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Sustainable Supply Chain Management Practices:

“A Comparative Study on Chicken and Egg Production of Finland and Bangladesh”

DEGREE PROGRAM IN MBA- SUSTAINABLE BUSINESS MANAGEMENT
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Abstract

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This study investigates the integration of sustainable supply chain management (SSCM) in Bangladeshi poultry farms, comparing practices with Finland, and identifies critical success factors, challenges and barriers, government roles to advance poultry farming. Through surveys of 22 firms from Bangladesh where all the respondents are either managers or owners of poultry farms and secondary data analysis, the study highlights partial adoption of sustainable practices, with a focus on energy efficiency, waste management, and recycling. Social sustainability is emphasized through fair labor and health standards, while economic sustainability primarily targets cost reduction rather than diversification. Waste recycling is identified as a significant driver of profitability and regulatory compliance.

Findings also reveal moderate knowledge among participants, with a preference for eco-friendly, cost-effective delivery vans. However, high investment and staffing costs prevent farm owners from owning transport, and they face challenges including poor road conditions, congestion, and extortion in the transportation sector. Customer demand is the primary motivator for sustainable practices, followed by brand reputation and cost savings, though environmental responsibility and regulatory compliance have less influence. Limited government incentives and inadequate training are barriers to broader adoption, with 86.4% of participants reporting insufficient training.

Data analysis also unwrap the key obstacles to sustainability include high initial costs, inadequate facilities, and lack of experience, compounded by competition from non-sustainable producers and low consumer willingness to pay. Financial support, infrastructure improvements, training, and consumer education are essential to overcoming these barriers. The study also shows that sustainable practices have significant environmental benefits, such as waste reduction, energy savings, and enhanced community welfare, while financial outcomes are mixed, with some farms reporting increased profitability despite early adoption challenges. Further, analysis of the data indicates that the government policies play a role in promoting sustainability, with 81.8% of farmers acknowledging their positive impact.

This study also highlights that supply chain complexity, cost implications, climate impact, resource scarcity, market competition, and regulatory compliance significantly challenge sustainable supply chain management (SSCM) in Finland. Conversely, transparency, technological integration, collaborative partnerships, consumer demand and awareness, and efficient waste management emerge as critical success factors in advancing SSCM in the region.

However, despite limitations, the study suggests future research should involve larger samples and more advanced analysis tools to explore the relationship between sustainability practices and financial outcomes. Further, this study delineates some crucial implications for practitioners and government: key strategies included enhancing training, peer learning, waste management, cost reduction, regulatory compliance, government support, infrastructure investment, and innovation.

Keywords: Sustainable Supply Chain, Management, Practices, Poultry Farm, Chicken, Egg, Bangladesh, Finland.

ACKNOWLEDGEMENT

Sustainable supply chain management in poultry farming for chicken and egg production is critical for a number of reasons. It addresses environmental, social, and economic issues by reducing waste, decreasing greenhouse gas emissions, and conserving water and energy. It also promotes animal welfare, enhances food safety, and meets customer demand for ethically produced products. Sustainable techniques help producers comply with stricter laws, prevent resource scarcity, and increase resilience to disturbances. Furthermore, they promote long-term profitability by increasing resource efficiency and stakeholder trust, making sustainable supply chains critical for a responsible and resilient chicken and egg sector.

I am highly motivated and felt encouraged to conduct my thesis report on, “Sustainable Supply Chain Management Practices in Poultry Farms: A Comparative Study on Chicken and Egg Production of Finland and Bangladesh” after gathering deep knowledge in my academic degree course “Sustainable Business Management” in SAMK, Finland. I would like to convey my sincere thanks and gratitude to everyone who helped me to accomplish this thesis, which is titled “Sustainable Supply Chain Management Practices in Poultry Farms: A Comparative Study on Chicken and Egg Production of Finland and Bangladesh”.

First and foremost, I would like to express my sincere gratitude to my thesis supervisor, Dr. Irene Akyaa Kujala and Jamie Haanpää, for their unwavering support, priceless advice, and helpful criticism during this research process. This effort has been greatly influenced by their knowledge and support from very beginning.

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knowledge and experiences and responding in survey about sustainable poultry farming methods. Their input has been crucial in ensuring that this comparative study provides a thorough and insightful examination of the difficulties and achievements in sustainable supply chain management in the chicken and egg industry.

My heartfelt gratitude goes to my wife Bishakha Barua and my daughter Shreejita Barua Sanwi for their constant support and understanding, without which this trip would not have been possible. Their sacrificing time and encouragement have been an ongoing source of my strength and motivation.

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LIST OF ABBREVIATIONS

AI-Artificial Intelligence
AMOS-Analysis of Moment Structure
BSR- Business for Social Responsibility
GAP-Good Agricultural Practices
GDP-Gross Domestic Products
HACCP- Hazard Analysis and Critical Control Point
MBA-Master in Business Administration
NGO-Non-Governmental Organization
PPP- Public-Private Partnerships
SCM-Supply Chain Management
SDG-Sustainable Development Goal
SME-Small and Medium Enterprise
SPSS-Statistical Package for Social Science
SSCM-Sustainable Supply Chain Management
TBL-Triple Bottom Line
UNGC-United Nations Global Compact

1 . INTRODUCTION OF THE STUDY

1.1 Background

In many countries like Bangladesh and Finland the poultry industry plays a crucial role to contribute for economic growth of the country. Due to growing worldwide worries about environmental sustainability, the emphasis on sustainable supply chain management (SSCM) in this industry has become crucial.

Bangladesh is a highest density country of the world with population of 175 million people within the area of 147,570 Km^2. Of this population, over 80% people reside in rural areas and most of them are involved in farming (Islam, Uddin, & Alam, 2014). In Bangladesh, Chicken and egg are widely preferred by the people as they have a ready and accessible market and are easy to maintain (Rahman, Jang, & Yu, 2017). In Bangladesh, chicken meat and egg are, so far, the cheapest source of animal protein which are well accepted by all religious, economic, social, and demographic groups and peoples (Simon, 2009). The poultry industry is becoming a leading industry in the country. This poultry sector has been growing with an annual rate of around 20% for the last two decades (Islam et al., 2014). The United Nations General Assembly (UNGA) has declared the Bangladesh as developing country on its resolution at its 76th session in 2021. Most of the people are greatly involved with agricultural activities directly and indirectly. In the country agriculture is the largest production sectors, which covers 11.38% of GDP (Yearbook of Agricultural Statistics, 2023, p.3). “In total labor forces of the country 45.33% employees are involved in agro-based industries.” (Yearbook of Agricultural Statistics, 2023, p.3). In spite of availability of agricultural resources, the agro-based industries have not yet been properly maintained and utilized because of lack of expertise, technology, infrastructures, ignorance and investment.

Poultry farming in Bangladesh has long been a backyard practice, with indigenous Chicken kept under semi-natural conditions for domestic consumption, with no commercial motivation. To address rising domestic demand for meat and egg, poultry farming (broilers and layers) is being advocated as a viable solution (Akter, Uddin, & Dhar, 2023, p. 312).

This poultry industry has so far failed to adapt modern and innovative upto-date technology for its poultry procurement and processing and has failed to address sustainability issues, and as a result, it is damaging the whole environment of Bangladesh that is mandatory for overpopulated (Shamsuddoha, Quaddus & Klass, 2013).

On the other hand, the population of Finland is 5.62 million (based on Worldometer's elaboration of the latest United Nations data) with the total land area is 303,890 Km2. Out of this population 86.40% people live in urban. 3.76% of total population are involved with agro-based production (sourced from the World Bank on September of 2024). So, there is a vast difference between Bangladesh and Finland considering total land area and population.

Globally, poultry farms are reliant on the environments in which they are operated. In developed countries like Finland government intervention and technological innovation and developments frequently serve as catalysts for reducing the hazards associated with diseases. transportation, and storage. On the other hands, most poultry farms in developing countries like Bangladesh are privately owned business which are conducted by the use of antiquated and conventional or traditional technique of storage, transportation, and manufacturing. Consequences of a disease outbreak, problem with storage and transportation facilities, inadequate logistics support, lack of proper guideline from competent authorities, ignorance, reluctant to proper and sustainable management practices as well as problem with proper storage, the owners of the farms are facing losses frequently. In Bangladesh, the people who were involved with the poultry farming most were not educated enough. But in recent year the educated people are becoming involve with this industry

and are trying to operate the farm with latest innovation and technology. So now, people from different knowledge and background are employing their time in poultry farming as their part time job or as full-time job. In 2017 around 2 million people were directly or indirectly employed in the poultry industry, with about 60,000 to 65,000 registered commercial farms. (Rahman et al., 2017, p. 274).

For addressing environmental challenges (like deforestation, water pollution, and overuse of antibiotics), ensuring economic stability of millions dependent on poultry farming, reducing risks of disease outbreaks and enhances food safety for growing populations sustainability in supply chain management in poultry farming, especially in chicken and egg production, is urgent in Bangladesh.

On the other, for promoting eco-friendly farming practices, addressing climate change and reducing carbon footprint, for supporting local agriculture, ensuring profitability while maintaining global competitiveness, for pledging high-quality and ethically produced poultry products for consumers, the urgency of implementing sustainable practices in supply chain management in Finland within poultry farming, particularly in chicken and egg production, cannot be overstated.

Considering the importance of the sector for both these nations, Bangladesh and Finland, this thesis investigates the SSCM practices in the poultry sectors focusing on the triple bottom line (TBL) i. e. environmental, economic and social consequences.

1.2 Statement of Problems

The worldwide poultry sector contributes significantly to food security, rural employment, and economic growth, with rising demand for sustainably farmed chicken and egg. However, the supply chain management strategies required to meet this demand in a sustainable manner differ greatly among locations,

affected by economic situations, legal frameworks, and cultural variables. Poultry farming presents particular obstacles in meeting sustainability goals in Finland and Bangladesh, two countries with very different economic, environmental, and legislative landscapes. Finland, a developed country with strict environmental legislation and high consumer awareness, has made strides toward sustainable poultry farming practices. Bangladesh, a developing country, confronts obstacles due to limited resources, infrastructure constraints, and insufficient regulatory enforcement, all of which complicate the adoption of sustainable practices in the poultry business.

Though numerous studies are available on Finland about how to ensure sustainable supply chain management practices in poultry farming (e.g. Katajajuuri et al., 2008; Katajajuuri et al., 2014; Kolog, 2023; Usva et al. 2023), studies are rare in Bangladesh.

Further, comparative analysis of SSCM practices in poultry sectors of Finland and Bangladesh is absent.

Consequently, the development of policies, the adoption of technological innovations, and the identification of socioeconomic factors specific to Bangladesh remain largely unaddressed within the domain of SSCM in egg and poultry production.

This study addresses the need for a comparative analysis of sustainable supply chain management (SSCM) practices in Finland and Bangladesh's poultry sectors, with an emphasis on chicken and egg production and processing. This study aims to provide insights into the policy initiatives, technological innovations, and socioeconomic factors influencing sustainable practices by identifying and analyzing the key factors driving success and impeding progress in SSCM within these two contrasting contexts. Finally, this study aims to contribute to the formulation of practical recommendations that can help both nations achieve sustainable poultry production, taking into account the potential transferability of practices and policy adaption across developed and developing environments.

1.3 Research Objectives and questions

The aims of the research are to develop knowledge and insights that benefits business and the broader community locally and internationally to create a better world (Saunders et al., 2023, p.10).

The primary aims of this research is to study and analyze the sustainable supply chain management practices in poultry farms of Bangladesh and to study basic comparison with Finland.

The overall purpose is to explore and understand how business-like poultry farm like chicken and egg production and process can integrate environmental, social and economic consideration into their supply chain operations to achieve long-term sustainability goals. It will include best practices for minimizing environmental impacts, promoting ethical labour practices, enhancing resources efficiency, and fostering collaboration across the supply chain. Comparative study about Finland and Bangladesh will help to find out best example of practicing sustainability.

Research objectives:

1. To identify the critical success factors of integrating sustainable supply chain management in poultry farm of Bangladesh and Finland.
2. To Identify challenges and barriers to integrating sustainable supply chain management in poultry farms of Bangladesh and Finland.
3. To compare SSCM in poultry farming between Finland and Bangladesh.
4. To discuss Government policies regarding poultry farming in Finland and Bangladesh.

Research questions:

RQ 1. What are the critical success factors of integrating sustainable supply chain management in poultry farms of Bangladesh and Finland?

RQ 2. What are the perceived obstacles and challenges faced by poultry farmers in Bangladesh and Finland?

RQ 3. How does SSCM practices differ between Finland and Bangladesh Poultry farms?

RQ 4. What are the Government policies on SSCM practices in Finland and Bangladesh?

1.4 Scope and Significance of the Study

“The scope of the study concept come up with and the type of research proposal create must satisfy the standards set by the examining body” (Saunders et al., 2023, p.31). Whatever the outcome, we need to ensure we have the scope to write an interesting and relevant project or thesis report (Saunders et al., 2023, p.31). So as per Saunders et al. opinion, and considering my previous study and practical knowledge and studying in existing subject which is Sustainable Business Management, I have a deep interest to these subject title topics to go insight.

1.4.1 Scope of the Study

This study focuses on integration of sustainability into the poultry farms supply chains in chicken and egg production and processing industries in Bangladesh and will also cover a little comparison with the practices of supply chain management in poultries in Finland. The thesis aims are to provide a comparative study between developing country Bangladesh and developed country Finland examining their supply chain practices with considering the sustainability across environmental, social and economic dimensions. The study will include:

Finding Challenges of SSCM Practices:
The research will highlight the main difficulties that farms of Bangladesh encounter when putting SSCM practices into practice and will offer management strategies to overcome these difficulties.

The study will provide a thorough understanding of sustainability in chicken farming in Finland and Bangladesh by examining a variety of viewpoints,

including legislation, regulatory frameworks, supply chain practices, and managerial problems.

1.4.2 Significance of the Study

There are various reasons why this thesis topic is important for both academic and practical fields. The study is significant for various stakeholders across the poultry industries, business entities, consumers, and government. The comparative study and analysis will provide a valuable insight into how various regulatory environments influence the adoption of sustainable supply chain management (SSCM) practices. The gap and finding will be helpful for both professional audience and academician who are interested in enhancing knowledge in sustainability in supply chain specially in poultry industries not only for developed countries but also for developing and undeveloped countries.:

Comparative insights into Sustainability of Bangladesh and Finland:

Through the comparison of Bangladesh with Finland, with very diverse social, economic, and environmental contexts, the study will produce insightful information about how supply chains are integrated and sustainable under various circumstances in Bangladesh. By highlighting best practices, it will make it easier for companies and policymakers to adopt or modify effective models in Bangladesh.

Sustainability Practices Improvement:

The research will provide a critical evaluation of the sustainability that are in use now in Bangladesh and how well they direct SSCM procedures in chicken and egg farms. The findings may help shape future company plans and legislative initiatives, resulting in better sustainable supply chain procedures for birds' industries basically for Chicken and egg farms.

Environmental, Social and Economic Impacts:

By investigating the effects of sustainable supply chain management, the study will help to improve understanding of how sustainability affects the triple bottom line—environmental, social, and economic performance. This might

result in the poultry industry taking a more thoughtful and balanced approach to sustainability.

Industry-Specific Challenges:
The identification of important barriers to implementing SSCM techniques, as well as the offering of managerial solutions, will assist industry stakeholders in overcoming obstacles and improving their sustainability efforts. This has consequences for increasing resource efficiency, minimizing environmental damage, maintaining fair labour standards, and boosting economic sustainability.

Global Relevance:
The results of this study will be helpful not only for Finland and Bangladesh but also for other nations and enterprises looking to improve the sustainability of their supply chains, as food security and sustainable agriculture are global concerns.
All things considered, this study will add to the growing body of knowledge on sustainable supply chain management, especially as it relates to agriculture, and it will provide workable suggestions for enhancing sustainability standards throughout the chicken industry.

1.5 Structure of the Thesis

There are 7 chapters in the thesis. Chapter 2 examines relevant SSCM practices related literature after the introduction. The research methodology is described in depth in Chapter 3, Analysis of the data and discussion of the findings are described on chapter 4, and A comparative study on Govt. Policies, success factors and challenges in poultry farms of Bangladesh and Finland are presented in Chapters 5, and Implications of Findings are covered in Chapter 6. In Chapter 7, the thesis conclusion with a summary with limitations and recommendations for more study.

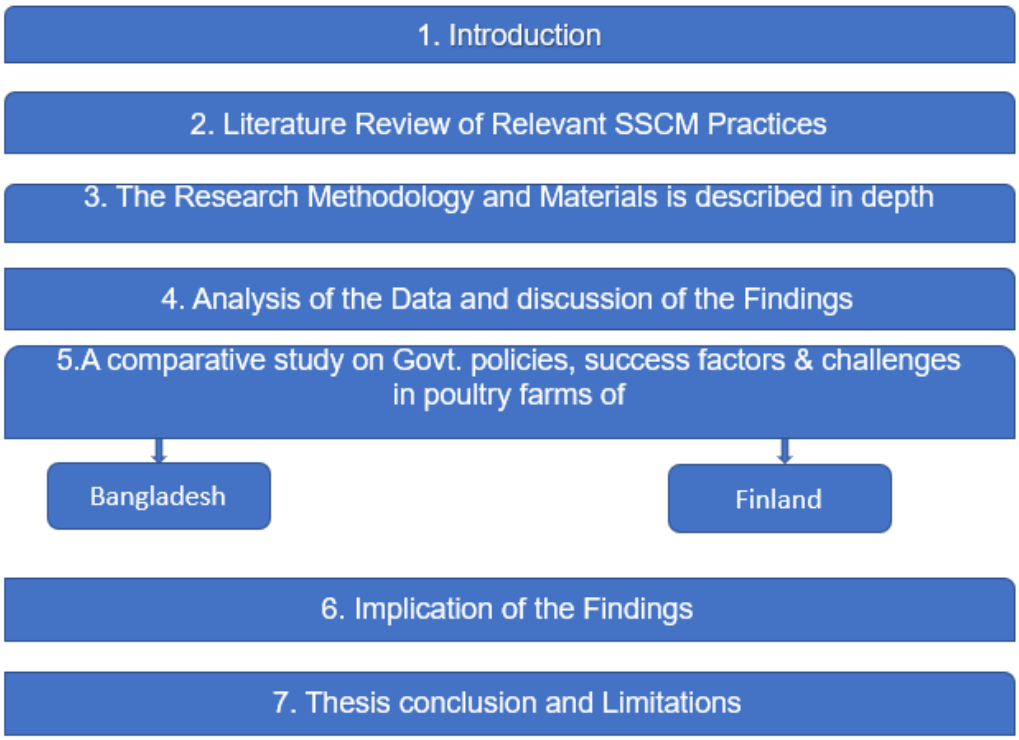

Figure 1. Thesis Structure

1.6 Application of Artificial Intelligence (AI)

For getting ideas on related topic of thesis, brainstorming, summarizing consistency, I have taken help from ChatGPT. For translating text of questionnaire from English to Bengali, I have used Google Translator. I have taken help from QuillBot to paraphrase my own words. For summarizing and analyzing of collected data from Bangladesh respondent's the author has used Microsoft Excel and Google Forms. For making understand and easier to the reader the author text and analysis have been done with the help of AI. But the author would like to ensure that the all text and analysis are in order as I meant them to be said. For better understanding and put them all in order I have tried to use AI after generating and writing my own ideas. The listed all reference materials in bibliography are sourced by me. After reading and writing from any source, I would like to confirm that the information is authentic in the manner the author intended and appropriately cited them in terms of copyright and academic integrity and compliance with the SAMK thesis guidelines. I have made responsible use of those AI applications.

2 . LITERATURE REVIEW

A critical literature review should provide a carefully analytical assessment that develops a convincing case for what the body of research indicates about your research subject that is both well-understood and still unclear. (Saunders et al., 2023).

2.1 Sustainable Supply Chain Management: Concepts and Definitions

2.1.1 Supply chain sustainability: “Supply chain sustainability is the management of environmental, social and economic impacts and the encouragement of good governance practices, throughout the lifecycles of goods and services. “The objective of supply chain sustainability is to create, protect and grow long-term environmental, social and economic value for all stakeholders involved in bringing products and services to market” (UN Global Compact Office & BSR, 2015). Commonly used definition of sustainability is, “meeting the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987, para.27). Sustainability prioritized the natural environment while tacitly acknowledging social and economic obligations (Jennings & Zandbergen, 1995).

Throughout every stage in the lifecycle of any specific products supply chain is existed which are shown by UN Global Compact Office & BSR (2015) in the following figure.

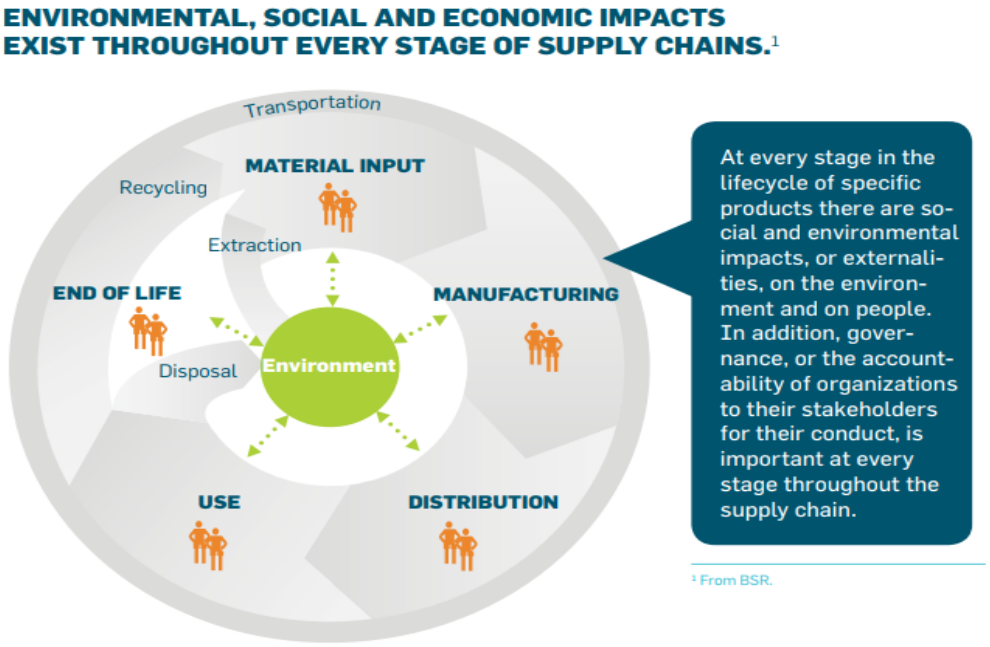

Figure 2. Supply Chain Sustainability (Source: UNGC & BSR, 2015, p.7).

The term supply chain management has been defined by Mentzer et al. (2001, p.18) as, “the systemic, strategic coordination of the traditional business functions and the tactics across these business functions within a particular company and across businesses within the supply chain, for the purposes of improving the long-term performance of the individual companies and the supply chain as a whole”. To understand the sustainable supply chain management, Matta (2014) has figured out the following concept where the researcher shown that the food supply chain is a series of links and inter-dependencies, from farms to food consumers’ plates, embracing a varieties range of disciplines. The researcher has shown that the figure below amplifies the traditional components which act as the key players in the concept of sustainable supply chain management.

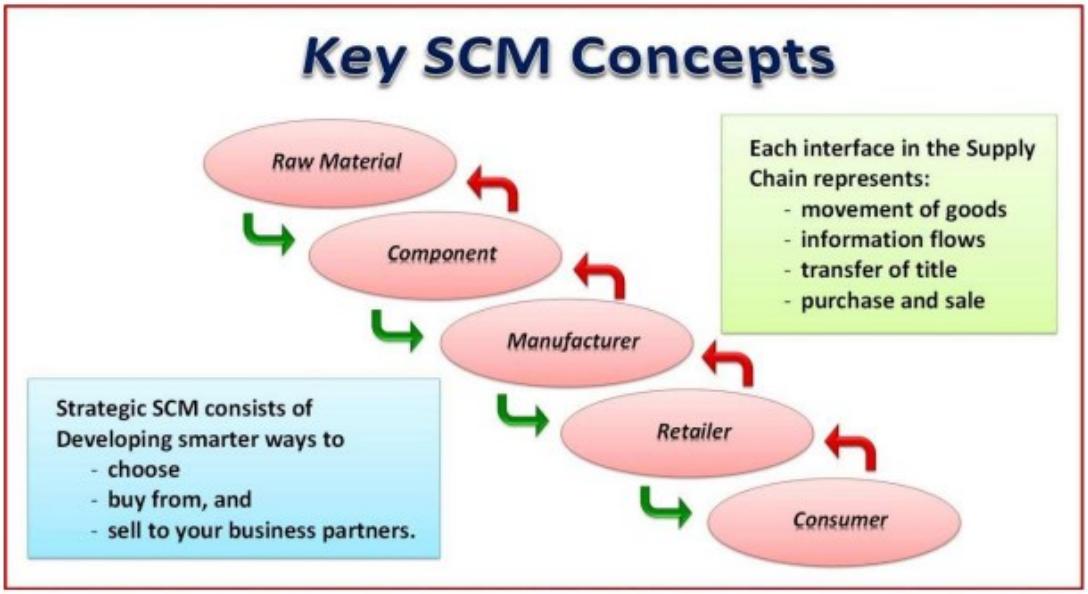

Figure 3. Key Supply Chain Management Concepts (Source: Matta, 2014, p.31).

Bangladesh's poultry sub-sector is known for its ability to generate income for millions of people, offer cheap sources of protein, and facilitate self-employment. It also makes a significant economic contribution to smooth economic growth of Bangladesh. Even while this business has boosted the economy, it has not adapted to contemporary supply chain, environmental, and sustainability concerns, nor has it adopted new technologies for the purchase and processing of chicken and egg. “Sustainable development is a pattern of resource use that aims to meet human needs while preserving the natural environment so that these needs can be met not only in the present, but in the indefinite future” (Peacock & Sherman, 2010, p.70). There is plethora research on sustainable development concept. Peacock and Sherman (2010), have conceptually broken the field of sustainable development into three constituent parts as environmental, economic and socio-political sustainability which is also known as triple bottom line (TBL).

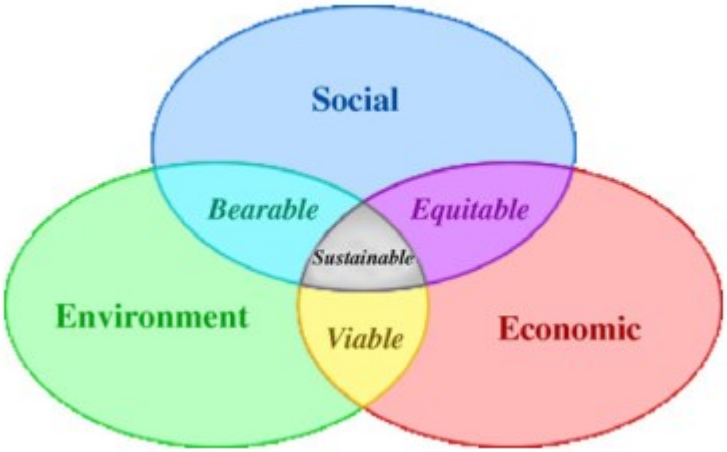

Figure 4. Triple Bottom Line (Source: Elkington, 1997, as cited in Peacock & Sherman, 2010, p.71).

Regardless of the definition, any kind of sustainable agriculture has to integrate three main goals: some kind of environmental stewardship on and off the farm; farm profitability; and, prosperous farming communities. No farm is an island and the interconnectedness of the modern world means that farmers cannot operate in isolation; they must understand the external forces influencing their daily lives to be profitable. Many business leaders view the ability to respond to a constantly changing external environment and the ability to manage change as the keys to long-term business sustainability (Collins & Porras, 2002). FIBS, a Finnish organization that fosters sustainability, states as one of the key results of its Corporate Responsibility Survey 2017 Summary that "Fair operating procedures, in other words, ethical business practices, fair competition, responsible supply chains and economic responsibility have become the most crucial corporate responsibility issues" (Acín, 2018, p.2).

Sustainability, at a broader level, consists of three components: the natural environment, society, and economic performance. This perspective corresponds to the idea of the triple bottom line, a concept developed by Elkington (1998), which simultaneously considers economic, environmental and social goals from a microeconomic perspective. (Carter & Rogers, 2008, p.364). The triple bottom line suggests that at the intersection of social,

environmental, and economic performance, there are activities that organizations can participate in which not only positively affect the natural environment and society, but which also result in economic benefits and competitive advantage for the organizations (Carter & Rogers, 2008, pp. 364-365).

2.2 Drivers and Barriers of Sustainable Supply Chain Management Practices

Sustainable Supply Chain Management (SSCM) refers to overseeing the flow of goods and services while considering environmental, social, and economic impacts. The following are key drivers of SSCM practices:

Governments and global organizations enforce regulations mandating that companies embrace sustainable practices. Policies related to environmental protection, labor rights, and international trade agreements encourage businesses to align with sustainability standards. Considering this Darnall, Henriques, and Sadorsky (2010) noted that ‘regulatory pressure’ is one of the important factors that drive the SSCM. Supporting this, Darnall, Welch, and Cho (2019) identified three general types of regulatory policies, namely: (1) command-and-control regulation; (2) market-based policies; and (3) non-regulatory approaches. Growing consumer awareness of sustainability issues has driven demand for ethically sourced and eco-friendly products. In response, companies are increasingly adopting SSCM practices to meet these expectations. In this regard, Kotler (2015) suggested that ‘market and consumer demand’ plays a significant role in firm’s SSCM practices.

Researchers also revealed that ‘cost reduction and efficiency’ is another crucial driver for SSCM adoption since sustainability efforts, such as minimizing waste and enhancing energy efficiency, frequently result in cost savings (Zhu, Sarkis, & Lai, 2013). Technological advancement, more specifically disruptive technologies such as blockchain, AI, and IoT promote more sustainable supply chains by enhancing visibility, traceability, and efficiency in managing resources (Dutta et al., 2020). Stakeholder’s’ pressure

is also cogitated as one of the key players for ensuring SSCM (Lee, 2008). Investors, NGOs, and local communities apply pressure on businesses to implement sustainable practices. Advocacy from shareholders for Environmental, Social, and Governance (ESG) criteria has pushed companies to integrate SSCM into their overall sustainability objectives.

Obstacles to adopting SSCM practices can stem from a range of internal and external factors, which can hinder the implementation of sustainability initiatives. Below are the key barriers:

Adopting SSCM typically necessitates substantial initial investments in technology, infrastructure, and training, which can discourage companies, particularly small and medium-sized enterprises (SMEs), from pursuing sustainable practices. Considering this, Walker, Di Sisto, and McBain, (2008) suggested that financial limitations and costs would hinder the SSCM practices. A number of researchers revealed that ‘Insufficient Awareness and Understanding’ as one of the key barriers that impede the adoption of SSCM practices (Sarkis, Gonzalez-Torre & Adenso-Diaz, 2010; Touboulic & Walker, 2015; Walker et al., 2008; Zhu et al., 2013).

On the other, Suppliers, particularly in developing nations, might be unmotivated or lack the necessary resources to implement sustainable practices. This is frequently a result of financial constraints, inadequate regulatory frameworks, or insufficient incentives to shift away from conventional methods. Subsequently, Touboulic and Walker (2015) identified that lack of supplier commitment might be an obstacle in adopting SSCM. Global supply chains are intricate and typically consist of various tiers of suppliers spanning multiple regions. Maintaining sustainability across the entire supply chain can be difficult, particularly when working with suppliers located in countries that have less stringent regulatory frameworks. Consequently, Hofmann et al. (2014) emphasized that complexity in supply chain can hinder the SSCM practices. Other researchers noted that communication and collaboration can hinder the SSCM adoption (Pagel & Wu, 2009). Therefore, attaining sustainability in the supply chain necessitates

effective collaboration and communication among different stakeholders, such as suppliers, manufacturers, and customers. Insufficient communication can obstruct the implementation of sustainable practices.

2.3 Comparative studies in supply chain management practices between Finland and Bangladesh.

Bangladesh as a developing country completely differs from Finland in various ways. For supply chain management practices, significant differences influenced by various economic, cultural, and regulatory factors. In a study by Ahi and Searcy (2013) noted that Finnish companies frequently take the lead in incorporating sustainability into their supply chains, bolstered by government policies and societal demands. In contrast, firms in Bangladesh are progressively embracing sustainable practices, largely influenced by the requirements of international buyers in the textile sector.

Further, there are differences between these two countries in terms of advanced technology adoption in practicing SSCM. Finnish firms are typically more advanced in adopting technology within their supply chains, leveraging IoT and AI to enhance operational efficiency. In contrast, although Bangladeshi companies are slowly adopting technology, they frequently encounter challenges like inadequate infrastructure and a shortage of skilled labor (Mamun, 2019).

In addition to this, these two countries differ in supply chain resilience. A study examining supply chain resilience across various contexts revealed that companies in developed nation generally exhibit a higher adaptive capacity, thanks to their advanced technologies and effective risk management strategies. In contrast, developing nations' firms encounter challenges related to infrastructure and resource limitations, which hinder their ability to recover from disruptions (Tukamuhabw et al., 2015).

Further, Katajajuuri et al. (2008) explored environmental impacts of Finnish broiler production, emphasizing feed cultivation, housing emissions, and mitigation strategies for sustainability and energy efficiency. Katajajuuri et al. (2014) conducted a survey on assessing energy use and climate impacts of Finnish broiler production through life cycle analysis to identify improvement measures. They determined that the majority of greenhouse gas emissions throughout the supply chain came from the cultivation of feed ingredients and the housing of broiler chickens. Usva et al, (2023) quantifies Finnish broiler meat's climate change impact (2.37 kg CO2 eq.) and water scarcity impact (0.55 m^3 eq).

On the other, in Bangladesh, Shamsuddoha (2010) conducted a study focusing on sustainable supply chain management, presenting a literature review and a conceptual model based on the triple bottom line theory, with a focus on Bangladesh's poultry industry. In another study, Shamsuddoha et al. (2015) developed a sustainable poultry supply chain model to address socio-economic challenges in Bangladesh through simulation and KPIs. Sarker & Singh (2022) proposed sustainable development pathways for Bangladesh's poultry industry: focusing on challenges, strategies, and future prospects for growth and environmental balance. Model for a Sustainable and Environment Friendly Poultry Industry: Insights from Bangladesh (Shamsuddoha, 2011), Poultry Supply Chain: A System Approach (Shamsuddoha & Quaddus, 2103) where the researchers did not cover the Sustainable Supply Chain Management practices in poultry industries specifically chicken and egg production.

2.4 Summary of Literature Gap

In order to address global environmental, social, and economic challenges, sustainable supply chain management (SSCM) has become an important area of research. Even so, there is a shortage of research when it comes to specialized fields like chicken and egg. farming, especially when comparing developing and developed nations with significantly dissimilar economic, legal, and technological environments such as Bangladesh and Finland in

comparative studies. Based on previous research, the identified gaps in the literature are listed below.

Few studies directly address the agriculture industry, and poultry farming in particular, despite the fact that SSCM has been extensively studied in industries like as technologies, manufacturing and retail. Even fewer compare industrialized and emerging countries in their analysis. In Finland, research on poultry has mostly concentrated on technological development in poultry business and comparative analysis between Bangladesh and Finland (Mamun, 2019). Plethora research was conducted like Supply Chain Management for Agro Products in Bangladesh considering Logistics Support for Capturing Market by Ensuring Balanced Distribution (Gazi, 2020). There is a lack of comparative research that closes the information gap between these two very different environments, raising concerns about the ways in which differing supply chain architecture, legislation, and economic situations affect sustainability.

The majority of the chicken used for meat and egg in Bangladesh comes from backyard Chicken raised nearby as well as from small and large poultry businesses (Rahman et al., 2017). In the article Sustainable poultry production process to mitigate socio-economic challenge where the researcher tried to develop a sustainable model for the poultry industry in an attempt to mitigate existing socio-economic problems in Bangladesh (Shamsuddoha & Klass, 2013). There was plethora research by Shamsuddoha like A Sustainable Supply Chain Process Model for Bangladeshi Poultry Industry (Shamsuddoha, 2010), Poultry Reverse Supply Chain Process Conveys Environmental Sustainability (Shamsuddoha & Tasnuba, 2103), A Simulation Supply Chain Model for a Sustainable and Environment Friendly Poultry Industry: Insights from Bangladesh (Shamsuddoha, 2011), Poultry Supply Chain: A System Approach (Shamsuddoha & Quaddus, 2103) where the researchers did not cover the Sustainable Supply Chain Management practices in poultry industries specifically chicken and egg production.

So, from the review of many literatures the researcher of this thesis has found a big gap in literature about Supply Chain Management practices in poultry

industries in Bangladesh specifically chicken and egg production and there is also a big gap of literature of comparison among developing and developed countries like Bangladesh and Finland.

Comparative studies between Bangladesh and Finland on SSCM methods in the poultry farming industry are few in the literature. The present state of research offers only a limited understanding of the ways in which socio-cultural, technological, regulatory, and economic issues impact the adoption of sustainable practices. By giving a greater understanding of the particular opportunities and problems that developed as well as industrialized countries experience in attaining sustainability in their chicken supply chains, a detailed comparison can aid in bridging these gaps.

3 . RESEARCH METHODS AND MATERIALS

This chapter of the thesis uncovers the detailed explanation of the approach and the methods employed for achieving the study objectives. This chapter primarily focuses on methodological choice and research strategy. The first section of this thesis delineates the details of research design. In the second section, this study elaborates the methodological choice, followed by the research strategy in the third. The fourth part of this study discuss the population and sample. The fifth part of the study shapes the sampling technique. Finally, the study provides details discussion on the instrument design and methods used for data collection.

3.1 Research Design

A research design is the comprehensive framework for a research project (Saunders, Lewis, & Thornhill, 2023). A research design is the framework outlining how one will approach answering his research question, fulfilling his research aim, and achieving his objectives. It will outline the source or sources

from which a researcher plan to gather data, explain how a researcher intend to collect and analyze this information, and address ethical considerations as well as the challenges a researcher would likely to face (Saunders et al., 2023). In short, it consists of the specific design and implementation of data collection methods and analysis strategies.

The goal of research design is to offer appropriate methodological approaches for addressing research questions and to provide solutions to the questions under investigation (Creswell & Creswell, 2017). Further, Saunders et al. (2023) noted that the purpose of a research design will be guided by a researcher's main research question and will be either exploratory, descriptive, explanatory, evaluative, or a combination of these approaches. Considering the research questions, this study followed an exploratory study. Sun et al (2021) also conducted similar research to explores some aspects of sustainable luxury consumption.

An exploratory study seeks to investigate or enhance understanding of a specific issue, problem, or phenomenon (Saunders et al., 2023). The primary research question will typically begin with "What" or "How." The benefit of exploratory research is its flexibility and adaptability to change. When conducting exploratory research, you need to be open to adjusting your approach as new data emerge and fresh insights arise (Saunders et al., 2023).

3.2 Methodological Choice

Research designs are often categorized as 'quantitative,' 'qualitative,' or 'mixed' methods (Saunders et al., 2023, p. 181). Further, it was noted that data can be collected using two methods: qualitative and quantitative (Saunders et al., 2023, p. 182). These terms indicate whether the data collected are numerical (numbers), non-numerical (such as words, images, audio, or video), or a combination of both (Saunders et al., 2023, p. 182). The most apparent difference between the two methods is that quantitative approaches generate numerical data, while qualitative methods provide detailed information or descriptions of situations, events, people, interactions, and behaviours

(Cadena-Iñiguez et al., 2017). This can include direct quotes from individuals, as well as excerpts from documents, correspondence, records, and case studies (Cadena-Iñiguez et al., 2017).

Quantitative research involves the collection and analysis of numerical data, while qualitative research does not focus on quantification. Instead, it gathers data through narrative accounts, participant observation, and unstructured interviews (Cadena-Iñiguez et al., 2017). According to Saunders et al. (2023), quantitative refers to any data collection methods (like questionnaires) or analysis techniques (such as graphs or statistics) that produce or rely on numerical data. However, when multiple quantitative data collection methods and their corresponding analysis techniques are employed, it is referred to as a multimethod quantitative design (Saunders et al., 2023).

In contrast, qualitative refers to data collection methods (such as interviews or unstructured observations) or analysis techniques (like narrative analysis or grounded theory) that produce or utilize non-numerical data (Saunders et al., 2023). Qualitative research aims to uncover the deep nature of reality, exploring relationships and their dynamic structure. In contrast, quantitative research seeks to measure the strength of associations or correlations between variables, generalizing and objectifying results through a sample to make inferences about a population (Cadena-Iñiguez et al., 2017). Qualitative data collection methods are crucial in impact assessment as they offer valuable insights into the processes that lead to the observed outcomes (Cadena-Iñiguez et al., 2017). Nonetheless, when more than one qualitative data collection method and its corresponding analysis technique are utilized, it is known as a multimethod qualitative design (Saunders et al., 2023). Further its was noted that, when both quantitative and qualitative data collection techniques and analysis procedures are employed, it is referred to as a mixed methods design (Saunders et al., 2023).

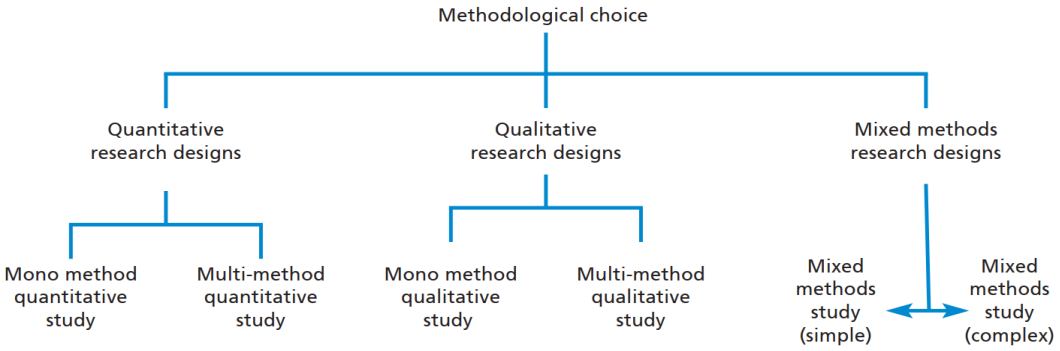

Figure 5. Methodological choice (Source: Saunders et al., 2023, p. 182).

3.3 Research strategy

A research strategy serves as the methodological connection between your philosophical approach and the subsequent selection of methods for data collection and analysis (Denzin & Lincoln, 2018). However, there are eight types of research strategies: experiments, surveys, ethnography, grounded theory, narrative inquiry, archival research, case studies, and action research (Saunders et al., 2023). An experiment, considered as 'gold standard' for natural science and laboratory-based studies but also prominent in psychological and social science research, investigates the likelihood that a change in an independent variable will lead to a change in a dependent variable (Saunders et al., 2023).

The survey strategy, tends to be used for descriptive, exploratory and explanatory research, is typically linked to a deductive research approach and is most commonly employed to address questions such as 'what,' 'who,' 'where,' 'how much,' and 'how many' (Saunders et al., 2023). Survey strategies that utilize questionnaires are popular because they facilitate the economical collection of standardized data from a large number of respondents, making comparisons easy (Saunders et al., 2023). Moreover, the survey strategy is viewed as authoritative by individuals and is relatively straightforward to explain and comprehend (Saunders et al., 2023). The survey strategy enables the collection of data that can be analyzed quantitatively through various data collection methods, including questionnaires, structured interviews, and structured observations (Saunders et al., 2023).

Ethnography, where ethnographers examine individuals within groups who interact and share the same environment, whether at street level, in a workplace, within an organization, or throughout a society, is a strategy that centres on describing and interpreting the social or cultural dynamics of a group through first and study (Saunders et al., 2023). 'Grounded theory' can denote a strategy, a method, the theory that emerges from the strategy, and the research process itself (Walsh et al., 2015). Narrative Inquiry involves gathering participants' experiences as complete accounts or reconstructing those experiences into narratives where the aim of Narrative Inquiry is to extract theoretical explanations from these narrative accounts while preserving their authenticity (Saunders et al., 2023).

An archival research strategy relies on manuscripts, documents, administrative records, objects, and audio-visual materials stored in archives, special collections, and other repositories as its primary data sources, whereas a documentary research strategy utilizes personal and official documents as its sources of data (Saunders et al., 2023). The digitalization of data, the rapid expansion of online archives, and open data initiatives by governments and businesses provide significant opportunities for utilizing either an archival or a documentary research strategy.

A case study is a comprehensive investigation of a topic or phenomenon within its real-life context (Yin, 2018, p. 5). In case study research, the term 'case' can refer to various subjects, such as an individual, group, organization, association, process, or event (Saunders et al., 2023). An Action Research strategy is a developing and iterative inquiry process aimed at creating solutions to real organizational issues through a participatory and collaborative approach. It utilizes various forms of knowledge and has consequences for both the participants and the organization that extend beyond the research project (Coghlan, 2019). The current study employed ‘survey’ and ‘archival and documentary’ as qualitative research strategy.

3.4 Population and Sample

Any research relating to human subjects must include a detailed and clear definition of the study population. Identifying the target population that will address the research questions is crucial. The current study considered the poultry industry entrepreneurs in Bangladesh as the study's target population. This study considered poultry firms in all parts of Bangladesh but mostly focused on Chittagong and Cox's Bazar Districts.

However, since the population represents the large number of objects or respondents which is quite impossible for researcher to reach for interview or data collection, a sample of acceptable number of respondents is more suitable. A sample is a subset of a population that is used to represent the entire group. In research, sampling allows a researcher to select a sufficient number of elements from the targeted population, facilitating generalizations about the sample and its characteristics (Mujere, 2016, p. 108).

3.5 Sampling Technique

Sampling technique is broadly classified into the non-probability sampling and probability sampling. In non-probability sampling, there are four different types of sampling techniques namely convenience, judgmental, quota, and snowball sampling. However, Non-probability sampling gathers samples in a manner where not all individuals or objects in a population have an equal opportunity of being selected. On the other, probability sampling technique employs random selection and involves establishing a procedure that guarantees each unit in a population has an equal chance of being selected. Probability sampling technique is classified into five categories, such as simple random sampling, systematic sampling, stratified sampling, cluster sampling, and other sampling technique. The current study employed both non-probability sampling and probability sampling techniques. From non-probability sampling technique, this study used convenience sampling for collecting data physically from the respondents. On the other hand, as probability sampling technique, the study used simple random sampling technique since large number of respondents answered the questionnaire using online platform such as email and social media conduits.

3.6 Questionnaire Design

A semi-structured questionnaire containing close-end and open-end statements was design to collect the data. The questionnaire was divided primarily into two parts: i) demography of the respondents and their poultry firm contains seven questions, and ii) main part containing all the relevant aspects of supply chain sustainability practices in poultry firms in Bangladesh further divided into seven sub-parts, such as section 2, question number 8 to 15: sustainability practices; section 3, question number 16 to 19: supply chain management; section 4, question number 20 to 22: motivators and drivers; section 5, question number 23 to 25: challenges and barriers; section 6, question number 26 to 28: effects of sustainability practices; section 7, question number 29 and 30: regulatory compliance issues; section 8, question number 31 and 32: potential concepts and recommendations. All the sections in second part contains 25 questions (see Appendix A). Questions 8 to 22 were utilized to address Objective 1, while questions 23 to 25 were designed to address Objective 2. Additionally, questions 26 to 32 were employed to partially fulfil Objective 4. Conversely, a comprehensive literature review, analysis of secondary data, and findings from primary data were employed to achieve Objective 3 and to partially fulfil Objective 4. To ensure the content validity, many of the 25 questions were adopted from Mamun (2019, pp. 50-53); Djekic et al. (2018, pp. 1147-1150); Rahman et al. (2015, pp. 78-79), and Kolog (2023, pp. 79-83). Some of the questions were developed by the author of this thesis considering context of Bangladesh and Finland.

However, considering the respondents educational qualification and their ability to understand the questionnaire, the original English version of the questionnaire was translated in Bengali language (Appendix B) to ensure the content reliability. It was back-to-back translated into English.

3.7 Procedure of Data Collection and Administration of the Questionnaire.

The survey method was used for qualitative data collection. A Google Form was developed including all the questions. The link of the Google Form was sent to respondents' (who are the owners/CEO or managers of poultry farms

in Bangladesh only) email and social media communication platforms such as FaceBook Messenger, WhatsApp, Instagram, etc. Further, printed questionnaires were supplied to some respondents physically. On the other hand, secondary data for qualitative research was collected from previous reports, literature review, firms' website, relevant government website as well. However, there are multiple approaches for administering a survey questionnaire, this study employed a facilitator in Bangladesh to collect data from the respondents since the researcher was not present in Bangladesh during the period of data collection. Each questionnaire included a section providing instructions, ensuring that respondents received clear guidance from the researcher on how to answer the questions.

3.8 Return of Questionnaire and Rates of Responses

The response rate is calculated by dividing the number of individuals who completed the survey by the total number of individuals in the sample. In contrast, the return rate is determined by dividing the number of questionnaires returned after completion by the total number of questionnaires distributed.

30 questionnaires were distributed physically to stakeholders in the poultry industry of Bangladesh and several stakeholders were approaches via online medium. However, 20 questionnaires were received from physically distributed stakeholders, resulting in a return rate of 66.67%, whereas it is said that a response rate of 25% is typically considered good (Deutskens et al., 2004, p. 33).

On the other, 10 responses were received through respondents' email and social media communication platforms. However, in total 30 responses were received. After eliminating 8 incomplete responses for multiple problems such as outlier problem, no knowledge about sustainable supply chain practices, inconsistent data, 22 questionnaires were retained for data analysis.

4. ANALYSIS OF THE DATA AND DISCUSSION OF THE FINDINGS

This chapter provides an analysis of the data collected from the field, presented through charts, tables, and graphs. The research aimed at identifying the current situation of sustainable supply chain management

practices, specially focusing on chicken and egg production in Finland and Bangladesh. In doing so, this study collected data through structured questionnaire. The questionnaire contains two parts. This section analyses these two parts in details. However, this study employed Microsoft Excel and Google Forms Responses Summary sheet for data collection and analysis.

4.1 Data Reliability and Validity

Before performing the final data analysis, this study assessed the reliability and validity of the data. To mitigate common method bias, it evaluated individual responses to determine if answers were consistent across two or more different questionnaires. Furthermore, the study examined outlier issues, such as inconsistencies between participants' ages and experiences. Additionally, content validity was established by incorporating previously used questions in various sections of the study.

4.2 Distribution of respondents

Based on the analysis of the data, Table 1 presents the demographic profile of the respondents, who were either owners or managers of poultry firms. However, while checked the ownership structure of the poultry enterprises, most of the enterprises (17 firms) were sole proprietorship, representing 77.3% of the total firms. 5 firms were found running as partnership business, representing 22.7%. Interestingly, 17 owners and 5 managers were the respondents of the survey questionnaire. However, there were no participants who are running their business as company or cooperative. Further, 17 of the firms running their business in their own land instead of on leased land, representing 77.3%. Rest of the firms running their business on leased land.

Most of the owners or supervisors (10 firms) running their businesses for less than 5 years, representing 45.5%. 34.4% owners or supervisors have experience of 5-10 years in running their ventures, while 18.2% participants found to have more than 10 years of experience.

The breakdown of poultry production shows that 15 participants (68.2%) produce only broiler, where none of the participants employed themselves in producing only layers but 7 participants (31.8%). Thus, the majority of the respondents are running their poultry businesses chicken meat production.

36.4% participants produce 1001-2000 Chicken, while 45.5% produces 2001-5000 and 18.2% produces more than 5000 Chicken. Therefore, the majority of the respondents are produces 2001-5000 Chicken per month. On the other, 4 firms produce more than 5000 pieces of egg per month, 2 firms produce 2001-5000 pieces of egg and 1 firm produces 1001-2000 pieces. It is important to note here that all these firms which produces egg they are also engaged in producing broiler chicken.

Table 1. Demographic characteristics of the respondents

Category	**Sub-category**	**Frequency (n=22)**		**Percentage (%)**	
Ownership of the firm	Own	17		77.3	
	Leased	5		22.7	
Ownership structure	Sole proprietorship	17		77.3	
	Partnership	5		22.7	
	Company	-		-	
	Cooperative	-		-	
Experience in the poultry business	Less than 5 years	10		45.5	
	5-10 years	8		36.4	
	> 10 years	4		18.2	
Poultry production	Broiler	15		68.2	
	Layers	-		-	
	Both	7		31.8	
Average monthly production	**Chicken**	<1000	1K-2K	2K-5K	>5K
	No. of Firms (%)	-	8(36.4)	10(45.5)	4(18.2)
	Egg	<1000	1K-2K	2K-5K	>5K
	No. of Firms (%)	-	1(14.3)	2(28.6)	4(57.1)

4.3 Data Analysis and Discussion

The second part of the questionnaire consisted of seven sections, each designed to uncover different aspects of sustainable supply chain practices in the poultry industry in Bangladesh. For instance, section 3 focused on exploring sustainability practices, while section 2 addressed supply chain management. Section 4 aimed to identify the motivators and drivers behind sustainable supply chain practices. Given the various challenges faced by poultry enterprises in Bangladesh, section 5 was dedicated to examining practical challenges and barriers. Section 6 explored both the positive and negative impacts of sustainability practices. To understand the regulatory

requirements for ensuring a sustainable supply chain in poultry, section 7 concentrated on identifying compliance issues. Finally, section 8 aimed to determine the necessary initiatives and resources for establishing robust sustainable supply chain practices in Bangladesh's poultry industry.

4.3.1 Sustainability practices

Eight questions were used to assess the knowledge of sustainability practices among poultry farm owners and supervisors. The first question, "Do you know what a sustainable supply chain in poultry farming is?" confirmed that all 22 participants were aware of this concept. Participants without knowledge of sustainable supply chains were excluded from the final data analysis, ensuring that only informed individuals were included.

In terms of practice, most participants reported only partial adoption of sustainable supply chain practices, with only one participant fully integrating them. Based on the analysis of the data, as shown in Figure 6, when asked about eco-friendly practices, the majority of farms had implemented energy-efficient operations. Additionally, waste management and recycling were identified as key components of their sustainability efforts.

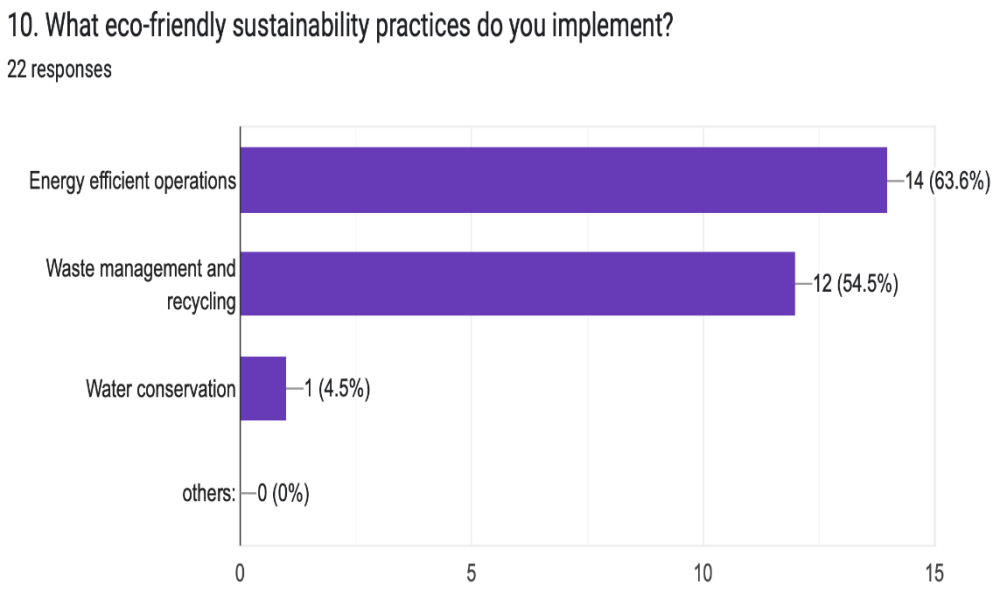

Figure 6. Method of adopted eco-friendly sustainability practices

In terms of social sustainability, participants prioritized fair labor practices, followed by employee development, training, and health and safety measures. As analysis depicts and as illustrated in Figure 7, most participants invested in sustainable technology to achieve economic sustainability for their enterprises, likely because such technology reduces operational costs and resource consumption. They also highlighted the importance of effective resource management. However, poultry entrepreneurs did not see product diversification as a key strategy for economic sustainability; instead, they emphasized cost-cutting techniques as a more critical approach. Unnecessary product diversification could be detrimental to the livestock business in Bangladesh.

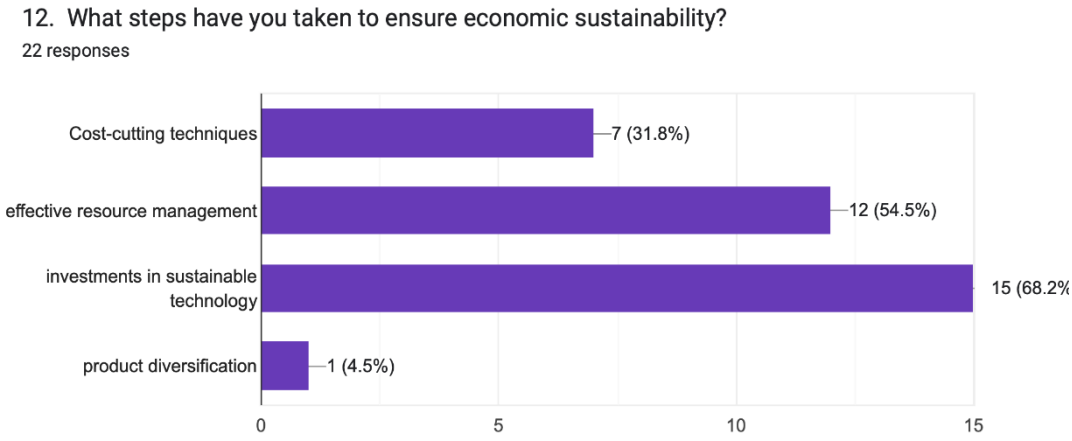

Figure 7. Steps taken to ensure economic sustainability

However, the majority of participants reported that they do not possess any certifications related to sustainable supply chain practices in poultry farming. This suggests that most learned about these practices from fellow poultry entrepreneurs rather than through formal training, workshops, or conferences. Nonetheless, as analysis indicates and as shown in Figure 8, most participants are knowledgeable about recycling or reusing chicken waste and have taken steps to mitigate their farms' negative environmental impacts. This awareness may stem from the fact that recycling and reusing waste can enhance profitability and help comply with government regulations regarding environmental pollution.

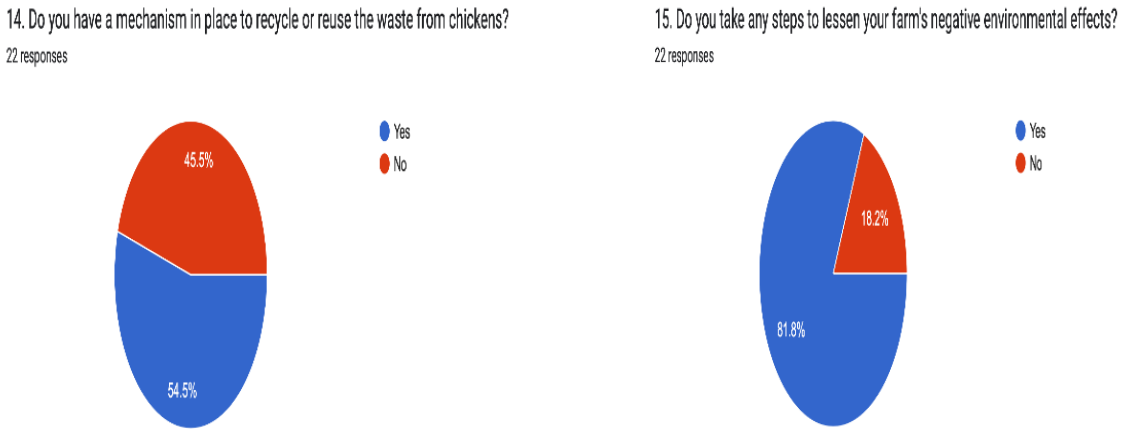

Figure 8. Methods adopted for recycling chicken waste to minimize environmental Impact.

In summary, the analysis of this section narrated that all participants were aware of sustainable supply chain practices, and those without this knowledge were excluded from the analysis. Most participants implemented energy-efficient operations, with waste management and recycling highlighted as key eco-friendly practices. However, the majority had only partially adopted sustainable supply chain practices, with only one fully integrating them.

In terms of social sustainability, fair labor practices, employee training, and health and safety were prioritized. For economic sustainability, most participants invested in sustainable technology to reduce operational costs and resource consumption, while product diversification was considered less important. Instead, they focused on cost-cutting measures, as unnecessary diversification could be detrimental to the livestock business in Bangladesh.

Notably, most participants lacked formal certifications for sustainable supply chain practices, learning instead from peers rather than attending workshops or conferences. Despite this, many knew how to recycle or reuse chicken waste, which improved profitability and complied with environmental regulations. This focus on waste recycling likely stemmed from its economic benefits and the need to meet government standards on pollution control.

4.3.2 Supply Chain Management

Following an extensive literature review, four pertinent questions were formulated to investigate participants' knowledge of supply chain management and its application in their daily operations. The majority of participants indicated that they possess a moderate understanding of sustainable supply chain management, specifically regarding the timely and cost-effective transportation of their products. For example, based on the analysis of the data as shown in Figure 5, most respondents reported using vans for product deliveries.

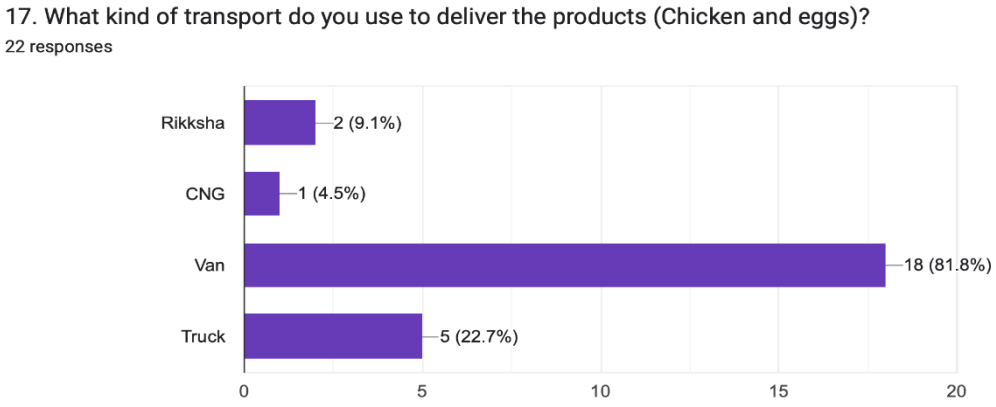

Figure 9. Transport system used to deliver the produces

Vans are preferred because they can carry more products compared to rickshaws or CNGs, and they are also more environmentally friendly. Additionally, using vans helps reduce costs. However, when asked whether they own transport for product delivery, the majority responded that they do not. This is primarily due to the significant investment required to purchase a transport system, as most participants in this study are micro, small, and medium enterprises. Furthermore, owning a transport system would necessitate hiring additional staff with the expertise to manage these operations, thereby increasing their operating expenses. Conversely, most participants reported facing challenges when bringing their products to market, as illustrated in Figure 10.

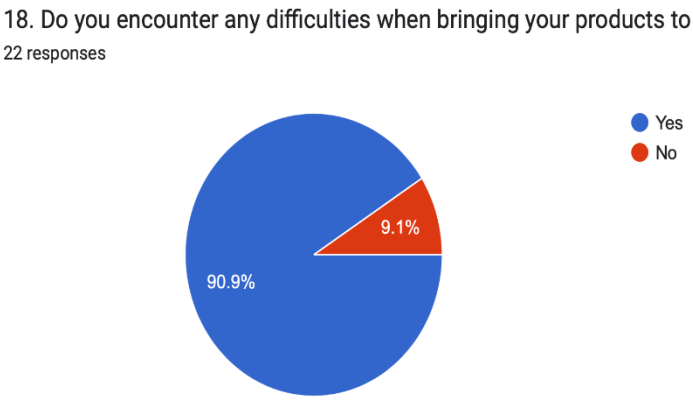

Figure 10. Percentage of the participants face difficulties when bringing their products to market

Participants encounter various challenges, including the poor condition of most roads and major highways, which often lack safe shoulders and are riddled with potholes, sharp drop-offs, and unmarked barriers. Urban areas are particularly congested, with bicycles, rickshaws, three-wheeled mini-taxis (CNGs), cars, overcrowded buses, and trucks all vying for space. Additionally, political activists frequently block roads nationwide by placing logs, large rocks, debris, and burned tires to hinder vehicle movement. Furthermore, extortion in the country's transportation sector is pervasive, as no vehicle—whether for passengers or goods—can operate without paying bribes. This issue has escalated due to the involvement of owner-worker unions, local thugs, and some corrupt political leaders (Protidiner Songbad, 2024).

In summary, this section assesses the participants' knowledge of supply chain management and their practices. Most participants were moderately informed about sustainable supply chain management, using vans for deliveries due to cost savings and environmental benefits. However, the majority lacked their own transport due to high investment and staffing costs, as most participants were micro, small, and medium-sized firms. They also faced significant challenges in transporting products, such as poorly maintained roads, congestion, political roadblocks, and rampant extortion in the transportation sector, often driven by unions, local thugs, and corrupt political figures.

4.3.3 Motivators and Drivers

Three questions were devised to gauge the major motivators and drivers for sustainable supply chain practices among the poultry farm owners or supervisors in Bangladesh. For instance, the question “What motivates you to embrace sustainable supply chain practices?” revealed the major forces that drive the owners or supervisors to embrace sustainable supply chain practices. As portrayed in the Figure 11, analysis of the data indicates that the most significant motivator for embracing sustainable practices is customer demand. This indicates that consumer preferences strongly influence businesses to adopt sustainable practices, suggesting that organizations are responding to market trends and the increasing importance of sustainability to customers. Half of the respondents indicated that enhancing brand reputation is a motivating factor. This suggests that companies recognize the value of sustainability in differentiating themselves in the marketplace and building a positive image. While not the primary motivator, a notable percentage of participants (27.3%) cited cost savings as a reason for adopting sustainable practices. This indicates that companies see the potential for efficiency and cost reduction through sustainability initiatives, though it is not the leading factor. A smaller proportion of participants (18.2%) identified environmental responsibility as a motivation. This reflects a commitment to sustainability that goes beyond economic or reputational factors, although it is less prioritized compared to customer demand and brand reputation. The least cited motivation was regulatory compliance, with only 9.1% of respondents indicating this as a reason for adopting sustainable practices. This suggests that while regulations play a role, they are not the primary driver for many businesses; instead, market forces and consumer expectations appear to be more compelling motivators.

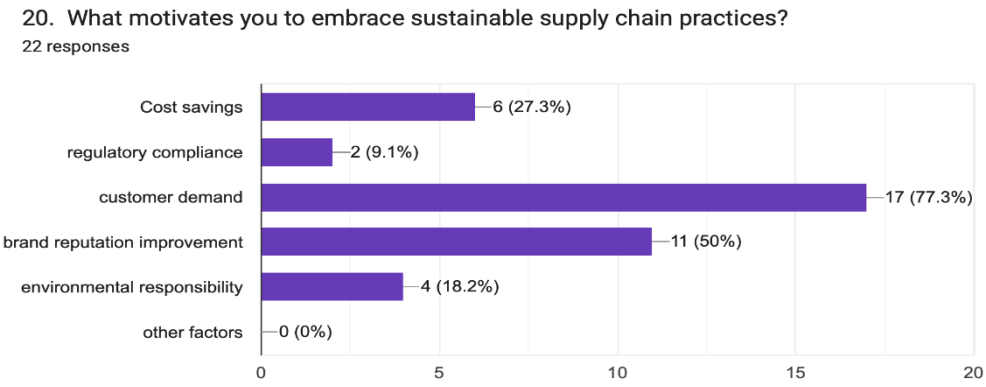

Figure 11. Motivations for Adopting Sustainable Supply Chain Practices

Another question regarding the motivation “Is there any financial incentives from government (e.g., subsidies, tax rebates) which motivate you to adopt sustainable practices?” revealed significant insights regarding financial incentives from the government for adopting sustainable practices. The vast majority of participants (86.4%) indicated that they do not receive any financial incentives, such as subsidies or tax rebates, to motivate them to adopt sustainable practices. This suggests a significant gap in government support for businesses seeking to implement sustainability initiatives, which may hinder wider adoption. Only 13.6% of respondents acknowledged receiving financial incentives. This small percentage indicates that while some businesses may benefit from government programs, these incentives are not widespread or significant enough to influence the majority of organizations.

The last statement “Do you have any training on sustainable supply chain management and practices?” also articulated important insights into the preparedness and capability of participants to implement sustainability initiatives. For instance, a significant majority of participants (86.4%) reported that they have not received any training on sustainable supply chain management. This suggests a widespread knowledge gap in sustainability practices within the surveyed population, which could impede the effective implementation of sustainable practices. Further, only 13.6% of respondents indicated that they have received training. This small proportion highlights the scarcity of training opportunities available to businesses, which may limit their ability to develop and adopt sustainable supply chain practices effectively.

In summary, the author can conclude that the data reveals that customer demand is the primary driver for adopting sustainable supply chain practices, followed by brand reputation and cost savings. Environmental responsibility and regulatory compliance are less influential, indicating that businesses are aligning their sustainability efforts with consumer expectations rather than just regulatory requirements. Furthermore, financial incentives from the government have minimal impact, with most participants reporting a lack of support. This absence of incentives may limit the effectiveness of sustainability initiatives and discourage investment in sustainable practices. Additionally, training on sustainable supply chain management is largely lacking, which could impede businesses' ability to implement these practices effectively. To foster the adoption of sustainable practices, there is a pressing need for accessible training programs and resources to equip organizations with the necessary knowledge and skills. Without such initiatives, businesses may struggle to recognize the importance of sustainability and miss out on its potential benefits.

4.3.4 Challenges and Barriers

Three questions were formulated to assess the key challenges and barriers to sustainable supply chain practices among poultry farm owners and supervisors in Bangladesh. One of the questions asked was, " What are the main obstacles you encounter when putting sustainable supply chain practices?". The responses to this question reveal critical insights into the challenges faced by poultry farm owners and supervisors. Based on the analysis of the data, as illustrated in the Figure 12. The most significant barrier identified is the high initial cost associated with adopting sustainable practices. This overwhelming majority highlights that financial constraints are a major deterrent for many poultry farms, particularly micro, small, and medium enterprises. The substantial upfront investment required for sustainable technologies or practices may discourage owners from pursuing such initiatives, which could limit overall progress toward sustainability in the sector.

More than half of the respondents (54.5%) cited inadequate facilities as a challenge. This indicates that many farms may lack the necessary infrastructure to support sustainable practices, such as proper waste management systems or efficient transportation methods. This barrier suggests that improvements in facilities and infrastructure are essential for enabling the adoption of sustainability measures.

While less prevalent than the other two obstacles, a notable portion of participants (22.7%) identified a lack of experience as a barrier. This indicates that insufficient knowledge or expertise in sustainable practices can hinder effective implementation. This gap in experience may stem from limited access to training and resources, underscoring the need for educational initiatives to empower farm owners and supervisors.

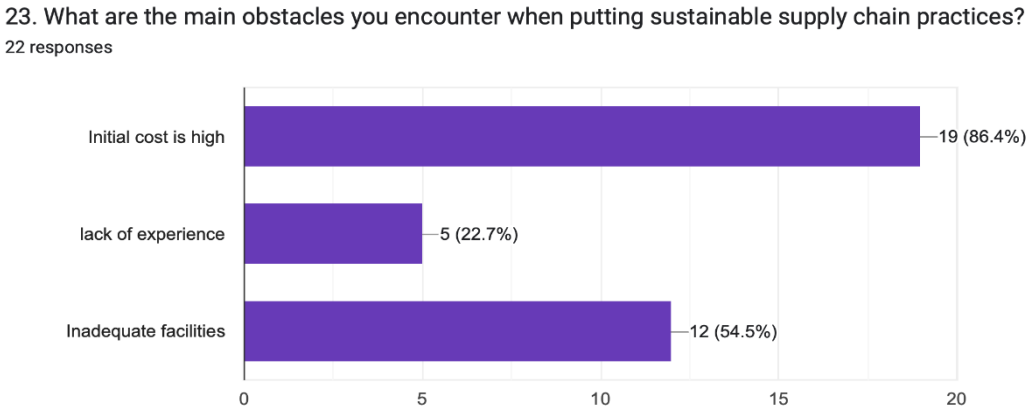

Figure 12. Key Challenges in Implementing Sustainable Supply Chain Practices

Another question was presented as “Is there any regulatory barriers to implement sustainable practices?” The responses to the question about regulatory barriers to implementing sustainable practices provide valuable insights into the perceived challenges faced by participants. A significant portion of respondents (59.1%) indicated that they do not face any regulatory barriers when trying to implement sustainable practices. This suggests that, for many, the regulatory environment is supportive or not a hindrance, allowing them to pursue sustainability initiatives more freely. Despite the majority, a substantial minority (40.9%) reported encountering regulatory barriers. This

indicates that a significant number of participants still face challenges related to regulations, which could include stringent compliance requirements, lack of clarity in regulations, or bureaucratic obstacles. These barriers may discourage some businesses from fully engaging in sustainable practices, highlighting a need for regulatory reform or more supportive frameworks.

Figure 9 represent the last question of this section. Analysis of the data reveals that the most significant obstacle identified is competition from non-sustainable producers, with a substantial 72.7% of respondents citing this issue. This suggests that businesses engaged in sustainable practices struggle to compete with producers who do not prioritize sustainability, often leading to lower operational costs and prices. This competitive pressure can deter farms from adopting sustainable practices, as they may find it challenging to maintain profitability while adhering to higher sustainability standards.

More than half of the participants (54.5%) noted that a low willingness among consumers to pay for sustainable products is a major barrier. This indicates that despite efforts to produce sustainably, market demand may not adequately reflect the value of these products, which can undermine financial incentives for producers to adopt sustainable practices.

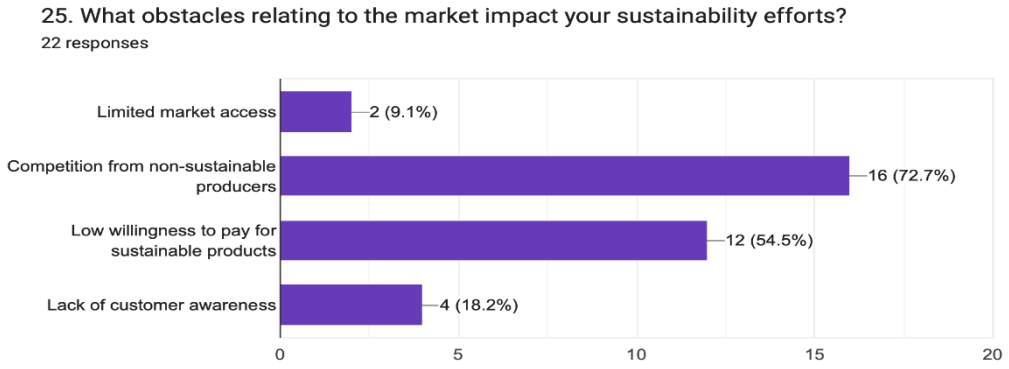

Figure 13. Market-Related Challenges Affecting Sustainability Efforts

A smaller portion of respondents (9.1%) indicated that limited market access affects their sustainability efforts. This suggests that while market access is a concern, it is less prevalent compared to competition and consumer willingness to pay. Limited access to markets may restrict opportunities for selling sustainable products, further complicating the financial viability of such

initiatives. Lastly, 18.2% of participants cited a lack of customer awareness as an obstacle. This indicates that insufficient knowledge among consumers about the benefits and importance of sustainable products can hinder demand. Raising awareness could potentially lead to increased consumer interest in sustainable practices, thereby enhancing market opportunities for producers.

In summary, this section highlights that the high initial costs are the primary barrier to implementing sustainable supply chain practices in the poultry sector, followed by inadequate facilities and lack of experience. To encourage the adoption of sustainable practices, it is essential to address these challenges through financial support, infrastructure improvements, and training opportunities. Additionally, while many respondents do not see regulatory barriers as significant, a notable minority do encounter them, highlighting the need for clearer guidelines and supportive regulations to facilitate sustainability initiatives. Furthermore, competition from non-sustainable producers and low consumer willingness to pay for sustainable products are critical market-related obstacles. Limited market access and lack of customer awareness also contribute to these challenges but to a lesser extent. Addressing these issues will require strategies to educate consumers about the value of sustainable products and create a more equitable market environment, ultimately supporting and incentivizing sustainable practices within the industry.

4.3.5 Sustainability Practices' Effects

Three questions were developed to evaluate the impact of sustainability practices among poultry farms in Bangladesh. One of the questions posed was: " What advantages have you seen for the environment as a result of using sustainable supply chain practices?". As interpreted in Figure 14, the responses to the question about environmental advantages from adopting sustainable supply chain practices reveal significant benefits. For instance, a vast majority of farms have experienced improved efficiency in utilizing resources such as water, feed, or land. By optimizing their use, they minimize wastage and reduce the overall environmental footprint. Further, over a third of respondents noted a decrease in waste generation, which could involve

better management of by-products, reduction in packaging waste, or more efficient disposal of organic waste. This is crucial for minimizing the environmental impact of poultry farming. However, fewer farms (13.16%) mentioned reduced energy consumption, this is still a positive sign. Energy efficiency improvements, such as using renewable energy sources or more energy-efficient equipment, contribute to lowering greenhouse gas emissions.

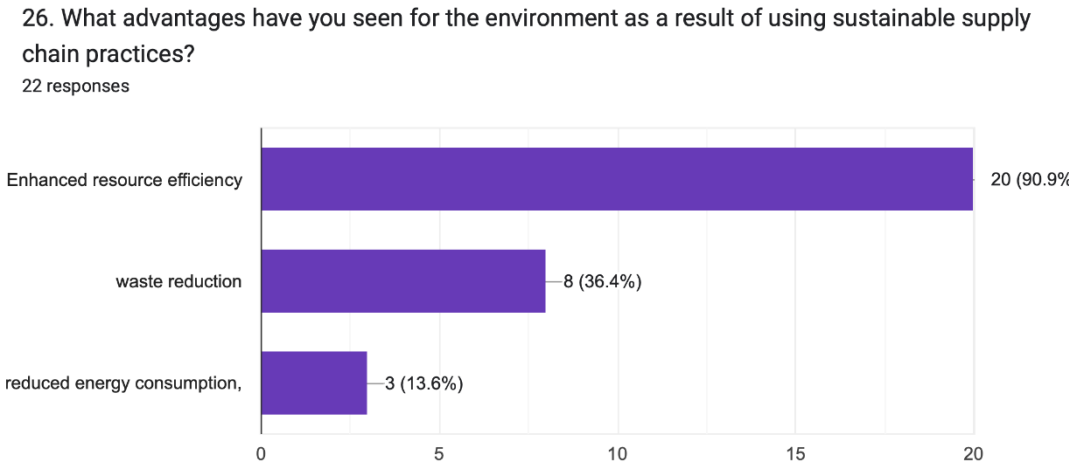

Figure 14. The environmental benefits of implementing sustainable supply chain practices

On the other, the responses to another question regarding the impact of sustainability practices on employees and the local community show overwhelmingly positive effects. A vast majority of respondents (95.5%) reported beneficial effects on their employees and the local community. This could suggest improved working conditions, job satisfaction, or health and safety standards for employees. For the local community, it may reflect better environmental conditions, increased local employment, or enhanced community engagement and support. Conversely, a small minority (4.5%) indicated no noticeable effect. This suggests that for some, sustainability practices may not have directly influenced employee welfare or the community, possibly due to implementation challenges or limitations in the scope of these practices.

The third question, presented in Figure 15, “How have sustainable practices affected the financial results of your farm?” reveals a generally positive trend,

though with some variability. A significant majority (68.2%) reported increased profitability, suggesting that sustainability practices have enhanced operational efficiency, improved product quality, or helped access new markets. This may also reflect customer demand for sustainably produced products, leading to higher sales or premium pricing. Over a third (36.4%) experienced reduced costs, indicating that sustainability practices helped in resource optimization, waste reduction, or energy efficiency. These savings can stem from more efficient use of inputs like feed, water, or energy, lowering overall operational expenses. A small portion (4.5%) indicated that sustainability practices had no noticeable financial impact, suggesting that some farms may not have fully realized financial gains, either due to early stages of implementation or limited scope in practice changes. Another 4.5% experienced negative financial effects, possibly due to the initial costs of transitioning to sustainable practices, increased operational complexity, or challenges in balancing short-term costs with long-term benefits.

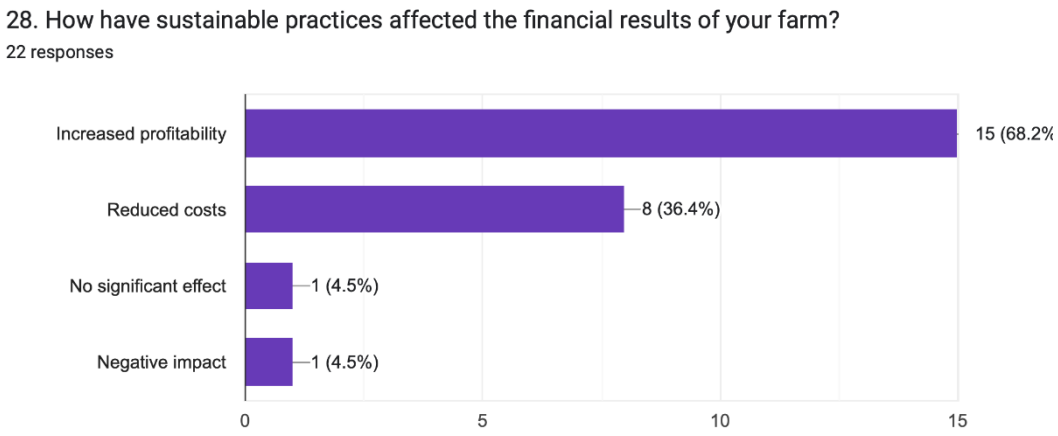

Figure 15. Financial results of sustainability practices

In summary, this section unveiled that sustainable supply chain practices among poultry farms in Bangladesh have brought significant environmental benefits, including improved resource efficiency, waste reduction, and lower energy consumption. These practices have also positively impacted employees and local communities, enhancing well-being and social development. Financially, most farms report increased profitability and

reduced costs, though a small portion experience challenges, indicating varied outcomes depending on the stage of sustainability adoption.

4.3.6 Regulatory Compliance Issues

This section was formulated to reveal the poultry entrepreneurs' understanding of regulatory compliance issues. Accordingly, two questions were developed to know the scenario. The analysis of responses to the first question about awareness of environmental and social regulations in the poultry industry. A strong majority (77.3%) of respondents are aware of the current environmental and social regulations affecting the poultry industry in Bangladesh. This suggests that most poultry farmers are informed about the legal requirements and guidelines, which is crucial for compliance and the implementation of sustainable practices. However, a notable minority (22.7%) are not conscious of these regulations. This lack of awareness could hinder compliance, sustainability efforts, and potentially expose farms to legal and environmental risks.

On the other, second statement "How have policy of government influence your sustainability practices?" reveals a largely positive impact. As portrayed in the Figure 16, the majority (81.8%) of respondents feel that government policies have encouraged them to adopt sustainable practices. This suggests that the regulatory framework, incentives, or support programs provided by the government are effectively promoting sustainability in the poultry sector. A smaller group (18.2%) reported that government policies had no noticeable effect on their sustainability practices. This could indicate that while policies exist, they may not be fully reaching or impacting all farmers equally. However, none of the respondents felt discouraged by government policies, suggesting that the existing policies are not perceived as barriers to sustainability efforts.

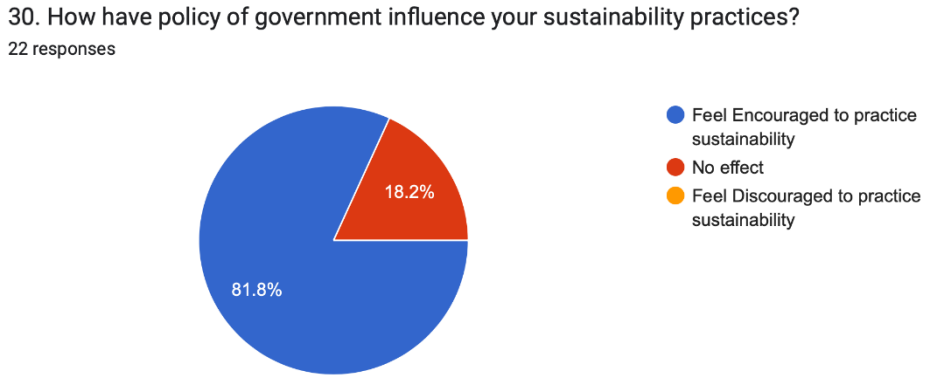

Figure 16. Influence of government policy on sustainability practices

In summary, this section bared that the most poultry farmers in Bangladesh are aware of environmental and social regulations, which helps promote compliance and sustainability. However, a notable portion remains uninformed, indicating a need for better education and communication about regulatory standards. Government policies have had a largely positive effect, with the majority of farmers feeling encouraged to adopt sustainable practices. However, some farmers reported no noticeable impact from these policies, suggesting that further outreach and policy adjustments may be needed to ensure broader influence across the industry. Overall, both regulatory awareness and government policies play important roles in driving sustainability efforts.

4.3.7 Respondents Potential Concepts and Recommendations

The final section of the questionnaire was employed to know the respondent's opinion about whether they want to increase present practices, or they want innovate sustainable new practices or retain present practices. Further, this section was also engaged to reveal their what kind of support will be helpful to execute sustainable supply chain practices more effectively.

The analysis of responses regarding future implementation of sustainable supply chain strategies reveals distinct priorities among poultry farmers. A significant portion of respondents (36.4%) intends to expand their current sustainable practices. This suggests that farmers recognize the value of their

existing strategies and see potential for improvement and increased impact. The majority (63.4%) plan to innovate and introduce new sustainable practices. This indicates a proactive approach to sustainability, as farmers seek to adapt and integrate more advanced or effective methods into their operations. This willingness to innovate may lead to greater long-term sustainability and resilience in the poultry industry. A small minority (9.1%) intends to maintain their current practices without any changes. This could suggest a level of contentment with existing strategies or a lack of resources or knowledge to pursue further sustainability efforts.

On the other, regarding the kind of support for sustainable supply chain practices more effectively, Figure 17, highlights several key areas of emphasis. A significant majority (68.2%) identified the need for technical expertise as a crucial support mechanism. This indicates that farmers may require guidance on best practices, innovative technologies, and methods for implementing sustainability effectively. Access to this knowledge can empower farmers to make informed decisions that enhance sustainability outcomes.

Similarly, a substantial portion of respondents (68.2%) emphasized the importance of government incentives. This suggests that financial or regulatory support from the government can motivate farmers to adopt and maintain sustainable practices. Such incentives could include subsidies, tax breaks, or other financial rewards for sustainable initiatives. Training initiatives were mentioned by 31.8% of respondents as an essential form of support. This indicates a need for structured learning opportunities that can enhance skills and knowledge related to sustainable practices, enabling farmers to implement changes effectively. A smaller group (18.2%) indicated that direct financial support would be helpful. While financial assistance can play a role, the lower percentage suggests that farmers may prioritize other forms of support that can lead to more substantial, long-term changes. Some respondents (18.2%) mentioned the need for robust policy frameworks. This reflects the belief that clear and effective regulations can provide a stable environment for implementing sustainable practices, ensuring that farmers can confidently invest in sustainability initiatives.

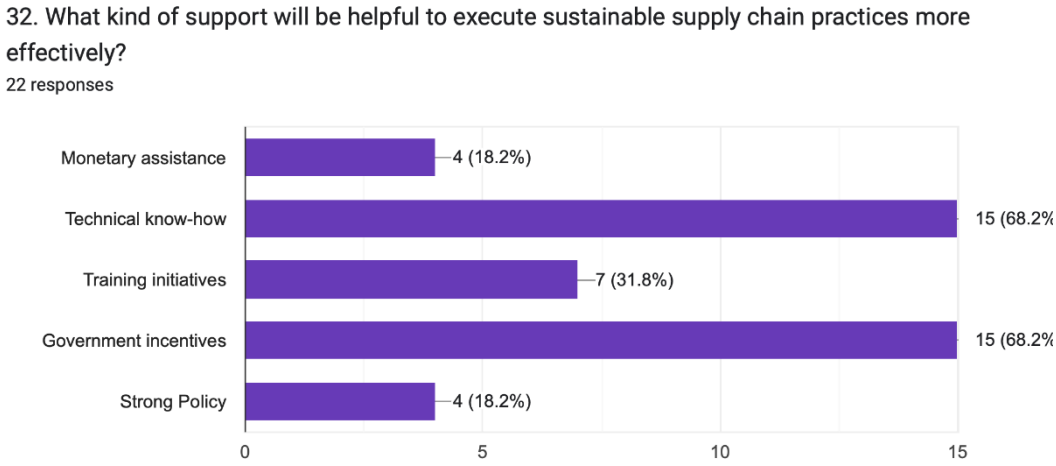

Figure 17. Support needed for effective sustainable practices

In summary, the final section devised that poultry farmers show a strong commitment to innovating and expanding sustainable practices, prioritizing new solutions for better environmental and operational outcomes. While some will maintain current strategies, most are focused on enhancing sustainability. Farmers identify technical know-how and government incentives as crucial supports for implementing sustainable supply chain practices. Training initiatives and robust policies are also deemed important, whereas monetary assistance is less emphasized, highlighting a preference for support that encourages knowledge and innovation over direct financial aid.

5 A comparative study on Govt. policies, success factors & challenges in poultry farms of Bangladesh and Finland

5.1 Overview of Finland's Economic and Industrial Landscape

The industrial and economic environment of Finland offers a supportive environment for sustainable supply chain management, particularly in industries like poultry and agriculture. Finland's economy is based on technological innovation and resource efficiency, with an emphasis on industry-wide sustainability. The agriculture industry, in particular the production of meat and poultry, is putting policies into place to lower emissions,

enhance animal welfare, and guarantee supply chain transparency. For instance, by controlling the whole supply chain, from feed production to the final product, businesses such as Atria and many other companies have considerably decreased the carbon footprint of their chicken and egg products. Their incorporation of renewable energy sources, like wind and solar, is a prime example of Finland's dedication to sustainable industrial practices and climate goals. Sustainable agriculture integrates three main goals - environmental health, social and economic equity, and economic profitability (The Poultry Cite, 2024). These three goals are considerably practiced and maintained in Finland poultry farming in chicken and egg production and process which may be influenced by other countries like Bangladesh.

Even while the government had already had a significant role much earlier—for example, through state-owned enterprises, trade, monetary, and exchange rate policies—the institutionalization of industrial policy in Finland began in the 1970s. The focus of Finnish industrial strategy during the 1970s and 1980s was on macroeconomic policies to ensure employment and growth as the ultimate objectives (Anttila & Palmberg, 2005, p.5). These policies, which were in line with the controlled structure of Finnish markets, usually included protection for young businesses, subsidies for struggling industries, and regular devaluations to support export-oriented sectors, particularly pulp, paper, and wood.

5.2 Policy Initiatives in Finland

Finland has national policies that support food safety, environmental preservation, and animal welfare in addition to adhering to EU standards for sustainable agriculture, which includes poultry.

Key regulations and Policies of Finland are:

Animal Health and Welfare: Finland's animal welfare regulations are among the most stringent in the European Union. Standards for handling, living circumstances, and health monitoring are mandated by the Animal Welfare Act and EU legislation, guaranteeing the humane treatment of Chicken and egg

which enhance supply chain transparency (Animal Welfare Act, 247/1996, Section 8)

Environmental Standards: Through laws like the Environmental Protection Act and the Water Act, Finland's laws encourage cutting greenhouse gas emissions, safeguarding waterways from agricultural runoff, and controlling garbage (Environmental Protection Act, 527/2014, Section 1). For chicken farms to lessen their negative effects on nearby ecosystems, they are essential.

EU Influence and Common Agricultural Policy (CAP): Finland complies with CAP regulations as an EU member, which offer financial support and recommendations for sustainable poultry farming including agricultural methods (Finland’s Cap Strategic Plan, 2023).

Sustainable Food Policies: The Finnish government encourages sustainable practices by lowering environmental effect and providing incentives for local and organic poultry products through initiatives like the Bioeconomy Strategy and Finland's National Climate Change Adaptation Plan (Finland’s National Climate Change Adaptation Plan. 2022).

5.3 Key Success Factors and Challenges in Finland

Key Success Factors:

The following Table 2, based on the rigorous theoretical review, delineates the key success factors of SSCM practices for chicken and egg production in Finland.

Table 2. Key success factors of SSCM practices for chicken and egg production in Finland

Factors	Explanation	Sources
Regulatory Compliance	Finland's strict rules on animal welfare and the environment create high standards for	Autio et al., 2018; Kolog, 2023

	chicken and eggs production and processing methods.	
Transparency in Supply Chain	Increasing confidence through transparency in sourcing, production, and processing which is crucial to stakeholder and customer trust	Charlebois et al., 2024
Efficient and effective waste management	Efficient and efficient management of waste, including manure and wastewater, via recycling or treatment methods, mitigate environmental damage and backing circular economy objectives	Kolog, 2023
Consumer demand and awareness	With increased awareness of sustainability, achieving customer expectations for ethically farmed chicken and eggs are providing a competitive edge	Turunen et al., 2023
Integration of Technology	Utilizing technology such as IoT for environmental monitoring and AI for feed and resource optimization can help to improve sustainability	Turunen et al., 2023
Collaborative Partnerships	To develop and implement best practices for sustainable farming collaboration with different suppliers, regulatory organizations and authorities, and research institutes are helping	Kolog, 2023
Finnish Food System	The core strategies of Finnish foods system is environmental sustainability. Finnish government policy along with EU give emphasize on this environmental sustainability. “The Finnish food research and innovation strategy supports sustainability, nutrition and economic growth targets set for the Finnish food system in recent national and EU-level strategies. In line with the global sustainable development goals and current European Farm to Fork Strategy, Finland should be a pioneer in achieving a global standard for sustainability to protect nature, resources, and ecological diversity”	(Sozer et al., 2021, p. 9)

Key Challenges in Finland:

The Table 3, grounded in a comprehensive theoretical review, outlines the primary challenges to the successful implementation of sustainable supply chain management (SSCM) practices in chicken and egg production in Finland.

Table 3. Challenges to the successful implementation of SSCM practices in chicken and egg production in Finland.

Challenges	Explanation	Sources
Supply Chain Complexity	Managing a healthy chicken supply chain, which includes numerous stakeholders from farmers to retail, can be difficult	Hannila, 2023
Implication of Cost	Investing in renewable energy, sewage treatment systems, and animal welfare measures are just a few examples of the significant upfront expenses associated with implementing sustainable practices	Kolog, 2023
Impact on Climate	Adapting to climate change is a vast problem, as chicken and eggs farms must respond to fluctuating climatic circumstances while preserving productivity and welfare.	Syrjämaa et al., 2024
Scarcity of Resources	It can be difficult to guarantee availability to sustainable energy, water, and feed supplies, and disruptions in global supply chains may have an impact.	Syrjämaa et al., 2024
Market Competition	Competing with traditional poultry producers who may not have the same economic and operational constraints as sustainable approaches	Niemi & Väre, 2019
Burden of Regulatory Compliance	Meeting strong Finnish and EU environmental and animal welfare regulations might necessitate substantial documentation and resources, particularly on smaller farms	Autio et al., 2018

5.4 Overview of Bangladesh's Economic and Industrial Landscape

Bangladesh's economy is expanding quickly, with the service sector, textiles, and agriculture accounting for a sizable amount of its GDP. The economy has diversified in recent years, lowering poverty and attaining consistent growth rates. With over 40% of the workforce employed and an approximate 13% GDP contribution, agriculture continues to play a crucial role in society. A vital subsector, poultry farming supports food security and economic stability by giving rural households access to inexpensive protein and revenue. Over the past few decades, Bangladesh's poultry industry has significantly industrialized due to the country's growing need for chicken and egg. “It is expected that the future demand of poultry products will be enhanced due to high population and income growth, urbanization and increasing high income elasticity of demand” (Rahman et al., 2015, p.72). Although small and medium-sized businesses still predominate, commercial chicken farming has expanded dramatically, increasing production efficiency and cutting expenses. But there are obstacles including inadequate infrastructure, reliance on imported feed, and environmental issues like waste. The textile and apparel industry, a significant export sector, has historically dominated Bangladesh's industrial landscape. However, diversification is under progress, as evidenced by expanding investment in the poultry industry as a result of growing export possibilities and

domestic protein needs Bangladesh's poultry industry has developed from private farms to commercial ventures, but the supply chain is still disjointed. This provides the poultry supply chain opportunities as well as difficulties for sustainable practices.

5.5 Policy Initiatives in Bangladesh

The poultry industry has to deal with social issues including labor practices and the inclusion of smallholder farms, as well as environmental issues like waste management, biosecurity, and resource consumption. Inadequate infrastructure, poor enforcement of regulations, and restricted availability to high-quality feed and veterinary care are major obstacles to sustainable supply chain management in the chicken industry.

The Department of Livestock Services is one of the regulatory agencies that Bangladesh has set up to monitor animal health and livestock production requirements. However, due to a lack of funding and dispersed control among small farms, regulation implementation frequently encounters difficulties. By strengthening quality control and providing assistance to small and medium-sized poultry farming businesses, recent policies seek to increase sustainability and safety.

5.6 Example of Sustainable Practices in Bangladeshi Supply Chains

For example, Nahar Agro Limited is a noteworthy participant, particularly when it comes to implementing sustainable methods like reverse logistics and waste management. By using poultry waste to create by-products like fertilizers and biogas and reusing feathers for bedding, Nahar Agro incorporates sustainability. By lowering their negative effects on the environment and creating value for the business, these actions support the circular economy concept. Besides them some other renowned farms like Aftab Bahumukhi Farms Ltd.; Diamond Egg Ltd.; Index Agro Industries Ltd.; Paragon Poultry Ltd.; Kazi Farms ltd.; Mirsharai Poultry Farms Ltd.; Quality Breeders Ltd. and Master Feed Agrotec ltd. are also applying sustainable supply chain methods in chicken and egg productions.

5.7 Analysis of Key Success Factors and Challenges

The following section delineates the critical success factors and challenges that are faced by Bangladeshi poultry farmers. Based on the analysis of the primary data, it was revealed that customer demand, investment in sustainable technology, government incentive, energy efficient operation, efficient resources management, brand reputation plays significant role for successful implementation of SSCM in egg and chicken production. On the other, analysis of the data discovered that high initial cost, competition from non-sustainable (unhealthy) products, inadequate facilities, low willingness to pay for sustainable (healthy) products poses significant challenge to achieving success.

The Key Success factors for SSCM in Bangladesh:

Table 4, derived from the primary data analysis outlined in Section 4.3, presents the critical success factors for the implementation of sustainable supply chain management (SSCM) practices in chicken and egg production in Bangladesh.

Table 4. Key Success Factors in SSCM practices in poultry farming in Bangladesh

Factor	Explanation	Source
Customer demand	Based on our data, 77.3% of CEOs in this industry consider customer demand to be the primary critical success factor poultry farming. In Bangladesh, customer demand is the primary critical success factor for poultry farming, particularly in egg and chicken production, because of the country's growing population and increasing middle-class income. Consumers are becoming more health-conscious and seeking affordable protein sources, making eggs and chicken highly popular. Additionally, fluctuations in consumer preferences and demand trends require businesses to be agile and responsive to ensure sustained growth and profitability in the competitive market.	Based on Primary Data Analysis (Author's own work)
Investment in Sustainable Technology	Based on our data, 68.2% of CEOs in this industry consider investment in sustainable technology to be the primary critical success factor. Investing in sustainable technology enhances economic sustainability in poultry farming by reducing operational costs, and improving waste management.	
Government Incentive	According to our data, 68.2% of CEOs within the poultry farming industry, particularly in egg and chicken production in Bangladesh, regard government incentives as the primary critical success factor. In Bangladesh, government incentives play a crucial role in supporting the poultry farming industry, particularly in egg and chicken production. These incentives help mitigate operational costs, promote investment, and ensure sustainability. With challenges such as	

	fluctuating feed prices and disease management, government support provides financial stability, encourages growth, and enhances the competitiveness of the industry.	
Energy efficient operation	Grounded on our data, 63.6% of CEOs within this industry recognize energy-efficient operations as one of the key critical success factors. Enhancing energy-efficient practices is crucial for ensuring economic sustainability in poultry farming operations in Bangladesh, promoting cost-effectiveness and environmental responsibility while supporting long-term agricultural productivity.	
Efficient resources management	Effective resource management is crucial for achieving economic sustainability in poultry farming in Bangladesh, optimizing resource utilization, minimizing costs, and promoting long-term profitability and environmental responsibility. According to our data, 54.5% of CEOs in this industry identify efficient resources management as the primary critical success factor.	
Brand Reputation	Our data also indicates that 50% of CEOs in Bangladesh's poultry farming industry, particularly in egg and chicken production, consider brand reputation as another crucial factor for success. A strong brand reputation is vital for the success of poultry farming in Bangladesh. It fosters consumer trust, promotes product quality, and enhances market competitiveness. Ensuring consistent performance, transparency, and adherence to quality standards helps build and sustain a reputable brand, contributing to long-term business growth and consumer loyalty.	

Key Challenges for SSCM practices in Bangladesh:

Table 5, based on the primary data analysis presented in Section 4.3, highlights the key challenges associated with the implementation of

sustainable supply chain management (SSCM) practices in the egg and chicken production sector in Bangladesh.

Table 5. Key Challenges in SSCM practices in poultry farming in Bangladesh

High initial cost	Our data shows that 86.4% of CEOs in Bangladesh's poultry farming industry regard high initial costs as the most significant challenge to achieving success. In Bangladesh's poultry farming industry, high initial costs are a significant challenge due to factors such as the need for substantial investments in infrastructure, equipment, and quality feed. Additionally, fluctuating market conditions, limited access to financing, and the rising cost of production further intensify the financial burden on new and existing poultry businesses, making it a key obstacle to success.	Based on Primary Data Analysis (Author's own work)
Competition from non-sustainable (unhealthy) products	Our data shows that 72.7% of CEOs in Bangladesh's poultry farming industry regard competition from non-sustainable products as the primary challenge to achieving success. In Bangladesh, the poultry farming industry faces significant pressure from non-sustainable products, such as cheaper, lower-quality alternatives. These products often undercut the market, making it difficult for sustainable producers to compete. As a result, CEOs view this competition as a primary challenge to maintaining long-term success and profitability.	
Inadequate facilities	Our data also shows that 54.5% of CEOs in Bangladesh's poultry farming industry regard inadequate facilities as the primary challenge to success. Inadequate facilities in Bangladesh's poultry farming industry often result from outdated infrastructure, limited access to modern technology, and insufficient investment. These challenges hinder production efficiency, quality control, and biosecurity measures. Consequently, the lack of proper facilities directly impacts profitability, growth potential, and the ability to compete in the global market.	

Low willingness to pay for sustainable (healthy) products	Our data shows that 54.5% of CEOs in Bangladesh's poultry industry view low willingness to pay for sustainable products as a key challenge. In Bangladesh, the low willingness to pay for sustainable poultry products is largely due to price sensitivity among consumers. Many prioritize affordability over sustainability, limiting demand for higher-priced eco-friendly or health-conscious options. Additionally, a lack of awareness about the benefits of sustainable products and limited access to information further contribute to this challenge in the poultry industry.	

5.8 Cross-Country Comparison of Sustainable Supply Chain Practices, Commonalities and Differences

As said in The Poultry Site, “Sustainable agriculture combines three primary goals: environmental health, social and economic equality, and financial stability. The family farm's legacy, as well as the importance of both land and livestock, have enabled the industry to take the lead in developing sustainable practices as an essential component of the chicken business. A wide range of ideas, policies, and practices have contributed to this objective. People in a variety of positions, from farmers to consumers, have shared and contributed to this vision”.

By considering above triple bottom line, Finland and Bangladesh have different regulatory frameworks, economic situations, industry structures, and environmental priorities, a cross-border assessment of sustainable supply chain management practices in poultry farms between the two countries would reveal both notable differences and similarities. An outline of possible elements is:

Table 6. Comparison of Sustainable Supply Chain Practices, Commonalities and Differences.

Potential aspects	Finland	Bangladesh
Initiatives for Policy	The stringent regulatory framework of the EU, which prioritizes food	Bangladesh has a poorly established regulatory framework,

and Regulatory Framework	safety, animal welfare, and environmental sustainability, governs the Finnish poultry business. Reducing greenhouse gas emissions, cutting waste, and guaranteeing traceability are the main goals of policies.	and because of its limited resources and infrastructure, it has difficulty implementing sustainability norms. Although they are still developing and not as rigorously implemented, the government has worked to promote food safety and animal welfare.
	In accordance with EU directives, Finland imposes strict requirements on feed quality, antibiotic use, and animal welfare. Through grants and incentives, farmers can implement sustainable practices with significant support, particularly when it comes to organic farming and the use of renewable energy.	Nonetheless, the Department of Livestock Services in Bangladesh has recently made an attempt to encourage sustainable methods. New programs, including those supported by international organizations, are being developed to lessen the environmental impact of chicken and egg farms.
Industry Structure and Size	The poultry industry in Finland is actually small and mostly runs on big, technologically advanced farms. Vertical integration and integrated production systems are common, fostering improved supply chain management and efficiency.	On the other hand, there are a variety of small, medium, and large-scale businesses in Bangladesh's poultry industry. Smallholder farmers account for a sizable amount of production, which may restrict the scalability and uniformity of sustainable methods.
	Producers frequently work with retailers and other stakeholders to meet consumer needs for sustainably produced poultry, and there is an emphasis on high quality standards.	The sector is rapidly expanding, but fragmented, with numerous hurdles, including insufficient cold storage facilities and infrastructure. Despite this, Bangladesh's poultry farms are transitioning to more sustainable methods, frequently in collaboration with NGOs and foreign agencies.
	High regulatory requirements and enforcement	Customer demand, influenced by population growth, middle-class

Key Success Factors		income rise, and health-focused preferences, determines poultry farming success.
	Strong collaboration within the sector and with governmental organizations	Investing in sustainable technology promotes economic sustainability in poultry farming through cost reduction and improved waste management.
	Consumer demand for environmentally friendly and ethically made products.	Government incentives significantly support Bangladesh's poultry farming, fostering sustainability, mitigating challenges, and enhancing egg and chicken production competitiveness.
Challenges for Sustainable Practices	The high cost of innovative technologies and sustainable inputs can be prohibitive for smaller enterprises.	High initial costs pose significant challenges in Bangladesh's poultry farming due to essential investments.
	Strict rules, while advantageous to sustainability, can increase operational costs, particularly in meeting environmental and animal welfare standards.	Bangladeshi poultry CEOs view competition from non-sustainable products as the primary challenge.
	Climate problems, such as severe winters, make maintaining energy efficiency difficult, particularly in heating and feeding systems.	Bangladesh's poultry farming industry suffers from outdated infrastructure, limited modern technology, and insufficient investment.
Sustainability Practices in Supply Chain	Many Finnish farms follow circular economy ideas, such as turning poultry manure into fertilizer or biogas.	In Bangladesh, a few major producers are implementing composting and biogas production

		from poultry waste, although this is less frequent among smallholders.
	Digital technology for supply chain tracking improves transparency and food safety.	Efforts are being undertaken to limit antibiotic use through enhanced biosecurity measures, but this is still a work in progress.
	Renewable energy sources are incorporated into agricultural operations, and sustainable feed techniques (such as the utilization of locally obtained or insect-based protein) are emphasized.	Collaborations with non-governmental organizations (NGOs) and international agencies contribute to the establishment of sustainable feeding, waste management, and farm efficiency techniques.
Economic Viability and Market Opportunities	Ensuring the economic viability of sustainable poultry farming practices is essential for their widespread adoption and long-term success (Bist et al. p.19). By ensuring this practices Finland poultry farms sustain for long term.	Due to not ensuring sustainable practices most of the farms of Bangladesh don't lasting for long time.

6. IMPLICATIONS OF THE FINDINGS

This research analysed sustainable supply chain management practices in poultry farms in Bangladesh. The study unveiled how poultry operations, particularly in chicken and egg production, can integrate environmental, social, and economic considerations into their supply chains to achieve long-term sustainability goals. As the aim mentioned earlier, this study devised best practices for minimizing environmental impacts, promoting ethical labor practices, enhancing resource efficiency, and fostering collaboration across the supply chain. However, this study proposed some implications based on the analysis of sustainable supply chain practices in the poultry industry in Bangladesh:

1. Enhance Training Programs:

   There is a critical need for accessible training programs focused on sustainable supply chain management. Organizations should invest in workshops and educational resources to improve farmers' knowledge and skills, enabling them to implement sustainable practices effectively.
2. Promote Peer Learning:

   Given that many farmers learn from peers, establishing community-based knowledge-sharing platforms can facilitate the exchange of best practices in sustainability. This could include local networks or forums where farmers can discuss challenges and successes.
3. Focus on Cost Reduction:

   Managers should prioritize strategies that emphasize cost-saving measures through sustainability. Investments in energy-efficient technologies can lower operational costs while enhancing environmental performance, making these practices more appealing.
4. Strengthen Waste Management Practices:

   Given the participants' understanding of waste recycling, organizations should further support the development and implementation of comprehensive waste management strategies. This can enhance profitability and ensure compliance with environmental regulations.
5. Address Regulatory Gaps:

   Since some farmers feel uninformed about environmental and social regulations, it's crucial to enhance communication and resources regarding compliance. Developing clearer guidelines and regulations can help mitigate confusion and facilitate better adherence.
6. Leverage Customer Demand:

   With customer demand as a significant driver for sustainable practices, managers should focus on marketing strategies that highlight the benefits of sustainability. Educating consumers about the environmental and social impacts of their choices can enhance market opportunities for sustainable products.

7. Engage with Government Support:
   Given the minimal impact of financial incentives, poultry enterprises should actively engage with government bodies to advocate for more robust support programs. Lobbying for better policies and incentives can help create a more conducive environment for sustainable practices.
8. Invest in Infrastructure:
   Addressing infrastructural challenges, such as poor transportation networks, is essential for improving logistics and market access. Investments in infrastructure can facilitate more efficient supply chain operations and support sustainability initiatives.
9. Diversify Sustainable Practices:
   While most participants prioritize cost-cutting measures, exploring product diversification could create new revenue streams and enhance sustainability. Managers should assess potential markets for sustainable products to reduce reliance on traditional offerings.
10. Foster Innovation:
    Encouraging a culture of innovation within organizations is vital for the continuous improvement of sustainable practices. Managers should promote research and development initiatives that explore new sustainable technologies and practices, ensuring long-term competitiveness and sustainability in the industry.

By implementing these managerial strategies, poultry enterprises in Bangladesh can improve their sustainability practices, drive economic benefits, and enhance social and environmental outcomes.

7. **Conclusion and limitations**

Regarding limitations and future research directions, this study can be expanded to address gaps that could not be explored within its scope. Future research should consider a larger sample size, as this study only included 22 samples. Another limitation of the study is that the study did not use any

advanced level data analysis software such as SmartPLS, SPSS, AMOS or other, future study could consider it as their data analysis technique. Additionally, the findings indicate that this study did not consider any relationship between different variables such as how sustainability practices and regulatory compliance issue influence financial performance of the poultry farms, suggesting that further investigation is warranted to deepen the understanding of these relationships.

This comparative research of sustainable supply chain management (SSCM) strategies in Finland and Bangladesh's chicken sectors sheds light on the respective countries' specific problems and triumphs. In Finland, strict legal frameworks, customer desire for transparency, and strong backing for green projects have resulted in a highly mature SSCM ecosystem. Finnish poultry producers benefit from strong infrastructure, technology-driven processes, and a high level of stakeholder participation, which makes sustainable methods more feasible and broadly accepted in the industry.

In contrast, the chicken business in Bangladesh operates under quite different economic and regulatory conditions. With a heavy reliance on smallholder farmers and insufficient regulatory enforcement, implementing SSCM techniques presents considerable hurdles. Sustainability challenges are exacerbated by resource restrictions, a lack of infrastructure, and economic pressures, while recent policy attempts and international cooperation indicate promising improvements. Bangladeshi producers are increasingly understanding the necessity of sustainability, but through cost-cutting measures rather than governmental mandates, as seen in Finland.

Despite their differences, both countries have common success elements such as good legislative frameworks, access to technology, and stakeholder participation. Furthermore, education and training, as well as consumer awareness, are critical to the advancement of SSCM programs. However, the issues of high implementation costs, lack of standardized frameworks, and changeable market demands persist in both scenarios.

Finally, this study emphasizes the importance of adapted SSCM approaches that consider local socioeconomic conditions while encouraging environmental responsibility. Future research might look into additional variables like consumer behavior shifts, future technology, and regional policy implications, all of which would help us gain a better knowledge of global sustainable poultry supply chains. By resolving these issues, Finland and Bangladesh can make progress toward a more sustainable poultry sector, providing benchmarks that may inspire other nations encountering comparable obstacles in SSCM implementation.

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APPENDIX A:

Dear Respondent,

I am conducting a survey for better understanding the sustainable supply chain management & practices in poultry farming (Chicken and egg production) for my thesis. Your understandings will help to improve the practices of sustainability in poultry production in **Bangladesh compare to Finland.**

Section-1, General Information

1. Name: Farm/institution Name:
2. Location: Upazila: District:
3. How long have you been involved in poultry farming: Years Months
4. What types of poultry do you produce? ☐ Broilers (Chicken) ☐ Layers (Egg) ☐ Both
5. Ownership of the farm: ☐ Own ☐ Leased
6. Average monthly production: Chicken : pcs, egg : pcs
7. Ownership structure: ☐ Sole Proprietorship ☐ Partnership ☐ Company ☐ Cooperative

Section-2, Sustainability Practices

8. Do you know what sustainable supply chain in poultry farm is? ☐ Yes ☐ No
9. In your supply chain operations what extent have you been integrated sustainability practices: ☐ Not at all ☐ Partially ☐ Fully
10. What eco-friendly sustainability practices do you implement?
    ☐ Energy efficient operations ☐ Waste management and recycling
    ☐ Water conservation ☐ others: ……...
11. How do you ensure social sustainability within your supply chain?
    ☐ Employees development and training ☐ Fair labor practice
    ☐ Community engagement ☐ Health and safety measures ☐ others: ……

12. What steps have you taken to ensure economic sustainability?

    ☐ Cost-cutting techniques, ☐ effective resource management, ☐ investments in sustainable technology, ☐ product diversification, ☐ other: _____

13. Do you have any certifications related to sustainability? ☐ Yes, ☐ No
14. Do you have a mechanism in place to recycle or reuse the waste from Chicken?

    ☐ Yes, ☐ No

15. Do you take any steps to lessen your farm's negative environmental effects?

    ☐ Yes, ☐ No

Section-3, Supply Chain Management

16. How well do you understand sustainable supply chain management?

    ☐ Low, ☐ Moderate, ☐ High.

17. What kind of transport do you use to deliver the products (Chicken and egg)?

    ☐ Rikksha ☐ CNG ☐ Van ☐ Truck ☐ Others: ……

18. Do you encounter any difficulties when bringing your products to market? ☐ Yes ☐ No
19. Do you have your own transport to deliver the product? ☐ Yes ☐ No

Section-4, Motivators and Drivers

20. What motivates you to embrace sustainable supply chain practices?

    ☐ Cost savings, ☐ regulatory compliance, ☐ customer demand,

    ☐ brand reputation improvement, ☐ environmental responsibility, ☐ other factors

21. Is there any financial incentives from government (e.g., subsidies, tax rebates) which motivate you to adopt sustainable practices? ☐ Yes ☐ No
22. Do you have any training on sustainable supply chain management and practices?

☐ Yes ☐ No

Section-5, Challenges and barriers

23. What are the main obstacles you encounter when putting sustainable supply chain practices?

    ☐ Initial cost is high, ☐ lack of experience, ☐ Inadequate facilities, ☐ Others: ……

24. Is there any regulatory barriers to implement sustainable practices?

    ☐ Yes ☐ No

25. What obstacles relating to the market impact your sustainability efforts?

    ☐ Limited market access ☐ Competition from non-sustainable producers

    ☐ Low willingness to pay for sustainable products ☐ Lack of customer awareness

Section-6, Sustainability Practices' Effects

26. What advantages have you seen for the environment as a result of using sustainable supply chain practices?

    ☐ Enhanced resource efficiency, ☐ waste reduction, ☐ reduced energy consumption,

27. How have sustainability practices impacted your employees and the local community?

    ☐ Positive ☐ Negative ☐ No impact

28. How have sustainable practices affected the financial results of your farm?

    ☐ Increased profitability ☐ Reduced costs

    ☐ No significant effect ☐ Negative impact

Section-7, Regulatory Compliance Issues

29. Are you conscious of the present environmental and social regulations affecting the poultry industry in Bangladesh? ☐ Yes ☐ No

30. How have policy of government influence your sustainability practices?

    ☐ Feel Encouraged to practice sustainability, ☐ No effect, ☐ Feel Discouraged to practice sustainability

Section-8, Potential Concepts and Recommendations

31. How do you intend to implement sustainable supply chain strategies in the future?

    ☐ Increase present practices ☐ Innovate sustainable new practices

    ☐ Retain present practices ☐ Others:

32. What kind of support will be helpful to execute sustainable supply chain practices more effectively?

    ☐ Monetary assistance ☐ Technical know-how ☐ Training initiatives

    ☐ Government incentives ☐ Others: ……

Thank you so much

Have a Nice Day!!

APPENDIX B:

This questionnaire has also designed in Bengali Language to understand by some farmers as Bengali is mother language in Bangladesh. I have translated this by using google translator for time savings.

In Bengali

প্রিয় উত্তরদাতা,

আমি আমার থিসিসের জন্য পোল্ট্রি ফার্মিং (মুরগি ও ডিম উৎপাদন) এর টেকসই সাপ্লাই চেইন ম্যানেজমেন্ট এবং অনুশীলনগুলি আরও ভালভাবে বোঝার জন্য একটি সমীক্ষা পরিচালনা করছি। আপনার বোঝাপড়া ফিনল্যান্ডের তুলনায় বাংলাদেশে পোল্ট্রি উৎপাদনে টেকসইতার অনুশীলন উন্নত করতে সাহায্য করবে।

ধারা-১, সাধারণ তথ্য

1. নাম: খামার/প্রতিষ্ঠানের নাম:
2. অবস্থান: উপজেলা: জেলা:
3. আপনি কতদিন ধরে হাঁস-মুরগি পালনে জড়িত আছেন: বছর মাস
4. আপনি কি ধরনের পোল্ট্রি উৎপাদন করেন?

   □ ব্রয়লার (মুরগি) □ লেয়ার (ডিম) □ উভয়
5. খামারের মালিকানা: □ নিজস্ব □ ইজারা
6. গড় মাসিক উৎপাদন: মুরগি: পিস, ডিম: পিস
7. মালিকানা কাঠামো: □ একক মালিকানা □ অংশীদারিত্ব □ কোম্পানি □ সমবায়

বিভাগ-2, স্থায়িত্ব অনুশীলন

8. আপনি কি জানেন পোল্ট্রি ফার্মে টেকসই সাপ্লাই চেইন কি?

   □ হ্যাঁ □ না
9. আপনার সাপ্লাই চেইন ক্রিয়াকলাপগুলিতে আপনি কতটা স্থায়িত্বের অনুশীলনগুলিকে সমন্বিত করেছেন:

   □ মোটেই নয় □ আংশিকভাবে □ সম্পূর্ণরূপে
10. আপনি কোন পরিবেশ-বান্ধব টেকসইতা অনুশীলন বাস্তবায়ন করেন?

□ শক্তি দক্ষ অপারেশন □ বর্জ্য ব্যবস্থাপনা এবং পুনর্ব্যবহার

□ জল সংরক্ষণ □ অন্যান্য: .....

11. আপনি কীভাবে আপনার সরবরাহ শৃঙ্খলের মধ্যে সামাজিক স্থায়িত্ব নিশ্চিত করবেন?

□ কর্মচারী উন্নয়ন এবং প্রশিক্ষণ □ ন্যায্য শ্রম অনুশীলন

□ সম্প্রদায়ের ব্যস্ততা □ স্বাস্থ্য এবং নিরাপত্তা ব্যবস্থা □ অন্যান্য:

12. অর্থনৈতিক টেকসইতা নিশ্চিত করতে আপনি কী পদক্ষেপ নিয়েছেন?

□ খরচ কমানোর কৌশল, □ কার্যকর সম্পদ ব্যবস্থাপনা, □ টেকসই প্রযুক্তিতে বিনিয়োগ, □ পণ্য বৈচিত্র্য, □ অন্যান্য: _____

13. আপনার কি টেকসইতার সাথে সম্পর্কিত কোন সার্টিফিকেশন আছে?

□ হ্যাঁ, □ না

14. মুরগির বর্জ্য রিসাইকেল বা পুনঃব্যবহারের জন্য আপনার কি কোন ব্যবস্থা আছে?

□ হ্যাঁ, □ না

15. আপনি কি আপনার খামারের নেতিবাচক পরিবেশগত প্রভাব কমাতে কোনো পদক্ষেপ নেন?

□ হ্যাঁ, □ না

সেকশন-৩, সাপ্লাই চেইন ম্যানেজমেন্ট

16. আপনি টেকসই সাপ্লাই চেইন ম্যানেজমেন্ট কতটা ভালোভাবে বোঝেন?

□ নিম্ন, □ মধ্যপন্থী, □ উচ্চ।

17. পণ্য (মুরগি এবং ডিম) সরবরাহ করার জন্য আপনি কোন ধরনের পরিবহন ব্যবহার করেন?

□ রিকশা □ সিএনজি □ ভ্যান □ ট্রাক □ অন্যান্য: .....

18. আপনার পণ্য বাজারে আনার সময় আপনি কি কোন অসুবিধার সম্মুখীন হন?

□ হ্যাঁ □ না

19. পণ্য সরবরাহ করার জন্য আপনার কি নিজস্ব পরিবহন আছে?

□ হ্যাঁ □ না

সেকশন-4, মোটিভেটর এবং ড্রাইভার

20. টেকসই সাপ্লাই চেইন অনুশীলনগুলি গ্রহণ করতে আপনাকে কী অনুপ্রাণিত করে?

□ খরচ সঞ্চয়, □ নিয়ন্ত্রক সম্মতি, □ গ্রাহকের চাহিদা,

□ ব্র্যান্ড খ্যাতি উন্নতি, □ পরিবেশগত দায়িত্ব, □ অন্যান্য কারণ

21. সরকারের কাছ থেকে কোন আর্থিক প্রণোদনা আছে (যেমন, ভর্তুকি, কর ছাড়) যা আপনাকে টেকসই অনুশীলন গ্রহণ করতে অনুপ্রাণিত করে? □ হ্যাঁ □ না

22. আপনার কি টেকসই সাপ্লাই চেইন ম্যানেজমেন্ট এবং অনুশীলন সম্পর্কে কোন প্রশিক্ষণ আছে?

□ হ্যাঁ □ না

ধারা-5, চ্যালেঞ্জ এবং বাধা

23. টেকসই সরবরাহ শৃঙ্খল অনুশীলন করার সময় আপনি কোন প্রধান বাধাগুলির সম্মুখীন হন?

□ প্রাথমিক খরচ বেশি, □ অভিজ্ঞতার অভাব, □ অপর্যাপ্ত সুবিধা, □ অন্যান্য: ……

24. টেকসই অনুশীলন বাস্তবায়নে কোন নিয়ন্ত্রক বাধা আছে কি?

□ হ্যাঁ □ না

25. বাজার সম্পর্কিত কোন বাধাগুলি আপনার স্থায়িত্বের প্রচেষ্টাকে প্রভাবিত করে?

□ সীমিত বাজারে প্রবেশাধিকার □ অ-টেকসই উৎপাদকদের থেকে প্রতিযোগিতা □ টেকসই পণ্যের জন্য অর্থ প্রদানের স্বল্প ইচ্ছা □ গ্রাহক সচেতনতার অভাব

বিভাগ-6, টেকসই অনুশীলনের প্রভাব

26. টেকসই সরবরাহ শৃঙ্খল অনুশীলন ব্যবহারের ফলে পরিবেশের জন্য আপনি কী সুবিধা দেখেছেন?

□ উন্নত সম্পদ দক্ষতা, □ বর্জ্য হ্রাস, □ শক্তি খরচ হ্রাস,

27. স্থায়িত্বের অনুশীলনগুলি কীভাবে আপনার কর্মচারী এবং স্থানীয় সম্প্রদায়কে প্রভাবিত করেছে?

□ ইতিবাচক □ নেতিবাচক □ কোন প্রভাব নেই

28. কীভাবে টেকসই অনুশীলনগুলি আপনার খামারের আর্থিক ফলাফলকে প্রভাবিত করেছে?

□ লাভজনকতা বৃদ্ধি □ খরচ হ্রাস

□ কোন উল্লেখযোগ্য প্রভাব নেই □ নেতিবাচক প্রভাব

সেকশন-7, রেগুলেটরি কমপ্লায়েন্স ইস্যু

29. বাংলাদেশের পোল্ট্রি শিল্পকে প্রভাবিত করছে এমন বর্তমান পরিবেশগত এবং সামাজিক বিধিবিধান সম্পর্কে আপনি কি সচেতন?

□ হ্যাঁ □ না

30. কীভাবে সরকারের নীতি আপনার স্থায়িত্বের অনুশীলনকে প্রভাবিত করেছে?

□ স্থায়িত্ব অনুশীলন করতে উত্সাহিত বোধ করুন, □ কোন প্রভাব নেই,

□ স্থায়িত্ব অনুশীলন করতে নিরুৎসাহিত বোধ করুন

বিভাগ-৪, সম্ভাব্য ধারণা এবং সুপারিশ

31. ভবিষ্যতে আপনি কিভাবে টেকসই সাপ্লাই চেইন কৌশল বাস্তবায়ন করতে চান?

□ বর্তমান অনুশীলন বৃদ্ধি করুন □ টেকসই নতুন অভ্যাস উদ্ভাবন করুন □ বর্তমান অনুশীলনগুলি বজায় রাখুন □ অন্যান্য:

32. টেকসই সরবরাহ শৃঙ্খল অনুশীলনগুলিকে আরও কার্যকরভাবে সম্পাদন করতে কোন ধরনের সহায়তা সহায়ক হবে?

□ আর্থিক সহায়তা □ প্রযুক্তিগত জ্ঞান □ প্রশিক্ষণের উদ্যোগ

□ সরকারী প্রণোদনা □ অন্যান্য: .....

আপনাকে অনেক ধন্যবাদ!

আপনার দিনটি শুভ হোক!