts. The administration of Delduar titled the campaigns 'Safe Food upazila' to sensitize the opinion makers. Accordingly, 10 000 farmers in Delduar have committed to practices based on food safety principles and GAP guidelines.
- 86 **Highly motivated partners.** In all of these activities, there was a proactive role of the non-governmental organization partners, district and upazila primary health and education officials, and the World Food Programme. The cluster leveraged the field presence of these actors effectively. The Bangladesh Safe Food Network was formed out of the cluster's activities, and brought together five non-governmental organizations for cooperation on food safety. There were useful contributions from the media and the government, which supported mass publicity through free advertisement spots on national TV. All stakeholders demonstrated motivation to deepen awareness of the importance of food safety and advocated its practice at the community level.

#### What capacities did the cluster build upstream and downstream?

**Finding 8:** The cluster built capacities at the individual and organizational levels, and to a lesser extent in the enabling environment. Technical and functional capacities were built upstream (especially at BFSA), midstream (food control monitoring units) and downstream (value chain actors), and awareness was enhanced.

- 87 The cluster demonstrated intensive capacity development in terms of the numbers of direct beneficiaries and a diversity of beneficiary profiles. Capacities were built mainly at the individual and organizational levels, and to a lesser extent in the enabling environment. The thrust of capacity development was directed at institutional functionaries, organizations directly providing services or implementing food safety measures, and practitioners/producers and other value chain actors.
- 88 Capacities have been built upstream (especially the BFSA), midstream (the line units undertaking food control monitoring) and downstream (specific value chains). The main capacity development tools used were: training workshops and knowledge programmes delivered by experts; knowledge products, guidelines, tools and codes of practice drawing from FAO's global portfolio; hands-on training and demonstration in groups (clusters); and to a limited extent, exchange visits and study tours. The cluster directly reached over 1 500 functionaries, 2 500 practitioners, and three million consumers through its activities (Table 7). In addition, several technical guidance and knowledge products were generated and translated into Bangla (Table 8).

**Table 7.** Types of capacities built by cluster

Profile of beneficiary	Technical	Functional	Policy, regulation implementation	Knowledge and awareness of food safety
Institutional and agency functionaries	20 laboratory managers and 25 analysts, over 1 000 sanitary inspectors, 84 sentinel site staff, 10 BfSA staff and board members, Bangladesh Standards and Testing Institution committee members	BfSA, MoHFW DGHS, National Food Safety Laboratory, Food Safety Unit, (MoHFW) BfSA board, Institute of Epidemiology, Disease Control and Research, DGHS, National Food Safety Laboratory, Bangladesh Standards and Testing Institution, Bangladesh Food Safety Network, BfSA Department of Agricultural Extension, Department of Livestock Services, Department of Fisheries, Bangladesh Accreditation Board staff	BfSA board and senior leadership	
Organizations	Institute of Epidemiology, Disease Control and Research, DGHS, National Food Safety Laboratory, Bangladesh Standards and Testing Institution, Bangladesh Food Safety Network, BfSA, Department of Agricultural Extension, Department of Livestock Services, Department of Fisheries, Hortex Foundation Bangladesh Food Safety Network, Lab networks, Hortex Foundation	BfSA, MoHFW DGHS, Institute of Epidemiology, Disease Control and Research, National Food Safety Laboratory, Food Safety Unit (MoHFW), BfSA board	BfSA, MoHFW DGHS, Department of Agricultural Extension, Department of Livestock Services, Department of Fisheries	5 Bangladesh Food Safety Network founding members (Consumers Association of Bangladesh, Bangladesh Safe Agro Food Efforts, Policy Research and Development Alternative (UBINIG), Shishuk, Hunger free World)
Practitioners and private sector partners	Extension officials in Department of Agricultural Extension, Department of Livestock Services, Department of Fisheries (60 or more), 98 master, 300 lead trainers, more than 2 000 producers in value chains - cluster members, and 250 value chain actors		Hortex Foundation, Bangladesh Shrimp and Fish Foundation, Solidaridad Laboratories	More than 300 street food vendors and 13 Khulna municipal inspectors
Community				3 million schoolchildren, 8 500 scouts and 500 teachers, 10 000 Noyo Krishi farmers in Delduar
Enabling environment		District and upazila officials	District and upazila officials	Media district and upazila officials

**Table 8.** Coverage of technical and functional capacities enabled by the cluster

Category	Coverage
People trained	7 245 practitioners and functionaries
Facilities established/equipped	17 establishments, 800 food carts
Networks supported	6 networks
Knowledge products created	40 manuals/guidelines/modules
Meetings, trainings and events	193 meetings/trainings/events
Methods referenced	100 methods
Standards supported/adopted	51 standards
Market samples collected / tested	3 517 samples collected, 6 656 samples tested
FBI samples collected	7 780 FBI samples collected
Outbreak detections	30 outbreak detected during 2013-2015
Productivity gains demonstration	In all four value chains clusters – 1 500 producers.
Market entry	Successful trial exports to Walmart UK, successful sale to retail chain supplier for broiler poultry

### What tangible benefits have been achieved?

- 89 Although it is not possible to measure impacts yet, there is evidence of benefits from the application of the technical support provided by the cluster. The National Food Safety Laboratory has acquired the necessary hardware and skills to conduct food analysis and is now providing services to clients and for court evidence. The use of scientific evidence was key to resolving the issue of formalin in mangoes in a litigation by the local authorities against mango retailers. Similarly, the market basket surveys generated sufficient information to develop a profiling of contaminants in the eight popular consumption items and the causes, which provided insights for control and mitigation. The surveillance and emergency response teams conduct routine sampling and report the data online in the health information system. Based on the analysis, 30 outbreak investigations were conducted where necessary, and cause analysis reports informed regulatory bodies of any corrective actions needed.
- 90 Among private sector practitioners, there were clearly visible results in the form of productivity gains, reduced mortality and morbidity, cost reductions and savings, and enhanced incomes with improved unit production. The results from various pilots are tabulated below in Table 9. In the Khulna street food vending pilot, 700 vendors (including the 500 that were provided carts by the FSC) were trained in good hygiene practices and submitted themselves for routine inspection by volunteers (schoolchildren) beside the municipal corporation staff.
- 91 FAO successfully managed a complex intervention by synergistically coordinating activities. Key observed benefits are directly linked to and are *ipso facto* attributable to FAO's support, with important contributions from government and technical partners and outreach and communication networks (Table 9).

**Table 9.** Summary of benefits observed in selected value chains

Category	Illustration of benefits
Brinjal	Pesticide and fertilizer inputs halved, price realization up by 14–28 taka per kg
Mango	Trial shipment 3.6 metric tonnes approved by AsdaWalmart; next season order increased to 20 metric tonnes
Tilapia	Food coefficient rate increased, mortality rate down from 25 to 5 percent, feed costs reduced, realizations improved by 65–100 taka per kg
Poultry	Improved food coefficient rate, medicine costs reduced, margins increased by 40–60 taka per unit
Street food carts	Significant increase in incomes from increase in customer footfalls and/or price premium; repeat customers; lower incidence of food-related sickness in neighbouring schools

### 3.5 Sustainability

#### To what extent can the results be considered sustainable? Was there a systematic approach to an exit strategy agreed among key partners to ensure post-project sustainability?

**Finding 9:** It is too early to judge the sustainability of results from GCP/BGD/054/USA, which was in the initial implementation stages when this evaluation took place. The GCP/BGD/047/NET interventions have built technical and functional capacities in MoHFW for food safety inspections, surveillance and analysis/validation methods for food microbiology and chemical analysis. These are sustainable if actions are taken to strengthen technical capabilities of the laboratories and in the field. Financial sustainability will depend on the Government of Bangladesh's provision of adequate budgetary resources to cover operational expenditures. There are positive indications of the Government of Bangladesh making specific budgetary provisions for food safety in the relevant sectoral five-year plans.

- 92 **Human resources, skills and capacities.** The FSC has created capacities among diverse stakeholders and in sufficiently large numbers to cope with attrition and dropouts. All intended beneficiaries – government, private sector and civil society organizations – were found to have applied their knowledge and capacities; in some cases, they created new units within their institutional structures. Overall, this indicates ownership of results by beneficiaries. The major expansion of field staff, especially at the MoHFW, will be financed by the Government of Bangladesh, which would reinforce ownership of the results and responsibilities.
- 93 Actual mobilization of funds for Programme 12 of the Country Investment Plan (titled Food Safety and Quality Improvement) has remained lower than expected. Even though the overall budget increased from USD 8.13 billion in 2011 to USD 12.66 billion in 2015, the budget for Programme 12 activities was reduced from USD 190 million in the 2011 plan, to USD 43 million in the 2014 plan, with USD 52 million allocated in 2015. Out of this, completed projects account for USD 15 million, ongoing projects USD 20 million, and pipeline projects USD 18 million. The FSC accounts for a large share of completed and ongoing projects.
- 94 There are clear signs of the Government of Bangladesh scaling-up resource allocations to food safety. Significant increases in staffing are underway at MoHFW and BFSa toward implementing an effective food control system. The field formations under DGHS have been strengthened at district and upazila levels: the Institute of Epidemiology, Disease Control and Research added 84 positions for the sentinel sites toward foodborne illness surveillance; and the BFSa organigram lists over 1 000 staff posts. Regular surveillance and risk-based monitoring and food control inspections will create significant operational costs for sample analysis. The Government of Bangladesh has to allocate sufficient funds for laboratory equipment maintenance, testing consumables and field surveillance costs, and create a revenue-raising plan for commercial testing for the private sector. For this, the government needs to include a separate allocation to food safety in the five-year sectoral plan for 2016–2020, although the size of this allocation is not yet clear.
- 95 At present, the FSC is the only donor-supported intervention linked to Programme 12 of the Country Investment Plan, with close to USD 7 million (4.5 million from GCP/BGD/047/NET and 2.5 million from GCP/BGD/054/USA) available up to December 2018. Further extension of GCP/BGD/047/NET is unlikely, and donor preference is for interventions targeting a longer-term 'food systems' approach to strengthen or adapt food value chains. While the Government of Bangladesh will likely provide funding for MoHFW, the Bangladesh Food Safety Network will face challenges in maintaining the current level of public awareness activities in the absence of technical support from the programme.
- 96 There is an opportunity for Bangladesh to establish BFSa as a centre of excellence in governance and regulation, and to showcase the country's commitment to addressing legacy factors and improving the enabling environment for business, including for international trade and investment flows. The first few years of BFSa's operations are crucial for properly developing Bangladesh's food control system. During this period it

will be important to have the best governing principles modelled on appropriate best practices, demonstrate a transparent work culture, and recruit the right people to key roles in the seven divisions. The spirit and letter of interagency cooperation agreements should reflect collegial approaches and aim at an appreciation of food safety as a public good.

### **How robust are the institutions established and how can they ensure the continuance of benefits?**

**Finding 10:** Most institutions (except BFSA) existed when the cluster began its activities, and they have been empowered and equipped with the skills to implement food safety management improvement actions. Continued capacity development and adequate financial support are needed to upscale the current benefits.

- 97 **Regulatory institution.** The only new institution established in the food safety domain was the BFSA. The FSC plays a pivotal role through GCP/BGD/054/USA in formulating the organizational structure, with job descriptions for key positions, and operationalizing the BFSA through work programmes and governance systems. Therefore, it is premature to comment on the robustness of this institution. The FSC has supported the creation of appropriate functional units within the other existing institutions. MoHFW now has a food safety unit, a national food safety laboratory inside the Institute of Public Health; ten sentinel sites for FBI surveillance under the Institute of Epidemiology, Disease Control and Research; and a trained cadre of sanitary inspectors for food monitoring and inspections. The national codex point and codex sub-committees have been set-up under the Bangladesh Standards and Testing Institution's leadership; an informal network of laboratories was created for food analysis; the Bangladesh Food Safety Network was established to educate and empower consumers; and networks of certified master and lead trainers and lead farmers were set-up to improve the value chains.
- 98 Existing institutions are technically capable of delivering the intended benefits to their users. However, their financial sustainability and the institutional status vary. Some institutions are informal, voluntary or lack official recognition, while others are firmly institutionalized and have specific mandates. From a financial sustainability standpoint, the main weakness are the informal laboratory network and the GAP cluster communities, which both depend entirely on external funding for their activities. However, there are other opportunities for support for these networks under related initiatives.
- 99 The institutions that have regulatory control over the food chain need to develop internal governance structures and processes to enshrine these principles in their engagement with food value chains. The ability to do this will largely depend on ownership and commitment at the highest levels within the institutions and in the higher political leadership. At the same time, there is a need for advocacy to assist practitioners and consumers in embracing good food safety practices irrespective of the presence and application of specific regulations and standards. The FSC pilots have demonstrated that there are direct benefits from the adoption of food safety practices and these should find traction among practitioners independent of the imposition of food safety control measures. Involvement of the line agencies (Department of Agricultural Extension, Department of Livestock Services and Department of Fisheries) is critical and this requires the provision of extension-related field expenditure budgets commensurate with coverage plans.
- 100 **Safe value chains.** The successful pilots initiated by the cluster have scale-up potential through supporting the group of master and lead trainers and lead farmers for outreach, and by expanding training coverage. The participation of line extension units is critical, and there is a need for sufficient funding to cover field trainings and supervision costs of field personnel of the Department of Agricultural Extension, Department of Livestock Services and Department of Fisheries. One practical solution would be for related projects, for instance the ones implemented by Solidaridad and others, to absorb these clusters and use the knowledge, skills and systems for upscaling. FAO should actively seek partners who could take over and build on the momentum after project closure. Lessons from the pilots are already being studied by the World Bank to formulate the National Agriculture Technical Programme Phase II, and it is expected that some funding for extension teams would be included in the same. This would ensure government participation to scale-up the best practices introduced in the cluster.



- 101 **Informed and empowered consumers.** Continued support for cluster activities by the same donors is unlikely. However, the implementing partner network (the Bangladesh Food Safety Network) was able to tap into and leverage resources from several other programmes being implemented by the public health and education ministries, and this enterprising spirit should enable a meaningful level of information and awareness-raising activities on food safety and hygiene to continue over the medium-term.

**What are the specific needs and challenges that justify further interventions? What areas justify further interventions by FAO?**

**Finding 11:** The cluster has established basic building blocks for a national food safety management system. The capacities need to be translated into effective field programmes to showcase the results across the food chains. Attention has so far been on products, and more attention should be given to other important areas such as market hygiene, expansion of analysis capabilities, cost-effective risk-based inspection models, institutional coordination and governance. Some of these will require FAO support, while others can be addressed by partner organizations.

- 102 The National Food Policy Plan of Action and Country Investment Plan Monitoring Report 2015 mentioned that the emphasis of future programmes will be to:

- enhance awareness of food safety practices;
- enhance coordination of food safety management;
- formulate food safety regulations;
- recruit and strengthen capacity of food safety inspectors;
- develop more food standards and ensure compliance;
- designate food safety laboratories for specific analysis of foods;
- improve safe water supply and reduce diarrhoeal prevalence;
- strengthen healthy street food vending; and
- improve capacity development in value chains.

- 103 These interventions would continue and deepen the elements initiated in the food safety cluster. However, there are two distinct tracks: the regulatory and enforcement aspects of food control, which is a government function; and improving food safety practices, which is mostly in the private sector. Strengthening capacities for certification and accreditation, which are essential to develop standards-compliant value chains, are not mentioned explicitly.

- 104 **Future relevance for FAO.** Developing an effective food safety system is a long-term aim and requires several years of progressive steps to ensure end-to-end results. As a leading authority, FAO will remain relevant given its global cutting-edge orientation. At the national level, FAO's role is highly justified in relation to: building readiness to cope with emerging needs and challenges; setting standards and regulations based on scientific principles and evidence; continued 'modelling' to demonstrate the benefits of food-safe practices in specific value chains; and linking successful examples to partners and institutions that can scale these through linkages to marketing, finance/credit, and appropriate certification.

- 105 A key requirement in this regard will be to strengthen the technical/field extension units in the Department of Agriculture, Department of Livestock Services and Department of Fisheries, through building best practices, training and certification as master/lead trainers, and supporting field training costs for which government funding is missing or inadequate. FAO could also help increase awareness and use of rights-based approaches, in order to articulate demands for safe food practices and regulations among consumer organizations. However, neither FAO nor development partners are in favour of a hands-on engagement to develop value chains or of FAO overseeing the entire cycle of farm to market. That role will be best played by other partners, yet FAO should continue engaging with them through its 'pilots' to ensure continuity and scaling-up (without long gaps between FAO pilots and the eventual follow-on projects). This would necessitate new approaches to leverage FAO Technical Cooperation Programme funds to generate project documents linked to a potential partner/donor for scale-up. Based on the current status, the below needs have been identified for support in future interventions.

- 106 **Laboratories.** Most laboratories do not have sufficient capacity to handle the commercial scale of mandatory testing as full-fledged food control laboratories. Thus, even laboratories authorized by BFSA have to be upgraded and calibrated for inter-laboratory comparisons of test results, and to obtain ISO 17025 certification. Considering the capital involved, this will be best addressed under a comprehensive food safety testing and analysis capacity project. Also important is a viability assessment of food control analysis services, which are at the behest of the state, to ensure that these are self-sustaining with regard to testing fees or budget allocations covering operational costs. It would be cost-effective to apportion testing requirements based on the specialization and availability of suitable facilities at individual laboratories instead of equipping all laboratories with all facilities. At the same time, there should be a 'redundancy' capacity to deal with breakdowns and maintenance downtime and avoid dependence on a single machine or facility. Meanwhile, the BFSA has approved the procurement of mobile laboratories to facilitate 'rapid testing' of samples in field inspections and to generate stakeholder awareness of food control testing. Accordingly, a more detailed mapping of needs and gaps is required than has been done in GCP/BGD/047/NET.
- 107 **Risk-based inspections.** The demand for food control testing will be driven by risk-based inspection calendars determined by the BFSA as part of its regulatory control programme. The FSC has trained and facilitated a fleet of sanitary inspectors for routine monitoring and inspection of food samples. Under the Act, BFSA has authorized 260 of these (with plans to increase to 700) as food control inspectors to report to BFSA on food control inspections. The cost of field inspections is presently borne by the DGHS of the MoHFW and largely funded by the FSC. It is not clear which agency will hold the budgets for food inspection. However, for cost effectiveness and risk management principles there is a need for due consideration of an audit approach as an alternative to scheduled product inspections.
- 108 **Foodborne illness surveillance.** An integrated foodborne illness surveillance system has been established and is adequate for the current volume of 20 samples per month. A food safety emergency response has been approved and this will remain under the charge of the MoHFW, in line with international practices. The rapid response teams have been strengthened for foodborne illness surveillance and outbreak management. Guidelines for outbreak investigations and cause-analysis have been developed and are being followed regularly. However, the findings have to feed into the regulatory control functions toward corrective actions and/or punitive measures, which are not under the MoHFW's domain. The proposed framework for cooperation agreements between BFSA and other food control agencies will address these coordination gaps to some extent.
- 109 **Value chains.** Through its pilots, the FSC has demonstrated the benefits to practitioners of adopting good practices in primary production. The full economic potential and public health outcomes can only manifest through sufficient upscaling of the pilots into sector-wide practices. A national food control system depends on traceability and it is essential to observe good practices across sectors and value chains, including in handling, processing, storage, distribution and markets. This calls for interventions of longer duration than what is possible in the FSC.
- 110 Lessons from the FSC pilots and the trained human resources should be used under other donor-assisted programmes and in larger interventions such as the World Bank's National Agriculture Technical Programme II. It will be equally important to create a pipeline of market opportunities both domestically and overseas, and to engage with potential market partners (private sector) long enough to stabilize the supply chain to suit specific requirements supported by certification and traceability. Similarly, the street food vending pilot in the city of Khulna is ready for upscaling. However, gifting carts is not a sustainable option; new business and financing models linked to revenue streams should be explored. The mayor has initiated steps to access financial support from the United Nations Development Programme's Urban Partnership for Poverty Reduction programme, which provides financial support (grants) for urban livelihood opportunities. However, a shift from grant-based models to credit will be the real test of sustainability.
- 111 **Food safety and hygiene in markets.** In addition to adopting good production practices in farms, ponds and livestock pens, it is essential to inculcate good hygiene and sanitation practices in intermediate and final markets to generate positive impacts. On the lines



of the street food-cart pilot, there is potential to demonstrate hygienic market places, especially wet markets, based on the guidelines being formulated by BFSA. This could be taken up in donor-assisted projects supporting the development of markets and connecting infrastructure. The public health and food safety benefits from these would be considerable.

- 112 **Institutionalization and regulatory capacities.** At present, the most critical area for FAO's involvement is the operationalization of BFSA and rollout of a work programme in line with its mandate and functions. Setting-up an institution entails several challenges, and as a fledgling institution, BFSA is in the early stages of defining its roadmap as an apex regulatory institution. It needs to establish a fit-for-purpose structure based on cooperating with other food control agencies. The FSC should adapt to emerging challenges and calibrate its support based on the actual pace of implementation and adherence to the best practice guidelines. In addition to institutional arrangements and technical capacities, there is a need to demonstrate strong political commitment and championship toward a culture of food safety practices that balance enforcement and education, and follow the principles of neutrality, transparency and accountability.

## 4. Cross-cutting areas

### 4.1 Gender

#### How effectively have gender issues been addressed in project design and implementation?

**Finding 12:** The project design included few activities and indicators related to gender issues. The participation of women in the cluster's activities was fair, and gender-disaggregated data reporting is now a standard part of the progress reports.

- 113 Although food safety is a universal concern, the effects of food-based risks affect people differently. The incidence of foodborne illnesses, especially among children, increases the burden on caregivers (mostly women). Behavioural changes in women can have far more important impacts on food safety outcomes, given their traditional role in preparing and serving food for families, and their influence on hygiene practices among children. Moreover, the tradition of backyard livestock rearing further exposes women to disease transmission from animals. These factors justify appropriate gender-analysis, especially while designing downstream interventions with a large outreach component, as in GCP/BGD/047/NET.
- 114 The project documents of GCP/BGD/047/NET and GCP/BGD/054/USA did not include specific analysis of gender issues in food safety practices and foodborne risks. There are no gender-based results indicators for GCP/BGD/047/NET, even though homemakers and teachers were important target groups of consumer awareness campaigns. By contrast, the results matrix of GCP/BGD/054/USA includes:
- specific reference to gender-based indicators;
  - a gender-sensitive action plan for food safety and quality policy implementation;
  - gender-disaggregated assessments of food safety risks in poultry chains;
  - gender-sensitive operational procedures for integrated risk management; and
  - women's participation in project activities and trainings.
- 115 Gender-disaggregated indicators have been introduced recently in GCP/BGD/047/NET monitoring reports, especially in the list of participants for project activities. A review of project events from July to December 2015 showed that 1 554 of the 4 000 participants were women. The cluster should consider gender-disaggregated reporting of outcomes to the extent possible, including a qualitative assessment of how food safety concerns are perceived and how the projects have changed behaviours among women. An end-of-project evaluation for project GCP/BGD/047/NET should include a case study of the impacts of component 3 on behavioural changes, with specific focus on differentiated impacts for women and men. The large coverage of beneficiaries and the project's duration should enable a sufficient sample size and timeframe for such an assessment.

### 4.2 Capacity development

#### To what extent has the cluster focused on and contributed to the capacity development of stakeholders?

**Finding 13:** The cluster had a significant focus on capacity development, in terms of both beneficiary coverage and depth of coverage. There was encouraging evidence that these results could produce both technical and functional benefits. Capacity development accounted for 60–65 percent of project budgets.

- 116 **Laboratories.** Infrastructure was upgraded at the National Food Safety Laboratory and the Public Health Laboratory, and analysts were trained in Bangladesh and abroad on food chemical and microbiological analysis. Through these activities, the laboratory has

integrated food safety and public health related analyses. In addition, other laboratories were supported with consumables and equipment to perform the market basket sample tests. The National Food Safety Laboratory now has the capacity to develop and validate reference methods for an increasing range of parameters, and provides services commercially for government and the courts. The results of food testing are regularly disseminated by the Institute of Public Health. However, the laboratories may not have the infrastructure and spare capacity to conduct large-scale testing of food samples as required by risk-based inspection programmes.

- 117 **Inspection field teams.** Thirty-two officials participated in three study tours on risk-based inspection, public-private partnerships and curriculum implementation. Over 950 sanitary inspectors of the DGHS were trained to carry out risk-based food inspections using the guidelines, manuals and standard operating procedures developed by the cluster. Motor vehicles and testing kits were distributed to facilitate monthly inspections. The sanitary inspector diploma programme has been upgraded to a degree programme with necessary curriculum amendments. The training materials, inspection manuals and procedures are all official documents endorsed by MoHFW and they bear the Government of Bangladesh insignia. The materials were also shared with the BFSA for validation. Over 250 sanitary inspectors have been authorized by BFSA as food inspectors. Personnel additions were made at the district and upazila level by the DGHS. However, further work is required to improve sample drawing, bagging and safekeeping, and the processes should be validated through formal BFSA guidelines for food inspections.
- 118 **Foodborne illness surveillance.** A total of 84 personnel have been posted to ten surveillance sites for foodborne illness detection and over 4 500 samples were tested by Institute of Epidemiology, Disease Control and Research laboratories in 2014–2015. Web-based, mobile phone and community-based surveillance mechanisms have been set up and data is being collected regularly from over 420 upazilas for an enhanced number of indicators and pathogen parameters. Rapid response teams of the Institute of Epidemiology, Disease Control and Research have been provided operational guidance, manuals and training for outbreak investigations and emergency responses, and have completed over 30 outbreak investigations in 2013–2015. A Food Safety Emergency Response plan has been established and the foodborne illness surveillance system and processes are fully owned by the MoHFW. However, data from these surveillance and outbreak investigations also have to be considered for regulatory actions, and this requires more cooperation among the institutions.
- 119 **Value chain actors.** A large number of master trainers, lead trainers and lead farmers have been trained on good practices, provided with guidelines and supported with all preparations toward traceability, which is essential for GAP certification. Adoption of these practices has shown encouraging results and the potential for scaling-up. Trainers are being deployed or considered for deployment in related programmes led by the government/World Bank or other development actors (e.g. Solidaridad). The street food cart project is now driven by the Khulna municipal corporation and carts are being registered. Municipal inspectors monitor cleanliness and hygiene of the premises and equipment regularly, and vendors are observing hygienic practices and have begun receiving repeat business, higher incomes and margins. Other vendors are emulating the model, without financial support in the form of carts and uniforms.
- 120 **Consumer networks.** With the exposure from the cluster, the Bangladesh Food Safety Network has become an advocacy group for food safety, which is now part of the regular activities of the five non-governmental organizations with diverse interests in public policy, sustainable agriculture and consumer rights. There is a common understanding of food safety issues and how the grassroots awareness must be spread using effective information, education and communication materials customized for the target audience. Bangladesh Food Safety Network members are designing their own food safety initiatives, including the 'Safe Food Upazila' in Delduar, or setting-up safe food clusters based on the value chain pilots. Thus, there is encouraging evidence from recipients of using capacities technically and functionally. A large share of budgets (61 percent in GCP/BGD/047/NET and 67 percent in GCP/BGD/054/USA) were allocated to capacity development activities (see Table 10).

**Table 10.** Capacity building elements intensity in cluster activities (percent of budgets)

Budget Category	GCP/BGD/047/NET (%)	GCP/BGD/054/USA (%)
International staff/consultants	9.4	42.0
National staff/consultants	21.9	14.4
Technical support services	2.8	4.2
Training	10.6	4.7
Contracts	16.4	1.3
<b>Total</b>	<b>61</b>	<b>67</b>

### 4.3 Partnerships

#### To what extent has FAO leveraged partnerships to implement the projects and improve the sustainability of results?

**Finding 14:** FAO managed diverse partnerships in the cluster, including ministries and line agencies; technical and scientific institutions; consumer networks; private sector organizations; and donors. Some of these are core partners and have long-term relationships with FAO, while other partnership will depend on the continuation of activities and availability of resources. The cluster design and activities engendered meaningful collaborations among government agencies and between government and the private sector, yet these were driven by the cluster's activities and resources. Their post-intervention continuation remains uncertain in the absence of complementary interventions building on the cluster's activities. The interagency coordination mechanisms of the BFSA will continue, as they are mandatory under the BFSA 2013.

- 121 The FSC, particularly GCP/BGD/047/NET followed a multi-dimensional design, covering a multitude of government and non-government actors. The food safety domain encompasses a wide variety of agencies having parallel jurisdiction, thus making collaboration within government a necessity. At the same time, food safety practitioners are mostly in the private sector – producers, processors, market actors and consumers.
- 122 Specific evidence of intra-government collaborative approaches included: the National Codex Contact Point and sub-committees under the Bangladesh Standards and Testing Institution; the food safety working groups headed by MoHFW and now formally instituted in the Central Food Safety Management Coordination Committee; and BFSA's appointment of food inspectors from among sanitary inspectors of the DGHS. Examples of collaboration between government and other actors included: the pilot value chains, which involved extension departments, producer clusters, private sector and non-profit organizations; and partnerships between civil society organizations within the Bangladesh Food Safety Network, and between the network and public health and education departments/field units in districts and upazilas. These collaborations were fostered under the FSC and developed largely through its activities. Their continuance and scale of cooperation beyond the project depends on sustained funding for activities. On the other hand, the institutional coordination mechanism in the form of the Central Food Safety Management Coordination Committee shall continue because it is mandated by the Act from 2013. However, its substantive scope and agenda shall be determined based on the BFSA's governance mechanism and work programme.
- 123 Some aspects of inter-ministerial and inter-sectoral cooperation are beyond the scope and control of the cluster and are not specific to the intervention. Rather, they reflect the larger realities of the enabling environment and can only be addressed at higher levels.
- 124 The cluster formed partnerships with a wide variety of institutions and organizations. The key partnerships with the MoHFW (National Food Safety Laboratory, DGHS), Food (BFSA), Agriculture (Department of Livestock Services, Department of Agricultural Extension, Department of Fisheries) and Local Government, Rural Development and Cooperatives (Khulna City Corporation) are reflected in the delivery of specific outputs. Useful partnerships were also established with technical institutions (such as the Bangladesh Standards and Testing Institution, Bangladesh Accreditation Board and laboratories), academic/

training institutions and consumer organizations (led by the Consumers Association of Bangladesh), and private sector federations (Hortex Foundation, Bangladesh Shrimp and Fish Foundation). Even though these partnerships emerged from the cluster's activities, they remain highly relevant for FAO's engagement on food safety and quality control, and as an entry point for engendering both health (hygiene and sanitation) and economic impacts (value addition and market linkages).

- 125 The two donor partners – Netherlands and the United States Agency for International Development – have played a valuable facilitating role and demonstrated confidence in FAO's implementation capabilities, as well as an understanding of the issues and challenges, context and enabling environment. The importance of national ownership and stewardship is well understood, and there is an appreciation of FAO's role, contribution and results in a challenging and complex landscape. Both donors have a long-term view of the results, and view the establishment of a functional and reliable food control system as a critical intermediate outcome in food safety and control.
- 126 Looking ahead, donors may prioritize food safety interventions differently. The basic building blocks – policies, procedures, systems, facilities and knowledge – for a food control system are being established by the cluster and need to be fully owned and operated by the Government of Bangladesh. The extension of GCP/BGD/047/NET is primarily to convert the capacities and skills into services to be provided largely by government agencies. Thus, donor interest can follow two pathways: either shift to a broader, future-looking 'food systems' orientation, or deepen existing work within specific value chains. FAO has a role in both, one from a research perspective and the other from an implementation perspective. Related to the cluster's intervention logic, FAO needs to engage with donors and partners who are interested in developing specific value chains, including through private sector investment linkages. This has implications for the nature of partnerships that FAO must build over the next cycle of programming.
- 127 With Bangladesh aspiring to attain middle-income country status by 2021, there are likely to be downward revisions of aggregate development assistance; however, there will also be more opportunities for private sector involvement in the domestic and export-centric food supply chains. Donors that see effective food safety systems as enablers for trade and investment in Bangladesh's food sector are more likely to support the cluster in the next phase. The success of Bangladesh's export-driven shrimp industry is founded upon a reliable and traceable control system, and the same approaches can work in other value chains too. However, these would require bridging interventions to create export-ready supply chains on a commercially viable scale, and thus justify development assistance in the medium-term.
- 128 FAO does not see itself playing a role beyond successful piloting to demonstrate benefits, and longer-term impacts can therefore only be brought about by other interventions and partners. This also makes it important for FAO to work with partners whose skills and resources are more suitable for upscaling ideas and pilots introduced by FAO projects. Ideally, these partnerships should be identified during the early days of implementation to avoid any discontinuities in the scaling-up process. Given the long cycle of project formulation and approval in Bangladesh, exit and scale-up plans should ideally be part of the initial project documentation, especially for smaller projects.

## 5. Conclusions, recommendations and lessons learned

### 5.1 Conclusions

#### 5.1.1 Strategic relevance

**Conclusion 1.** FAO's interventions were highly relevant to the national context, United Nations values and FAO's comparative advantage. The cluster addressed critical areas of an effective food control system, strengthened linkages between food safety measures, food and nutrition security (utilization aspects) and public health outcomes. Moreover, it demonstrated FAO's expertise, global knowledge and best practices in addressing food safety issues.

129 **Strategic positioning.** Food safety is now a national priority, with a distinct place in the National Food Policy Plan of Action and the Country Investment Plan. The cluster has responded directly to the articulated priorities:

- enhancing awareness on food safety practices;
- enhancing coordination on food safety management;
- formulating food safety regulations;
- strengthening inspection and analysis capacities;
- improving capacities in value chains;
- strengthening healthy food vending.

130 **Comparative advantage.** Through the cluster, FAO applied its expertise and experience in supporting evidence-based formulation of global food safety guidelines and practices. This includes FAO's mandate (jointly with WHO) to service intergovernmental bodies on food safety issues, monitoring new developments and risks, as well as using FAO's knowledge products and technical expertise to set-up food safety and control systems.

131 **Partnerships.** The cluster has been successful in forming implementation partnerships with a wide variety of institutions and organizations, including ministries (MoHFW, Department of Livestock Services, Department of Agricultural Extension, Department of Fisheries and Local Government, Rural Development and Cooperatives), technical institutions (Bangladesh Standards and Testing Institution, Bangladesh Accreditation Board and laboratories), consumer organizations, and private sector federations (Hortex Foundation, Bangladesh Shrimp and Fish Foundation).

#### 5.1.2 Programme contribution

**Conclusion 2.** FAO's support to the FSC is making a difference, as evidenced by the results at technical and grassroots levels. The appropriate steps are being taken to enhance institutionalization and governance relating to food safety.

132 **Relevance.** The cluster components were designed appropriately to enhance food control. They identified and addressed specific technical and institutional gaps, as well as the need for grassroots awareness and behaviour change among consumers and practitioners. Cluster activities addressed functional requirements, structures and processes in the domain. Designs were based on the comparison of different models, and the selection of an integrated model that was most appropriate for Bangladesh.

133 **Impact and effectiveness.** The cluster has shown evidence of i) strengthened technical and functional capacities in implementing units; ii) awareness, behaviour and attitude changes toward food safety and hygiene practices at the grassroots level; and iii) irreversible initiatives and actions to strengthen systems and processes for field level food control in the key agencies.

The field pilots were found to contribute to increased economic benefits, which resulted from the pursuit of prescribed guidelines and practices (although public health outcomes were difficult to ascertain due to the small scale and short duration of the interventions).

134 It is premature to draw conclusions on the effectiveness of the institutionalization process, since the cluster is under implementation and the institutions are still developing. Continued support should be provided to the cluster, including the knowledge and expertise needed to implement the relevant systems and practices. The results will depend on the quality and pace of adoption, and the translation of these interventions into action; the will to implement a regulatory system that is based on the principles of neutrality, transparency and accountability; and an intent to reduce the regulatory burden of food control. Appropriate indicators need to be designed to test institutions for regulatory effectiveness.

135 **Contributing factors.** The main factors that contributed to effectiveness included:

- multi-dimensional design with parallel capacity development paths for different stakeholder groups;
- twinning implementing partners with best-in-class technical expertise;
- bridge building and trust development;
- matching ownership and commitment (MoHFW);
- involvement of government technical agencies; and
- inter-project coordination and synergies, as well as donor confidence and support.

### 5.1.3 Sustainability

**Conclusion 3.** Developing a national food safety system from scratch is a long-term endeavour, and this cluster has succeeded in laying the building blocks. Looking forward, the main factors that will influence programme impacts and sustainability are: i) resource allocations; ii) decision processes in the selection of human resources; iii) programme interventions; and iv) leadership and governance. FAO should build upscaling strategies into the project design, develop the strategies with technical assistance and include potential scaling-up partners in the programme activities.

136 The continuity of impacts depends on the interplay of several factors: i) an appreciation of food safety as a public good; ii) a demonstrated commitment to good regulatory and governance principles of neutrality, transparency and accountability; iii) appointing the right persons for the right tasks in the right places; iv) augmenting budgetary resource allocations as needed to achieve the standards set for food control; and v) resolving legacy issues and improving the quality of the enabling environment through strong political championship at the highest levels.

## 5.2 Recommendations

137 Under the present conditions, the appropriate FAO strategy should be to: i) remain engaged with the Government of Bangladesh's institutional processes at their pace; ii) strengthen grassroots food safety practices to develop compliant food value chains equipped to meet market and customer requirements; and iii) scale-up partnerships to link practitioners to markets. Such an approach will reduce the transaction costs related to regulatory and institutional processes, and enable the propagation of good practices among practitioners and consumers. At present, there are few market incentives for improved food safety practices, but these should follow in due course with a greater appreciation of the ensuing benefits.

**Recommendation 1. To FAO.** Regarding institutionalization, FAO should continue to use adaptive approaches and to calibrate support to the pace of implementation and extent of ownership.

138 A more flexible work programme aligned to the actual pace of institutionalization would be better than completing outputs according to project timelines. Sequencing was critical in project GCP/BGD/054/USA, and it is essential to put the structures in place before taking up capacity development activities. The BFSa should lead in setting the pace for



institutionalization. There are major decisions to be taken internally: i) approval of the strategic plan; ii) staffing of key positions in the organizational structure; iii) improving work programmes; and iv) improving corporate governance practices. Externally, interagency framework cooperation agreements should be signed and procedural guidelines implemented for food monitoring inspections, laboratory services, and other important areas in which other agencies will provide services as set out in the agreements. FAO and donors should recognize that this will involve major decisions, not only by BFSA but also by the governing council. Consensus and mutual consent will determine the actual scope of BFSA's work programmes and cooperation with other agencies. This in turn will have implications for the cluster's work programmes.

**Recommendation 2. To FAO.** Continue grassroots engagement to promote behavioural change among practitioners and consumers by demonstrating the benefits of food safety while strengthening market linkages.

139 The greatest strength of the cluster lies in demonstrating the benefits of adopting food safety and good hygiene practices at the grassroots level. This leads to behavioural change and equips practitioners to deal with regulators and monitoring agencies based on scientific evidence and traceability records, in order to demonstrate compliance to relevant standards. Models such as 'Safe Food Street Carts' and 'Safe Food Upazilas' demonstrate that food safety culture can be developed through privately owned initiatives with a benign and enabling regulatory control, rather than being forced from above. These initiatives can be replicated in other areas, including with donor assistance. Similarly, there is potential to develop 'model wet markets' for livestock based on regulations currently being formulated by BFSA. These models can be built into market infrastructure projects being set-up with United States Agency for International Development support. Likewise, the street cart model could be replicated under the concept of 'safe food markets' in other locations such as Jessore, where interest has been expressed. These behavioural changes should be driven by the economic incentives and the new practices should be linked to those markets where health benefits are valued.

**Recommendation 3. To FAO.** Link success models to complementing initiatives for upscaling and linkage to the markets.

140 FAO should actively seek new partners to adopt the successful pilots and upscale them in contiguous areas, while following the same approaches and using the lead practitioners and trainers. The cooperation with Solidaridad is a good example of this approach. At the same time, it is necessary to build a pipeline of market linkages and support/underwrite market trials as an essential step toward stabilizing the supply chains. This would be best done under smaller Technical Cooperation Programmes or donor-assisted projects. Given the high transaction costs of getting smaller projects approved, it would make sense to formulate specific projects to upscale and build domestic and export market linkages for clusters adopting good practices. FAO's involvement in these could remain in the technical 'food safety and hygiene' aspects, while market-facing activities could be handled by other partners.

**Recommendation 4. To FAO and the Government of Bangladesh.** Engage in public dialogue for effective and accountable food control based on scientific evidence and good governance principles.

141 While developing a food control system, it is important to have checks and balances and avert the creation of a draconian enforcement culture. This calls for considerable public consultation and dialogue to discuss the nature and intent of food controls, institute controls and punitive measures that make a clear distinction between wilful default and inadequate safeguards. For the latter, a grace period for corrective actions and a regime of capacity development should be built into the control programmes before more serious punitive measures are taken. Food inspections, seizures and legal actions must be transparent, traceable and based on scientific evidence, with a clear separation of administrative and prosecutorial functions. All of these aspects should come to the forefront in the coming years and there should be sufficient public dialogue on the food control regime in Bangladesh, ensuring that the regulatory burden is reduced to a minimum while compliance is raised. This calls for the continued involvement of consumer networks in advocacy.



**Recommendation 5. To the Government of Bangladesh.** Showcase food safety as an example of good governance.

142 The nascent BFSA has a unique opportunity to become a centre of excellence and to win the trust of markets and practitioners inside and outside the country. This will go a long way in attracting customers and investors to Bangladesh's food sector, especially the high value products. By operating a lean, transparent and cooperation-driven food control system, Bangladesh can illustrate its commitment to governance and business, which will become increasingly important for the transition to middle-income country status.

**Recommendation 6. To development partners.** Prioritize support to pilot-tested and scalable interventions.

143 The cluster has initiated positive behaviour change, and development partners should seize the momentum by developing new programmes/projects in their specialized areas. Evidence from the cluster activities, both at policy and grassroots levels, can be used as a pilot for value chain development.

### 5.3 Lessons learned

144 The food safety cluster offers important lessons on the design and implementation of food control systems in developing country environments.

**Lesson 1.** Food safety is a complex and multi-dimensional issue that requires sustained efforts delivered through well-coordinated partnerships.

145 International experience shows that it takes years to develop effective food safety control systems, and the challenge is greater in populous countries. Actions are needed throughout the value chain, which requires engagement with multiple stakeholders. Implementing partners, government and donors need to commit to long-term approaches to food safety and quality with a series of well-sequenced, progressive actions aimed both upstream and downstream. Continued resource mobilization and strong market linkages are needed for economic sustainability.

**Lesson 2.** National ownership and commitment demonstrated in actions are prerequisites for implementing effective food safety management systems based on good governance principles – neutrality, transparency and accountability.

146 Food safety is essentially about the trust between consumers, producers and handlers; considering the public health implications, food safety can be viewed as a public good. Thus, the role of state agencies is central in ensuring reliable and safe food value chains through effective controls. Trust can be built only by demonstrating good governance and enhancing compliance with the least regulatory burden. This calls for a balance between education, empowerment and enforcement in the regulatory approach to be applied in a non-discriminatory, transparent and accountable manner based on scientific principles and evidence. Given legacy factors and potential resistance to reforms, this will require political will and championship at the highest levels.

**Lesson 3.** Interventions should be flexible and adapt swiftly to changes in the external environment, and adjust support to progress milestones in key outcome areas.

147 Large-scale changes in the enabling environment depend on several factors that affect the quality of delivery. While the progress of results can vary across outcome areas, donor-supported interventions are time-bound. Interventions must therefore be flexible and attuned to the pace of results, as demonstrated across the selected outcome areas for effective use of resources. The processes for amendments and course-corrections should be expeditious and sufficiently adaptive. This calls for good understanding among all partners and approving authorities.

## Appendices

### Appendix 1. Evaluation matrix

Question	Sub questions (illustrative)	Stakeholders (work in progress)	Data collection and reference materials (work in progress)
<b>Strategic relevance</b>			
<b>Is FAO doing the right things vis-à-vis the national context, needs and priorities, UN/FAO values, and FAO comparative advantage?</b>			
<b>National context:</b> What is the strategic positioning of these projects in Bangladesh's development agenda? What are their linkages to achieving higher national development objectives?	In what way are the areas of food safety quality control strategically relevant/ important to Bangladesh's needs and development challenges/goals?	FAO Representative (FAOR), technical assistance team, Ministry of Food, MoHFW, Ministry of Industries, Ministry of Agriculture, Ministry of Fisheries and Livestock, NET, USAID	Documentary reviews: interviews
	Is the programme (cluster projects) aligned with relevant national strategies and policies and United Nations Development Assistance Framework (UNDAF)?	FAOR, technical assistance team, Ministry of Food, MoHFW, Ministry of Industries, Ministry of Agriculture, Ministry of Fisheries and Livestock, NET, USAID	Poverty Reduction Strategy Paper, 6th five-year plan, 7th five-year plan, CIP- Food Security National Food Policy 2006 and National Food Policy Plan of Action
	Did the programme address include the right mix of activities and address structurally important challenges in areas relating to food safety, quality and control?	FAOR, technical assistance team, MoHFW, Ministry of Food, technical agencies, NET, USAID	ProDocs, needs assessments reports
	Were the interventions flexible in implementation to respond to emerging needs?	FAOR, technical assistance team, Ministry of Food, MoHFW, Ministry of Industries, Ministry of Agriculture, Ministry of Fisheries and Livestock, NET, USAID	ProDocs, needs assessments reports
<b>FAO context:</b> What are the contributions to and benefits from UN/FAO normative values and frameworks?	Have normative values – supporting poor, marginalized, disadvantaged and affected populations been embedded into FAO programmes and how?	FAOR, Representative civil society organizations (Bangladesh Food Safety Network members)	Beneficiary mapping, Regional and sectoral poverty profiles in fisheries, horticulture and aquaculture
	To what extent human rights, gender and environmental sustainability issues were reflected in programme design, implementation and targeting of activities?	Technical assistance team, MoHFW, Ministry of Food, Ministry of Local Government, Rural Development and Cooperatives, Bangladesh Standards and Testing Institution	ProDocs, interviews
	How is the programme designed to contribute to Sustainable Development Goals?	FAOR, MoHFW, Ministry of Food	Sustainable Development Goal indicators, Country team
	Has the programme been coherent with FAO Strategic Framework?	FAOR, United Nations Resident Coordinator	UNDAF Pillar 4: Food Security and Nutrition, SO4, SO3

Question	Sub questions (illustrative)	Stakeholders (work in progress)	Data collection and reference materials (work in progress)
	Is FAO covering key areas under its mandate?		Global goal links to improved food security through safety, sustainable management of fisheries and aquaculture, responses to food and agriculture threats and emergencies Regional SPAs: Food Security and Nutrition, improving capacity to respond to food and agriculture threats and emergencies
	To what extent is design grounded on assessment of country capacity development/learning needs?	Technical assistance team, NET, USAID Tech units under Ministry of Food, MoHFW and other ministries	ProDocs, needs assessments reports
<b>Strategic positioning</b>			
Has FAO designed the programme that clearly builds on its knowledge base and core functions or on that of its partners?	What role has FAO played vis-à-vis other development actors in supporting Bangladesh Development Group in the areas of food safety, quality control?	Technical assistance team, MoHFW, Ministry of Food-BFSA, Bangladesh Standards and Testing Institution, Donors	FAO prior projects records Others: United Nations Industrial Development Organization (UNIDO), EC, Asian Development Bank, WHO
	How did FAO engage in partnerships and to what extent were these complementary and synergistic?	Technical assistance team, USAID, NET, Bangladesh Standards and Testing Institution, NFSL, Bangladesh Food Safety Network, Bangladesh Accreditation Board	ProDocs, mutual assessments and perceptions
	To what extent did FAO support coordination of actors working in the area of food safety?	FAOR, MoHFW, Ministry of Food-BFSA, donors	Institutional coordination bodies/mechanisms and FAO role <i>ex officio</i> in them
	To what extent has FAO contributed to influence positions and decisions of partners, and what role has it played?	FAOR, MoHFW, Ministry of Food-BFSA, donors	FAO influence on apex policy and agenda setting reflecting importance and priority to food safety quality and control among donors and counterparts
<b>Comparative advantage</b>			
Has FAO operated in only those areas under its mandate in which it provides concrete added value in the specific context?	What was the nature and extent of analytical work done by FAO to come up with a diagnosis of which issues it was prepared/capable of addressing in the country?	FAOR, MoHFW, Ministry of Food-BFSA, donors, UNIDO, WHO	FAO prior projects 2003: Technical Cooperation Programme –Food Control, 2005-13: National Food Policy Capacity Strengthening, EC 038
	Deriving from the analysis of national context and FAO's own capacities, is the programme covering key areas under its mandate? Are there any gaps or missing opportunities?	FAOR, MoHFW, Ministry of Food-BFSA, donors, UNIDO, WHO	FAO prior projects 2003: Technical Cooperation Programme –Food Control, 2005-13: National Food Policy Capacity Strengthening, EC 038
	Did FAO draw from its core functions and comparative advantage, taking into account work of its partners, in design and implementation?	FAOR, MoHFW, Ministry of Food-BFSA, donors, UNIDO, WHO	FAO prior projects 2003: Technical Cooperation Programme –Food Control, 2005-13: National Food Policy Capacity Strengthening, EC 038
	Was FAO role based on its own comparative advantages vis-à-vis other development actors?	FAOR, MoHFW, Ministry of Food-BFSA, donors, UNIDO, WHO	Extent of external domain expertise support sought in the projects

Question	Sub questions (illustrative)	Stakeholders (work in progress)	Data collection and reference materials (work in progress)
<b>Programme effectiveness and impact</b>			
<b>Is FAO making a difference considering its strategy and the achieved results from its food safety cluster?</b>			
<b>National context:</b> What policy, institutional and behavioural changes have these projects brought about to different beneficiaries?  Did the project design, standalone and collectively produce envisaged results? If not, what are the reasons for it? The extent to which the changes driven by the achievement of results are attributable to FAO interventions	What are the main improvements/changes in the policy/regulatory framework toward a national food safety quality and control system?	FAOR, technical assistance team, MoHFW, Ministry of Food-BFSA	Status of: Food Safety Quality Policy, Strategic Framework and Action plan toward One-health approaches in sector supply chains, Food Safety Regulations under Field Staff Association 2013.
	What are the main improvements in the institutional framework, coordination and infrastructure to implement a functioning national food safety system?	FAOR, technical assistance team, MoHFW, BFSA, National Food Safety Advisory Council, NFSL, other	Documents showing structure and governing arrangements under BFSA, National Food Safety Management Advisory Council/National Food Safety Advisory Council, minutes of meetings. Food Safety Tech Working groups on Horticulture, Poultry and Fisheries, Training policies, and Commissioned Research
	How have risk-based inspection and standards/ rules/guidelines formulation capacity improved?	National Codex Committee, FAOR, technical assistance team, Bangladesh Standards and Testing Institution, National Food Safety Advisory Council tech sub committees	Widened scope of risk assessments and range of pathogens for which data collected, number of standards drafted/notified, risk assessor training reports
	How are integrated approaches across food value chains leading to improved understanding and control of food safety issues?	FAOR, technical assistance team, MoHFW, BFSA, Ministry of Agriculture, Ministry of Fisheries and Livestock, Bangladesh Standards and Testing Institution and their technical units/directorates	One Health  GAP, GHP, fruit and vegetables GAP modules for industry
	What are the changes in awareness and knowledge among consumers, food inspectors and food handlers toward food safety and hygiene practices?	Technical assistance team, MoHFW, Consumer Association of Bangladesh, Bangladesh Food Safety Network, Ministry of Food	Progress reports, anecdotal evidence and other documentation by dissemination channels. Food inspection guidelines, manuals. Trained and equipped inspectors (1100 kits)
	(What) improvements in handling, storage, market access and consumer confidence have taken place in the trade and retail of foods?	Technical assistance team, MoHFW, Bangladesh Food Safety Network, Ministry of Food	Information, education and communication progress reports, anecdotal evidence and other documentation by dissemination channels
	Did projects produce envisaged results, if not for what reasons?	Technical assistance team, Donors, MoHFW, Ministry of Food and technical agencies below	Self-perceptions, anecdotal evidence, documentation of results from functioning of systems created by projects, mutual assessments among partners
What changes can be observed attributable to FAO interventions?	Technical assistance team, Donors, MoHFW, Ministry of Food and technical agencies below	Self-perceptions, anecdotal evidence, mutual assessments among partners	

Question	Sub questions (illustrative)	Stakeholders (work in progress)	Data collection and reference materials (work in progress)
	To what extent have these changes contributed to progress toward outcomes?	Technical assistance team, Donors, MoHFW, Ministry of Food and technical agencies below	Self-perceptions, anecdotal evidence, documentation of results from functioning of systems created by projects, mutual assessments among partners
	How has FAO advocacy influenced policies?	Technical assistance team, Donors, MoHFW, Ministry of Food and technical agencies below	Self-perceptions, anecdotal evidence, mutual assessments among partners
What capacities did these projects build (upstream and downstream)?	How have surveillance, monitoring, lab testing and inspections infrastructure and skills improved?	Institute of Epidemiology, Disease Control and Research, NFSL, Bangladesh Accreditation Board, Bangladesh Standards and Testing Institution	Progress reports, anecdotal evidence and other documentation by dissemination channels, facilities for chemical and microbiological testing. Ten sentinel sites and other systems for Foodborne Illness Surveillance . Food Safety Emergency Response strategy and action plan endorsement.
	What are the improvements in training and skills development infrastructure to meet the needs of a national food control system?	Institute of Health Technology, Bangladesh Authority University Mymensingh	Progress reports, anecdotal evidence and other documentation by dissemination channels
<b>FAO context:</b> What capacities did these projects build within FAO? What are the impacts of these projects on FAO's own programme response/delivery?	To what extent have global and regional initiatives/tech units provided coherent or complementary support to achieve results?	FAOR, technical assistance team, RAP, headquarters	Progress reports, anecdotal evidence and mutual assessments
	How has technical assistance team capacity changed in the areas of food safety quality control? How does this influence future delivery capabilities?	Technical assistance team, RAP, headquarters	Progress reports, anecdotal evidence and mutual assessments
<b>Programme coherence and synergies</b>			
<b>National context:</b> Have the resources been used efficiently in producing envisaged results?	Has FAO focused on activities that will achieve best results vis-à-vis resources? Was there dovetailing and sequencing across interventions?	FAOR, technical assistance team, Donors	Resource utilization trends across components, progress reports on lagging outputs
	What measures were taken to secure synergies and cost-effectiveness in simultaneous delivery of contributing projects?	FAOR, technical assistance team, Donors	ProDocs, progress reports, team composition of both projects, thematic correspondence analysis of 047 and 054
	Was timely and sufficient FAO technical support available?	Technical assistance team, Output level beneficiaries – Consumer Association of Bangladesh, NFSL, National Food Safety Advisory Council, DGHS, Institute of Epidemiology, Disease Control and Research	Progress reports, mutual assessments and perceptions. Issues with recruitment of technical assistance team posts (Chief Technical Adviser, Standards Officer)

Question	Sub questions (illustrative)	Stakeholders (work in progress)	Data collection and reference materials (work in progress)
How have these projects strengthened the collaboration within the governments and that between government and private sectors?	No sub question. Main question is granular enough.	FAOR, technical assistance team, BFSA, Bangladesh National Food Safety Advisory Council, MoHFW, NET, USAID, EC	Former and current institutional structure National Food Safety Advisory Council-MoHFW and BFSA-Ministry of Food, reasons for shifting to Ministry of Food. Role delineation documents
<b>FAO context:</b>	To what extent have global and regional initiatives provided coherent/ complementary support for achieving results?	Technical assistance team, RAP, headquarters	Content analysis of Regional Initiative and Global Programmes and key partners in areas of food safety.
To what extent has FAO made the best possible use of resources - human and financial - in pursuing its objectives?	To what extent have emergency and development interventions been integrated?	Technical assistance team, BFSA, MoHFW, NET, USAID	Programme documents, mutual assessments and perceptions (example, Avian Flu)
	What was the role and value addition of headquarters, regional and sub-regional offices?	FAOR, technical assistance team, RAP, headquarters	Progress reports, mutual assessments and perceptions
	Did programme activities include and promote innovations/institutional knowledge from FAO? How has FAO knowledge base (normative products, guidelines, publications, etc.) been used?	FAOR, technical assistance team, RAP, headquarters	Progress reports, mutual assessments and perceptions, listing of global tools, knowledge products used in delivery
How have these projects strengthened collaboration with government, donors and other stakeholders?	How and to what extent have these enhanced FAO capacities to achieve desired results?	FAOR, technical assistance team, RAP	Self-assessments and perceptions
	To what extent did these projects play a catalytic role in FAO resource mobilization?	FAOR, headquarters, USAID, EC, NET, ITALY	Self-assessments and perceptions
What kind of lessons can be learned from the formulation and implementation of these projects?	What changes and adaptations have taken place guided by the implementation of various projects since 2005 and the changes in the national context?	FAOR, technical assistance team, MoHFW, BFSA Donors	ProDocs, perceptions and comparison of intervention logic and implementation arrangements
	What challenges were experienced rooted in national context and pre-existing institutional frameworks? How were these addressed/ overcome/reconciled?	FAOR, technical assistance team, MoHFW, BFSA Donors	Progress monitoring reports, mutual assessments and perceptions

Question	Sub questions (illustrative)	Stakeholders (work in progress)	Data collection and reference materials (work in progress)
<b>Sustainability and continuity</b>			
<b>National context:</b> To what extent can the changes generated be considered sustainable? What are the exit strategies of these projects? What are the needs that justify the next phase of these projects?	To what extent are benefits of the project likely to continue after external funding?	FAOR, technical assistance team, MoHFW, BFSA Output level beneficiaries – Consumer Association of Bangladesh, NFSL, National Food Safety Advisory Council, DGHS, Institute of Epidemiology, Disease Control and Research	Progress monitoring reports, mutual assessments and perceptions
	How will these results benefit livelihoods over medium- to long-term?	FAOR, technical assistance team, MoHFW, BFSA Output level beneficiaries – Consumer Association of Bangladesh, NFSL, National Food Safety Advisory Council, DGHS, Institute of Epidemiology, Disease Control and Research	Progress monitoring reports, mutual assessments and perceptions
	To what extent are results owned by beneficiaries?	FAOR, technical assistance team, MoHFW, BFSA Output level beneficiaries – Consumer Association of Bangladesh, NFSL, National Food Safety Advisory Council, DGHS, Institute of Epidemiology, Disease Control and Research	Endorsement of Organogram of Food Safety. Staffing for Food inspectorates field forces as approved.
	What were the main factors influencing the achievement or non-achievement of sustainability?	FAOR, technical assistance team, MoHFW, BFSA Output level beneficiaries – Consumer Association of Bangladesh, NFSL, National Food Safety Advisory Council, DGHS, Institute of Epidemiology, Disease Control and Research	Budget line creation and allocations for institutions and processes – funding of BFSA etc., under National Nutrition System
<b>FAO context:</b> What are the needs that justify the next phase of these projects by FAO? Who are in the best position in implementing further actions?	Have FAO activities had proper exit strategies and were these followed?	FAOR, technical assistance team, MoHFW, BFSA Donors	Mutual assessments and perceptions
	What needs justify next phases of these projects by FAO?	FAOR, technical assistance team, MoHFW, BFSA Donors	Mutual assessments and perceptions
	How can FAO best serve these further needs?	FAOR, Technical Assistance Team, MoHFW, BFSA Donors	Mutual assessments and perceptions



Question	Sub questions (illustrative)	Stakeholders (work in progress)	Data collection and reference materials (work in progress)
<b>Cross-cutting issues</b>			
<b>Gender</b>	How effectively have gender aspects been addressed in project design and implementation?	FAOR, technical assistance team, MoHFW, BFSA Donors	Mutual assessments and perceptions
<b>Capacity development</b>	To what extent has the cluster aimed and contributed to capacity development of stakeholders?	FAOR, technical assistance team, MoHFW, BFSA Donors	Mutual assessments and perceptions
<b>Partnerships</b>	To what extent has FAO leveraged partnerships in the implementation of the projects and sustain results?	FAOR, technical assistance team, MoHFW, BFSA Donors	Mutual assessments and perceptions

## Appendix 2. Documents consulted

### Project GCP/BGD/038/EC

- 1 Project document
- 2 End of project findings and recommendations

### Project GCP/BGD/047/NET

- 3 Project document
- 4 Progress reports Jul-Dec 12, Jan-Jun 13, Jul-Dec 13
- 5 Mid-term review (draft) and annexes May 14
- 6 Six monthly progress reports Jul-Dec 14, Jan- Jun 15, Jul-Dec 15,
- 7 RAP BTOR reports Mar '13, July '13, Nov '13
- 8 Improving food safety in Bangladesh – farm record book for safe fruits & vegetables production
- 9 Food safety programme in Bangladesh – Outcome Journal 4 (March 2016)

### Project GCP/BGD/054/USA

- 10 Project document (Annex 2)
- 11 USAID progress report Oct 2014-Jun 2015
- 12 Annual Report Oct 2014-Sept 2015
- 13 RAP BTOR reports Feb '14, Dec '14
- 14 End of assignment June 2015

### FAO CPF 2014–2018

- 15 National strategies
- 16 Country Investment Plan (CIP 2011) – A road map towards investment in agriculture, food security and nutrition
- 17 National Food Policy 2006 and Plan of Action (2008-15)
- 18 National Food Policy Plan of Action and CIP- Monitoring Report 2014,2015
- 19 Bangladesh Food Safety Act 2013
- 20 NNS OP, HPNSDP
- 21 Perspective Plan 2010-2021
- 22 6th Five Year Plan (2011-2015) - Accelerating Growth and Reducing Poverty, and 7th Five Year Plan (2016-2020) – Accelerating Growth, Empowering Citizens
- 23 Outbreak Investigation and Response Manual (FBIS)
- 24 Investigation of Food-Borne Illness Outbreaks and Food Safety Emergency Response (FSER) 2013-2015 (Final Completion Report)
- 25 Standard Operating Procedures – FBIS in Bangladesh
- 26 Proposal for Training Course (3-day) on Corporate Governance for the BFSA
- 27 Improving food safety program in Bangladesh-Project events report
- 28 Developing a BSc food safety management & regulatory affairs course in collaboration with Bangladesh agricultural university
- 29 Framework Agreement for cooperation on food control between the BFSA & food control agencies
- 30 Strategic Plan (2016-2021)-Discussion document for Stakeholders consultation
- 31 Targets and Summary of Achievements – Development of food control guidelines & pilot implementation across the Horticultural Value Chain

### Appendix 3. List of people interviewed

Name	Designation	Organization
<b>Government of Bangladesh</b>		
Amir Hussain Khan	Treasurer	Bangladesh Academy of Sciences
Mohidul Hoque Khan	Managing Director	BSAFE Foundation
Abdul Khair Mohammad Shamsuzzaman	Director	Directorate General of Health Services
A.B.M. Muzharul Islam	Director	Directorate General of Health Services
Habib Abdullah Sohel	Director	Directorate General of Health Services
A.E. Md. Muhiuddin Osmani	Joint Chief (Planning)	Ministry of Health & Family Welfare
Gokul Krishna Ghosh	Joint Secretary	Ministry of Health & Family Welfare
Md. Rezaul Karim	Senior Veterinary Surgeon	Ministry of Health & Family Welfare
A.K.M. Jafar Ullah	Director	Institute of Public Health
Maruf M A Rahman	Senior Executive, Sales & Marketing	SGS
<b>FAO</b>		
Alan Reilly	Senior Food Safety Adviser and Chief Executive	FAO
Anil Kumar Das	National Project Coordinator	FAO
Bhupesh Roy	Registry Officer	FAO
Md. Abul Kalam	Monitoring and Evaluation Specialist	FAO
Md. Saleh Ahmed	National Consultant-Senior Value Chain Expert	FAO
Mike Robson	Representative	FAO
Mohammad Amirul Islam	Lead National Consultant (AMIS)	FAO, AMIS
Shah Mahfuzur Rahman	National Adviser, Food Inspection and Foodborne illness surveillance	FAO
Shah Monir Hossain	Senior National Adviser	FAO
Shashi Sareen	Senior Food Safety and Nutrition Officer	FAO RAP
Sridhar Dharmapuri	Food safety Officer	FAO
<b>Development partners</b>		
Ahmad Ekramullah	Program Coordinator	Consumer Association of Bangladesh
Laurent Umans	First Secretary, Food Security	Embassy of the Kingdom of the Netherlands
Md. Abdul Jalil Bhuyan	Managing Director	Hortex Foundation
Mitul K. Saha	Assistant General Manager	Hortex Foundation
Mohammad Rafiqul Islam	AGM (Production) & Project Coordinator	Hortex Foundation
Ataur Rahman Miton	Country Director	Hunger Free World
Nazma Shaheen	Director	Institute of Nutrition & Food Science, University of Dhaka
Md. Anisur Rahman Biswas	Mayor (In Charge)	Khulna City Corporation
Sakiul Millat Morshed	Executive Director	SHISUK
Janina Jaruzelski	Mission Director	USAID
Farhad Gahaussy	Head Economic Growth	USAID

<b>Name</b>	<b>Designation</b>	<b>Organization</b>
Mitchell Nelson	Agriculture Development Specialist	USAID
Paul Sabatine	Deputy Mission Director	USAID
Craig A Meisner	Director	World Fish Center
<b>Research institutes</b>		
Md. Sultan Ahmed	Principal Scientific Officer	Bangladesh Agricultural Research Institute (BARI)
Jahangir Alam Jony	Director	Policy Research for Development Alternative

## Appendix 4. Results indicators for GCP/BGD/047/NET

Output	Indicator	Evaluation finding
Strengthened food safety analysis capacity	NFSL commissioned, operational ISO 17025 certification Internet platform – lab networks	<ul style="list-style-type: none"> <li>NFSL is operational and performing analysis and method validation as required, although not at a full commercial scale. Organogram has been prepared and preparations for certification being implemented.</li> <li>NFSL designated as national reference food control laboratory and also provides evidence for court cases.</li> </ul>
Strengthened capacity for standards formulation based on risk	<ul style="list-style-type: none"> <li>National Codex Contact Point, effective participation by all relevant ministries/ stakeholders</li> <li>National standards development - single standard for specific product/ process</li> <li>Risk analysis capacity to support food safety measures and standards formulation</li> <li>Competent risk assessors for chemical and microbiological risk assessments on Bangladesh specific issues</li> </ul>	<ul style="list-style-type: none"> <li>National Codex Contact Point set up at Bangladesh Standards and Testing Institution, four Codex subcommittees constituted and participations in meetings.</li> <li>130 codex standards incorporated in food products. However, Bangladesh Standards and Testing Institution mandate for issuing standards does not cover primary products and markets, storage, post harvesting and related infrastructure. Mandate limited to 59 processed food products. BFSA will have overall jurisdiction in setting regulations and standards across the food system. Framework Cooperation agreements will guide jurisdictions and roles.</li> <li>Informal Laboratory network established for one-time market basket survey of 8 products and analysis of microbiological and chemical contaminants from 2500 + samples, to aid in risk categorization. Inter-lab comparison reports yet to be disseminated. Future status of surveys and risk assessments indeterminate in the absence of guidelines from BFSA and budgetary allocations.</li> </ul>
Enhanced public awareness and education on food safety and consumer health	<ul style="list-style-type: none"> <li>Consumer awareness of safe food as basic right</li> <li>Consumer advocates role stronger in emphasizing food issues</li> <li>Education material for schools – food safety and hygiene</li> </ul>	<ul style="list-style-type: none"> <li>Food Safety Network created by five NGOs. Extensive field campaign targeting schools and housewives, focusing on five keys to safer food. Information, education and communication materials, booklets, Handwashing campaigns, and advocacy, leveraging public health machinery.</li> <li>Over three million children covered. One upazila, Deldoar, has embraced the motto of 'Safe Upazila'.</li> <li>Future activities need to be funded from other sources as project support unlikely on the same scale as before.</li> </ul>
Strengthened institutionalization of food safety in MoHFW	<ul style="list-style-type: none"> <li>Bangladesh Food Safety System structure</li> <li>DGHS capacity – trainings, activities</li> <li>National Food Safety Advisory Council and tech subcommittees functioning</li> </ul>	<ul style="list-style-type: none"> <li>Food Safety Focal Point and Food Safety Working Group established for internal and interagency coordination. Food Safety Unit of project will be internalized in Institute of Public Health.</li> <li>However, with formation of BFSA, coordination role and governance structures will change significantly, although several activities initiated in the project are likely to remain under the operational control of MoHFW agencies.</li> </ul>
Enhanced Foodborne Illness Surveillance	<ul style="list-style-type: none"> <li>Functional sentinel sites system</li> <li>Investigative capacity for outbreak in Institute of Epidemiology, Disease Control and Research</li> <li>Participation in Global Food Infections Network</li> <li>Food Safety Emergency Response system</li> </ul>	<ul style="list-style-type: none"> <li>Ten sentinel sites established under Institute of Epidemiology, Disease Control and Research at public hospitals, manned by eight persons. Surveillance parameters enhanced to include enteric diseases surveillance – diarrhoea, acute hepatitis and febrile illness, and testing for 11 indicators and pathogens related to food. 84 posts created for Foodborne Illness Surveillance. Monthly sampling schedules. Manuals, outbreak incidence investigations and trainings provided.</li> <li>Food Safety Emergency Response strategy and action plan readied.</li> <li>Linkages with International Network of Food Safety Authority activated.</li> <li>This activity will continue and funded by MoHFW budgets.</li> </ul>

Output	Indicator	Evaluation finding
Strengthened preventive risk-based approaches for all actors across food chain	<ul style="list-style-type: none"> <li>• Food control roles clarified for all depts., linkage as a whole</li> <li>• Primary production controls strengthened</li> <li>• Functional food inspectorate and authority overseeing food processing, preparation and marketing including imported foods – in MoHFW</li> <li>• Strengthened linkages between food controls and various parts of food chain</li> <li>• Role of other stakeholders strengthened</li> </ul>	<ul style="list-style-type: none"> <li>• Food inspection guidelines and manuals prepared and approved.</li> <li>• Over 950 trained and equipped sanitary inspectors equipped for collecting monitoring samples.</li> <li>• Coordination structures established inside the MoHFW for inspections.</li> <li>• Given BFSA's mandate, inspection systems and processes will need to be evolved in cooperation with food control agencies. BFSA has recognized over 260 Sis as Food Control inspectors, and is preparing guidelines and standard operating procedures for inspections. Framework Cooperation Agreements will be signed with all agencies.</li> <li>• Budgets for inspections will need to be developed based on the inspection plans agreed to with BFSA.</li> </ul>
Capacity enhanced in identified sectors of food industry - food safety and improved market access	<ul style="list-style-type: none"> <li>• GAP developed and implemented</li> <li>• Model fish market functional</li> <li>• GAP in fruit and vegetables food safety implemented by farmers</li> <li>• Fruit and Vegetables industry awareness of food safety</li> <li>• Capacity strengthened of street food and hygiene markets in urban areas</li> </ul>	<ul style="list-style-type: none"> <li>• Model value chains established in fisheries, poultry and horticulture.</li> <li>• Practice guidelines and manuals based on GHP, GAP finalized.</li> <li>• 98 Master Trainers, 300 Lead Trainers international certification on food control guidelines. 1500 farmers (+ 500 of Solidaridad) and 250 + value chain actors trained to implement food safety control measures.</li> <li>• Farm records, farm supervision, set up in preparations for GAP.</li> <li>• Market linkages initiated in mango (Walmart; other EU buyers); and Poultry - National supermarket (Aftab Hatcheries).</li> <li>• Productivity and cost-savings benefits seen in data such as: feed conversion ratio, mortality, input consumption, appearance, unit price realization, etc.</li> <li>• Market acceptance demonstrated in: Khulna street carts, Walmart (mango trials 3.6 tonnes), Aftab (8-taka premium for safe chicken).</li> <li>• Issues: <ul style="list-style-type: none"> <li>✓ Scale-up challenges in clusters: monitoring, obtaining GAP certification, phytosanitary issues;</li> <li>✓ Budgets needed in extension departments for field visit and monitoring;</li> <li>✓ No or insignificant market premium for better practices;</li> <li>✓ No exit or scale-up strategies built in pilot design.</li> </ul> </li> </ul>

## Appendix 5. Status of capacity building by GCP/BGD/047/NET and its institutionalization

Area	Capacity built	Utilization by the counterparts	Institutionalization by the counterparts	Further needs	Challenges
Laboratories and their network	<ul style="list-style-type: none"> <li>Infrastructure for the NFSL and Public Health Laboratory</li> <li>Intensive training of analysts in home and abroad</li> <li>Hardware and software support for multiple labs</li> </ul>	<ul style="list-style-type: none"> <li>Reference methods, research and service activities</li> <li>Testing activities at the instance of the Government of Bangladesh and High Court</li> <li>Commodity surveys being conducted</li> <li>Revenue stream identified and being generated</li> </ul>	<ul style="list-style-type: none"> <li>NFSL-Public Health Laboratory being merged to consolidate food safety analysis</li> <li>Institute of Public Health initiatives to conduct research studies and disseminate findings to the public</li> <li>Lab reporting is more specific and safety related</li> </ul>	<ul style="list-style-type: none"> <li>Staffing</li> <li>Policy and strategic directions from the Government of Bangladesh/BFSA</li> <li>Specialization - each lab to focus on few parameters and use the equipment provided by projects</li> <li>Broad approach to constant training and improvement</li> <li>Business development policy and investing lab revenue in the labs</li> <li>Technical supports for further capacity building</li> <li>Support for accreditation</li> </ul>	<ul style="list-style-type: none"> <li>Introduction of lab cadre required for better career prospects</li> <li>Labs across departments need to agree on sharing expertise and information</li> <li>Inter-labs referral services</li> </ul>
Inspection	<ul style="list-style-type: none"> <li>&gt;900 inspectors trained in Risk Based Food Inspections</li> <li>128 motorcycles and 1 100 inspection kits distributed</li> <li>Guidelines, manuals and standard operating procedures developed</li> <li>Sanitary Inspector course curriculum upgraded</li> <li>32 officials oriented through three study tours in the area of risk-based inspection, public-private partnership and curriculum implementation</li> </ul>	<ul style="list-style-type: none"> <li>Risk Based Food Inspection plans developed and being implemented across the country</li> <li>Utilization of motorcycles and inspection and sampling equipment enhancing the quality and quantity of Inspectors' works</li> <li>Data being collected, posted on the web and shared through the Management Information System, DGHS</li> <li>Submission of samples to lab with specific requests</li> <li>Upgraded curriculum is rolled-out and course duration has been increased from three to four years.</li> </ul> <p>Adopting best practices in their areas of work</p>	<ul style="list-style-type: none"> <li>All manuals and training owned by the DGHS</li> <li>Training modules being used by BFSA</li> <li>Inspectors trained by the Programme are being authorized by the BFSA in stages</li> <li>Revision of the job description, endorsed by the DGHS, final approval by the Ministry is in progress</li> </ul>	<ul style="list-style-type: none"> <li>Policy and strategic directions from the Government of Bangladesh/BFSA</li> <li>Training by direct interventions at the district level</li> <li>Updating of the guidelines, manuals and training modules</li> <li>Constant engagement to move from an end product inspection approach to audits</li> <li>Quality enhancement and quality assurance of the Sanitary Inspector curriculum</li> <li>Upgradation of the undergraduate Sanitary Inspectors' Diploma course to a Bachelor of Science course</li> <li>Follow-up exposures</li> </ul>	<ul style="list-style-type: none"> <li>Upgradation of the rank of inspectors of the MoHFW</li> <li>BFSA's policy on utilizing inspectors from various Ministries and agencies including effective coordination aimed at covering entire food chain</li> </ul>



Area	Capacity built	Utilization by the counterparts	Institutionalization by the counterparts	Further needs	Challenges
Foodborne illness Surveillance	<ul style="list-style-type: none"> <li>10 sentinel sites</li> <li>Web-based surveillance system</li> <li>Mobile phone based surveillance system</li> <li>Food safety emergency response operating procedures, information, education and communication materials developed</li> <li>Lab capacity developed</li> <li>Food Safety Emergency Response Plan developed</li> <li>Rapid Response Team capacity strengthened</li> </ul>	<ul style="list-style-type: none"> <li>Data being collected, posted, analysed by Institute of Epidemiology, Disease Control and Research, and being used for policies and strategies</li> </ul>	<ul style="list-style-type: none"> <li>All systems including manuals and standard operating procedures developed and owned by the MoHFW</li> <li>Mobile phone surveillance being expanded</li> <li>Antimicrobial resistance for foodborne diseases being incorporated in the policy, action plan for Antimicrobial resistance/mainstream programme</li> </ul>	<ul style="list-style-type: none"> <li>Integrated foodborne illness surveillance systems, covering the entire food chain</li> <li>Policy and strategic directions from BFSA on Food Safety Emergency Response</li> </ul>	<ul style="list-style-type: none"> <li>Broader collaboration with other institutions/agencies</li> </ul>
Value chains	<ul style="list-style-type: none"> <li>100 Master Trainers, 300 lead Trainers, 1500 Lead Facilitators</li> <li>Food Security guidelines in poultry, fisheries and horticulture value chains</li> </ul>	<ul style="list-style-type: none"> <li>Part of the programme of the Ministries</li> <li>Complements other GAP projects</li> <li>Trainers are being utilized</li> </ul>	<ul style="list-style-type: none"> <li>All manuals and training owned by the respective agencies</li> <li>Initiatives for mainstreaming/ scaling-up</li> </ul>	<ul style="list-style-type: none"> <li>Project-based support needs to continue in the short-term to maintain linkages</li> <li>Engage with the private sector to encourage sourcing from trained farmers</li> <li>Scaling-up – World Bank</li> </ul>	<ul style="list-style-type: none"> <li>Price premium and the incentive to keep implementing the guidelines</li> <li>Links with extension</li> </ul>
Street foods	<ul style="list-style-type: none"> <li>Khulna City Corporation – well established</li> <li>Dhaka – initial stages</li> <li>Barisal – to be initiated</li> </ul>	<ul style="list-style-type: none"> <li>Good uptake in Khulna over a period of 4 years</li> <li>School programme proving to be popular</li> </ul>	<ul style="list-style-type: none"> <li>Driven entirely by the Khulna City Corporation with Programme support and partial budget allocation by the Khulna City Corporation</li> <li>Licensing and registration introduced for street carts for the first time</li> </ul>	<ul style="list-style-type: none"> <li>The model may be better suited for small cities</li> <li>Scaling-up</li> </ul>	<ul style="list-style-type: none"> <li>Licensing and registration processes are slow; better options needed</li> </ul>

Area	Capacity built	Utilization by the counterparts	Institutionalization by the counterparts	Further needs	Challenges
Bangladesh Food Safety Network	<ul style="list-style-type: none"> <li>Advocacy group with a strong sense of commitment</li> </ul>	<ul style="list-style-type: none"> <li>Have utilized all inputs provided by the Programme</li> </ul>	<ul style="list-style-type: none"> <li>Food safety is now part of the regular activities of the five NGOs who otherwise have their respective interests such as public policy; sustainable agriculture; or consumer rights</li> </ul>	<ul style="list-style-type: none"> <li>Scaling-up both in terms of participation and programmes</li> </ul>	<ul style="list-style-type: none"> <li>Funding stream in the absence of programme support</li> </ul>
Bangladesh Standards and Testing Institution	<ul style="list-style-type: none"> <li>Codex Secretariat and National Codex Committee activated</li> <li>Members of the committees trained/oriented</li> <li>Active and effective participation in city corporation meetings</li> </ul>	<ul style="list-style-type: none"> <li>Safety parameters are a major part of discussions at standards committees</li> <li>Meetings</li> <li>Adoption of more codex standards</li> </ul>	<ul style="list-style-type: none"> <li>Formation of four mirror sub-committees of Codex</li> </ul>	<ul style="list-style-type: none"> <li>Continuous and close collaboration with other National Codex Committees in the region</li> <li>Institutionalized mechanism to hold national consultations on food safety issues on a regular basis</li> </ul>	<ul style="list-style-type: none"> <li>Introduction of single standard nationally</li> <li>Policy and strategic directions from the BFSA</li> <li>Funding in the absence of the Programme and Trust Fund support</li> </ul>
Institutionalization within the MoHFW	<ul style="list-style-type: none"> <li>Food Safety Working Group</li> <li>Food Security Focal Point</li> <li>Food Safety Unit</li> </ul>	<ul style="list-style-type: none"> <li>Liaison and collaboration with BFSA and other agencies</li> <li>Monitoring, supervision, reporting and sharing of data</li> </ul>	<ul style="list-style-type: none"> <li>All created and appointed by the MoHFW</li> <li>Functional</li> </ul>	<ul style="list-style-type: none"> <li>Staffing, capacity building and regular functioning</li> </ul>	<ul style="list-style-type: none"> <li>Effective service delivery</li> <li>Service level agreement with the BFSA</li> </ul>

## Appendix 6. Status of outputs achieved by GCP/BGD/047/NET

<p><b>Number of people trained</b></p> <p><i>Output 1</i> Laboratory staff (long-term and intensive) – 25 Laboratory staff (short-term training) – 30</p> <p><i>Output 2</i> Codex and national food standards committee members and scientists – 140</p> <p><i>Output 3</i> Head teachers – 1200 Teachers in upazilas – 600 District and upazila health officials – 500 Scouts (Master Trainers) – 64</p> <p><i>Output 5</i> Sentinel site personnel – 84 Laboratory personnel – 30 Mobile phone interviewers – 20 Rapid response team members – 64</p> <p><i>Output 6</i> Sanitary and food inspectors, inspection supervisors including for imported food – 969 Study tour participants – 30</p> <p><i>Output 7</i> Master Trainers – 98 Lead Trainers – 304 Lead Farmers – 1500 Value chain actors – 267 Street cart vendors – 1000 Service sector workers – 200 City Corporation staff – 108 Study tour participants – 12</p> <p><b>Total – 7 245</b></p>
<p><b>Facilities established</b></p> <ol style="list-style-type: none"> <li>1. NFSL commissioned</li> <li>2. Public Health Laboratory renovated</li> <li>3. Key equipment provided to 5 other laboratories</li> <li>4. 10 sentinel sites refurbished</li> <li>5. Offices of the Food Safety Focal Point in DGHS refurbished</li> <li>6. Offices of the Codex Secretariat supported with IT equipment and Codex volumes</li> <li>7. Food safety documentation centre in the National Medical Library</li> <li>8. 128 motorcycles to inspectors</li> <li>9. 4 motorcycles to Khulna City Corporation</li> <li>10. 800 street food carts distributed (ongoing)</li> </ol>
<p><b>Networks/groups supported</b></p> <ol style="list-style-type: none"> <li>11. Bangladesh Food Safety Laboratory Network</li> <li>12. Bangladesh Food Safety Network</li> <li>13. Food Safety Working Group within the MoHFW</li> <li>14. Mango farmers' clusters in Satkhira and Chapai Nawabganj</li> <li>15. Fish farmers' cluster in Rajshahi</li> <li>16. Poultry farmers' cluster in Ghazipur</li> </ol>
<p><b>Meetings, trainings and events</b></p> <p>Meetings – 116 Workshops – 20 Trainings – 44 Seminars – 9 Prize distribution ceremonies – 3 Demonstrations – 4</p>

**Number of standards supported for drafting and advancement to adaption/adoption****A. Fish and Fisheries Products Sectional Committee**

- BDS 155:2015 Fish, Dried/Dehydrated Salted (2nd revision)
- BDS 156:2015 Fish, Dried/Dehydrated Salted (2nd revision)
- Draft specification for fish feed
- Draft specification for fish pickles

**B. Spices and Condiments Sectional Committee**

- BDS 1167:1987 Dehydrated garlic
- Draft specification for garlic-ginger paste, garlic paste and ginger paste

**C. Oilseeds and their Products Sectional Committee**

- BDS 1075:1983 Edible sunflower oil
- BDS 909:1979 Soybean oil, Amendment-1,2000
- BDS 999:2000 Edible palm oil
- Draft SAARC regional standard for Vanaspati
- BDS for rice bran oil
- BDS for mustard oil
- BDS for edible safflower oil
- ISO660 on determination of acid value and acidity
- ISO662 on determination of moisture and volatile matter content
- ISO663 on determination of insoluble impurities content
- ISO3596 on determination of unsaponifiable matter in animal and vegetable fats
- ISO3657 on determination of saponification value
- ISO3960 on determination of peroxide value

**D. Cereal, Pulses and their Products Sectional Committee**

- BDS draft standard for fortified milled rice
- BDS 1106:2015 noodles (1st revision)
- BDS 1552:2015 instant noodles (2nd revision)

**E. Milk and Milk Products Sectional Committee**

- BDS draft standard for dairy based desserts (ice cream)
- BDS draft standard for dietary desserts
- BDS 1470:2017 for lassi; 1st review of Codex STAN 343:2010 for fermented milk

**F. Spices and Condiments Sectional Committee**

- BDS 854:2015 for whole, in pieces or ground ginger (1st revision)
- BDS 1084:2015 for coriander powder (1st revision)
- BDS 1085:2015 for whole coriander (1st revision)
- BDS 992:1981 for whole turmeric (1st revision)
- BDS 1166:2015 for dehydrated onion (1st revision)

**G. Starch and Products Sectional Committee**

- BDS draft standard for *tulsi patti* (basil leaves)
- BDS 657:2015 for baking powder (1st revision)
- BDS 1226:2015 for custard powder (1st revision)
- BDS192:2014 for barley powder

**H. Fruits and Vegetables Products Sectional Committee**

- BDS for synthetic vinegar
- ISO5524 on refrigeration and chilling of tomatoes
- ISO7588 on pre-packaging of fruits and vegetables

**I. Food Colours, Artificial Sweeteners and Additives Sectional Committee**

- JECFA FNP52 on Trehalose
- BDS Standard 1012:2007

**L. Agricultural and Food Products Divisional Committee**

- BDS 1770:2014 for fortified edible palm oil
- BDS CAC 72:2014 for infant formula and formula for special medical purposes intended for infants
- BDS CAC 207:2014 for milk powders and cream powder
- BDS CAC 279:2014 for butter
- BDS CAC 282:2014 for sweetened condensed milk

**M. Food Colours, Artificial Sweeteners and Additives**

- BDS Standard 1012:2007 (amendment)

<p><b>K. Codex standards</b></p> <ul style="list-style-type: none"> <li>• Codex standard for jams, jellies and marmalades (Codex Stan 296:2009)</li> <li>• Codex general standard for fruit juices and nectars (Codex Stan 247:2005)</li> <li>• Codex standard for pickled fruits and vegetables (Codex Stan 260:2007)</li> <li>• Codex standard for processed tomato concentrates (Codex Stan 57:1981)</li> <li>• Regional standard for chilli sauce (Codex Stan 306R:2011)</li> <li>• Codex standard for mango chutney (Codex Stan 160:1987)</li> <li>• Codex standard for citrus marmalade (Codex Stan 80:2008)</li> </ul>
<p><b>Number of market samples collected</b></p>
<p>No. of samples – 3517 No. of tests – 6656</p>
<p><b>Number of FBI samples collected</b></p>
<p>7 780</p>
<p><b>Test methods validated</b></p> <ul style="list-style-type: none"> <li>• Formaldehyde in foodstuffs</li> <li>• Sorbic and citric acids in fruit juices</li> <li>• Determination of saccharin, caffeine and sodium benzoate in beverages</li> <li>• Quantitative measurement of benzoic acid and sodium benzoate</li> <li>• Determination of aspartame, saccharin and acesulfame-K in beverages, jam and jellies</li> <li>• Determination of ciprofloxacin and enrofloxacin in poultry</li> <li>• Determination of tetracyclines (oxytetracycline, tetracycline and chlortetracycline) in milk, poultry and bovine milk</li> <li>• Vitamin A in biscuits</li> <li>• Vitamin E in dry fish</li> <li>• Inorganic arsenic in water</li> <li>• Potassium in water</li> <li>• Manganese in water</li> <li>• Determination of iron, copper and zinc in biscuits</li> <li>• Lead chromate in turmeric powder</li> <li>• Lead, chromium and cadmium in spices (high concentrations)</li> <li>• Arsenic in rice</li> <li>• Arsenic in vegetables</li> <li>• Mercury in fish</li> <li>• Cadmium, lead, and chromium in rice (low concentrations)</li> <li>• Organophosphorus pesticides in fruits, vegetables and milk (15 pesticides)</li> <li>• Determination of ethanol and methanol in energy drinks</li> <li>• Determination of pyrethroid pesticides in foodstuffs</li> <li>• Organochlorine pesticides in fruits, vegetables, milk and dried fish (18 pesticides)</li> <li>• Chloramphenicol in chicken and fruit juices</li> <li>• Benzoic and sorbic acid in drinks</li> <li>• Saccharin, caffeine and benzoate</li> <li>• Aspartame, saccharin and acesulfame-K</li> <li>• Quantitation of Sudan I, II and III in chilli</li> <li>• Fatty Acid Methyl Esters in Oils (11)</li> <li>• Aflatoxins B1, B2, G1, G2 in rice</li> <li>• Malachite green, leucomalachite and crystal violet residues</li> <li>• Microbiology <ul style="list-style-type: none"> <li>• Aerobic Plate Count</li> <li>• Yeasts and moulds</li> <li>• E. coli</li> <li>• B. cereus</li> <li>• Salmonella spp.</li> <li>• Campylobacter</li> <li>• Vibrio spp.</li> <li>• S. aureus</li> <li>• Total coliforms</li> </ul> </li> </ul>

## Appendix 7. Results indicators for GCP/BGD/054/USA

Outputs	Indicators target	Evaluation findings
Output 1 Coherent and effective national food safety and quality governance	<ul style="list-style-type: none"> <li>• Number of food safety related laws/policies/regulations developed</li> <li>• Effective coordination body in place meeting twice a year</li> <li>• Comprehensive policy and legislation in place</li> <li>• Stakeholder awareness</li> </ul>	<ul style="list-style-type: none"> <li>• BFSA created in Feb 2015.</li> <li>• Governance structures: Central Food Safety Management Coordination Committee and five-member board of BFSA set up.</li> <li>• Anchor documents: Mission, vision, Corporate governance principles, Draft Strategic Plan and Table of Officers prepared and submitted for approval.</li> <li>• Implementing arrangements: Working groups set up for various functions, and guidelines and regulations being drafted.</li> <li>• Framework Cooperation Agreements with other food control agencies drafted.</li> <li>• Training programmes and workshops held on relevant subjects</li> <li>• Exposure visits overseas for study of international practices</li> <li>• Work plan for 2016-17 prepared, awaiting approval.</li> </ul>
Output 2 Effective integrated control of food safety threats in the poultry chain by coordinating food safety, animal health and environment surveillance	<ul style="list-style-type: none"> <li>• Develop risk management programme addressing all threats in the poultry production chain</li> </ul>	<ul style="list-style-type: none"> <li>• End-to-end regulatory gap analysis completed for poultry and horticulture value chains, identifying gaps in legislation, rules and procedural guidelines across the value chain, covering plant and animal health, supplies, soil, water, food and feed, markets, etc.</li> <li>• Analysis will inform new regulations to fill the gaps.</li> <li>• Cadre of food inspectors recognized from other agencies.</li> <li>• Steps being taken for authorizing food control laboratories.</li> </ul>
Output 3 Enabling environment for improved third party verification/inspection and certification (conformity assessment) contribution to national food control	<ul style="list-style-type: none"> <li>• One certification body accredited</li> <li>• One food processing organization certified</li> </ul>	<ul style="list-style-type: none"> <li>• Training arrangements made with National Accreditation Board for Certification Bodies to strengthen Bangladesh Accreditation Board services in accreditation of inspection and certifying bodies under ISO 17020 and 17021. Lead assessor training modules being developed.</li> <li>• Identification of Lead Assessors beneficiaries underway.</li> <li>• Four-year graduate Bachelor of Science Food Safety Management curriculum developed with Dublin Institute of Technology at Bangladesh Agriculture University to be rolled out in 2017.</li> </ul>

Note: Some are premature for assessment







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