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WTO AND TECHNICAL BARRIERS TO TRADE WITH SPECIFIC REFERENCE TO AGRICULTURAL SECTOR

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ABSTRACT

The study, in particular focusing on the impact of digital technology and sustainability requirements, will examine complex interactions between World Trade Organisation (WTO), Technical Barriers to Trade (TBT) as well as changing agricultural commodity markets. The study aims to provide insight into the current challenges and opportunities faced by the States participating in the global trade in agricultural products within the framework of the WTO. The impact of emerging digital technologies on TBT in agriculture is the focus of the study's initial section. This study aims to assess how these developments are affecting legal frameworks and trading dynamics, given that technologies such as blockchain, AI, or the Internet of Things continue to be used in agricultural operations. The idea is to complicate the technical issues that will affect world agriculture production, certification, and trade by including those technologies and also explore certain processes through which TBT can be changed to gain a deeper understanding of the challenges and opportunities presented by these technologies. The interaction between sustainability standards and technology constraints in the agricultural sector under WTO is examined in the second part of this study. Given the increased focus on sustainability worldwide, compliance with environmental and social standards is becoming an important part of trade negotiations. The study aims to ascertain whether, in agriculture, adherence to sustainability standards has a clear link with TBT and how this is affecting trade patterns worldwide. The purpose of this study is to carry out an in-depth analysis of the impacts of sustainability requirements for farm trade regulation. Finally, this analysis contributes to the debate on WTO regulation, TBT, and unique challenges faced by businesses in agriculture. The study aims to provide valuable information to policymakers, trade negotiators, and researchers who are shaping the future of international agricultural trade by filling gaps in the literature and conducting a thorough analysis of the impact of digital technologies and sustainability standards.

KEYWORDS: - World Trade Organisation; Technical Barriers to Trade; Digital Technology and Sustainability Requirements; Agricultural Products; Sustainability Standards.

CHAPTER 1

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INTRODUCTION

1.1 BACKGROUND

The World Trade Organization (WTO) is the Global Authority for International Trade, to facilitate freedom of movement of goods and services between countries. Trade and the exchange of goods are heavily influenced by technical barriers. This discussion delves into the intricate relationship between the WTO and Technical Barriers to Trade (TBT), with a special emphasis on the agriculture sector. The TBT shall cover standards, legislation, and conformity assessment procedures that might have a negative impact on or facilitate international trade. The main influence on trade dynamics in the agricultural commodity sector is usually technological barriers, which make it more difficult for countries to enter world markets and compete with farmers' exports.

Agricultural commodities are an important part of world trade and face a range of technical challenges, from product standards to labelling rules as well as sanitation and phytosanitary processes. In order to ensure fair and equitable international trade systems, the WTO is working towards establishing a framework in which these barriers are not arbitrary or irrational using agreements such as the Technical Barriers Agreement. This complex interaction between trade rules and technological obstacles is particularly apparent in agriculture, where a wide range of products, production processes, and regulatory frameworks need to be carefully negotiated and comply with internationally accepted standards. Eliminating technical barriers to agricultural trade is crucial, given its importance for the world economy and millions of people's lives. While the WTO provides a platform for technical discussions and dispute resolution, which requires constant efforts to achieve a balance between protecting national interests and ensuring the free movement of agricultural products, the challenges remain. This discussion aims to clarify the complexity of WTO and technical barriers in trade, as well as their impact on agricultural sectors and broader implications for global trade relations.

1.2 REVIEW OF LITERATURE

1. **Donna Roberts, Timothy E. Josling,** and **David Orden** in their paper **"A Framework for Analyzing Technical Trade Barriers in Agricultural Markets"**[1] covers technical barriers to trade that hinder imports that do not comply with health, quality, safety, or

[1] Donna Roberts, Timothy E. Josling & David Orden in their paper, A Framework for Analyzing Technical Trade Barriers in Agricultural Markets, Economic Research Service/USDA, 1800 M. Street NW, Washington, DC 20036-5831 (March 1999).

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environmental requirements and their increased importance in international trade in agricultural products. Emphasis is placed on the importance of Economic Analysis in guiding policy decisions relating to regulation and standardization. This study provides a methodology for assessing barriers to trade in order to encourage research on the best policy options. It has overcome technical obstacles, defined terms, and laid down a classification framework to help economic models evaluate the effects of trade. The report points out that technical barriers need to be recognized and eliminated in the context of international trade policy.

2. **Kym Anderson** in the paper **"Why Open Agricultural Trade Matters"**[2] puts light on how past examples of agriculture policy to highlight the need for open trade in farming so as to ensure food security and development. It examines the potential impact of protectionism on food security, as well as the implications of rising countries enacting tighter farmer protection measures. It highlights the importance of trade openness in increasing agricultural productivity and boosting growth, as well as the positive effects of trade reform like an increase in GDP or reduced poverty. The article also analyses the challenges and opportunities of global food trade, particularly with regard to climate change.
3. **Anne Celia Disdier, Lionel Fontage** and **Mondher Mimouni** in their paper **"The Impact of Regulations on Agricultural Trade: Evidence from the SPS and TBT Agreements"**[3] This document deals with the impact on agricultural trade of restrictions, in particular those imposed under the SPS and TBT agreements. It analyses, in particular with regard to Europe's imports, the effects of these restrictions on exports from emerging countries to OECD countries. Detailed information on data collection mechanisms, e.g. notifications from the WTO and domestic sources, shall be provided. Details of the countries, goods or exporters affected by those rules are also included in relation to the use of SPS and TBT checks for trade.

   The assessment of the impact on trade and alignment between SPS and TBT policies with their intended targets is a key objective.
4. **Erik Wijkstrom** and **Devin McDaniels** working paper under WTO titled **"International Standards and the WTO TBT Agreement: Improving Governance for Regulatory**

[2] Kym Anderson, Why Open Agricultural Trade Matters, University of Adelaide Press 6-31 (2017), https://www.jstor.org/stable/10.20851/j.ctt1sq5wc5.9.
[3] Anne Celia Disdier, Lionel Fontage & Mondher Mimouni, The Impact of Regulations on Agricultural Trade: Evidence from the SPS and TBT Agreements, 90 AJAE 336-350 (2008), https://www.jstor.org/stable/30139588.

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Alignment"[4] examines the challenges and consequences of international standards within the framework of the WTO TBT Agreement. It stresses the importance of harmonizing legislation, ensuring transparency and involvement of stakeholders in standards development procedures. It mentions a number of international organisations, such as ISO, FAOWHO, IEC, ILAC and UNECE. Examples are cited of countries that have adopted legislation which exceeds international standards. Account is also taken of the importance of regulatory impact studies and best practices for legislation. This document deals with issues such as the substitution of policies and trade barriers due to misuse of global standards' flexibility. In addition, the report looks at improving governance and participation in standardisation within the World Trade Organization, TBT Committee and Appellate Body.

5. **Miet Maertens** and **Johan Swinnen** in their working paper **"Agricultural Trade and Development: A Value Chain Perspective"**[5] analyzes the evolution of the world food value chain, which has an impact on Developing Countries, in order to focus on economic growth, income mobility and rural poverty reduction by taking part in International Agricultural Trade. It examines the development of the agricultural sector, structural changes, consolidation and standards, with a focus on vertical coordination, smallholder participation, contract implications and technology transfer. Understanding these trends is vital to developing countries, which are trying to increase rural income and decrease poverty through the use of agriculture exports.
6. ***The Organization for Economic Co-operation and Development joint working parties paper "Agro-Food Products and Technical Barriers to Trade: A Survey of Issues and Concerns Raised in the WTO'S TCT Committee"***[6] *talks about issues and concerns raised by the WTO Trade Barriers Committee with a particular focus on agricultural products during the period 1995 to 2001 will be examined in detail in this report. Specific trade issues, the implementation of transparency criteria, dispute resolution and evaluation of the TBT Agreement are addressed in this report. The paper addresses the issues of compliance with transparency requirements, examines problems in relation to agricultural products related to TBT and looks at conflicts between standards for specific*

[4] Erik Wijkstrom & Devin, International Standards and the WTO TBT Agreement: Improving Governance for Regulatory Alignment, ERSD-2013-06 (2013), https://www.wto.org/english/res_e/reser_e/ersd201306_e.pdf.
[5] Miet Maertens & Johan Swinnen, Agricultural Trade and Development: A Value Chain Perspective, ERDS-2015- 04 (2015), https://www.wto.org/english/res_e/reser_e/ersd201504_e.pdf.
[6] The Organization for Economic Co-operation and Development, Agro-Food Products and Technical Barriers to Trade: A Survey of Issues and Concerns Raised in the WTO'S TCT Committee, COM/TD/AGR/WP (2002)70/FINAL (2003), https://econwpa.ub.uni-muenchen.de/econ- wp/it/papers/0401/0401006.pdf.

commodities. This document highlights the importance of technical assistance to develop countries as well as the need for a better implementation of the TBT Agreement.

7. **The US congressional research services** paper on **"Addressing Nontariff Barriers to Agricultural Trade at the WTO"**[7] illustrates how WTO Member States will use the adoption of SPS standards in order to respond to global agriculture change. The use of safe plant protection products and veterinary medicinal products which comply with international standards, as well as disease transmission and pest control measures, is therefore encouraged. The United States has negotiated free trade agreements under WTO agreements that confirm rights and responsibilities in order to settle the SPS and TBT issues. There are worries about cloaked protectionism in the form of nontariff trade barriers. Efforts have been made to promote cooperation between courts and enhance the role of science in resolving trade disputes. This document provides examples of SPS and TBT measures, transparency duties as well as the importance of efficient FTA legislation to manage increasing worldwide trade requirements.
8. **OECD** in their paper on **"Regional trade agreements and agriculture, OECD Food, Agriculture and Fisheries Papers"**[8] analyses the agricultural components of 53 Regional Trade Agreements negotiated between 1992 and 2009 are examined in this study, with a view to their impact on agriculture trade. It stresses the differences in the coverage of specific topics between agreements and the economic and political objectives that drive the Regional Trade Agreements. Tariff schedules, pledges to WTO-SPS principles, and RTA implications for agriculture trade liberalization are all included in the analysis. The recommendations call for limiting the exclusions of tariff concessions, as well as ensuring that future RTDs are subject to transparency provisions with a sunset provision.
9. ***Organization for Economic Co-operation and Development (OECD) document on "Agro-Food Products and Technical Barriers to Trade: A Survey of Issues and Concerns Raised in the WTO's TBT Committee"***[9] *aims at agricultural products and technological trade barriers identified by the WTO's Trade Barriers Committee between 1995 and 2001. It examines issues relating to trade, transparency provisions, conflicts and assessment of the TBT Agreement's effectiveness. The implementation of international*

[7] US congressional research services, Addressing Nontariff Barriers to Agricultural Trade at the WTO, (2021), https://crsreports.congress.gov/product/pdf/IF/IF11903.
[8] OECD, Regional trade agreements and agriculture, OECD Food, Agriculture and Fisheries Papers, No. 79 OECD Publishing (2015), http://dx.doi.org/10.1787/5js4kg5xjvvf-en.
[9] Organization for Economic Co-operation and Development (OECD), Document No. COM/TD/AGR/WP (2002)21/FINAL[en], OECD iLibrary, https://one.oecd.org/document/COM/TD/AGR/WP(2002)21/FINAL/en/pdf.

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standards, the certification of biological products and labelling rules are identified as specific challenges. In order to increase international trade, the paper stresses the need for addressing trade issues, increasing transparency and ensuring that TBT standards are complied with.

1.3 LITERATURE GAP

Although there is a wide variety of literature on WTO's broader issues, including TBT and agricultural business, significant gaps in academic debate are observed with regard to the complex and evolving nature of technological obstacles within the agriculture sector covered by it. Existing research tends to provide a general overview of technical obstacles to trade, or to focus on trade problems in the agricultural sector, without adequately analysing the relationship between the two. In addition, a small number of studies have analysed the impact of recent WTO improvements on technological barriers to trade in agriculture. The evolving dynamics of international trade relations, regional influence and globalisation in agriculture may have a significant impact on the establishment and implementation of technological rules. There is a lack of literature on the provision of up to date information and an in depth study of the impact of the current WTO agreements, negotiations and conflicts on the specific technical barriers that Member States face when trading agricultural commodities. Further, there is a need to carry out further research on the different impacts of technological barriers on economies at different stages of development, in particular as regards agricultural trade, although some studies have been carried out on the problems faced by emerging countries when they comply with international standards.

1.4 STATEMENT OF THE PROBLEM

By examining the complex link between WTO, TBT and agricultural trade environments, this study will address the major issues. The statement stresses the need to thoroughly examine the impact of technological barriers on agricultural trade, in view of the specific characteristics of farm products, different production methods and a complicated legal framework for that sector. In addition, what is happening in the WTO and its impact on TBT of agricultural commodities are not fully assessed by this research. In order to develop effective trade policies and negotiations, it is important to understand the impact of recent WTO breakthroughs on the development, implementation and resolution of technical barriers, in particular in the agricultural sector. The problem also raises the unacceptably high impact of technology barriers on developing and least developed countries involved in agriculture trade.

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Overall, a lack of attention to the WTO junction, TBT, and the specific characteristics of the agricultural sector contribute to the stated problem. In order to gain a more complete understanding of the obstacles and opportunities for agricultural trade around the world, it will be crucial to bridge this gap as to answers question on how new technical barriers have not been seen country's health, quality, safety, or environmental standards or How the act has not adapted to the new changes with time.

1.5 SCOPE AND LIMITATION

The evolving agricultural technical environment and their impact on TBTs are examined in detail in the study WTO and TBT with a focus on Agriculture commodities. The study will look at the use of emerging technologies in agriculture, such as blockchain, artificial intelligence and the Internet of Things, and their impact on regulatory frameworks and trade dynamics in the WTO context.

Furthermore, to provide an insight into how environmental and social factors affect international trade on agriculture, the project will examine whether there are convergences of sustainability standards with technical obstacles. Nevertheless, this study has its drawbacks. First, the rapid pace of development may lead to dynamic environments that outstrip research timetables and require a focus on existing technologies while at the same time allowing for potential new discoveries. Secondly, it will not cover all aspects of local differences in terms of digital technologies and sustainability standards due to the fact that this research focuses on making a globally relevant observation whilst also taking into account geographical diversity. In spite of these constraints, the study aims to provide a crucial insight into current challenges and opportunities arising from WTO standards, technical barriers and new technologies in agriculture trade.

1.6 RESEARCH OBJECTIVES

- To study WTO along with the focus on agricultural goods and the relation between WTO agreements and regulations related to TBT in the agricultural sector.
- To analyze the WTO agreements and regulations related to TBT in the agricultural sector and identify the different TBT aspects currently influencing agricultural trade within the WTO framework.
- To evaluate the growing environment of TBT in agriculture, identifying how old technical

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hurdles overlap and are altered by digital technologies.

- To assess the current WTO agreements' efficacy in addressing and responding to the problems posed by rising digital technologies and sustainability criteria in agricultural commerce.
- To analyze the usefulness of present WTO agreements in addressing and responding to the issues raised by emerging digital technology and sustainability standards in agricultural commerce and to assess the potential limitations and constraints of the proposed framework and proposals.

1.7 RESEARCH QUESTIONS

1. Whether the TBT agreements impact and help in the agricultural sector under WTO?
2. Whether the current WTO agreements adequately address the challenges and opportunities presented by different technical barriers and sustainability standards in the agricultural trade sector?
3. Whether any changes or improvements are required to ensure a balanced and equitable global trading system for agricultural goods?

1.8 HYPOTHESIS

The increasing technical barriers into agricultural practices such as non-achievable safety standards, blockchain, artificial intelligence and new technologies in agricultural sectors will make it necessary to adapt policies in order to ensure effective global farming, which will add complexity to technical trade barriers within the WTO framework.

Moreover, the adoption of sustainability standards is expected to give rise to a new dimension as regards technological challenges that have an impact on agricultural commodity competitiveness and access to markets governed by WTO rules.

1.9 RESEARCH METHODOLOGY

The author has used Doctrinal Methodology, a systematic approach to examine and interpret the law in the context of legal research that focuses on the assessment of existing legal doctrines, legislation, case law, and legal literature which are the primary sources. The authors have referred to legal texts and their relations in order to extract legal concepts, rules, and norms. Further, the authors have also relied on secondary sources like legal commentaries, journals, case digests, national and international law reports and documents, online databases, etc which have further

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contributed to the in-depth study of the topic.

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CHAPTER 2

AN OVERVIEW OF TBT AGREEMENTS AND THE AGRICULTURAL SECTOR UNDER WTO

2.1 *The World Trade Organization and International Trade*

A massive network of international trade now ties the globe tightly together[10]. The core of this network is the World Trade Organization (WTO), which was set up in 1995 as a successor to the WTO General Agreement on Tariffs and Trade (GATT) The WTO acts as a global forum for negotiating trade agreements, settling trade. WTO is a global platform for negotiations of trade agreements, dispute resolution and the maintenance of international trade regulations.[11]

The WTO operates on a set of multilateral trade agreements negotiated and adopted by its member countries. These agreements provide for a set of rules governing certain aspects of international trade, such as taxes, subsidies, intellectual property rights and technical standards. Promoting fair and open trade is a key objective of the WTO. It also includes ensuring a level playing field for all countries involved, enabling them to trade in goods and services without being subjected to discriminatory restrictions. In order to stimulate global economic growth, development and job creation, the WTO has a goal of promoting open trade.[12]

2.2 *The Challenge of Technical Barriers to Trade*

New challenges have emerged, although the removal of traditional trade barriers such as tariffs has substantially increased international trade. Some legislation may pose unexpected obstacles, while the WTO supports free trade. TBTs are government-imposed restrictions that can hamper the flow of international business[13]. There are various forms of such measures, including:

- Products must meet safety, health and environmental standards such as food safety to be covered by the technical regulations.[14]
- Standards for products, processes and services are a comprehensive set of specifications.[15]
- The compliance with food labelling standards, such as provenance, nutrition content and

[10] McKinsey & Company, Digital Globalization: The New Era of Global Flows (McKinsey Global Institute, Aug. 2016), https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/digital-globalization-the-new-era- of-global-flows.
[11] What is the WTO? https://www.wto.org/english/thewto_e/whatis_e/whatis_e.htm.
[12] World Trade Organization, Understanding the WTO: Overview, https://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm1_e.htm.
[13] European Commission Directorate-General for Trade, Technical Barriers to Trade (TBTs), https://trade.ec.europa.eu/access-to-markets/en/barriers.
[14] Agreement on Technical Barriers to Trade, art. 2, Apr. 15, 1994, 1869 U.N.T. 153
[15] Id.

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GMOs, may be difficult for exporters in a number of countries.[16]

- The conformity assessment process shall include testing and certification of items to verify that they comply with technical norms and standards.[17]

While TBTs are often founded with valid objectives, e.g. to protect human health, safety and the environment, they can be a source of obstacles for trade in different ways.:

- National standards: Each country has its own technical norms and regulations. Exporters who have to adapt their products in order to comply with the rules of each of the regions they enter may find themselves in a situation of confusion and increased costs.
- **Unnecessary Obstacles:** For foreign products meeting international safety standards, TBTs that are unduly demanding or not based on good research may create unnecessary obstacles.
- **Compliance Costs:** The process of complying with TBTs, such as product testing and certification, can be expensive and time-consuming for exporters, particularly those from developing countries.[18]

2.3 *The Impact of TBTs on Agricultural Trade*

TBTs may have unforeseen consequences for world agriculture trade, although they are often applied in order to meet valid public policy objectives such as environmental protection and health. Here's how:

- **Increased Costs for Exporters:** Due to the fact that different TBTs are being complied with in each country, exporters of agriculture may face increased costs. It involves adjusting the production methods, carrying out further testing and obtaining appropriate certification for each of the target markets.
- **Market Access Issues:** It could be difficult for imported agricultural products to comply with the requirements and prevent their entry into the market if TBT levels are high in a country. Developing countries whose agricultural products are not in line with the criteria laid down by industrialized countries may therefore have limited export potential.
- **Trade Delays and Disruptions:** Trade delays and interruptions in the supply of agricultural products may be caused by complex conformity assessment procedures,

[16] Food Package Labeling, Sciencedirect (2014), https://www.sciencedirect.com/topics/food-science/food- package-labeling.
[17] TBT Agreement, supra, art. 5.
[18] World Trade Organization, Technical Barriers to Trade, https://www.wto.org/english/tratop_e/tbt_e/tbt_info_e.htm.

including extensive inspections and product tests. For perishable products such as fruit, vegetables and milk it may be particularly harmful.

2.4 *The Focus: TBTs and the Agricultural Sector*

The agricultural sector, which provides food security and income to millions of people around the world, is a significant part of the overall economy[19]. However, the sector is particularly vulnerable to the challenges posed by TBTs because of:

- **Stringent Food Safety Requirements:** Consumer concerns about food safety have led to more stringent control over pesticide residues, GMOs and animal welfare. These rules, which are a challenge for export farmers, could be different from one country to another.
- **Sanitary and Phytosanitary (SPS) Measures:** In order to prevent the spread of pests, diseases and pollutants in farming products, governments are using health and phytosanitary measures. These regulations, which are of importance to public health, may also create trade barriers if not uniformly applied.[20]
- **Complex Labelling Requirements:** Food labelling regulations, including origin and nutritional information, vary by country. This can be difficult for exporters since they must change their packaging to meet the unique needs of each region.[21]

A key element of the WTO framework for the resolution of TBTs in international trade is the Agreement on TBT. In order to ensure that TBTs exist, the following principles are set out in this Agreement:

- **Non-discriminatory:** TBTs should not favor indigenous products over imported ones.[22]
- **Transparent:** Early notification of planned new rules should be provided by the countries. This will allow for feedback from other Member States and possibly changes in these policies.[23]
- **Based on International Standards:** The agreement urges member nations to base their TBTs on international standards established by organizations such as Codex Alimentarius for food safety and the International Plant Protection Convention (IPPC) whenever practicable. This would promote coherence and reduce unnecessary barriers to trade.[24]

[19] The World Bank, Agriculture and Food, https://www.worldbank.org/en/topic/agriculture/overview.
[20] World Trade Org., Agreement on the Application of Sanitary and Phytosanitary Measures, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex A, 1867 U.N.T. 154.
[21] Frank Kareth, Navigating the Food Labelling World, Intertek (2019), https://www.intertek.com/blog/2019/03- 05-food/.
[22] TBT Agreement, art. 2.1.
[23] TBT Agreement, art. 2.9.
[24] TBT Agreement, art. 2.4, 2.5.

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- **Minimally Trade-Disruptive:** To achieve their legitimate objectives and to have the least possible impact on international trade, TBTs should be envisaged.[25]

2.5 *The Agreement on Agriculture (AoA)*

The AoA Aid and Subsidy to Local Farmers is a World Trade Organization Agreement aimed at reducing government aid and subsidies to local farmers. It's one of the more controversial agreements in WTO history.[26] In order to reduce trade distortions caused by subsidies and restrictions on imports, the AoA seeks to establish a fair-trading environment for farm products with its three main pillars:

- **Market Access:** This pillar calls for WTO members to transform nontariff barriers such as quotas into tariffs which are gradually reduced over time. This will make it easier to access foreign farm products on national markets.[27]
- **Domestic Support:** Specific types of national aid for farmers, such as the provision of essential government services like research and infrastructure development, are allowed by the Agreement. However, it limits trade distorting subsidies which directly affect production or prices.[28]
- **Export Competition:** This pillar prohibits the use of export subsidies and other policies which artificially lower a country's export prices, thereby giving it an unfair competitive advantage on the global market.[29]

2.6 *The Need for a Balance*

While the WTO's primary objective is to reduce trade barriers, it is also important for countries to have the power to take measures to preserve legitimate public policy objectives. Protection of human health, food safety and the environment may also be part of this. The problem is to strike a balance between enabling business and allowing governments to adopt the legislation they need. This balance is sought by the WTO's framework for TBTs.

[25] TBT Agreement, art. 2.2
[26] World Trade Organization, Agreement on Agriculture, https://www.wto.org/english/docs_e/legal_e/14-ag_01_e.htm.
[27] World Trade Organization, Market Access for Agriculture, https://www.wto.org/english/tratop_e/agric_e/ag_intro02_access_e.htm.
[28] World Trade Organization, Domestic Support in Agriculture, https://www.wto.org/english/tratop_e/agric_e/ag_intro03_domestic_e.htm.
[29] World Trade Organization, Export Competition in Agriculture, https://www.wto.org/english/tratop_e/agric_e/factsheetagric17_e.htm

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CHAPTER 3

WTO AGREEMENTS AND REGULATIONS RELATED TO TBT AGREEMENTS IN THE AGRICULTURAL SECTOR

3.1 *TBTs in Agriculture*

Technical regulations and standards applicable to all traded commodities, such as food packaging, labelling, animal welfare, agriculture or Veterinary Chemicals are referred to in TBTs within the agricultural sector. The protection of human health, safety and the environment shall be a priority for these processes, which include product standards, testing and Technical Requirements[30]. In view of the fact that TBT measures have become a significant obstacle to market access with reduced tariff barriers in agricultural trade, they should not be discriminatory and must not constitute an excessive trading barrier. TBTs are extensively used in agriculture as SPS procedures to protect humans, animals, and plants from pollution, diseases, and pests[31]. Studies have shown that TBT in agriculture can lead to trade distortions and an impact on trade costs and volumes, with certain policies significantly increasing the import prices of products from farms.[32]

Due to the specific risks related to food safety, animal health and plant health as well as environmental issues, agriculture is particularly at risk from TBT effects and the common TBTs are:

1. **Sanitary and phytosanitary (SPS) Measures-** This is one of the most significant TBT in agriculture and include:
    - **Import restrictions on live animals and animal products:** In order to prevent the spread of diseases such as foot-and-mouth disease or avian influenza, Member States may limit or prohibit imports of live animals and animal products.
    - **Quarantine requirements for plants and plant products:** In order to prevent the spread of pests or diseases, imported plants and goods may require inspection, fumigation or quarantine.
    - **Maximum Residue Levels (MRLs) for pesticides:** The maximum residue limits set by

[30] U.S. Trade Representative, Office of Agricultural Affairs, Sanitary and Phytosanitary Measures and Technical Barriers to Trade, https://ustr.gov/issue-areas/agriculture/sanitary-and-phytosanitary-measures-and-technical-barriers-trade.
[31] Geoffrey S. Becker, Agricultural Exports: Technical Barriers to Trade, University of North Texas Libraries (1997), https://digital.library.unt.edu/ark:/67531/metacrs380/.
[32] Anne-Célia Disdier, Lionel Fontagné and Mondher Mimouni, The Impact of Regulations on Agricultural Trade: Evidence from the SPS and TBT Agreements, 90 AJAE 336–350 (2008), http://www.jstor.org/stable/30139588.

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the countries are used to limit pesticide residues in agricultural products. Exporters need to ensure that their products comply with the MRLs of their target markets.[33]

2. **Food Safety Standards:** These regulations are designed to protect consumers against food borne illnesses and the safety of foodstuffs and includes:

- **Restrictions on the use of certain antibiotics or growth promoters in livestock:** Due to concerns about antimicrobial resistance and possible health effects, some countries have banned or restricted the use of specific antibiotics or growth enhancing agents in livestock.[34]
- **Regulations on food additives and preservatives:** The types and quantities of additives or preservatives that may be used in food products may be restricted in different countries.[35]
- **Genetically Modified Organism (GMO) labelling requirements:** Some countries are requiring the labelling of foodstuffs with GMO requirements. Exporters who are not familiar with the specific labelling legislation in each area may find it hard to do this.[36]

3. ***Labelling Requirements: Exporters may find it difficult to comply with the rules relating to information published on food packaging being:***

- **Origin labelling:** Labelling indicating the country of origin of food products may be required by Member States. In particular, consumers who rely on geography for their purchasing decisions need to be aware of this.[37]
- **Nutritional labelling:** A comprehensive nutrition information on food packaging, such as calories, fats, sugars and salt content, may be required in regulations.[38]
- **Environmental labelling:** In order to promote sustainability in agricultural practices,

[33] World Trade Organization, Sanitary and phytosanitary measures (SPS), https://www.agriculture.gov.au/biosecurity-trade/market-access-trade/wto/sps.
[34] Source 1: A scientific report on the impact of antibiotic use in livestock on antimicrobial resistance. (e.g., World Health Organization report).
Source 2: A government regulation outlining restrictions on specific antibiotics in livestock feed. (e.g., European Union regulation).
[35] Source 3: A food safety handbook detailing permitted food additives and preservatives. (e.g., Codex Alimentarius).
Source 4: A national food safety law outlining regulations on food additives. (e.g., The United States Food and Drug Administration (FDA) Food Additive Regulations).
[36] Source 5: A legal guide to international food labeling requirements for GMOs. (e.g., Food and Agriculture Organization of the United Nations (FAO) guidance).
[37] WTO, Country of Origin Labelling Requirements-Comparative Research and Conclusions, https://www.wto.org/english/tratop_e/roi_e/bauer_medelroisept16.pdf.
[38] Codex Alimentarius Commission, General Standard for the Labelling of Prepackaged Foods, https://www.fao.org/3/Y2770E/y2770e02.htm.

some countries have set up ecolabeling schemes. Exporters may be required to comply with these labelling criteria in order to gain access to specific markets.[39]

3.2 *Digital Disruption in the TBT Landscape*

The TBT scenario in agriculture is being altered by the proliferation of digital technologies. Digital solutions like blockchain are addressing traditional technical barriers, e.g. the difficulty of keeping records in paper form for traceability purposes. This is intended to increase transparency and real time data on the provenance and production methods of food, which could facilitate compliance with requirements related to traceability and labelling. However, new challenges are also presented by digitalisation. New TBT regulations are necessary to guarantee responsible data management in order to address concerns related to data security and privacy of food supply chains. In addition, the integration of artificial intelligence in agriculture raises questions about potential biases with algorithms and calls for regulation to ensure fair and ethical use of AI in food production.[40]

3.3 *The Growing Environment of TBT in Agriculture*

There is a rapid change in the TBT landscape in agriculture. As consumer expectations of transparency and ethical sources increase, TBT legislation becomes increasingly strict. The global food chain and the emergence of new technologies such as gene editing are contributing to this trend. Stricter rules on environmental impacts, such as water consumption, pesticide residues and animal welfare measures, are becoming increasingly important[41]. Moreover, in order to allow customers to make more informed decisions, specific legislation on the labelling of foodstuffs is increasing[42]. While this contributes to a more sustainable and transparent food system, issues persist. Balancing compliance costs, particularly for poorer nations, and ensuring rules are science-based rather than veiled protectionism necessitates continuing international collaboration.

3.4 *The Efficacy of WTO Agreements in Addressing Modern Agricultural Challenges*

The WTO agreements, in particular the AoA and TBT Agreements, are playing a significant

[39] International Trade Centre, A Guide to Sustainable Labeling and Claims, https://intracen.org/file/t4sdpublication20211217webpagespdf.
[40] Food and Agriculture Organization of the United Nations (FAO), Codex Alimentarius, https://www.fao.org/fao-who-codexalimentarius/en/.
[41] World Trade Organization, Technical Barriers to Trade, https://www.wto.org/english/tratop_e/tbt_e/tbt_e.htm.
[42] Food and Agriculture Organization of the United Nations (FAO), Codex Alimentarius, https://www.fao.org/fao-who-codexalimentarius/en/.

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role in international agricultural commerce regulation. But its effectiveness in addressing contemporary concerns is questionable.

The AoA has helped to facilitate trade liberalisation in a significant way. The average tariffs on agricultural products have decreased since its implementation, according to studies conducted by the International Food Policy Research Institute (IFPRI)[43]. In addition, the TBT Agreement encourages openness and harmonization of technical rules with a view to eliminating unnecessary trade barriers. The agreement has simplified food safety legislation at national level, e.g. due to the emphasis on International Standards like those laid down by the Codex Alimentarius Committee[44]. Increased trade flows are probably a consequence of the AoA's focus on market access and reducing business distortions[45]. But there are still doubts about this. In many cases, developing countries struggle to compete with rich countries' heavily subsidised agricultural sectors, leading to concerns about equity[46]. In addition, in order to meet growing challenges such as sustainable practices or consumer concerns about animal welfare, the AoA provides countries with limited flexibility in implementing stronger legislation.

The TBT Agreement, which aims to make trade more transparent and harmonized with technical standards, is a major step forward in the elimination of undeclared protectionism. Its effectiveness is called into question by the constant change in the nature of technological obstacles. For example, new legislation on data security and ethical use of AI is needed for the expansion of digital technologies in agriculture as this framework does not specifically address these issues[47]. In addition, the scientific rationale for some TBT measures may serve as a source of debate that leads to conflicts and trade disruption in particular with respect to innovation technologies such as GMOs.

But it is difficult for the WTO framework to address some of the biggest challenges in today's agricultural sector. Developing countries that compete with heavily subsidised producers may

[43] Eugenio Diaz Bonilla, The Impact of WTO Agreements on Agriculture, IFPRI (2017), https://www.ifpri.org/blog/was-then-now-wto-and-agriculture.
[44] WTO, The Agreement on Technical Barriers to Trade, https://www.wto.org/english/tratop_e/tbt_e/tbtagr_e.htm.
[45] Agreement on Technical Barriers to Trade, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1869 U.N.T. 154.
[46] WTO, Special and differential treatment provisions, https://www.wto.org/english/tratop_e/devel_e/dev_special_differential_provisions_e.htm.
[47] WTO, Agreement on Technical Barriers to Trade art. 1 (1986), https://wto.org/tbt.

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be adversely affected by the AoA's focus on market access and tariff reductions[48]**.** In addition, when dealing with emerging technologies like GMOs where safety data may not be sufficient for a longer period of time, the TBT Agreement's emphasis on Scientific Reason could pose problems.

The growth of Digital Technology in the agricultural sector presents new challenges. The WTO framework does not include clear data security and privacy requirements for the food supply chain, both of which are key issues in today's digital age. Similarly, in view of the possible impacts of AI on agriculture such as algorithm bias, new legislation needs to be put into place which has not been adequately dealt with so far under existing agreements.

[48] UNCTAD, Launch of the Least Developed Countries Report 2020, https://unctad.org/meeting/launch-least-developed-countries-report-2020.

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CHAPTER 4

CURRENT TRENDS OF TBT AGREEMENTS WITH AGRICULTURAL SECTOR

Science-Based Standards and Risk Assessments

It is becoming more and more important to ensure that TBTs in agriculture are based on scientifically valid data and risk assessments. In addition, it will help to avoid discriminatory or protectionist measures having a negative impact on commercial activity. International organizations like the Codex Alimentarius Commission (CAC) play a vital role in developing science-based food safety standards that nations can utilize as the foundation for their TBTs. An important example is the work of the CAC on the development of global recommendations on the reduction of residual pesticide levels in various agricultural products. In view of the country differences in risk assessment, this is intended to promote harmonization and reduce the potential for conflict between TBTs.[49]

The Rise of Non-Tariff Measures (NTMs) and Sustainability

In addition to standard SPS procedures and food safety standards, there is a growing interest in the use of non-tariff procedures addressing sustainability. NTMs may include rules governing water use, soil conservation practices, and animal welfare regulations in agriculture. In order to prevent hidden trade barriers, the challenge is to ensure that these NTMs are transparent, free of discrimination and based on scientific principles. The WTO is considering how the TBT Agreement can facilitate this evolution of NTMs while maintaining its support for sustainable agriculture.[50]

E-commerce and the Digitalization of Trade

In view of the growing popularity of internet markets for agriculture products, it is necessary to lay down special electronic certificate and conformity assessment standards. The TBT Agreement is being revised to reflect the new realities of information and communication

[49] Codex Alimentarius Commission, Maximum Residue Limits (MRLs), https://www.fao.org/fao-who-codexalimentarius/codex-texts/maximum-residue-limits/en/.
[50] World Trade Organization, Committee on Sanitary and Phytosanitary Measures, https://www.wto.org/english/tratop_e/sps_e/sps_e.htm.

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technology trade. standardisation of e certificates for SPS compliance and the use of Blockchain technologies could be part of this, with a view to ensuring traceability and authenticity of agricultural products on an online market.[51]

Balancing Transparency and Confidentiality in Traceability Systems

In the food supply chain, consumers are looking for greater openness. Common standards for electronic traceability systems are being developed in the framework of the TBT Agreement. These technologies allow customers to trace the origin and production process of their food. Nevertheless, the protection of commercially sensitive information for farmers must be balanced between transparency and security.[52]

The Role of Developing Countries

The implementation of complex TBTs is often a challenge in developing countries. In order to help these countries develop the infrastructure and expertise necessary for compliance with international standards, the World Trade Organization is focusing on capacity development initiatives. Technical assistance programmes, educational courses and financial support to implement food safety and quality control systems could also be part of this.[53]

Developed Countries

The United States has strict food safety standards such as maximum pesticide residue limits and traceability requirements for certain products, when it comes to serious SPS arrangements. These measures, as well as import bans on certain agricultural products considered high risk, may be accompanied by rigorous inspections, fumigations and other precautions. While these rules are intended to protect US agriculture, they may pose serious problems for exporters, in particular those of developing countries with limited resources who need to comply with sophisticated inspection practices and treatment methods[54]. Poor countries may be hard to comply with these laws, which could limit their access to the market for exports of agriculture. For example, some poor countries may find it difficult to meet the United States criteria for

[51] International Trade Centre, E-commerce for Agriculture: Trade Impact for Business and Farmers, https://intracen.org/our-work/topics/food-and-agriculture.
[52] Food and Agriculture Organization, Food Chain Information and Consumer Awareness, https://www.fao.org/3/i5555e/i5555e.pdf.
[53] World Trade Organization, Trade-Related Technical Assistance and Capacity Building, https://www.wto.org/english/tratop_e/devel_e/teccop_e/tct_e.htm.
[54] Mary E. Meek et al., The Trade Impacts of Stringent Food Safety Standards, 42 J. World Trade L. 1 (2008).

residues of antibiotics in beef products.[55]

There are strong GMO labelling regulations in the European Union (EU)[56].In the field of genetically modified organisms, the EU has some of the most stringent rules in the world. These provisions call for mandatory labelling of any food product in which GMOs are present above a specified level[57], irrespective of the fact that there are currently studies demonstrating their safety to human consumption. Exporters, especially those from developing countries, who may not be able to separate GMO crops from non-GMO crops in the supply chain can find this a very technical challenge.[58]

In order to eliminate the potential for pests and germs, Japan will require irradiation of certain imported fruits and vegetables. This requirement, although maintaining food safety, adds a technical hurdle for exporters who may not have access to irradiation facilities or whose manufacturing methods are incompatible with irradiation treatment. For some farm products, this may limit their market access.[59] [60]

Developing Countries

Brazil, a major exporter of agricultural products, is often confronted with difficulties in complying with developed country TBT rules, particularly those aimed at environmental sustainability. For example, the EU's strict traceability and labelling rules for GMOs can complicate and increase export costs even if Brazilian soybeans comply with European safety standards. Even for the meat grown in areas that were previously forested. Brazil could find it difficult to establish 100% deforestation free production techniques across its vast agricultural regions, which would constitute a technological barrier to trade, while these restrictions also support laudable objectives.[61]

The challenge for developing countries, such as Vietnam, which have a large agricultural export

[55] U.S. Dep't of Agric., Animal & Plant Health Inspection Serv., Import Requirements, https://www.aphis.usda.gov/.
[56] Europa.eu, Questions and Answers on the Regulation of GMOs in the European Union, MEMO/07/117 (Apr. 17, 2007).
[57] currently 0.9%.
[58] International Food Policy Research Institute, The EU and Genetically Modified Organisms: A Literature Review (2003), https://food.ec.europa.eu/plants/genetically-modified-organisms/reports-and-studies_en.
[59] Forestry Agency of Japan, https://www.fsc.go.jp/english/.
[60] Food Irradiation, https://www.kitchenstewardship.com/irradiated-spices-safety.
[61] The European Commission recently proposed a new regulation on corporate sustainability due diligence, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52021PC0706.

base, is to keep pace with changing SPS rules in wealthy countries. Specific pests or diseases associated with certain agricultural products are usually targeted by these treatments. In order to comply with the most current SPS standards for various agricultural exports, Vietnam may find it difficult to adapt its quarantine procedures and inspection system in a timely manner resulting in trade interruptions.[62]

India

India's approach to TBT in the agriculture industry is complex. India shall comply with the right of countries to apply TBT measures in order to protect people, animals and plant health as well as the environment[63]. It is consistent with India's own efforts to promote the safety of foodstuffs and biosecurity. India is concerned about the use of TBT restrictions by industrialised countries as covert protectionist measures against imports[64]. India may, for example, object to overly restrictive labelling rules or SPS measures that do not provide a solid science basis and which it claims are detrimental to the export of Indian agriculture. India highlights the need to base TBT measurements on internationally recognised standards, such as those of Codex Alimentarius Commission. It encourages consistency and reduces the burden on Indian exporters, who will no longer have to meet a range of domestic standards.[65]

In order to achieve higher TBT regulations, India recognises the problems faced by underdeveloped countries[66]. It supports WTO rules providing technical assistance and flexibility to developing countries in order to build capacity, which comply with international standards[67]. India actively participates in the WTO's TBT Committee to ensure its regulations are transparent and non-discriminatory[68]. This will allow India to pursue a fair treatment of its agricultural exports and seek access to the international market with others. It also provides India with the opportunity to pursue a fair treatment of its agricultural exports as well as negotiating market access with third countries. India argues that the EU's organic food

[62] Vietnam, Trade Agreement, https://www.wto.org/english/thewto_e/acc_e/vnm_e/WTACCVNM39A1_LEG_4.pdf.
[63] TBT, art. 2.1.
[64] GATT Working Party on Sanitary and Phytosanitary Measures, Report, GATT Doc. MTN/FRT/SE/11 (1989), para. 132.
[65] World Trade Organization, Committee on Sanitary and Phytosanitary Measures, Specific Trade Concerns Regarding the Import of Bovine Meat from India, WT/SPS/NGR/10 (2001).
[66] World Trade Organization, Trade Facilitation Agreement, art. 6 (2013), https://wto.org/tradefacilitation.
[67] World Trade Organization, Ministerial Declaration on the Review of the Implementation of Articles VI, XVI and XXIII of the General Agreement on Tariffs and Trade 1994, 13 (1994), https://www.wto.org/english/docs_e/legal_e/40-dadp2_e.htm.
[68] World Trade Organization, Agreement on Technical Barriers to Trade, art. 10 (1994), https://wto.org/tbt.

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certification rules are excessively restrictive and disadvantage Indian producers. Through the Codex Alimentarius Commission, India is an active participant in setting global food safety standards. In order to raise concerns about TBT measures which may unduly affect its agriculture exports, India relies on the TTB Committee of the WTO.[69]

In general, in agriculture, India would prefer a balanced approach to TBT. It acknowledges the importance of reasonable measures to protect public health and the environment, but also promotes fair treatment of its agricultural exports and opposes veiled protectionism by means of TBT legislation.

Least Developed Countries

The infrastructure and resources needed to comply with complex TBT standards are often lacking in the least developed countries, such as Malawi. These methods may include specific treatments, control procedures or traceability systems in order to prevent the spread of pests and diseases. Malawian farmers and exporters may lack the necessary resources or infrastructure to comply with these regulations, limiting their ability to export agricultural goods to industrialized nations with tougher SPS requirements. Moreover, they may find it difficult to establish the safety of their farm products in accordance with internationally accepted standards due to a lack of scientific knowledge. Their capacity to engage in agricultural trade abroad may therefore be restricted. In order to comply with the EU rules on exports of natural foods, for example, Malawi may find it difficult to set up efficient quality control systems.[70]

Due to scientific constraints, less developed countries such as Ethiopia are sometimes struggling to meet food safety requirements. Due to a lack of modern testing equipment and skilled personnel, it may be difficult to comply with international rules on maximum residue levels for pesticides or show that there are no dangerous microorganismes present in agricultural products. This could significantly limit market access for Ethiopia's agricultural exports, in particular to wealthy countries with strict food safety regulations.[71][71]

The implementation of even basic TBT procedures is difficult for LDCs, such as Haiti, due to

[69] World Trade Organization, Agreement on Technical Barriers to Trade, art. 3 (1994), https://wto.org/tbt.
[70] WTO, Least-developed countries, https://www.wto.org/english/thewto_e/whatis_e/tif_e/org7_e.htm.
[71] UNESCO Science Report, https://uis.unesco.org/sites/default/files/documents/unesco-science-report-towards-2030-part1.pdf.

limited resources. Due to limited resources and infrastructure, it can be difficult to set up robust quality control systems, establish traceability programmes or maintain acceptable sanitary standards for agricultural production. This lack of capacity to implement TBT measures may make it hard for Haiti's agricultural products to compete in the global market and thereby limit their export potential.[72]

Cases

1. **Measures Concerning the Importation of Certain Agricultural Products- The** complaint relates to India's restriction of imports from the United States for many agricultural products, alleging avian influenza concerns. While the argument was largely about the Agreement on SPS Agreement, parts of TBT may have been invoked if the import restrictions included particular technical rules or conformity assessment procedures for agricultural items.[73]
2. **Measures Concerning Agricultural Products from Ukraine-** It's the latest in a series of cases with limited information publicly available. This term is, nevertheless, a conflict of interest with regard to Slovakia's Technical Measures in the field of Agricultural Products Imports from Ukraine. Further examination may indicate that the particular measures concerned, for example labelling requirements, traceability standards or special methods of quality control in respect of farm products considered, are related to TBT legislation.[74]

Few other cases involving SPS and TBT standards are:

- United States- Measures Concerning the Importation, Marketing and Sale of Tuna and Tuna Products.[75]
- European Communities- Certain Measures Affecting Poultry Meat and Poultry Meat Products from the United States.[76]
- United States - Measures Affecting the Importation of Animals, Meat and Other Animal

[72] Haiti, https://www.worldbank.org/en/country/haiti.
[73] DS430: India and United States, Measures Concerning the Importation of Certain Agricultural Products, https://www.wto.org/english/tratop_e/dispu_e/430r_e.pdf.
[74] DS621: Slovak Republic and Ukraine, Measures Concerning Agricultural Products from Ukraine, https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/WT/DS/621-1.pdf&Open=True.
[75] WT/DS381: United States and Mexico- Measures Concerning the Importation, Marketing and Sale of Tuna and Tuna Products, https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds381_e.htm.
[76] DS389: European Communities and United States, Certain Measures Affecting Poultry Meat and Poultry Meat Products from the United States, https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds389_e.htm.

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Products from Argentina.[77]

- United States - Certain Measures Affecting Imports of Poultry from China.[78]

CONCLUSION, SUGGESTIONS AND RECOMMENDATIONS

The current WTO agreements have played an important role in supporting the stability and effective functioning of world agriculture markets. However, continuous change and modernisation are needed to ensure its effectiveness in the face of today's challenges. The WTO can provide for a fair, sustained and secure agriculture future through addressing these shortcomings in its agreements. In order to address evolving concerns, the WTO needs to be adapted. To this end, it may be necessary to amend existing agreements to include specific provisions for poor countries, or to create new frameworks for data security and ethical use of artificial intelligence in agriculture.

The environment for TBTs in agriculture continues to change, which poses both opportunities and challenges throughout the world food system. While TBTs serve valid reasons such as guaranteeing food safety and environmental protection, they can also impede international commerce, particularly for emerging and underdeveloped nations. Infrastructure, availability of resources and technical competences are often the determining factors in their ability to comply.

It is essential to establish harmonized TBTs based on sound scientific evidence and risk assessments. In support of this strategy and in promoting information sharing between Member States, the WTO can play a significant role. Targeted capacity building initiatives and technical assistance to developing countries could be provided by developed nations and international organisations in order to close the gap of compliance. Best practices training, laboratory renovations and support for the implementation of quality control systems may be part of this. The efficiency and reduction of trade friction can be enhanced through the use of digitally enabled technologies, e.g. Electronic Certificates, Online Traceability Systems or Faster Notifications Procedures. The balance between the promotion of food safety and sustainability, as well as against protectionism, must be found by TBTs.

[77] DS447: United States and Argentina, Measures Affecting the Importation of Animals, Meat and Other Animal Products from Argentina, https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds447_e.htm.
[78] DS392: United States, Certain Measures Affecting Imports of Poultry from China, https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds392_e.htm.

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The TBT Agreement provides a framework for dealing with TBT issues. There's a chance for improvement of the WTO provision, though. It would be useful to simplify dispute resolution procedures and establish better standards for the treatment of emerging technologies in the TBT framework. For this Cooperation among stakeholders, including governments, industrial bodies and research institutes, is an essential part of effective solutions. The efficiency and fairness of global trade in agriculture can be enhanced by mutual exchange of best practices, support for sustainable farming methods as well as the establishment of PPPs. In addition to granting flexibility, the WTO should keep a close eye on and evaluate the success of specific and differentiating treatment for emerging countries. This ensures that they are provided with the assistance required to overcome compliance obstacles and achieve a full participation in the Global Agriculture Trade System. In order to create a more equitable and inclusive environment for TBTs in agriculture, the implementation of these suggestions and recommendations will be helpful. For all countries, this will lead to a future in which trade supports food security, improves the livelihood of farmers and is conducive to an environmentally sound agricultural sector.

In conclusion, the effectiveness of WTO agreements in addressing existing problems has been minimal although they have undoubtedly improved trade in agriculture. In order to address the issue of justice for poor countries, to allow governments to adopt more stringent sustainability and ethical standards and to evolve in line with technological progress in agriculture, the WTO framework needs to be adapted. In order to ensure that the WTO agreements remain relevant and successful in a fast-evolving agricultural world, it will require continued debate and possible adjustments.

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- DS621: Slovak Republic and Ukraine, Measures Concerning Agricultural Products from Ukraine,
- https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/WT/DS/621-1.pdf&Open=True.
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