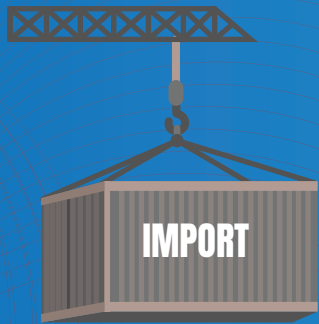


Study on

Quantifying the Benefits of Risk-Based Clearance for Imported Food and Agro-Product in Bangladesh



Conducted by
The U.S. Department of Agriculture Bangladesh Trade Facilitation Project

Study on Quantifying the Benefits of Risk-Based Clearance for Imported Food and Agro-Product in Bangladesh

Copyright © The United States Department of Agriculture Bangladesh Trade Facilitation Project (BTF)
www.btfproject.org

Published in May 2025, Dhaka, Bangladesh.

Some rights reserved.

Please, contact nchakma@landolakes.com if you have any questions or comments regarding content.

The study was planned, designed and conducted by Risk Management Unit of USDA BTF Project. The report has been published without formal editing.

Reference:

USDA Bangladesh Trade Facilitation Project. (2025). Quantifying the benefits of risk-based clearance for imported food and agro-product in Bangladesh. United States Department of Agriculture. Dhaka, Bangladesh.
<https://btfproject.org/content/reports/RMStudy_2025.pdf>



The U.S. Department of Agriculture, Food for Progress program helps developing countries and emerging democracies modernize and strengthen their agricultural sectors. The objectives are to improve agricultural productivity and to expand the trade of food and agricultural products.

<https://www.fas.usda.gov/programs/food-progress>



Bangladesh Trade Facilitation Project supports the Government of Bangladesh and partners with industry stakeholders to expand and improve agricultural trade. The project supports the Government of Bangladesh to harmonize processes and formalities, reforming policies, improving the delivery of trade services, increasing transparency, and complying with the WTO Trade Facilitation Agreement.

Disclaimer:

This Study Report was made possible by the generous support of the American people through the United States Department of Agriculture's Food for Progress Program. The contents are the responsibility of the author and the Bangladesh Trade Facilitation project and do not necessarily reflect the views of the United States Department of Agriculture or the United States Government.

Study on

**Quantifying the Benefits of Risk-Based Clearance
for Imported Food and Agro-Product
in Bangladesh**



Acknowledgement

The United States Department of Agriculture - Bangladesh Trade Facilitation Project (BTF) is collaborating closely with the Government of Bangladesh (GoB) to modernize and digitize import and export operations. Through this partnership, BTF is actively supporting Bangladesh in fulfilling its commitments under Category C measures of the WTO Trade Facilitation Agreement (TFA), particularly in areas such as testing procedures, risk management, and the handling of perishable items. To this end, BTF is working directly with key regulatory agencies, including the Department of Livestock Services (DLS), Plant Quarantine Wing (PQW), Bangladesh Standards and Testing Institution (BSTI), and Department of Fisheries (DoF), to implement effective risk management practices.

This study was conducted as part of BTF's ongoing initiatives, led by the Risk Management Unit. The Unit extends its sincere gratitude to BTF Project's senior management, particularly Mr. Michael J. Parr and Mr. Fuad M Khalid Hossen, for their visionary leadership, invaluable guidance, and continuous support throughout the study.

BTF acknowledges with great appreciation the significant contributions of Mr. Shaquib Quoreshi, the independent researcher, whose efforts and insights greatly enhanced the quality of this report. Special thanks are extended to officials of the National Board of Revenue (NBR) and its IT wing, particularly Mr. Golam Sarwar, Ms. Kamrun Naher Maya, Ms. Jenifar Yasmin and Mr. Md. Abdul Momin, whose cooperation and support were instrumental in successfully completing the study.

We express our sincere gratitude to the importers who provided valuable data and practical insights regarding trade challenges. Appreciation is also extended to all Customs officials, importers and clearing & forwarding agents who generously shared their time and expertise during key informant interviews (KIIs).

Furthermore, BTF gratefully acknowledges Mr. A. A. M. Amimul Ehsan Khan, First Secretary of NBR and former Lead of the BTF Risk Management component, for his valuable contributions and guidance to this study. Additionally, sincere thanks go to Mr. Recardo Halder, Mr. Md. Mehedi Hasan, Mr. Md. Borhan Uddin, and Mr. Ayas Ahmad for their dedicated support and contributions.

This report was prepared by Mr. Nipun Chakma, Ms. Nahrin Swarna, and Mr. Shaquib Quoreshi. Their collective efforts and collaboration significantly contributed to the successful completion of this important study.



Acronyms

ADB	Asian Development Bank
AEO	Authorized Economic Operator
ARMS	Automated Risk Management System (ARMS)
ASYCUDA	Automated System for Customs Data
AW	ASYCUDA World
BAEC	Bangladesh Atomic Energy Commission
BCSIR	Bangladesh Council of Scientific and Industrial Research
BDS	Bangladesh Standards
BDT	Bangladeshi Taka
BE	Bill of Entry
BFSA	Bangladesh Food Safety Authority
BRiCM	Bangladesh Reference Institute for Chemical Measurements
BSTI	Bangladesh Standards and Testing Institution
BTF	Bangladesh Trade Facilitation
C&F	Clearing and Forwarding
CBP	U.S. Customs and Border Protection
CLPO	Certificate, Permit, License, Other Documents
CM	Certification Mark (CM)
CRMC	Customs Risk Management Commissionerate
Cs-137	Cesium-137
C-TPAT	Customs-Trade Partnership Against Terrorism
DAE	Department of Agricultural Extension
DLS	Department of Livestock Services
DoF	Department of Fisheries
EU	European Union
FCL	Full Container Load
FGD	Focus Group Discussion
FIQC	Fish Inspection and Quality Control
HS	Harmonized System
IPO	Import Policy Order
ISO	International Organization for Standardization
KII	Key Informant Interview
KPIs	Key Performance Indicators
KRIs	key risk indicators

LC	Letter of Credit
LCA	Letter of Credit Authorization
LCL	Less than Container Load
MoC	Ministry of Commerce
NBR	National Board of Revenue
SPS	Sanitary and Phytosanitary (SPS)
NOC	No Objection Certificate
NTFC	National Trade Facilitation Committee
OGA	Other Government Agencies
OGAs	Other Government Agencies
PCA	Post Clearance Audit
PQW	Plant Quarantine Wing
QC	Quality Control
RKC	Revised Kyoto Convention
SAARC	South Asian Association for Regional Cooperation
SOP	Standard Operating Procedure
TBT	Technical Barriers to Trade (TBT)
TFA	Trade Facilitation Agreement
TRS	Time Release Study
USD	United States dollar
USDA	United States Department of Agriculture
VAT	Value Added Tax

Table of Contents

Acknowledgement	1
Acronyms	3
List of Tables	7
List of Figures.....	8
Executive Summary.....	9
Chapter 1: Introduction and Context.....	11
1.1 Background	11
1.2 Objective	13
1.3 Scope and Limitations	14
Chapter 2: Methodology	15
2.1 Stakeholder Mapping.....	15
2.2 Literature Review	15
2.2.1 Risk Management Standards	16
2.2.2 Quantitative Criteria for Standard Risk Management in Customs Clearance	17
2.3 Data Requirements and Sources.....	18
2.4 Methodology.....	18
Chapter 3: Current Practices and Existing Regulatory and Procedural Framework of OGAs	19
3.1 Import Clearance Process for Agro-based Consignments.....	19
3.2 Risk Management Application by Customs.....	21
3.3 Existing Regulatory and Procedural Framework of OGAs	21
3.4 International Best Practices in Risk-based Food Import Control	25
Chapter 4: Findings of the Study	29
4.1 Average Release Time from Bill of Entry (BE) Noting to Delivery of Goods for Selected Agricultural Products	29
4.2 Reduction in Average Release Time when Risk Management is applied by Customs and Other Government Agencies.....	30
4.3 Impact on Market Price if Risk Management is applied by Customs and Other Government Agencies: An Illustrative Case	31
Chapter 5: Analysis and Estimation of Benefits under Improved Risk Management Practices.....	33

5.1 Sample Distribution.....	33
5.2 Average Release Time from BE noting in AW to Delivery of Goods.....	34
5.3 Reduction in ART when Risk Management is applied.....	36
5.4 Impact on Market Price for Apple, Orange and Milk Powder when RM is applied by Customs and OGAs: An illustrative case	38
5.4.1 Sample Distribution.....	38
5.4.2 Average Release Time from Ship Arrival to Delivery of Goods for Apple, Orange and Milk Powder	38
5.4.3 Impact on Market Price for Apple, Orange and Milk Powder	39
5.5 Existing Problems and Bottlenecks in the Current Clearance Process.....	40
5.6 Factors that Increase Trade Costs	40
5.7 Areas Identified where Delays and Associated Cost can be Reduced.....	41
5.8 Improved Risk Management Practices: Calculation of Risk Weight of an Import Consignment	42
Chapter 6: Recommendations and Conclusion.....	45
6.1 Recommendations	45
6.2 Conclusion.....	51
Annexure 1: Calculation sheet of the impact on market prices of Apple, Orange and Milk Powder when RM is applied	53
Annexure 2: Application of Risk Management Matrix.....	56
Annexure 3: Hypothetical Cases for understanding the benefits of Risk Management	63
Hypothetical Case 1: Cost savings from risk-based clearance of a Low-Risk Product – Ketchup.....	63
Hypothetical Case 2: Cost savings from risk-based clearance of a Medium-Risk Product – Milk Powder.....	65
Annexure 4: KII Discussion Points	67
Annexure 5: Testing fees of various Govt. Laboratories.....	68
Annexure 6: Port Demurrage Fees	69
Annexure 7: Container Demurrage Fees.....	70
Glossary.....	72

List of Tables

Table 1.1: Products Selected for the Study.....	14
Table 3.1: Regulatory and Procedural Framework of Regulatory Agencies in Import.....	23
Table 3.2: Risk-based Inspection and Sampling Criteria of Different Countries.....	26
Table 5.1: Samples Considered for the Study	33
Table 5.2: Average Release Time (ART) from Bill of Entry (BE) Noting to Delivery of Goods for Selected Agricultural Products.....	34
Table 5.3: Average Release Time from BE Noting to Delivery in 2023.....	35
Table 5.4: Average Release Time from BE Noting to Delivery in 2024.....	35
Table 5.5: % Reduction in ART (from BE Noting to Delivery) when RM is Applied.....	36
Table 5.6: % Reduction in ART (from BE Noting to Delivery) when RM is Applied.....	37
Table 5.7: Representative Samples at 95% Confidence Level and 10% Margin of Error.....	38
Table 5.8: ART from Ship Arrival to Delivery [In days].....	38
Table 5.9: Impact on Market Prices for Apple, Orange and Milk Powder.....	39
Table 5.10: Calculation Template for Risk Weight Calculation of an Import Food Consignment.....	43
Table A1.1: Cost Table for Apple.....	53
Table A1.2: Cost Table for Orange.....	54
Table A1.3: Cost Table for Milk Powder.....	55
Table A2.1: Template Based Weighted Risk Calculation for Imported Oranges.....	56
Table A2.2: Template Based Weighted Risk Calculation for Imported Apples.....	57
Table A2.3: Template-Based Weighted Risk Calculation for Imported Animal Feed Ingredients.....	58
Table A2.4: Template Based Weighted Risk Calculation for Chilled and Frozen Fish.....	59
Table A2.5: Template Based Weighted Risk Calculation for Imported Milk Powder.....	60
Table A2.6: Template Based Weighted Risk Calculation for Imported Ketchup.....	61
Table A2.7: Template Based Weighted Risk Calculation for Imported Fortified Soybean Oil.....	62
Table A3.1: Cost Savings from Risk-based Clearance of a Low-Risk Product – Ketchup.....	64
Table A3.2: Cost Savings from Risk-based Clearance of a Medium-Risk Product – Mik Powder.....	66
Table A5.1: Applicable Testing Fees and Prospective Savings under Hypothetical Scenario.....	68
A6.1: Storage Rent – CPA.....	69
A6.2: Port Demurrage Fees for 20- and 40-feet containers.....	69
A7.1: Container Demurrage Rate (MAERSK).....	70
A7.2: Container Demurrage Rate (Reefer Container – MAERSK).....	70
A7.3: Container Demurrage Fee.....	70
A7.4: Container Demurrage Fee (Reefer Container).....	71

List of Figures

Figure 1.1: Trend in Number of Import Bills of Entry per Day.....	11
Figure 4.1: Average Release Time from BE Noting to Delivery of Goods for Selected Agricultural Products [In days].....	29
Figure 4.2: % Reduction in Average Release Time from BE Noting to Delivery when RM is Applied.....	30
Figure 4.3: Calculated ART for 10% and 30% Intervention [In Days].....	31
Figure 4.4: Reduction in ART for 10% and 30% Intervention [In Days].....	31
Figure 4.5: Impact on Market Price (per kg) for Apple, Orange and Milk Powder if Risk Management is Applied by Customs and OGAs [In BDT].....	32



Executive Summary

The study, commissioned by the United States Department of Agriculture – Bangladesh Trade Facilitation (BTF) Project, aimed to quantify the potential benefits of transitioning from the existing rigid clearance system, 100% inspection and testing of all agro-based consignments in accordance with Import Policy Order and acts & rules of regulatory agencies, to a risk-based clearance model. Focusing on seven key agricultural products—including apples, oranges, milk powder, and animal feed—the study employed data analysis, stakeholder interviews, and international best practice frameworks (WCO SAFE, ISO 31000) to evaluate time and cost implications.

Findings reveal that RM implementation could reduce average release time by 40–81%, depending on the product and intervention level. For instance, ketchup clearance could be shortened by over 80%, and products like milk powder and fruits could see time reductions of 55–77%. These improvements could translate to retail price drops of up to BDT 10 per kg for fresh fruits, thereby enhancing consumer affordability and reducing port congestion and demurrage fees.

The study also introduced a risk scoring matrix that incorporates factors such as product type, importer history, country of origin, and end-use. Based on total risk scores, consignments can be categorized as high, medium, or low risk, corresponding to inspection rates of 100%, 30%, and 10%, respectively. Case simulations illustrated significant savings in demurrage costs and release time under RM scenarios.

The study suggested seven recommendations based on the study findings. Key recommendations include amending the Import Policy Order and OGA-specific regulations to incorporate RM principles, developing standardized risk assessment tools, improving inter-agency coordination, and building technical capacity among officials. Coordinated adoption of an automated RM system and regular data sharing between Customs and OGAs will be essential for effective implementation.

In conclusion, adopting risk-based clearance processes is essential for aligning with WTO Trade Facilitation Agreement obligations and modernizing Bangladesh's border management system. The transition promises not only to reduce costs and delays but also to enhance food safety, supply chain efficiency, and economic competitiveness.



Chapter 1: Introduction and Context

1.1 Background

Bangladesh's expenditure on food imports has risen significantly to meet domestic demand. According to the Food and Agriculture Organization (FAO), the country's food import spending grew from USD 4.7 billion in 2014 to USD 11.85 billion in 2022. Over the same period, the number of Bills of Entry (BE) processed by Customs tripled. The volume has increased over the years owing to the growing number of consumers. Though the country has become self-sufficient in rice, imports continued to rise for wheat, edible oil, pulses, dairy products etc. In addition, the growing number of middle-income populations has significantly increased import of diversified food products, especially processed food. Furthermore, imports of feed ingredients and supplements have also surged over the years due to the increasing production of livestock in the country. These aggregated have increased the number of import consignments per year for food and agricultural products. Overall, the total number of BE submitted each day tripled from 1724 to 5706 during 2010-11 to 2023-24.

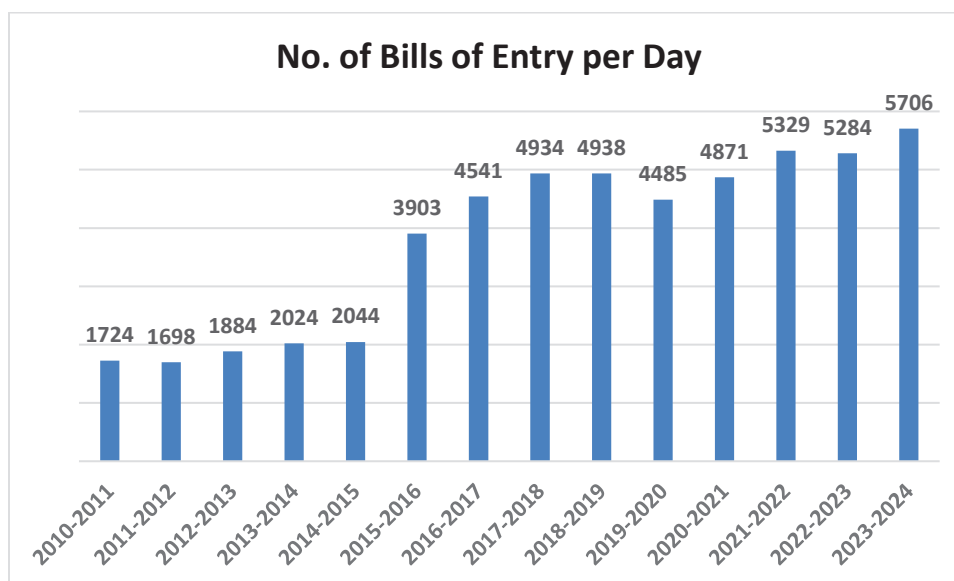


Figure 1.1: Trend in Number of Import Bills of Entry per Day

The present import process for agricultural products necessitates that regulatory agencies conduct physical inspections and for cases sampling and testing for every consignment, irrespective of the manufacturer, exporting country, or importer. While the volume of agricultural product imports has grown significantly in recent years, the resources and manpower allocated for inspections and clearance have not expanded in proportion. During

2023-24, a total of 91,025 consignments of food and agricultural commodities worth BDT 1,74,654 crore were imported in the country which makes it 250 consignments per day. The manpower allocated for managing these consignments is significantly less than the required. While this measure aims to ensure food safety and compliance with national standards, this growing disparity has placed immense pressure on the system, leading to bottlenecks in handling clearance. As a result, the efficiency of the process has been compromised, creating delays and operational inefficiencies that hinder the smooth movement of food consignments through the supply chain.

Time Release Study (TRS) conducted by different organizations have highlighted the significantly high clearance time of agricultural and food products. The TRS conducted by the National Board of Revenue (2022) reflects that clearing food consignments take around 12 days at Chattogram Seaport. The USDA Agro-focused TRS (2022) also depicts a similar picture of clearance time. As per the report, the overall clearance time at Chattogram Seaport is around 7 days 8 hours while it is as high as 14 days for some process food.

A significant portion of time owes to the testing requirements of 100 percent of the consignments. While test samples are sent in heavy numbers to the selected labs, capacity of the laboratories have not increased matching the increasing demand, similar to the manpower responsible in the process. Consequently, samples remain in long queues, causing further delays in product clearance at the ports. The delays along with opening each consignment for inspection also severely impact the quality of products as product integrity is compromised. The current clearance process is not only time-consuming but also costly, leading to increased trade expenses for importers. These costs include additional port demurrage fees, shipping costs etc. These costs ultimately raise the products' market prices, making it difficult for the consumers to get it at affordable prices.

Such an approach does not align with the best international practices, as many developed nations and regional trading partners have adopted risk-based inspection models that prioritize high-risk consignments while facilitating the faster clearance of low-risk ones. To reach a balance between control and facilitation and to manage the increased volume of trade efficiently, the tool of risk-based management has been introduced. Risk management streamlines the clearance process by utilizing risk profiling, predefined criteria, and selective examination, transitioning from the need for 100 per cent inspection or testing of all consignments. High-risk shipments undergo stricter scrutiny with greater resource allocation, while goods with a history of compliance, based on past records and data analysis, are cleared swiftly. This significantly reduces port clearance time, minimizes port charges, fees, and demurrage costs, ultimately lowering overall trade transaction expenses. Consumers benefit from reduced product prices, while businesses experience improved efficiency in resource



allocation and utilization. Additionally, risk-based clearance enhances compliance, improves coordination between traders and border agencies, and strengthens regulatory control.

Having control over every item that arrives itself can be considered as a trade barrier (WCO, 2003), and risk management is a tool to address that. The persistence of 100% inspection in Bangladesh reflects systemic inefficiencies and highlights the urgent need for modernization in the country's trade facilitation mechanisms. Considering the perishable nature, it is crucial to have a mechanism for expedited release for food products to improve its overall supply chain and affordable availability.

As a member of the World Trade Organization (WTO), Bangladesh has an obligation to implement risk management strategies in its import inspection system by June 2026. The WTO Agreement on Trade Facilitation (TFA) emphasizes the adoption of risk-based approaches to expedite trade while maintaining regulatory compliance. A risk-based clearance system would allow Bangladesh to allocate inspection resources more efficiently by focusing on potentially hazardous shipments while streamlining the clearance process for lower-risk imports. This transition would not only align Bangladesh with global trade standards but also enhance food security, improve supply chain efficiency, and lower overall trade costs.

The United States Department of Agriculture-funded Bangladesh Trade Facilitation Project commenced the study on to identify and assess the costs associated with 100 per cent inspection and testing and project the potential benefits if a risk-based clearance system is introduced. The findings of the report will be beneficial to the policymakers to make necessary amendments to the relevant legislation and procedural frameworks.



1.2 Objective

The objective of the study is to estimate and quantify the benefits of using risk-based compliance for the clearance of imported food and agricultural product consignments. This includes measuring time and cost savings resulting from the application of risk management practices.

The specific objectives of the study are as follows

- Identify existing problems and bottlenecks in the current 100 percent inspection and testing requirement in the clearance process
- Identify the areas of the additional costs incurred due to the current system
- Estimate and quantify the potential benefits of implementing risk-based clearance system

1.3 Scope and Limitations

The study covered Chattogram Seaport, the major port of Bangladesh and analyzed products from selected product/product clusters from different sub-sectors of agriculture. Sub-sectors include plants and plant products, animal and animal products, fish and fish products and processed food were taken into consideration. For each sub-sector, only the following products imported through Chattogram Seaport have been considered for analysis.

Table 1.1: Products Selected for the Study

Product cluster	Specific products	Study area
Plant and plant product	Fruits (apple, orange, etc.)	Custom House, Chattogram
Animal and animal product	Ingredients of animal feed	
Fish and fish product	Chilled and frozen fish	
Processed food	Milk powder, ketchup, fortified soybean oil	

The quantitative data on the volume of imports was available for the period covering from February 2023 till December 2024 from ASYCUDA World system.

Release time considered for this study was calculated from the date of electronic submission of the Bill of Entry into ASYCUDA World System by the clearing agents to release the consignment from the premises of the port. However, there is a time gap between the arrival of the ship and electronic submission of the bill of entry, and again, another time gap between the electronic submission and submission of hard copy to customs officials. But these two gaps have not been considered in the study while examining the release time. Factors affecting these time gaps are difficult to estimate, for example, time taken by the bank and shipping agents to issue hard copies of the relevant documents can vary widely due to many complex reasons. Hence, for the sake of simplicity, we have limited the analysis from the time of electronic submission to physical release of the goods. In addition, due to the unavailability of data, exact hours were not calculated, and the findings are presented in day-level data.

Chapter 2: Methodology

2.1 Stakeholder Mapping

The study identified key stakeholders involved in the clearance of agricultural food consignments at Chattogram Sea Port. These include:

- Bangladesh Customs
- Chattogram Port Authority
- Other Government Agencies (OGAs):
 - Plant Quarantine Wing (PQW)
 - Department of Livestock Services (DLS)
 - Department of Fisheries (DoF)
 - Bangladesh Standards and Testing Institution (BSTI)
 - Bangladesh Atomic Energy Commission (BAEC)
- Private Sector Actors:
 - Importers
 - Clearing and forwarding agents

These stakeholders were selected based on their regulatory or operational relevance to the eight targeted imported food and agricultural products.

2.2 Literature Review

A comprehensive review of national and international literature was conducted to establish the theoretical and regulatory context for risk-based compliance in customs clearance. Key reference documents included:

- World Customs Organization (WCO):
 - Revised Kyoto Convention (RKC)
 - SAFE Framework of Standards
- ISO 31000: Risk Management Guidelines
- Customs-Trade Partnership Against Terrorism (C-TPAT)
- Authorized Economic Operator (AEO) Programs
- EU Customs Risk Management Framework
- Bangladesh Import Policy Order 2021–2024
- Relevant legislations of Bangladesh Customs and OGAs

This review focused on risk management principles, thresholds, and compliance mechanisms in border procedures.

2.2.1 Risk Management Standards

Customs clearance processes are guided by internationally recognized risk management frameworks that aim to enhance trade facilitation while maintaining effective border controls. Key standards include:

- i. **World Customs Organization (WCO) Framework of Standards:** The WCO provides a comprehensive framework of standards and guidelines for customs administrations worldwide. This framework includes the Revised Kyoto Convention (RKC), the SAFE Framework of Standards to Secure and Facilitate Global Trade (SAFE Framework), and various other instruments related to risk management, data exchange, and customs procedures.
- ii. **SAFE Framework of Standards:** The SAFE Framework, developed by the WCO, sets out a range of standards and best practices for implementing risk management principles in customs operations. It emphasizes the importance of partnership between customs administrations and the trade community to enhance security and facilitate legitimate trade through pre-arrival processing, advanced electronic data submission, and risk-based controls.
- iii. **ISO 31000: Risk Management:** ISO 31000 is an international standard that provides principles and guidelines for risk management in organizations. While not specific to customs clearance, customs administrations may use ISO 31000 as a reference for developing risk management frameworks and processes, including risk identification, assessment, mitigation, and monitoring.
- iv. **Customs-Trade Partnership Against Terrorism (C-TPAT):** C-TPAT is a voluntary partnership program led by U.S. Customs and Border Protection (CBP) that aims to enhance supply chain security and facilitate legitimate trade. Participating companies implement security measures based on risk assessments and adhere to C-TPAT's security criteria to secure their international supply chains.
- v. **Authorized Economic Operator (AEO) Programs:** AEO programs, established by many countries based on the WCO's SAFE Framework, recognize businesses that meet certain security and compliance standards as low-risk traders. AEO-certified companies receive benefits such as expedited customs clearance, reduced inspections, and enhanced trade facilitation.
- vi. **European Union Customs Risk Management Framework:** The European Union (EU) has developed its risk management framework for customs operations, which includes risk analysis, profiling, and targeting techniques to identify and mitigate risks associated with international trade. The EU Customs Risk Management Framework aligns with international standards and best practices.
- vii. **National Customs Legislation and Guidelines:** Many countries have their own customs legislation, regulations, and guidelines that outline risk management requirements and procedures for customs clearance. These may include risk assessment criteria, data analytics techniques, and enforcement measures to address specific risks and threats.

These frameworks collectively support customs administrations in adopting risk-based approaches, enhancing compliance while minimizing trade disruption.

2.2.2 Quantitative Criteria for Standard Risk Management in Customs Clearance

Customs administrations across the world use various measurable indicators and thresholds to assess and mitigate risks in international trade. These criteria help prioritize resources, target interventions, and enhance the efficiency of customs clearance processes. Here's a brief overview of the quantitative elements under the main frameworks for customs risk management:

- i. **Revised Kyoto Convention (RKC):** The RKC promotes modernizing and harmonizing customs procedures. Key quantitative criteria include monitoring trade volume, analyzing the value of goods, applying risk profiles based on commodity classification, assessing country of origin/destination risks, evaluating trader compliance history, monitoring transaction patterns, verifying documentation accuracy, analyzing physical inspection results, tracking revenue collection efficiency, and leveraging data analytics and predictive modeling.
- ii. **SAFE Framework of Standards:** Developed by the World Customs Organization (WCO), the SAFE Framework enhances the security and efficiency of global trade. Essential quantitative criteria are supply chain security performance indicators, risk assessment scores, customs compliance rates, trade facilitation performance indicators, cargo processing times, detection rates of illicit trade, revenue collection performance, cargo volume and trade flows, participation in the Customs-Trade Partnership Program (C-TPAT), and establishing performance benchmarks and key performance indicators (KPIs).
- iii. **ISO 31000: Risk Management:** ISO 31000 provides guidelines for effective risk management. Common quantitative approaches include risk assessment scales, risk probability and impact matrices, risk exposure calculations, key risk indicators (KRIs), loss event frequency and severity analysis, risk velocity, risk exposure ratios, risk control effectiveness metrics, risk performance dashboards, and Monte Carlo simulations for complex risk scenarios.



2.3 Data Requirements and Sources

Secondary Sources:

- **ASYCUDA World (AW) System:** Clearance time¹ and documentation data for selected products (at 8-digit HS Code level) from February 2023 to December 2024.
- **Regulatory Agencies' Websites:** Official fees for certification, testing, and approvals (BSTI, DoF, DLS, PQW, AoC).
- **Port and Container Charges:**
 - Demurrage at port and warehouses after the first four days.
 - Container demurrage, when applicable.The data was collected from the websites of Chattogram Port Authority (CPA) and relevant shipping lines.
- **Time Release Study conducted by NBR and USDA-BTF in 2022:** Baseline data for clearance time under current 100% inspection system.

Primary Sources:

- **Stakeholder Consultations:** Key Informant Interviews (KIIs) and Focus Group Discussions (FGDs) with officials from Bangladesh Customs and OGAs.
- **Importers and Clearing and Forwarding (C&F) Agents:** Quantitative data related to costs, delays, and price impacts of inspection delays were collected from importers and C&F agents.

2.4 Methodology

The following approaches were adopted to estimate the benefits of applying risk-based compliance in customs clearance:

- **Time Measurement:** The WCO-accredited TRS methodology was applied to calculate the average time required from BE noting in AW to final consignment delivery.
- **Risk Management Analysis:** Analysis of international risk management standards and best practices was undertaken to establish benchmarks and identify potential improvements in current processes.
- **Cost Impact Assessment:** Cost data collected from importers were used to estimate the potential market price impact of delays and predict cost savings resulting from a risk-based clearance approach.

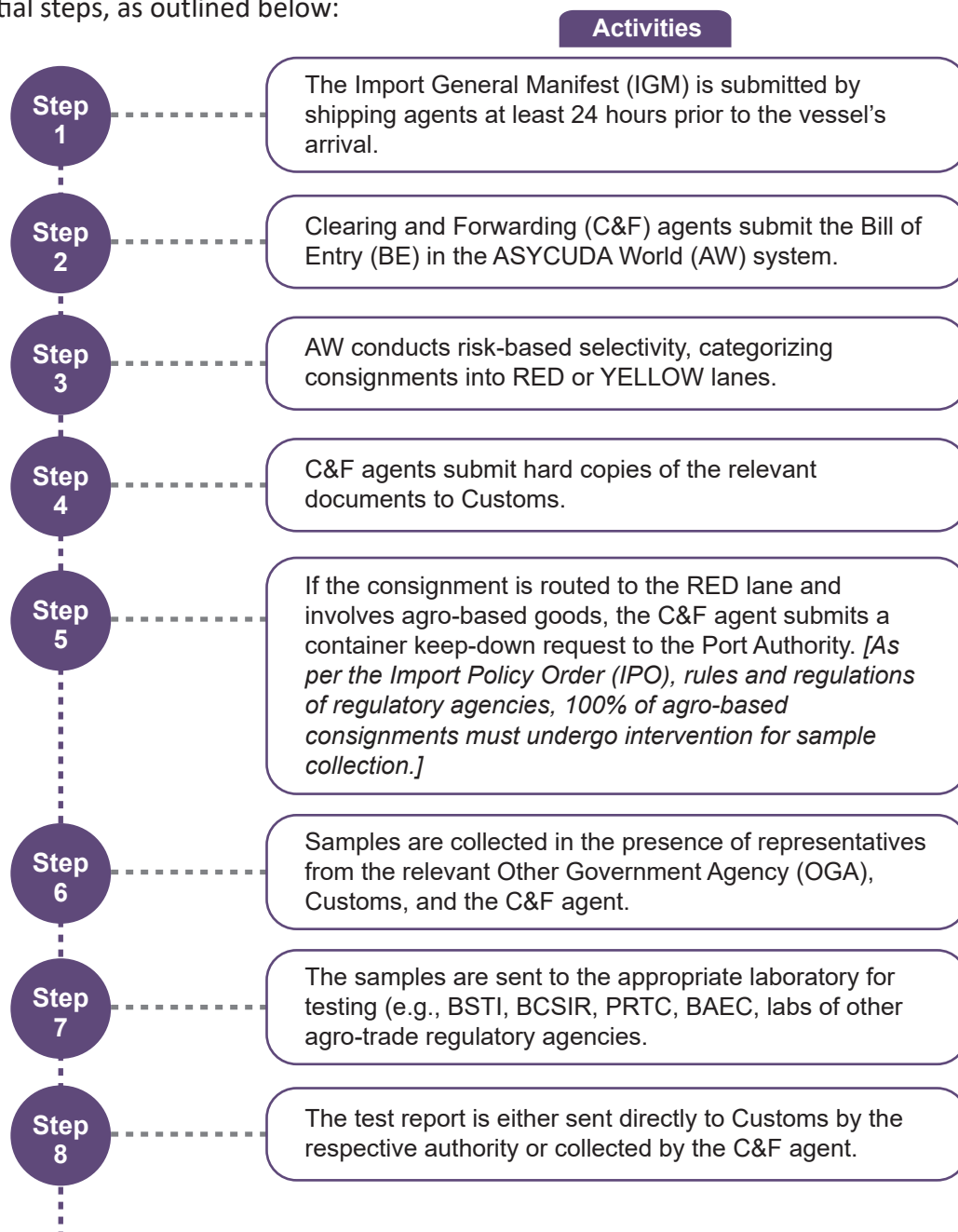
These combined methods provide a comprehensive basis for quantifying the time and cost benefits of transitioning from a 100% inspection system to a risk-based compliance framework.

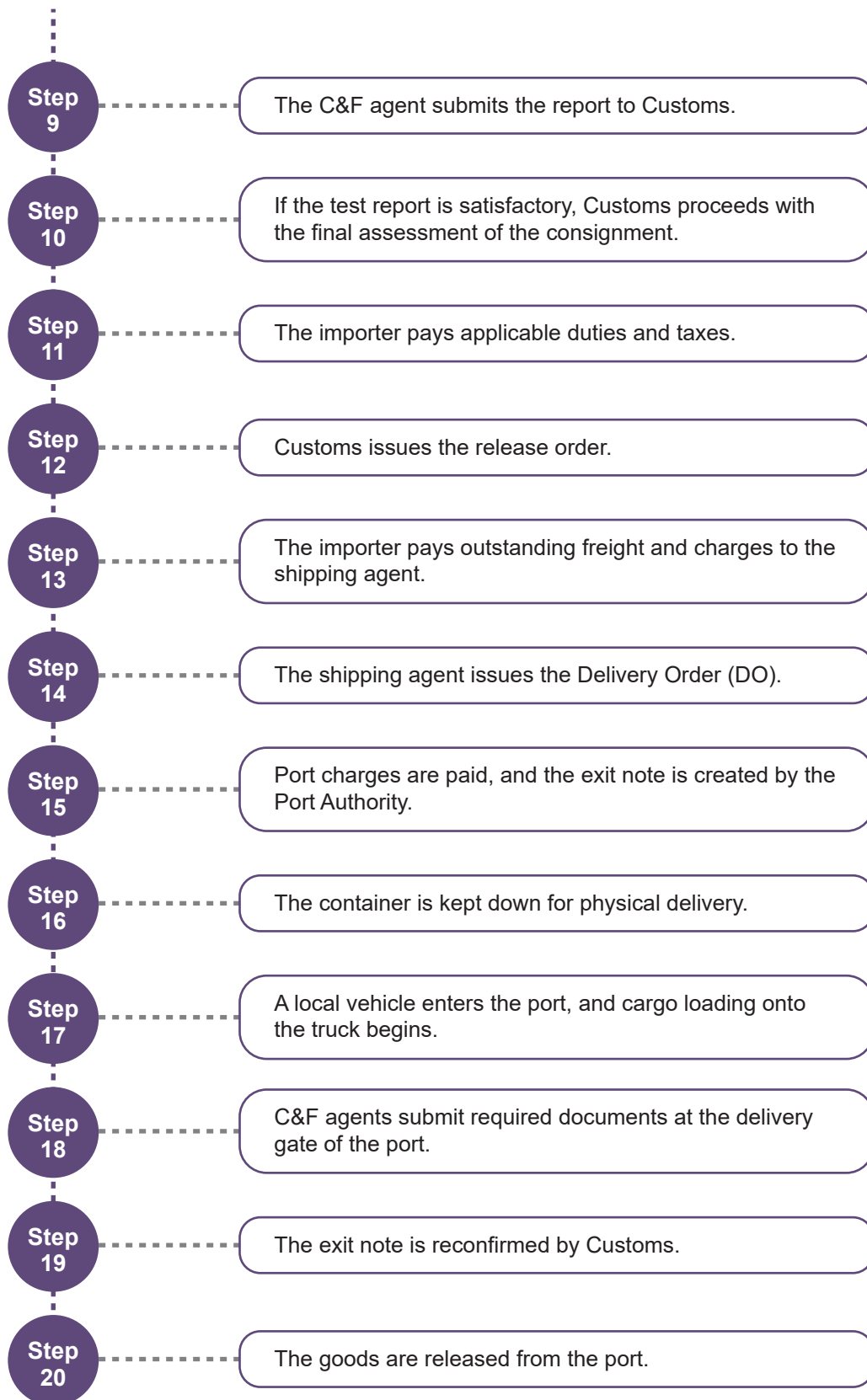
¹ Clearance time means the average time required from Bill of Entry (BE) noting in ASYCUDA World (AW) system to delivery time of import consignments.

Chapter 3: Current Practices and Existing Regulatory and Procedural Framework of OGAs

3.1 Import Clearance Process for Agro-based Consignments

The import clearance process for agro-based products in Bangladesh can be divided into 20 sequential steps, as outlined below:





3.2 Risk Management Application by Customs

During the clearance process, Bangladesh Customs applies risk management principles to all consignments²—except agro-based consignments. As mandated by the Import Policy Order and OGA's acts, rules and regulations, 100% of agro-based consignments are subject to mandatory testing by the designated regulatory authorities, including BSTI, BAEC, BCSIR, PRTC, or other approved laboratories.

For non-agricultural goods, Customs follows the best international practices and WCO Risk Management guidelines in identifying high-risk consignments. Risk assessment is conducted using data from the cargo declaration, including:

- Route of the vessel
- Goods description and weight
- Discrepancies between net and gross weight
- Importer compliance history
- Past activities of the C&F agent

The selectivity module of the ASYCUDA World system is utilized and these risk management parameters along with other parameters are applied in targeting consignments for inspection or further scrutiny.

3.3 Existing Regulatory and Procedural Framework of OGAs

Several regulatory agencies are involved in clearance process of imported food and agricultural products depending on their type and category. These agencies are guided by their own legislative framework and handle the clearance and certification issuance process based on their legislative mandate. The products selected for this study are managed by 4 major government agencies i.e.,

- Plant Quarantine Wing of Department of Agricultural Extension (DAE) for apples and oranges
- Department of Fisheries for chilled and frozen fish
- Department of Livestock Services for animal feed ingredients
- Bangladesh Standards and Testing Institution for processed food
- Bangladesh Atomic Energy Commission for radioactivity testing of all relevant products.

² Section 174(2-5) of Customs Act 2023 empowers Bangladesh Customs to apply risk management principles during clearance process.

In addition to these agencies, Bangladesh Customs plays an overarching role in clearing these consignments following Customs Act, 2023 and Import Policy Order 2021-24. Customs also coordinates the overall clearance process with the regulatory agencies as well as importers and their agents.

Assessing the regulatory framework of the agro-trade agencies suggests that the legislation does not cover risk-based principles and 100% of testing is directly mentioned in some of the regulatory documents.

For plant and plant products, i.e., apples and oranges, PQW follows Plant Quarantine Act, 2011 and Plant Quarantine Rules, 2018. The Chapter 3 (Section 9-18) of the Plant Quarantine Act, 2011, and Rule 3-17 of the Plant Quarantine Rules 2018, sets out provisions for import and export and mandates the PQW to issue Import Permit and Release Order for all imported consignment of plant and plant product. Though Section 17(1) mandates PQW to inspect every export consignment before issuing Phytosanitary Certificate for Export, no such provision is mentioned for import. Section 4(j) of the Act cites provision for Pest Risk Management. Section 9(3) also entitles jurisdiction to the Authority to exempt import conditions for any product through gazette notification.

At present, Plant Quarantine Wing officials of different quarantine stations physically inspect 100 percent of the imported consignments prior issuing Release Order.

Department of Livestock Services is the regulatory authority for managing the import of animal feed and feed ingredients and supplements. However, the agency is not directly involved in the clearance process and issues NOC prior import. After the consignments reach the port, samples are collected in the presence of Customs, DLS officials and importers of their agents and sent for testing. The testing of 100 percent of the feed ingredients consignments are mentioned in the Import Policy Order 2021-24. Section 24 (2) (kha) of the Import Policy Order 2021-24 makes testing of Nitrofurantoin, Chloramphenicol and other harmful antibiotics mandatory for each consignment of Meat and Bone Meal, Fish Meal, Protein Concentrate. In addition, radioactivity test reports from the competent authority of exporting country is mandatory to submit for each consignment of feed ingredients, along with other certifications. No certification after import is issued by the Department of Livestock Services for the import of feed ingredients.

Table 3.1: Regulatory and Procedural Framework of Regulatory Agencies in Import

Agency	Applicable Products	Role	Regulatory Basis
Customs	All products	<ul style="list-style-type: none"> • Performs document checks, and physical verification of goods to ensure accuracy of declaration, assessment. • Ensures the quality standards of the products to protect consumers, and the environment, public health, food safety, and against other hazards; • Enforces government trade policies, customs laws, and international trade agreements to ensure lawful trade practices; 	<ul style="list-style-type: none"> • The Customs Act, 2023 • The Import Export Regulation Act, 1948 • Import Policy Order 2021-24 • Export Policy • Allied acts
PQW	Plant and plant products. Apples (HS Code 08081000), Oranges (HS Code 08051090)	<ul style="list-style-type: none"> • Oversee the import of plants and plant products and maintain phytosanitary/ biosecurity compliance issuing Import Permits (IP). • Check for presence of quarantine pests including live organisms, eggs, and larvae, in the imported plant items that can possibly enter, infiltrate, and harm domestic plant health. • Inspect collected samples for plants and plant products and issues Release Order. 	<ul style="list-style-type: none"> • Plant Quarantine Act, 2011 • Plant Quarantine Rules, 2018 • Import Policy Order 2021-24
DoF	Fish & fish products. Chilled and frozen fish (HS Code 03020000, 03030000)	<ul style="list-style-type: none"> • Issue Import Permit, • Issue NoC based on the importer's application submitted at least 15 days before the import. • Test of collected samples of import consignments for the presence of microorganisms, antibiotics, heavy metals, pesticides, hormones, dyes, and other harmful chemical substances. • Order destruction or return to the exporter if the tested fish and fish products do not meet the requirements. 	<ul style="list-style-type: none"> • Import Policy Order 2021-24 • The Fish and Fish Product (Inspection and Quality Control) Act, 2020 • Fish Inspection and Quality Control Rules, 1997

Agency	Applicable Products	Role	Regulatory Basis
DLS	Live animal, animal products. Animal feed ingredients (HS Code 23099011-13)	<ul style="list-style-type: none"> • Issue NOC prior to import, import Permit. • Coordinate sampling to run test parameters for nutritional value present in the imported feed ingredients, and tests for the presence of two types of antibiotic drugs, Nitrofurantoin, and Chloramphenicol 	<ul style="list-style-type: none"> • Import Policy Order 2021-24 • Fish Feed and Aimal Feed Act, 2010 • Animal Feed Rules, 2013 • Drug and Cosmetics Act, 2023
BSTI	Processed food. Milk powder (HS Code 04021091), Fortified sunflower oil (HS Code 15121900), Ketchup (HS 21032000)	<ul style="list-style-type: none"> • Conduct tests for the items of annex-4 of Import Policy Order. • Conform the quality standards of imported food products by issuing Fit for Human Consumption Certificate. 	<ul style="list-style-type: none"> • Import Policy Order 2021-24 • Bangladesh Standards and Testing Institutions Act, 2018
BAEC	All food products.	<ul style="list-style-type: none"> • Carry out test for radiation levels for CS-137 present in all food products. • Usually collect samples twice a day and return with test results within one working day. 	<ul style="list-style-type: none"> • Import Policy Order 2021-24 • Sample Analysis Service Policy, 2018

Department of Fisheries, guided by Fisheries Quarantine Act, 2018 and Fish and Fish Products (Inspection & Quality Control) Act, 2020, regulates import of chilled and frozen fish. Sec. 8-13 of the Quarantine Act mentions import-related provisions and mandates DoF to inspect and take samples of imported fish and fish products as necessary. The FIQC Act necessitates obtaining NOC and limits any import without the standards set by the Department. In addition to the provisions set by the Department of Fisheries, the Import Policy Order 2021-14 makes formalin test mandatory for all imported consignments of fish. Moreover, heavy metal testing for all imported fish consignment is now required as per instruction of the Bangladesh Food Safety Authority.

For processed food import, testing and certification requirements are set by Import Policy Order. Section 23 of the Import Policy Order 2021-24 mentions that each consignment of food

products mentioned under Annex-4 must undergo testing by Bangladesh Standards and Testing Institution (BSTI) and should be clearance based on the Fit for Human Consumption Certification issued by BSTI. For products other than Annex-4, testing needs to be done at BCSIR, BRiCM or any other Government approved laboratory, not directly involved in food business. There is no risk-based practice in clearance of processed food consignments. At present, BSTI collects samples from the port in presence of Customs and the importer or his agents, tests at its laboratory and issues Clearance Certificate.

Bangladesh Atomic Energy Commission is responsible for conducting radioactivity testing following instructions of the Import Policy Order. As per IPO, each consignment of food products must undergo radioactivity testing before it gets clear from the port. However, some products and exporting countries. i.e., foodstuffs from SAARC, South-East Asia and the Asia-Pacific countries have been given exemption from these testing.

Following different legislative guidance and mandates, the agro-trade agencies are not following any risk-based principle in clearance of agricultural and food consignments. Each agency has their own objective in testing and inspection and necessitates 100 percent of inspection and testing for issuing relevant CLPO, which increases the overall time and cost of trade. While for some agencies there are scopes to introduce risk-based clearance within existing legal framework, for others legislative reform is a must to make the agency comply with the obligation of Trade Facilitation Agreement of WTO.

3.4 International Best Practices in Risk-based Food Import Control

Risk-based clearance for agricultural and food products is a commonly used practice in several developed and developing countries. Each country has developed its own set of mechanisms and has put procedures in place for risk-based inspection and sampling, using different targeting and selectivity methods. The rates of inspection and sampling also vary among countries, considering their objectives and context. However, low and medium risky consignments do not fall under hundred percent inspection and sampling criteria, for almost all the countries. Some countries also ease clearance process for high-risk consignments as well, depending on the compliance history of the importer and supplier.

The following table summarizes risk-based inspection and sampling criteria of different countries:

Table 3.2: Risk-based Inspection and Sampling Criteria of Different Countries

Country	Product Category	Intervention
Australia³	Food Products	<p>Rate of inspection is based on the history of compliance. Compliance history is developed considering the producer, country of origin, and product's HS Code.</p> <p>Rate of inspection starts at 100% and then:</p> <ul style="list-style-type: none"> • Reduced to 25% of consignments after 5 consecutive passes • Reduced to 5% for all other consignments following a further 20 consecutive passes • Increased back to 100% if a risk food fails inspection
Cambodia⁴	Processed Food	<p>Documents inspection is mandatory for all products. The rate of physical inspection, sampling, and testing is based on the risk approach identified in three categories:</p> <p>High-risk Products: 100% check for first 5 consignments; 25% for next 20 consignments; 5% for all other</p> <p>Medium-risk Products: 25% inspection rate for first 5 consignments; 5% for all others afterwards;</p> <p>Low-risk Products: 5% inspection rate for all consignments</p>
India⁵	Plant and Plant Products	Completely exempts the requirement of Clearance from Plant quarantine for products with no risks of infestation.
New Zealand	Food Product	<p>Rate of inspection is based on the history of compliance. Compliance history is developed considering the producer, country of origin, and product's HS Code.</p> <p>Rate of inspection starts at 100% and then:</p> <ul style="list-style-type: none"> • Reduced to 25% of consignments after 5 consecutive passes • Reduced to 5% for all other consignments following a further 20 consecutive passes • Increased back to 100% if a risk food fails inspection
Sri Lanka⁶	Plant and Plant Products	Low-risk regular bulk commodities can be imported without import permits or phytosanitary certificates
Vietnam⁷	Processed Food	Based on the product's country of origin and certification,

³Imported Food Inspection Scheme, Department of Agriculture, Forestry and Fisheries, Australia

⁴ Prakas No. 263 on Procedures for Inspection of Imported Food, 2019

⁵ Plant Quarantine (Regulations on Import into India) Order, 2003, (S.O.2286(E), dated 04.06.2018)

⁶ FAIRS Annual Country Report Annual – 2023 by USDA

⁷ Elaboration of some Articles of Law on Food Safety

Country	Product Category	Intervention
		<p>and risk analysis, 3 types of inspection and testing systems are prevalent (reduced, normal and tough)</p> <p>Reduced Inspection: Document examination for 5% consignments</p> <p>Normal Inspection: Document examination only</p> <p>Tightened Inspection: Document examination and sampling (If 3 consecutive consignments are compliant then tightened inspection goes back to normal inspection)</p>
	Aquaculture and Animal Feed ⁸	<p>Reduced inspection (Document check for 5% of consignments) is applied if:</p> <ul style="list-style-type: none"> • Animal and aquaculture feeds produced from same manufacturer and imported by same importer with a quality certificate of three consecutive imported consignments under a normal inspection regime not exceeding 12 months earlier. • Feed safety and quality certified by competent authorities of countries which have mutual agreements with Vietnam on activities of quality inspection of animal and aquaculture feeds; or by certified and accredited laboratories by Ministry of Agriculture and Rural Development (MARD).

⁸ Decree on management of animal and aquaculture feeds, 2017

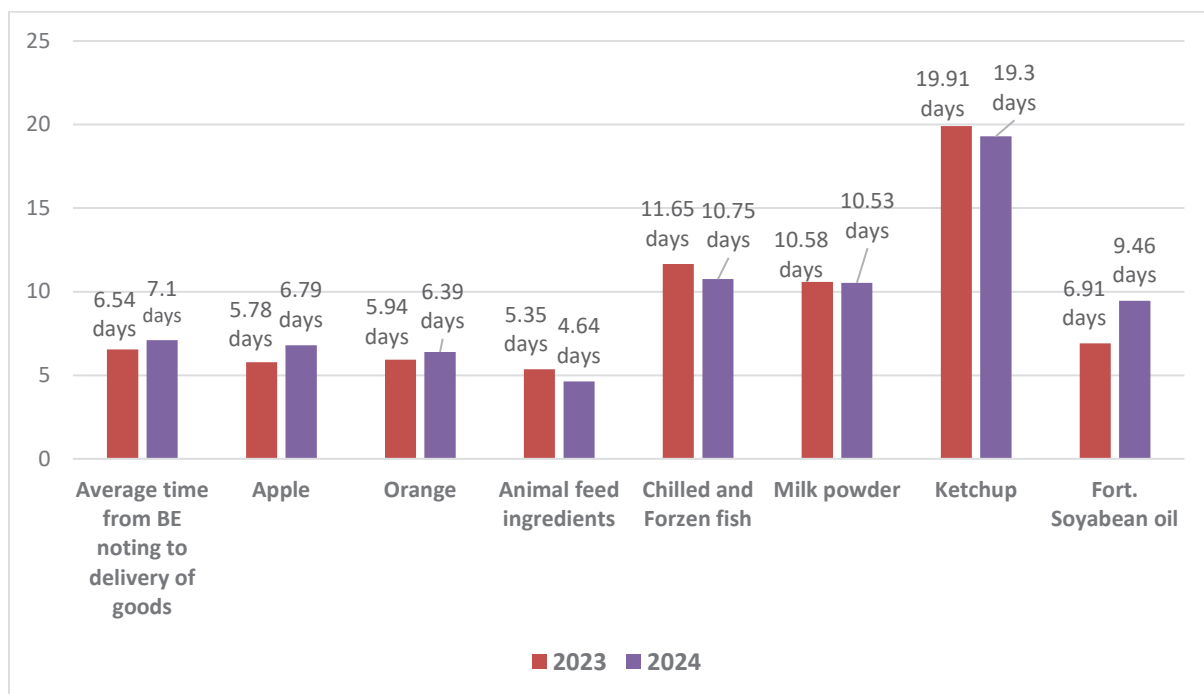


Chapter 4: Findings of the Study

4.1 Average Release Time from Bill of Entry (BE) Noting to Delivery of Goods for Selected Agricultural Products

Figure 4.1 presents a year-on-year comparison of the average release time—from Bill of Entry (BE) noting to the final delivery of goods—for selected agricultural and food products in 2023 and 2024. Overall, the average release time increased in 2024 to 7.1 days, up from 6.54 days in 2023. Notably, fortified soybean oil experienced a significant rise in clearance time, increasing by nearly 3 days, which suggests a need for improvement in its handling and inspection process.

Figure 4.1: Average Release Time from BE Noting to Delivery of Goods for Selected Agricultural Products [In days]



Among the seven products analyzed, ketchup consistently recorded the highest release time with 19.91 days in 2023 and 19.3 days in 2024, while animal feed ingredients required the least clearance time, averaging 5.35 days in 2023 and 4.64 days in 2024. Products such as apple and orange also showed slight increases in release times indicating potential inconsistencies in the current inspection and clearance system.

On the other hand, improvements were observed for products like milk and frozen fish, where release times declined marginally, reflecting better process efficiency. These findings underscore

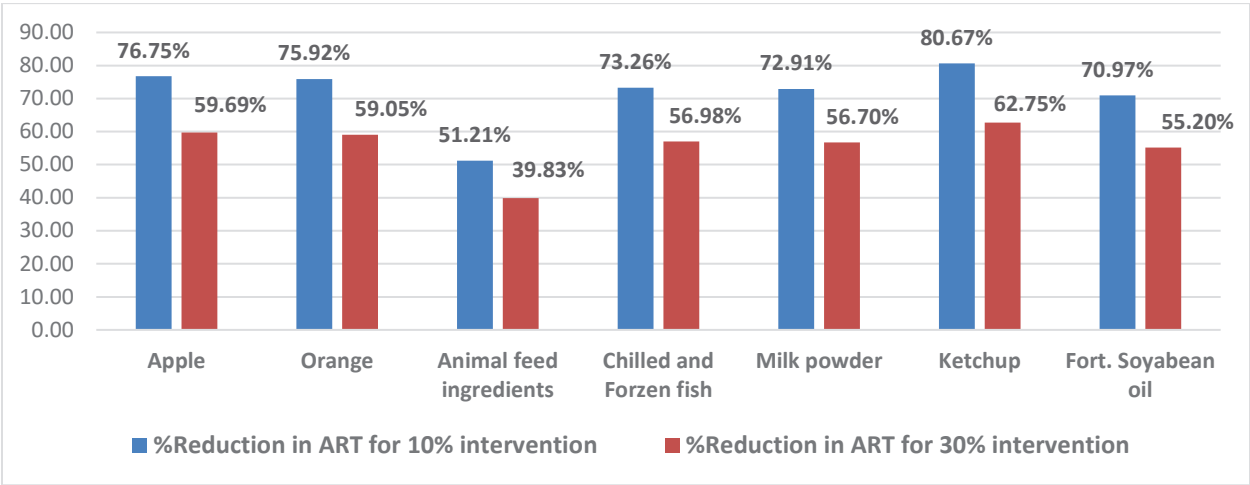
Overall, the average release time increased in 2024 to 7.1 days, up from 6.54 days in 2023.

the importance of adopting risk-based targeting and enhancing inter-agency coordination to streamline clearance procedures, reduce delays, and improve the predictability of agricultural trade logistics.

4.2 Reduction in Average Release Time when Risk Management is applied by Customs and Other Government Agencies

Figure 4.2 demonstrates the percentage reduction in average release time from BE noting to delivery of goods when Risk Management (RM) is applied at two intervention levels—10% and 30%—by Customs and other border agencies jointly. The results clearly illustrate that RM contributes significantly to reducing clearance times, with the most notable improvements observed under the 10% intervention scenario.

Figure 4.2: % Reduction in Average Release Time from BE Noting to Delivery when RM is Applied



Ketchup shows the highest efficiency gain with an 80.67% reduction in release time at 10% intervention, followed closely by apple (76.75%), orange (75.92%), and frozen fish (73.26%). Even products with relatively moderate gains—such as milk (72.91%) and fortified soybean oil (70.97%)—demonstrate that RM has broad applicability across different product categories. At the 30% intervention level, while the percentage reductions are slightly lower, the gains remain

substantial. For instance, ketchup and milk still achieve reductions of 62.75% and 56.70%, respectively.

The relatively lower improvement seen for animal feed ingredients with 51.21% (10% intervention) and 39.83% (30% intervention) since the average release time is comparatively much lower than other products.

Risk-based interventions can reduce the average release time by more than 4 to 5 days per consignment.

Based on the analysis, the calculated average release time (ART) is 1.81 days for 10% intervention and 2.98 days for 30% intervention. This indicates that risk-based interventions can reduce the average release time by more than 4 to 5 days per consignment, as illustrated in Figures 3 and 4.

Figure 4.3: Calculated ART for 10% and 30% Intervention [In Days]

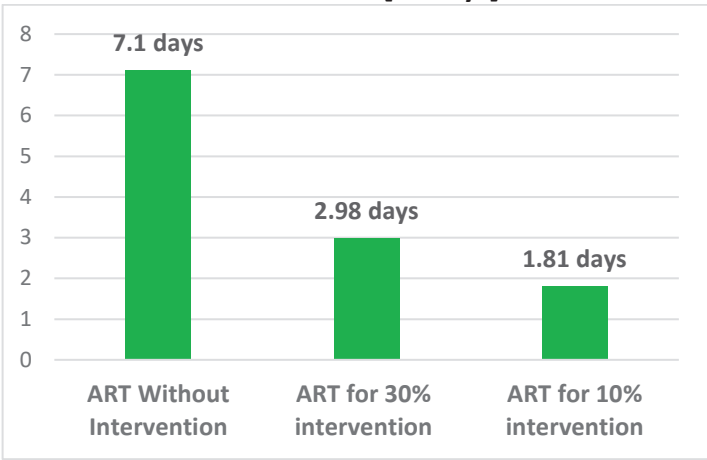
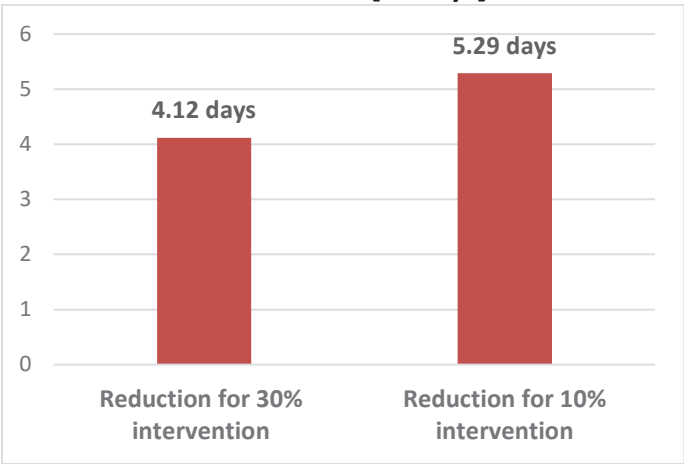


Figure 4.4: Reduction in ART for 10% and 30% Intervention [In Days]

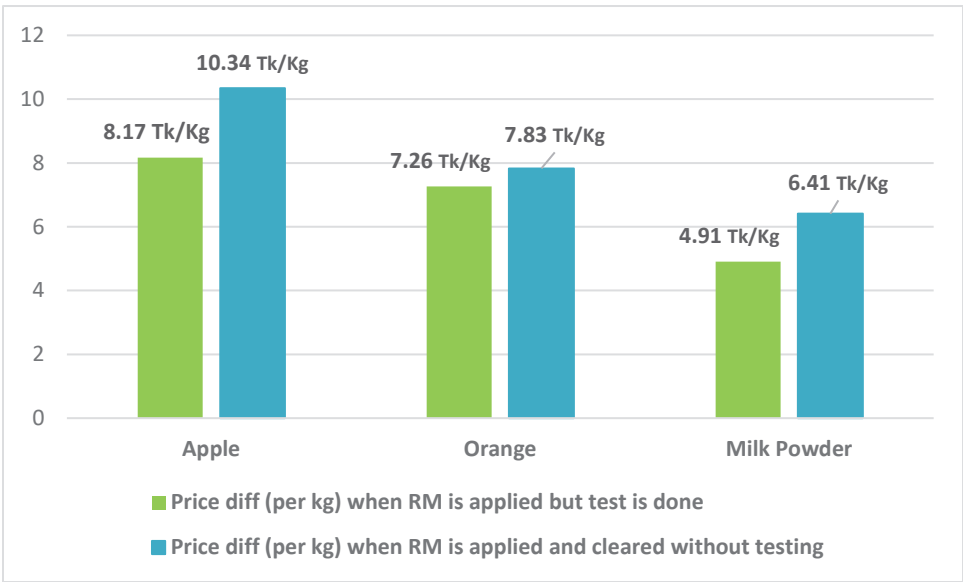


4.3 Impact on Market Price if Risk Management is applied by Customs and Other Government Agencies: An Illustrative Case

Figure 4.3 highlights the potential impact of implementing risk management (RM) practices on the market prices of selected imported food products—apple, orange, and milk powder. The analysis suggests that improved clearance efficiency, resulting from the application of RM by

Customs and Other Government Agencies (OGAs), can contribute to a reduction in per kilogram retail prices, thereby enhancing affordability for consumers.

Figure 4.5: Impact on Market Price (per kg) for Apple, Orange and Milk Powder if Risk Management is Applied by Customs and OGAs [In BDT]



For apple, market prices are estimated to be reduced between BDT 8.17 and BDT 10.34 per kg when RM is applied. Similarly, orange prices could reduce from BDT 7.26 to BDT 7.83 per kg, while milk powder shows a narrower gap, with a price range of BDT 4.91 to BDT 6.41 per kg. These price variances reflect the cost savings associated with faster clearance, reduced spoilage, and improved supply chain reliability.

For apple, market prices are estimated to be reduced between BDT 8.17 and BDT 10.34 per kg when RM is applied.

The findings support the argument that effective risk-based border procedures not only improve trade efficiency but also have a direct positive effect on market dynamics by lowering costs for importers and ultimately, consumers. This underscores the broader socio-economic value of institutionalizing RM within the import clearance framework.

Chapter 5: Analysis and Estimation of Benefits under Improved Risk Management Practices

5.1 Sample Distribution

This section presents the distribution of product samples analyzed for estimating the potential benefits of adopting improved risk management practices in the clearance of agricultural and food consignments. The study considered import data from the years 2023 and 2024 for a total of seven product categories that are regularly subject to clearance and inspection procedures at Chattogram Sea Port.

Table 5.1: Samples Considered for the Study

Selected Products	2023	2024
Apple	4062	4505
Orange	3226	3158
Ingredients of animal feed	675	666
Chilled and frozen fish	323	390
Milk Powder	920	1056
Ketchup	33	20
Fortified soyabean oil	11	13

Table 5.1 summarizes the total number of consignments per selected product that were included in the analysis:

- Fruits, such as apples and oranges, represent the highest sample volumes, reflecting their high frequency of importation and significance in the fresh produce trade.
- Milk powder and ingredients of animal feed are also significant in terms of volume, highlighting their importance in food security and the livestock sector.
- Chilled and frozen fish represent a high-risk perishable category with moderate import volume.
- Ketchup and fortified soybean oil, although lower in frequency, were included due to their processed nature and relevance in the context of compliance with food safety standards.

This sample base serves as a representative cross-section of the targeted product types and forms the basis for projecting time and cost savings under a risk-based clearance model.

5.2 Average Release Time from BE noting in AW to Delivery of Goods

The study finds that among the seven selected products, ingredients of animal feed recorded the shortest average release time (ART) from Bill of Entry (BE) noting in ASYCUDA World (AW) to final delivery of goods in both 2023 and 2024, at 5.35 days and 4.64 days, respectively—indicating improved efficiency in the clearance process. Perishable items, such as apples (5.78 days in 2023; 6.79 days in 2024) and oranges (5.94 days in 2023; 6.39 days in 2024), also maintained relatively low ARTs, likely due to their priority handling requirements.

In contrast, processed products such as ketchup had the longest ART, with 19.9 days in 2023 and 19.3 days in 2024, reflecting the extended time needed for laboratory testing and regulatory approvals. Fortified soybean oil showed a notable increase in ART, rising from 6.91 days to 9.46 days, indicating potential delays in processing or compliance requirements.

This variation in clearance times across product categories highlights the influence of product characteristics on release efficiency and reinforces the potential benefits of adopting risk-based clearance approaches to reduce delays and streamline trade processes.

Table 5.2: Average Release Time (ART) from Bill of Entry (BE) Noting to Delivery of Goods for Selected Agricultural Products

Selected Products	ART in 2023 [Days]	ART in 2024 [Days]
Apple	5.78	6.79
Orange	5.94	6.39
Ingredients of animal feed	5.35	4.64
Chilled and frozen fish	11.79	10.75
Milk Powder	10.58	10.53
Ketchup	19.9	19.3
Fortified soyabean oil	6.91	9.46
Average Release Time	6.54	7.1

Table 5.3: Average release time from BE noting to delivery in 2023

Selected Products	ART [Days]	Minimum time [Days]	Maximum time [Days]	No of samples
Apple	5.78	1 ⁹	44	4062
Orange	5.94	1 ¹⁰	39	3226
Ingredients of animal feed	5.35	1 ¹¹	96	675
Chilled and frozen fish	11.79	4	82	323
Milk Powder	10.58	2 ¹²	52	920
Ketchup	19.9	7	99	33
Fortified soyabean oil	6.91	2	24	11

Table 5.4: Average release time from BE noting to delivery in 2024

Selected Products	ART [Days]	Minimum time [Days]	Maximum time [Days]	No of samples
Apple	6.79	1 ¹³	70	4505
Orange	6.39	1 ¹⁴	40	3158
Ingredients of animal feed	4.64	1 ¹⁵	25	666
Chilled and frozen fish	10.75	4 ¹⁶	40	390
Milk Powder	10.53	2 ¹⁷	113	1056
Ketchup	19.3	11	44	20
Fortified soyabean oil	9.46	2	24	13

⁹ For 173 samples, ART from BE noting to delivery is 1 day.

¹⁰ For 162 samples, ART from BE noting to delivery is 1 day.

¹¹ For 9 samples, ART from BE noting to delivery is 1 day.

¹² For 2 samples, ART from BE noting to delivery is 1 day.

¹³ For 114 samples, the ART from BE noting to delivery is 1 day.

¹⁴ For 89 samples, the ART from BE noting to delivery is 1 day.

¹⁵ For 11 samples, the ART from BE noting to delivery is 1 day.

¹⁶ For 4 samples, ART from BE noting to delivery is 4 days.

¹⁷ For 10 samples, ART from BE noting to delivery is 2 days.

5.3 Reduction in ART when Risk Management is applied

Table 5.5 demonstrates the potential time savings from applying risk-based clearance interventions at 30% and 10% levels across selected agricultural and food products, assuming an optimistic benchmark: fresh fruits can be cleared in 1 day, while processed foods require 2 days. The results show significant reductions in ART, particularly for processed items like ketchup, which could see up to an 80.67% reduction, and fresh produce like apples and oranges, with reductions exceeding 75% under 10% intervention. Even products with relatively shorter baseline clearance times, such as animal feed ingredients, show meaningful improvements.

ART for ketchup can reduce to an 80.67%, while ART for fresh produce like apples and oranges can reduce to more than 75% under 10% intervention.

The analysis suggests that, on average, more than 4 to 5 days can be saved per consignment when risk-based clearance is operationalized. These findings highlight the substantial efficiency gains that could be realized through targeted risk management, reducing delays and enhancing trade facilitation.

Table 5.5: % Reduction in ART (from BE Noting to Delivery) when RM is Applied

Item Name	BE Noting to Delivery of goods [Days]	ART for 30% RM [Days]	ART for 10% RM [Days]	% Reduction in Average time for 30% intervention	%Reduction in Average time for 10% intervention
Apple	6.79	2.737	1.579	59.69	76.75
Orange	6.39	2.617	1.539	59.05	75.92
Animal feed ingredients	4.64	2.792	2.264	39.83	51.21
Chilled and Frozen fish	10.75	4.625	2.875	56.98	73.26
Milk powder	10.53	4.559	2.853	56.70	72.91
Ketchup	19.3	7.19	3.73	62.75	80.67
Fort. Soyabean oil	9.46	4.238	2.746	55.20	70.97
Average Release Time	7.1	2.98	1.81	74.55	57.97

Note: During non-intervention, it has been assumed that for fresh fruit, the consignments can be released in 1 day. For other processed foods, the consignments can be released in 2 days

Table 5.6 presents revised projections of the percentage reduction in Average Release Time (ART) from Bill of Entry (BE) noting to delivery of goods for selected products, assuming implementation of risk-based management (RM) at 30% and 10% intervention levels. This table uses a more conservative benchmark than Table 5.4: it assumes that under non-intervention, fresh fruits can be cleared in 2 days, while processed foods require 4 days.

Despite these stricter assumptions, substantial reductions in ART are still observed, particularly for processed items like ketchup (up to 71.35% reduction) and perishable goods like apples and oranges (over 60% reduction under 10% RM). Products with already shorter clearance times, such as animal feed ingredients, show modest improvements. Overall, the data highlights that even under less optimistic scenarios, applying RM can significantly improve clearance efficiency for a wide range of agricultural and food consignments. In this scenario, on average, more than 3 to 4 days can be saved per consignment when RM is operationalized.

Table 5.6: % Reduction in ART (from BE Noting to Delivery) when RM is Applied

Item	BE Noting to Delivery of goods [Days]	ART for 30% RM [Days]	ART for 10% RM [Days]	% Reduction in Average time for 30% intervention	% Reduction in Average time for 10% intervention
Apple	6.79	3.44	2.48	49.38	63.49
Orange	6.39	3.32	2.44	48.09	61.83
Animal feed ingredients	4.64	4.19	4.06	9.66	12.41
Chilled and frozen fish	10.75	6.03	4.68	43.95	56.51
Milk powder	10.53	5.96	4.65	43.41	55.81
Ketchup	19.3	8.59	5.53	55.49	71.35
Fort. Soyabean oil	9.46	5.64	4.55	40.40	51.95
Average Release Time	7.1	3.84	2.90	45.95	59.10

Note: During non-intervention, it has been assumed that for fresh fruit, the consignments can be released in 2 days. For other processed foods, the consignments can be released in 4 days.

5.4 Impact on Market Price for Apple, Orange and Milk Powder when RM is applied by Customs and OGAs: An illustrative case

5.4.1 Sample Distribution

This table outlines the number of product-specific import transactions for 2024 and the corresponding sample sizes used for analysis, calculated at a 95% confidence level with a 10% margin of error. For apples and oranges, representative samples of 95 consignments were selected from total volumes of 4,505 and 3,158, respectively. For milk powder, a sample of 90 consignments was drawn from a total of 1,056. These samples were used to assess the release time from ship arrival to final delivery.

Table 5.7: Representative Samples at 95% Confidence Level and 10% Margin of Error

Selected Products	Number of samples (2024)	Representative samples at 95% Confidence level and 10% margin of error
Apple	4505	95
Orange	3158	95
Milk Powder	1056	90

5.4.2 Average Release Time from Ship Arrival to Delivery of Goods for Apple, Orange and Milk Powder

Data shows that milk powder had the longest average release time from ship arrival to delivery of goods at 12.67 days, while apple and orange consignments required approximately 9.76 and 9.74 days, respectively.

Table 5.8: ART from Ship Arrival to Delivery [In days]

Selected Products	ART from ship arrival to delivery [Days]	Minimum time [Days]	Maximum time [Days]	No of samples
Apple	9.76	2	86	95
Orange	9.74	2	38	95
Milk Powder	12.67	4	42	90

5.4.3 Impact on Market Price for Apple, Orange and Milk Powder

Table 5.9 presents a comparative analysis of price per kilogram for apple, orange, and milk powder imports from different countries of origin, with and without variable costs. Variable cost includes port demurrage, container demurrage, per day electricity fees for reefer containers, frequent movement costs of clearing and forwarding agents to various known-unknown costs. These costs are influenced by clearance delays, which risk-based management (RM) aims to reduce.

For all three products, the price per kg including variable costs is noticeably higher than the price excluding variable costs, with the difference representing the potential market benefit of improved clearance efficiency.

- For apples, the cost difference ranges from BDT 8.46 (China) to BDT 10.34 (South Africa).
- For oranges, the difference varies between BDT 7.26 (China) and BDT 7.83 (South Africa).
- For milk powder, the increase is more modest, ranging from BDT 4.91 (New Zealand) to BDT 6.41 (India).

The table clearly demonstrates that variable costs significantly affect final market prices and that minimizing delays through RM practices can lead to meaningful price reductions for consumers.

Table 5.9: Impact on Market Prices for Apple, Orange and Milk Powder

Selected Products	Country of Origin	Price per kg including variable cost ¹⁸ [BDT]	Price per kg without variable cost [BDT]	Price per kg w/o VC and Testing fees [BDT]	Price diff when RM is applied but Testing is done [BDT]	Price diff when RM is applied and cleared without testing [BDT]
Apple	China	211.93	203.75	203.47	8.17	8.46
	South Africa	234.09	224.10	223.75	9.99	10.34
Orange	China	210.64	203.38	203.13	7.26	7.51
	South Africa	231.49	223.41	223.03	7.56	7.83
Milk Powder	New Zealand	604.70	599.29	598.36	4.91	5.74
	India	454.89	448.93	447.88	5.45	6.41

¹⁸ Variable cost includes port demurrage, container demurrage and other miscellaneous costs arise from the delay in clearance. Miscellaneous cost covers from per day electricity fees for reefer containers, frequent movement costs of clearing and forwarding agents to various known-unknown costs. The calculation is shown in the annexure.

5.5 Existing Problems and Bottlenecks in the Current Clearance Process

Current risk management procedures include 100% physical inspection of all import consignments for the target products, followed by sampling, testing, receipt of test certificates from authorized laboratories before processing the release order, subject to payment of all duties, charges, and fees. Time factor associated with each step of the current risk management practices is not as a stand-alone time requirement, but interlinked and dependent on one another, and any delay in one step will eventually result in delays in subsequent other steps. It has been reported that sample collection rooms at the port do not remain open for businesses, while the customs operations continue 24x7. But customs procedures related to physical inspection, sample collection, and sending it for testing may get halted if the sample cannot be collected. The offices of other border control agencies also remain operational for 5 days a week. Hence, if a consignment is for starting risk management procedures on a Thursday afternoon, its subsequent procedures will remain postponed till next Sunday and will create a gap of more than 2 days. It can be mentioned that the Time Release Study published in 2022 by the NBR, finds an average of 13 hours 01 minutes required by the Plant Quarantine Wing, an average of 1 day 22 hours 58 minutes required by the Bangladesh Atomic Energy Commission, and an average of 12 days 6 hours 28 minutes required by Bangladesh Standards and Testing Institute¹⁹. The charters published by the Department of Livestock Services and Department of Fisheries show that test requirements associated with processed animal feed and frozen fish take about 5 working days.

5.6 Factors that Increase Trade Costs

Cost factors associated with the current risk management procedures include the following:

Fixed Costs:

- Testing fees as per the schedule of fees published by various government and authorized private testing laboratories²⁰.
- Fees charged by the port authority for sample collection.
- Labor cost for unloading the consignment for sample collection.

¹⁹ Page 66 of NBR TRS 2022.

²⁰ Testing fees are provided in Annexure 5 of this report.

Variable Costs:

- Demurrage fees charged by the port authority²¹ for time taken beyond the free first four days from the arrival of ships.
- Demurrage fees of container²² charged by the shipping companies beyond the pre-agreed free period.
- Cost incurred to the customs agents and importer associated with multiple visits to the customs house and port for sample collection and sending the sample to the testing laboratories.
 - Overheads incurred to customs, port authority, other border control agencies, and traders products; these overheads may include but not limited to deployment of management personnel and support staff, utility expenditure, transportation, and communications.

5.7 Areas Identified where Delays and Associated Cost can be Reduced

It has been identified that duration of average release time can be significantly reduced if physical inspection and/or sample collection for all imported agricultural and food consignments can be avoided by applying risk management, and consignments can be released after document checks only.

Duration of ART can be significantly reduced if physical inspection and/or sample collection for all imported agricultural and food consignments can be avoided by applying RM.

If the average release time is significantly reduced, then the associated costs of port demurrage, and container demurrage and detention fees will also be significantly reduced. Two hypothetical cases²³, developed on the basis of actual average release time from ship arrival to delivery of goods, according to information from ASYCUDA World System, schedule of demurrage fees charged by Chattogram Sea Port Authority and a major shipping line (MAERSK), are annexed to this report to show the areas where delays and associated costs can be reduced.

²¹ Port demurrage fees are provided in Annexure 6 of this report.

²² Container demurrage fees are provided in Annexure 7 of this report.

²³ The hypothetical cases are provided in Annexure 3 of this report.

5.8 Improved Risk Management Practices: Calculation of Risk Weight of an Import Consignment

A template is proposed, as shown in **Table 5.10**, for assigning risk score on the associated risk parameters/factors for each product. This template is proposed, based on the WCO's SAFE framework of risk assessment, and similar template and risk assessment tool published in the ADB South Asia Working Paper Series No. 84, published in November 2021 by Banerjee, Pritam²⁴.

Table 5.10 presents a risk assessment matrix for evaluating import consignments and calculating their Total Weighted Risk Score. Each risk factor is categorized into three levels—high, medium, and low—and assigned corresponding scores: 90 for high risk, 60 for medium risk, and 30 for low risk. These categories are visually color-coded as red (high), blue (medium), and green (low). The Total Weighted Risk Score is derived by summing the individual scores assigned to each of the six identified risk factors, such as country of origin, importer, and product type.

Based on this matrix, regulatory agencies may establish a set of inspection protocols, whereby consignments are subject to physical inspection at predetermined rates according to their total risk score:

²⁴ The working paper can be found at <http://dx.doi.org/10.22617/WPS210413-2>.

Table 5.10: Calculation Template for Risk Weight Calculation of an Import Food Consignment

Risk Parameter/ Factor	Risk Category			Risk Score
	High	Medium	Low	
Product	When the food product is highly capable of infestation or the product might have exposed to radiation or have radioactive materials or the product might have been contaminated and can impact health of human, animal, or plants	When the product has lower chances of infestation, or have been processed to some extent	When the product is highly processed and no chance of infestation or contamination and have mild impact on human health	Low = 30 Medium = 60 High = 90
Manufacturer	Unknown	Bona-fide but with irregular track-record for exports to Bangladesh	Bona-fide with established track-record	Low = 30 Medium = 60 High = 90
Origin	Not known as a source	Irregular and not well-known source	Regular and well-known source	Low = 30 Medium = 60 High = 90
Importer	New or first timer or have non-compliance records.	Not new, but with infrequent compliant track record	Old with frequent and compliant track record	Low = 30 Medium = 60 High = 90
C&F Agents	New or first timer or have non-compliance records.	Not new, but with infrequent compliant track record	Old with frequent and compliant track record	Low = 30 Medium = 60 High = 90
End-User	Final Consumption	Intermediate	Sample	Low = 30 Medium = 60 High = 90

Calculation of the Total Risk Score =	<p>The total risk score for an import consignment is determined by summing the individual scores assigned to each of the identified risk parameters. For example:</p> <ul style="list-style-type: none"> • If the product is highly processed or manufactured with minimal risk of infestation or contamination, it is categorized as low risk and assigned a score of 30. Conversely, if the product declaration and category is dubious and the import is irregular and volume is low, it may be deemed high risk, deserving a score of 90. • If the manufacturer or processor is reputable and has a consistent track record of compliant exports to Bangladesh, the associated risk is low (score: 30). However, if the manufacturer is relatively unknown or lacks a history of trade with Bangladesh, the risk may be elevated to medium or high, depending on the circumstances. • Based on this framework, the total weighted risk score for a consignment is calculated by aggregating the scores from each risk parameter. This score then informs the level of inspection and intervention required during the clearance process.
Proposed measures	<ul style="list-style-type: none"> • High Risk (Total Risk Score > 340): 100% of consignments will undergo physical inspection along with applicable border control measures. • Medium Risk (Total Risk Score > 240 and ≤ 340): 30% of consignments will be subject to physical inspection, selected on a random basis. • Low Risk (Total Risk Score ≤ 240): Only 10% of consignments will be randomly selected for physical inspection; the remaining may be cleared based on document verification.

Chapter 6: Recommendations and Conclusion

6.1 Recommendations

Based on the study findings and qualitative data obtained through Key Informant Interviews (KIIs) and Focus Group Discussions (FGDs), this report presents the following recommendations to address the identified challenges by incorporating risk management practices into the operations of Other Government Agencies (OGAs). The recommendations are categorized into three key areas:

1. **Policy and regulatory reforms**
2. **Process improvement**
3. **Capacity building and awareness**

These recommendations aim to streamline trade facilitation, reduce unnecessary interventions, and enhance regulatory efficiency while aligning with international best practices.



Policy and regulatory reforms					
Sl.	Issues	Recommendations	Actions	Target (Best estimation)	Implementing Agency
1	Agro-based consignments are subject to 100% intervention and testing as mandated by the Import Policy Order (IPO), regardless of the type, nature, or risk profile of the products.	<p>Amend the IPO and relevant acts/rules of OGAs to incorporate risk-based clearance procedures in line with international best practices</p> <p>The Ministry of Commerce, NBR, and other relevant ministries should jointly and/or separately review the existing IPO to integrate provisions for risk-based testing and post-clearance audit. Once a consensus is established, these procedures should be reflected in the IPO and regulations of each OGA. The changes should align with WTO's Trade Facilitation Agreement, SPS Agreement, and TBT Agreement.</p>	<ul style="list-style-type: none"> Revise Paragraph 23 (1), 23 (24), 24 (2) and 25 (29) of the Import Policy Order 2021-24 Include risk-based clearance for imported plants and plant product in Section 3 of the Plant Quarantine Act, 2011 and Rule 9 of the Plant Quarantine Rules, 2018 Amend Animal and Animal Products Quarantine Act, 2005 and add new sections on risk-based clearance. Specify risk-based clearance in Section 11 of the Fish and Fish Products Quarantine Act, 2018. Revise the Nuclear Safety & Radiation Control Rules, 1997 	March, 2026	MoC, PQW, DoF, DLS, BSTI.

Process improvement					
Sl.	Issues	Recommendations	Actions	Target (Best estimation)	Implementing body
2.	No regulatory agency other than Customs apply a structured risk management approach during the clearance process.	<p>Institutionalize the application of risk management practices by all border regulatory agencies involved in the clearance of food and agro-based products for optimal use of existing manpower and to reduce trade costs.</p> <p>The key regulatory agencies—such as PQW, DLS, DoF, BSTI, and BAEC—should adopt risk management framework based on the best international practices and develop risk management system with a view to facilitating trade and reducing trade costs.</p>	<ul style="list-style-type: none"> • Form RM Unit, where applicable. • Include RM unit in the official organogram. • Appoint relevant officials permanently. • Empower RM unit to conduct risk management activities. 	June, 2026	MoC, PQW, DoF, DLS, BSTI.
3	Despite the IPO provision permitting random sample collection as a recognized risk management method for consignments of BSTI products accompanied by accredited certificates from the exporting country,	<p>Develop standard guidelines for executing the IPO clause on risk management of BSTI bound products.</p> <p>BSTI and NBR should collaborate to establish clear SOPs for reducing interventions on import consignments that provide accredited lab test</p>	<ul style="list-style-type: none"> • Prepare list of accredited labs. • Develop a mechanism for verifying accredited lab certificates. • Establish a communication channel with accredited labs. • Develop SoP for implementing the risk management clause of IPO. 	December, 2025	BSTI and NBR

	100% intervention is still practiced.	certificates from exporting countries. This will enhance trade facilitation and reduce compliance costs for importers.			
4	Regulatory agencies currently lack structured risk assessment tools, resulting in uniform treatment of all consignments without prioritization based on risk.	<p>Adopt Risk Score Calculation method as a standardized risk assessment tool by all regulatory agencies.</p> <p>As a best practice, each agency may develop its own Risk Score Calculation methodology, drawing from international best practices and guidelines outlined in the WCO Risk Management Compendium to ensure consistency, transparency, and effectiveness in targeting high-risk consignments.</p>	<ul style="list-style-type: none"> • Identify risk parameters for each agency. • Assign scores for each parameter. • Develop a risk scoring methodology to calculate overall score. • Develop risk management guideline to operationalize risk management activities. 	March, 2026	NBR, PQW, DoF, DLS, BSTI.
5	There is currently no institutional coordination mechanism in place for implementing risk management activities among regulatory agencies.	<p>Establish institutional coordination mechanisms for Risk Management activities among the regulatory agencies, especially between Customs and OGAs.</p> <p>Institutional coordination, including data sharing among border control agencies is crucial for effective implementation of risk management.</p>	<ul style="list-style-type: none"> • Create a coordination platform involving all border control agencies. • Establish a mechanism for exchange of information among agencies. 	December, 2026	NBR, PQW, DoF, DLS, BSTI.

		Regular coordination meetings need to be conducted between OGAs and NBR for this purpose.			
		The decision taken at the 7th meeting of the National Trade Facilitation Committee on July 20, 2023 (decision 3.2[e] of the proceedings) can be referred to for effective engagement between the NBR and the OGAs.			
Capacity building and awareness					
	Issues	Recommendations	Actions	Target (Best estimation)	Implementing body
6	Limited technical capacity among OGA officials on risk management	<p>Organize capacity building programs – trainings and workshops – on risk management</p> <p>Regular training and workshops on risk management should be conducted for NBR and OGA officials, as well as for private sector stakeholders, to enhance their knowledge and capacity on risk management.</p> <p>These programs can be designed in</p>	<ul style="list-style-type: none"> • Arrange training and workshops for government officials to enhance the knowledge of risk management. • Organize awareness program for private sector stakeholders. 	December, 2025	NBR, PQW, DoF, DLS, BSTI, and Developing Partners.

		collaboration with development partners, who can provide technical assistance, resources, and international best practices to support effective implementation.			
7	Lack of awareness among policymakers and senior officials	<p>Conduct awareness event on risk management for policy makers and government officials.</p> <p>Awareness programs for policymakers and senior officials on the benefits and implementation of risk management should be conducted.</p>	<ul style="list-style-type: none"> • Arrange dialogue and seminars to sensitize policymakers and high-level government officials. 	June, 2025	MoC, NBR, OGAs and Developing Partners.

6.2 Conclusion

The implementation of risk management practices by OGAs in Bangladesh is crucial for modernizing border control procedures, enhancing trade facilitation, and ensuring regulatory compliance. Currently, the absence of risk-based procedures results in high intervention rates, increased trade costs, and delays in clearance.

This study demonstrates that through the adoption of risk-based clearance procedures, the average release time for selected agricultural and food products can be reduced by 40% to 81%, and for some commodities, market prices could decline by up to BDT 10 per kilogram. Additionally, reducing clearance delays will help free up port space and staff capacity, allowing more efficient use of infrastructure and human resources by ports, Customs, and OGAs. This, in turn, will significantly improve the country's overall trade facilitation performance.

Addressing these challenges calls for a multi-stakeholder approach encompassing policy reform, process optimization, and institutional coordination. To support the transition to a risk-based clearance system, this report provides actionable recommendations to:

- Reforming regulatory frameworks to incorporate risk-based clearance processes of Bangladesh Customs and OGAs.
- Developing structured guidelines and tools to improve risk assessment methodologies.
- Enhancing inter-agency coordination amongst the OGAs for efficient data sharing and risk profiling, banks should also be linked to the automated system for sharing relevant financial and trade documents.
- Building capacity and raising awareness among stakeholders to foster a risk-based regulatory environment.

The adoption of these measures will reduce unnecessary interventions, streamline clearance processes, and align Bangladesh's trade practices with international standards, ultimately boosting trade efficiency and economic growth.



S.W.L Under Spreader 40 T

S.W.L Under Cargo Beam 50 T



10 S.W.L Under Spreader 40 T

S.W.L Under Cargo Beam 50 T



09 S.W.L Under Cargo Beam 50 T



QGC-08 S.W.L Under Spreader 40 T

S.W.L Under Cargo Beam 50 T



QGC-07 S.W.L Under Spreader 40 T

S.W.L Under Cargo Beam 50 T



QGC-06 S.W.L Under Spreader 40 T

S.W.L Under Cargo Beam 50 T



QGC-05 S.W.L Under Spreader 40 T

S.W.L Under Cargo Beam 50 T



Annexure 1: Calculation sheet of the impact on market prices of Apple, Orange and Milk Powder when RM is applied

A1.1 Cost table for Apple

Table A1.1: Cost Table for Apple

Country of Origin	Net Wt [Kg]	Inv. Value [BDT]	Total Duty [BDT]	ART [Day]	Cont. Dem ²⁵ [BDT]	Port Dem ²⁶ [BDT]	Other cost ²⁷ [BDT]	BAEC Test fee [BDT]	PQW Test Fee [BDT]	Testing Fees (BAEC+PQW) [BDT]	Labor Cost [BDT]	Other Mis cost [BDT]
China	23720	1851924	2111144	9.76	130662	13176	50000	5500	1250	6750	5400	20000
China	23720	1857185	2117150	9.76	130662	13176	50000	5500	1250	6750	5400	20000
China	23720	1857244	2117218	9.76	130662	13176	50000	5500	1250	6750	5400	20000
South Africa	21924	1711688	1951392	9.76	130662	13176	50000	5500	1250	6750	5400	20000
South Africa	19404	1625136	1934072	9.76	130662	13176	50000	5500	1250	6750	5400	20000

VC [BDT]	FC [BDT]	Total cost [BDT]	Profit (20%) [BDT]	Product Price [BDT]	Per Kg Price [BDT]	Per kg w/o VC [BDT]	Price per kg w/o VC and Testing fees [BDT]	Price diff. when RM is applied but Testing is done [BDT]	Price diff. when RM is applied and cleared without testing [BDT]
193838	32150	4189056	837811.2	5026867.2	211.93	203.75	203.47	8.17	8.46
193838	32150	4200323	840064.6	5040387.6	212.50	204.32	204.04	8.17	8.46
193838	32150	4200450	840090	5040540	212.50	204.33	204.05	8.17	8.46
193838	32150	3889068	777813.6	4666881.6	212.87	204.02	203.72	8.84	9.15
193838	32150	3785196	757039.2	4542235.2	234.09	224.10	223.75	9.99	10.34

²⁵ Container demurrage has been calculated on the basis of cost chart published by MAERSK.

²⁶ Port demurrage has been calculated on the basis of approved cost chart by CPA found in the website.

²⁷ Other miscellaneous cost includes per day electricity fees for reefer containers, frequent movement costs of clearing and forwarding agents to various known-unknown costs. These costs has been collected from the approved chart of CPA and relevant importers.

A1.2 Cost table for Orange

Table A1.2: Cost Table for Orange

Country of Origin	Net Wt [Kg]	Inv. Value [BDT]	Total Duty [BDT]	ART [Day]	Cont. Dem. [BDT]	Port Dem. [BDT]	Other cost [BDT]	BAEC Test fee [BDT]	PQW Test Fee [BDT]	Testing Fee (BAEC+P QW) [BDT]	Labor Cost [BDT]	Other Mis cost [BDT]
China	26712	2085598	2377315	9.74	130662	13176	50000	5500	1250	6700	5400	20000
Egypt	49920	3897419	4440680	9.74	261324	26352	75000	5500	1250	13400	10800	40000
S. Africa	48000	4022912	4784771	9.74	261324	26352	75000	5500	1250	13400	10800	40000

VC [BDT]	FC [BDT]	Total cost [BDT]	Profit (20%) [BDT]	Product Price [BDT]	Per Kg Price [BDT]	Per kg w/o VC [BDT]	Price per kg w/o VC and Testing fees [BDT]	Price diff. when RM is applied but Testing is done [BDT]	Price diff. when RM is applied and cleared without testing [BDT]
193838	32100	4688851	937770.2	5626621	210.64	203.38	203.13	7.26	7.51
362676	64200	8764975	1752995	10517970	210.70	203.43	203.16	7.27	7.53
362676	64200	9234559	1846912	11081471	230.86	223.31	223.03	7.56	7.83

A1.3 Cost table for Milk Powder

Table A1.3: Cost Table for Milk Powder

Country of Origin	Net Wt [Kg]	Inv. Value [BDT]	Total Duty [BDT]	ART [Day]	Cont. Dem. [BDT]	Port Dem. [BDT]	Other cost [BDT]	Testing Fee (BAEC) [BDT]	Labor Cost [BDT]	Other Mis Cost [BDT]
NZ	100800	37164437	12960181	12.67	307440	87840	100000	83150.00	21600	20000
India	50000	13551746	5025591	12.67	153720	43920	75000	47827.62	10800	20000
GB	99950	32231988	11240562	12.67	307440	87840	100000	75847.98	21600	20000

VC [BDT]	FC [BDT]	Total cost [BDT]	Profit (20%) [BDT]	Product Price [BDT]	Per Kg Price [BDT]	Per kg w/o VC [BDT]	Price per kg w/o VC and Testing fees [BDT]	Price diff. when RM is applied but Testing is done [BDT]	Price diff. when RM is applied and cleared without testing [BDT]
495280	124750	50744648	10148929.6	60893577.6	604.10	599.19	598.36	4.91	5.74
272640	78627.62	18928604.62	3785720.92	22714325.5	454.29	448.83	447.88	5.45	6.41
495280	117448	44085277.98	8817055.6	52902333.6	529.29	524.33	523.57	4.96	5.71

Annexure 2: Application of Risk Management Matrix

Case examples illustrating the calculation of the Total Weighted Risk Score for four product categories are presented in the following tables (Table 5.13 to Table 5.19):

Table A2.1: Template Based Weighted Risk Calculation for Imported Oranges

Risk Parameter/ Factor	Risk Category			Risk Score
	High	Medium	Low	
Product	-	There are some scopes of introduction of new pests	-	Med 60
Manufacturer	-	-	-	N/A
Origin	-	-	Exporting countries have high production standards and compliant export records	Low 30
Importer	-	-	Has been in business for 10 years, with no record of non-compliance or evasion attempt	Low 30
C&F Agent	-	-	Has been in business for about 10 years, with compliant record	Low 30
End-User	Direct Consumption, directly as table fruit	-	-	
Total Risk Score =	60+0+30+30+30+90 = 240 Since the Total Risk Score calculated is 240, falling under the overall low-risk threshold, these consignments may be released upon document inspection only, or, may be subject to random physical inspection applied to 10% of all import consignments.			

Table A2.2: Template Based Weighted Risk Calculation for Imported Apples

Risk Parameter/ Factor	Risk Category			Risk Score
	High	Medium	Low	
Product	-	There are possibilities for presence of quarantine pests in the consignment	-	Med 60
Manufacturer	-	-	-	N/A
Origin	-	-	Exporting country has high production standards and compliant export records	Low 30
Importer	-	-	Has been in business for 10 years, with no record of non-compliance or evasion attempt	Low 30
C&F Agent	-	-	Has been in business for about 10 years, with compliant record	Low 30
End-User	Direct Consumption, directly as table fruit	-	-	High 90
Total Risk Score =	<p>60+0+30+30+30+90 = 240</p> <p>Since the Total Risk Score calculated is 240, falling under the low-risk threshold, these consignments may be released upon document inspection only, or, may be subject to random physical inspection applied to 10% of all import consignments.</p>			

Table A2.3: Template-Based Weighted Risk Calculation for Imported Animal Feed Ingredients

Risk Parameter/ Factor	Risk Category			Risk Score
	High	Medium	Low	
Product	-	Medium risk considering the potential impact on animal health if contains harmful antibiotics and other ingredients	-	Med 60
Manufacturer	-	-	A well-regarded company, reputed to be one of the large suppliers in the region	Low 30
Origin	-	-	Exporting countries have high production standards and compliant export records	Low 30
Importer	-	-	Has been in business for 10 years, with no record of non-compliance or evasion attempt	Low 30
C&F Agents	-	-	Has been in business for about 10 years, with compliant record	Low 30
End-User	-	Intermediate	-	Med 60
Total Risk Score =	<p>60+30+30+30+30+60 = 240</p> <p>Since the Total Risk Score calculated is 240, falling under the low-risk threshold, this consignment may be released upon document inspection only, or, may be subjected to random physical inspection applied to 10% of all import consignments.</p>			

Table A2.4: Template Based Weighted Risk Calculation for Chilled and Frozen Fish

Risk Parameter/ Factor	Risk Category			Risk Score
	High	Medium	Low	
Product	-	-	Low risk category as chilled and frozen quality	Low 30
Manufacturer	-	-	-	N/A
Origin	-	-	Exporting countries have high production standards and compliant export records	Low 30
Importer	-	-	Has been in business for 10 years, with no record of non-compliance or evasion attempt	Low 30
Broker	-	-	Has been in business for about 10 years, with compliant record	Low 30
End-User	Direct Consumption	-	-	High 90
Total Risk Score =	$30+0+30+30+30+90 = 210$ Since the Total Risk Score calculated is 210, falling under the low-risk threshold of 280, this consignment may be released upon document inspection only, or, may be subject to random physical inspection applied to 10% of all import consignments			

Table A2.5: Template Based Weighted Risk Calculation for Imported Milk Powder







Risk Parameter/ Factor	Risk Category			Risk Score
	High	Medium	Low	
Product	High risk category considering the risk of contamination or possibility of radioactivity	-	-	
Manufacturer			Renowned manufacturer with compliant export history	
Origin			Exporting countries have high production standards and compliant export records	
Importer			Has been in business for 10 years, with no record of non-compliance or evasion attempt	
C&F Agents			Has been in business for about 10 years, with compliant record	
End-User	Direct Consumption			
Total Risk Score =	<p>90+30+30+30+30+90 = 300</p> <p>Since the Total Risk Score calculated is 300, falling under the medium risk threshold of 240~340, this consignment may be released upon document inspection only, or, may be subjected to random physical inspection applied to 30% of all import consignments.</p>			

Table A2.6: Template Based Weighted Risk Calculation for Imported Ketchup

Risk Parameter/ Factor	Risk Category			Risk Score
	High	Medium	Low	
Product	-	-	Highly processed product	Low 30
Manufacturer	-	-	Renowned manufacturer with compliant export history	Low 30
Origin	-	-	Exporting countries have high production standards and compliant export records	Low 30
Importer	-	-	Has been in business for 10 years, with no record of non-compliance or evasion attempt	Low 30
C&F Agents	-	-	Has been in business for about 10 years, with compliant record	Low 30
End-User	Direct Consumption	-	-	High 90
Total Risk Score =	30+30+30+30+30+90 = 240 Since the Total Risk Score calculated is 240, falling under the low-risk threshold, this consignment will be subject to physical inspection applied to 10% of all import consignments.			

Table A2.7: Template Based Weighted Risk Calculation for Imported Fortified Soybean Oil

Risk Parameter/ Factor	Risk Category			Risk Score
	High	Medium	Low	
Product	-	-	Low risk item as highly processed	Low 30
Manufacturer	-	-	Renowned manufacturer with compliant export history	Low 30
Origin	-	-	Exporting countries have high production standards and compliant export records	Low 30
Importer			Has been in business for 10 years, with no record of non-compliance or evasion attempt	Low 30
C&F Agents			Has been in business for about 10 years, with compliant record	Low 30
End-User	Direct Consumption			High 90
Total Risk Score =	<p>$30+30+30+30+30+90 = 240$</p> <p>Since the Total Risk Score calculated is 240, falling under the low-risk threshold, this consignment will be subject to physical inspection and other border control measures for 10% of consignments</p>			

Annexure 3: Hypothetical Cases for understanding the benefits of Risk Management

Hypothetical Case 1: Cost savings from risk-based clearance of a Low-Risk Product – Ketchup

Initial Conditions:

- **Importer:** Compliant trader with no history of non-compliance
- **Product:** Ketchup, subject to high total tariff incidence and requiring testing and certification by BSTI
- **Volume:** 100 consignments annually, each with 35,000-40,000 sealed 250 ml bottles shipped in a 20 ft container

Before Risk Management Interventions

- **Physical Inspection:** 100% of the consignments (all 100) undergo physical inspection
- **Average Release Time:** 20 days (from Bill of Entry submission to final release from port)
- **Key Activities:** Submission of hard copies of import documents, physical inspection and sample collection by Customs and BSTI, conformity testing, Customs assessment, payment of duties and fees, issuance of release order.
- **Direct and Fixed Costs:**
 - **Total tariff:** 89.32% of invoice value (collected by Customs)
 - **BSTI testing fee:** BDT 11,141 (14-day regular service, inclusive of VAT)
 - **Port and labor charges:** Approx. BDT 10,000
- **Indirect and Variable Costs:**
 - **Port demurrage:** USD 174 (BDT 21,228 per consignment) for 20 days release time; total for 100 consignments: USD 17,400 (BDT 2,122,800)
 - **Container demurrage:** USD 744 (BDT 90,768 per consignment) for 20 days release time; total for 100 consignments: USD 74,400 (BDT 9,076,800)

After Risk Management Interventions

- **Risk Assigned:** Low (due to processed nature, sealed packaging, reputed manufacturer, and compliant importer)
- **Risk Management Decision:** 90% of consignments cleared through document inspection; 10% subject to physical inspection
- **Average Release Time:** Reduced to 4 days

- **Key Activities:** Submission of import documents (hard copies), document review, payment of duties and fees, release order issued.
- **Direct and Fixed Costs:** Same as before
- **Indirect and Variable Costs (applied to 10 consignments only):**
 - **Port demurrage:** USD 1,740 (BDT 212,280)
 - **Container demurrage:** USD 7,440 (BDT 907,680)

Table A3.1: Cost Savings from Risk-based Clearance of a Low-Risk Product – Ketchup

Description	Before	After
Average Release Time	20 days	4 days
Annual Port Demurrage	BDT 16,98,240	BDT 2,12,280
Annual Container Demurrage	BDT 72,61,440	BDT 9,07,680
Total Demurrage	BDT 89,59,680	BDT 11,19,960
Total cost savings (For 100 consignments)	BDT 78,39,720	

Hypothetical Case 2: Cost savings from risk-based clearance of a Medium-Risk Product – Mik Powder

Initial Conditions:

- **Importer:** Compliant trader with no history of non-compliance
- **Product:** Milk powder, subject to high tariff and requiring testing by BSTI and BAEC
- **Volume:** 1000 consignments annually, each with 25,000 kg net weight in 40 ft container

Before Risk Management Interventions

- **Physical Inspection:** 100% of the consignments (all 1000) undergo physical inspection
- **Average Release Time:** 13 days (from ship arrival to final release)
- **Key Activities:** Submission of hard copies of import documents, physical inspection, sample collection for BSTI and BAEC testing, Customs assessment, payment of duties and fees, issuance of release order
- **Direct and Fixed Costs:**
 - Total tariff: 58.6% of invoice value
 - BSTI testing fee: BDT 30,800 (8-day urgent service, inclusive of VAT)
 - BAEC radiation testing fee: 0.01% of Cost and Freight (C&F) value
 - Port and labor charges: Approx. BDT 10,000
- **Indirect and Variable Costs:**
 - Port demurrage: USD 180 (BDT 21,960 per consignment); total: USD 180,000 (BDT 2,19,60,000)
 - Container demurrage: USD 630 (BDT 76,860 per consignment); total: USD 630,000 (BDT 7,68,60,000)

After Risk Management Interventions

- **Risk Threshold Assigned:** Medium (processed food with high sensitivity due to infant consumption; otherwise compliant product and importer)
- **Risk Management Decision:** 70% of consignments cleared through document inspection; 30% subject to physical inspection
- **Average Release Time:** Reduced to 5 days
- **Key Activities:** Document inspection, duties and fees collected, release order issued
- **Direct and Fixed Costs:** Same as before
- **Indirect and Variable Costs (for 300 consignments only):**

- Port demurrage: USD 54,000 (BDT 65,88,000) + USD 8,400 (BDT 10,24,800) = USD 62,400 (BDT 76,12,800)
- Container demurrage: USD 189,000 (BDT 2,30,58,000) + USD 21,000 (BDT 25,62,000) = USD 1,98,000 (BDT 2,56,20,000)

Table A3.2: Cost Savings from Risk-based Clearance of a Medium-Risk Product – Mik Powder

Description	Before	After
Average Release Time	13 days	5 days
Annual Port Demurrage	BDT 2,19,60,000	BDT 76,12,800
Annual Container Demurrage	BDT 7,68,60,000	BDT 2,56,20,000
Total demurrage	BDT 9,88,20,000	BDT 3,32,32,800
Total Annual Cost Savings (For 1000 consignments)	BDT 6,55,87,200	

Annexure 4: KII Discussion Points

Customs:

- Current risk management practices
- How agro-based consignments are selected by the AW system
- How samples are collected
- Who takes the sample to the designated labs/agency labs
- Challenges regarding sample collection, taking samples to the designated labs/agencies,
- Non-compliance records
- Rejection rate
- Cause of rejection (pathogens, pesticide, MRL, pests, LMOs, antibiotics, heavy metals, other SPS or TBT reasons), etc.
- Reasons for clearance delays

OGAs:

- How samples are collected
- Who takes the sample to the designated labs/agency labs
- Challenges regarding sample collection, taking samples to the designated labs/agencies,
- Non-compliance records
- Rejection rate
- Cause of rejection (pathogens, pesticide, MRL, pests, LMOs, antibiotics, heavy metals, other SPS or TBT reasons), etc.
- Testing facilities/Quarantine facilities
- Legal challenges for applying risk management practices
- Tests performed per day, month
- Revenue/fees earned

Annexure 5: Testing fees of various Govt. Laboratories

Table A5.1: Applicable Testing Fees and Prospective Savings under Hypothetical Scenario

OGA	Test	Testing Fee	Testing Time
PQW	Quarantine Pests	BDT 50 for 1st Metric Ton BDT 20 for each additional Ton	Same day
BSTI	Bangladesh Standards Conformity for Milk powder	BDT 14,229 BDT 11,801	8 days (urgent) 14 days (regular)
	Bangladesh Standards Conformity for Tomato Ketchup	BDT 11,141 BDT 17,282	8 days (urgent) 14 days (regular)
	Bangladesh Standards Conformity for Fortified Sunflower Oil	BDT 6,916 BDT 3,458	8 days (urgent) 14 days (regular)
DLS	Nitrofurantoin Chloramphenicol	BDT 8,500 BDT 6,000	5 days 5 days
DoF	Nitrofurantoin Chloramphenicol	BDT 8,500 BDT 6,000	5 days 5 days
	Heavy Metals	BDT 2,500 for each of the 5 heavy metals	10 days
BAEC	Radiation	BDT 500 or at 0.05 to 0.01% of the C&F value of the consignment, whichever is higher	Same day

Annexure 6: Port Demurrage Fees

Table A6.1: Storage Rent – CPA

Container Size	1 st to 4 th days	5 th to 7 th days	8 th to 20 th days	21 st day and above
20 ft container	0	\$6 per day	\$12 per day	\$24 per day
40 ft container	0	\$12 per day	\$24 per day	\$48 per day

Note: There is an additional charge for reefer container for electricity which is 9 USD per day.

Table A6.2: Port Demurrage Fees for 20- and 40-feet containers

Avg clearance day [Days]	Total demurrage fees [In USD]	Total demurrage fees [In BDT] Exch. rate 1 USD = 122 BDT
10	54	6588
15	114	13908
20	174	21228
25	294	35868
30	414	50508

Annexure 7: Container Demurrage Fees

Table A7.1: Container Demurrage Rate (MAERSK)

Container Size	1 st to 4 th days	5 th to 7 th days	8th to 10th days	11th day and above
20 ft container	0	\$18 per day	\$30 per day	\$60 per day
40 ft container	0	\$30 per day	\$60 per day	\$120 per day

Table A7.2: Container Demurrage Rate (Reefer Container – MAERSK)

Container Size	1 st to 2 nd days	3 rd to 4 th days	5 th to 6 th days	7 th day and above
20 ft container	0	\$33 per day	\$49.5 per day	\$82.5 per day
40 ft container	0	\$63 per day	\$94.5 per day	\$189 per day

Table A7.3: Container Demurrage Fee

Demurrage fee for 20 feet container			Demurrage fee for 40 feet container		
Avg clearance time [Days]	Total demurrage fees [In USD}	Total demurrage fees [In BDT] [Exchange rate: 1 USD = 122 BDT]	Avg clearance time [days]	Total demurrage fees [In USD]	Total demurrage fees [In BDT] [Exchange rate: 1 USD = 122 BDT]
10	144	17568	10	270	32940
15	444	54168	15	870	106140
20	744	90768	20	1470	179340
25	1044	127368	25	2070	252540
30	1344	163968	30	2670	325740

Table A7.4: Container Demurrage Fee (Reefer Container)

Demurrage fee for 20 feet container			Demurrage fee for 40 feet container		
Avg clearance time [Days]	Total demurrage fees [In USD}	Total demurrage fees [In BDT] [Exchange rate 1 USD = 122 BDT]	Avg clearance time [days]	Total demurrage fees [In USD]	Total demurrage fees [In BDT] Exch rate 1 USD = 122 BDT
10	495	60390	10	1071	130662
15	907.5	110715	15	2016	245952
20	1320	161040	20	2961	361242
25	1732.5	211365	25	3906	476532
30	2145	261690	30	4851	591822

Glossary

ASYCUDA World: An integrated customs management system for international trade and transport operations in a modern automated environment designed by the United Nations Conference on Trade and Development (UNCTAD).

Bill of Entry: A mandatory declaration that importers of goods into Bangladesh must submit to the Customs authority within five working days of the goods' arrival. It serves as a written account of the imported goods and is essential for clearing the goods through customs.

Bill of Lading: A document issued by a carrier to a shipper, acknowledging that specified goods have been received on board (in the case of ocean transport) or received for shipment (in other modes).

Border Control Agencies: Government entities responsible for regulating and managing the movement of goods, people, and conveyances across national borders, ensuring compliance with relevant laws and policies related to trade, security, immigration, and public health.

Container Demurrage: A charge levied by shipping lines or terminal operators on the consignee or shipper for the overstaying of their containers beyond the agreed-upon free time within a port or inland depot.

Harmonized System: A standardized numerical method of classifying traded products. It is used by countries around the world to uniformly identify and describe products for purposes such as assessing duties and gathering statistics.

Import Permit: The authorization of bringing goods or services from abroad to Bangladesh.

No Objection Certificate: A No Objection Certificate (NOC) issued by a border control agency confirms that the agency has no objection to the importation of a specific product, indicating that the product meets their relevant regulatory requirements and is permissible for entry into the country.

Other Government Agencies: Government cross-border trade control agencies except Ministry of Commerce (MoC) and National Board of Revenue (NBR), e.g., PQW, DLS, DoF, BSTI, and BAEC.

Physical Inspection: A process within a risk management system where high-risk consignments, identified through risk assessment, are subjected to a manual examination. This examination may also include sample withdrawal and laboratory testing to ensure compliance.

Phytosanitary Certificate: An official document issued by the Plant Protection Organization (PQW in this context, as mandated by the Plant Quarantine Act, 2011) of the exporting country.

It certifies that plants, plant products, or other regulated articles being exported have been inspected according to appropriate procedures and are considered to be free from quarantine pests and diseases, and conform with the current phytosanitary regulations of the importing country.

Port Demurrage: A charge levied by the port authority or terminal operator on the consignee or shipper for the overstaying of cargo (not necessarily in containers) within the port premises beyond the allotted free time. This fee aims to prevent congestion and ensure the efficient flow of goods through the port.

Post-clearance Audit: A structured examination of a business' relevant commercial systems, sales contracts, financial and non-financial records, physical stock and other assets at a post-clearance level as a means to measure and improve compliance.

RED Lane: The RED Lane is risk management-based criteria that indicate a physical review of the cargo. In other words, apart from looking at the documents, the Customs authority will bring the import consignment to an inspection point; to check that the details of the declaration match the cargo.

Regulatory Duty: A tax or duty imposed on imported goods, typically to protect domestic industries or discourage imports of specific goods. It's a form of import duty used to manage trade and protect local businesses from falling international prices or excessive competition.

Release Order: An official document issued by Customs to the importer (or their C&F agent) upon confirmation of the payment of assessed duties and taxes, authorizing the release of the goods from customs control and permitting the subsequent completion of port formalities for final clearance. Other regulatory agencies, especially Plant Quarantine Wing at DAE, can issue release order after the completion of procedures.

Risk Criteria: Risk criteria for imported products are the specific standards, regulations, characteristics, and requirements related to the product, its origin, the involved parties (importer/exporter), and the shipment process. These criteria serve as the benchmarks against which potential risks are assessed.

Risk Management: Risk management in import and export is a science-based and data-driven goods clearance system that assesses risk, identifies high-risk consignments, and channels those for physical inspection, and if required, for sample withdrawal and laboratory testing. Simultaneously, it ensures faster clearance for low-risk consignments without physical inspection or with minimum intervention.

Risk Profile: A Risk Profile is a set of information used in risk analysis to identify and quantify risk, which suggests control measures enabling high-risk consignments to be examined with additional scrutiny while lower-risk ones can be released in an expedited manner.

Risk-based clearance process: A method of processing goods at borders where customs and other relevant agencies apply risk management principles to assess the likelihood and potential impact of non-compliance or threats associated with specific consignments, allowing high-risk shipments to undergo more intensive controls while facilitating the expedited release of low-risk ones.

Supplementary Duty: An additional indirect tax imposed alongside Value Added Tax (VAT) on specific domestically produced or imported goods and services that are considered luxury, non-essential, or socially undesirable.

YELLOW Lane: The YELLOW Lane is risk management-based criteria that indicate that the import consignment will be dispatched only by Customs authority by reviewing documentation and checking the details that the importer has declared.



