



## International Trade in Agriculture, Terms of Trade, and the World Trade Organization with Reference to India

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### Abstract

The three interconnected parts of the Indian economy that are discussed in this article are Indian agriculture, terms of trade, and the function that the World Trade Organization plays in Indian agriculture. It has been said that international agricultural trade is something that cannot be explained, that it is extremely frustrating, and that it is the most skewed sector of the world economy. There are several different areas of international and domestic law that are involved in international agricultural trade. These areas include international treaties and agreements, domestic trade legislation, and general policy decisions. The vast and complex field of international agricultural trade is the subject of this review, which focuses on three basic themes within that field. In this section, we also talk about certain significant crops. A movement of income from the industrial sector to the agricultural sector will occur as a result of terms of trade that make the agriculture sector more advantageous. The overall savings of the economy may be impacted as a result of this. Because of this, the formation of capital will be negatively impacted. Without a shadow of a doubt, a portion of the additional money from agriculture can be collected through taxation. The agreement reached by the World Trade Organization (WTO) on agriculture has resulted in substantial changes, such as the reduction of trade barriers and domestic subsidies. However, there are still certain problems that are affecting Indian agriculture and have not yet been resolved. One of these problems is the patenting of plant types.

**Keywords:** Agriculture; Crops; India; Terms of Trade; The World Trade Organization

### Introduction

#### Trade of agriculture on an international scale

The act of exchanging capital, goods, and services across international borders or territories in response to a need or demand for goods or services is what we mean when we talk about international trade. A sizeable portion of the gross domestic product is contributed by this type of trade in the majority of countries. The exchange of commodities and services between nations is what we mean when we talk about international trade. Free trade and protectionism are two extreme perspectives that contrast with one another in terms of the extent of control that is imposed on international trade. A market model known as free trade in which there are no limits imposed by the government on the flow of trade in goods and services between or within countries is referred to as free trade. Both tariff and non-tariff trade barriers are examples of trade restrictions. Taxes and other measures are also included in this category. On the other hand, protectionism is an approach that seeks to safeguard domestic industries and employment op-

portunities. Tariffs on imported goods, subsidies, and quotas are the three aspects of protectionism that are most frequently encountered.

It has been said that international agricultural trade is something that cannot be explained, that it is extremely frustrating, and that it is the most skewed sector of the world economy. In spite of this, its significance is growing as the agricultural market gets more and more worldwide. According to the Foreign Agricultural Service (FAS) of the United States Department of Agriculture (USDA), the United States is one of the top agricultural exporters in the world. This is measured by the fact that more than twenty percent of the volume of agricultural production that occurs within the United States is exported annually. There are several different areas of international and domestic law that are involved in international agricultural trade. These areas include international treaties and agreements, domestic trade legislation, and general policy decisions. The vast and complex field of international agricultural trade

is the subject of this review, which focuses on three basic themes within that field.

It is necessary to investigate the behaviour of the domestic counterparts of the observed external adjustment process in order to get additional insights into the manner in which economies have historically adjusted to major shifts in the total amount of trade. This can be accomplished by decomposing variations in the trade balance into the domestic demand and production (supply) changes. The stylized facts that are reported in the study provide a first look at the process of adjustment to big shocks to the total amount of technology (ToT), and they pose a number of concerns, such as: what is the channel via which domestic demand has to adjust? Is it a reflection of predictions for the continuing impact of the shock, or does it indicate borrowing constraints? Within the context of the adjustment process, what are the roles that the public sector and the private sector assume? When multiple exchange rate regimes are adopted, what are the consequences of doing so? Future study could be conducted along these lines [1].

There are both positive and bad effects that can be attributed to international trade, which plays a significant role in the formation of India's agricultural industry. India is predominantly an agricultural economy, and agriculture accounts for a sizeable amount of the country's gross domestic product (GDP). The dynamics of international commerce have a key influence in determining how this sector is affected.

### In the context of history

Following its independence in 1947, India adopted a policy of self-sufficiency as its primary objective. The liberalization policies that were implemented in the 1990s, on the other hand, opened up the Indian market, which resulted in a stronger influence of international commerce on the agricultural sector in India.

### Impacts on the positive

Exposure to global markets resulted in the diversity of crops, which led to further diversification. Farmers began planting cash crops and horticulture crops in order to meet the demand of consumers all over the world.

Exports and Revenue: Agricultural exports such as basmati rice, spices, tea, and marine items have experienced significant increase in recent years. The nation's foreign exchange reserves have both increased as a result of this.

For the purpose of boosting exports, there has been a greater emphasis placed on contemporary agricultural techniques, which has contributed to a rise in production. This is a result of technological advancements.

### Adverse effects include

Vulnerability to Fluctuations in foreign Prices The agricultural sector in India is susceptible to the fluctuations that occur in foreign prices. For instance, a decline in the prices of commodities around the world might have a negative impact on Indian exporters.

As farmers move their focus to more lucrative export-oriented crops, there is a possibility that traditional crops will fail to receive the attention they deserve, which could result in possible worries over food security.

Concerns Regarding the Environment The cultivation of crops with an eye toward exportation might sometimes require an excessive amount of water or lead to environmental degradation.

### Agriculture in India and the world trade organization

The Agreement on Agriculture (AoA) that was established by the World commerce Organization (WTO) has had a direct impact on the agricultural commerce that occurred in India. Despite the fact that India has acquired access to global markets, there have been worries surrounding the fact that developed countries provide subsidies to their farmers. This results in developing countries like India having a difficult time competing with wealthy countries.

There have been disagreements in international trade forums about topics such as the Minimum Support Price (MSP) that the Indian government offers to its farmers.

### Prospects for the future

As a result of globalization, there will be a greater degree of connectivity between Indian agriculture and markets around the world. Both opportunities and challenges are presented as a result of this. In spite of the fact that India has the potential to capitalize on the worldwide demand for organic and exotic agricultural products, the country must be mindful of the risks associated with swings in international prices.

The rhetoric of the future will be shaped by climate change and sustainable farming techniques, and international trade agreements will need to take these aspects into consideration.

The relationship that Indian agriculture has with international trade is complex and multi-faceted. Despite the fact that it presents the agricultural sector with the opportunity for expansion and wealth, policymakers have a responsibility to guarantee that the interests of small farmers are safeguarded and that the nation's food security is not jeopardized.

### A literature review on the relationship between Indian agriculture and commercial trade

Agriculture in India is an essential component of the country's economy, both in terms of the number of jobs it creates and the amount of GDP it contributes. The intersection of Indian agriculture and international trade has become increasingly prevalent as a result of globalization. The purpose of this literature review is to survey the available research on the connection between Indian agriculture and international trade and to provide an overview of that study.

### In the context of history

During the period following India's independence, Sen [2] conducted an analysis of the country's initial efforts to achieve self-sufficiency in food grain production and the impact of the Green Revolution. The extent of India's engagement in international markets was restricted throughout this time period.

The liberalization that occurred after the 1990s was explored by Pursell, *et al.* [3], who pointed out that the liberalization that occurred in the 1990s had a substantial impact on the trade landscape, hence exposing Indian agriculture to international markets.

### Influence on the production of agricultural goods and their diversification

Several studies, such the one conducted by Chand [4] and others, demonstrated that Indian farmers diversified their crop production as a result of international commerce. Instead of concentrating solely on basic crops such as rice and wheat, there was a discernible move toward cash crops, horticultural produce, and several other types of crops, with the intention of pursuing export markets.

### Improvements in productivity and technological developments

The agricultural sector in India has benefited from technical developments thanks to its exposure to global markets and competition. The research conducted by Birthal, *et al.* [5] investigated how the demands of international trade led to a more technologically aware attitude, which in turn led to increases in productivity in particular industries.

### Vulnerability to prices that are set internationally.

The findings of research conducted by Gulati and Saini [6] demonstrated how the agricultural sector in India became vulnerable to variations in world prices. Implications were felt by Indian exporters as a result of the worldwide decline in commodity prices, particularly during the latter part of the 2000s.

### Policy shifts and the World Trade Organization.

India's position in the World Trade Organization's Agreement on Agriculture (AoA) was analysed by Narayanan and Gulati [7]. During their conversation, they examined the benefits and problems that the AoA presents for India's agricultural trade.

In his article [8], Sharma delves further into the ramifications of the World Trade Organization's (WTO) rules on India's Minimum Support Price (MSP) and the potential disputes that could arise as a result of it.

### Concerning the environment and long-term sustainability

Environmental concerns emerged as a result of the shift toward crops that were focused toward export. Studies such as the one conducted by Singh and Singh [9] brought to light the excessive use of water for crops that were largely intended for export, which raised worries about the sustainability of the practice.

### Final thoughts and suggestions for the future

In spite of the fact that international trade has brought about a number of advantages, such as an increase in revenue streams, diversity, and technological developments, there have been some difficulties. Among these are susceptibility to variations in global prices, limits imposed by policy, and concerns over problems with environmental sustainability.

The current body of research indicates that there is a requirement for a well-rounded strategy regarding international commerce, which places an emphasis on environmentally responsible methods, increases the adaptability of farmers, and safeguards domestic interests.

The scope of this review is so broad that it merely touches the surface of so much study. On the other hand, it is undeniable that the junction of Indian agriculture and foreign trade has resulted in the emergence of both opportunities and challenges. Additional investigation into specific policy recommendations, the impact of technology in improving trade benefits, and additional exploration of the environmental implications of trade-driven agricultural practices could be some of the topics that could be investigated in future study.

As the landscape of agricultural markets and commerce continues to evolve, monitoring should be done.

When it comes to providing farmers and other individuals working along the food supply chain with a means of subsistence, trade is an extremely important factor. In addition to this, it helps to increase the variety of consumer goods available and contributes to the reduction of food insecurity all over the world.

During the period of March 2020 to June 2020, the exports of agricultural goods amounted to Rs. 25552.7 Crore. This represents a significant rise of 23.24% compared to the figure of Rs. 20734.8 Crore that was exported during the same time period in 2019. From 9.4 percent in 2017–18 to 9.9 percent in 2018–19, India's agricultural exports have climbed as a percentage of the country's agricultural gross domestic product (GDP).

A global trade surplus of agricultural and related items totalling \$11.8 billion was realized by India in the year 2021 globally. Basmati rice, prawns, shrimp, carabeef, spices, and refined sugar were the types of products that were exported in the highest quantities.

Rice, beef, spices, raw cotton, and sugar are just some of the agricultural products that the nation has become a big exporter thanks to its growing agricultural sector. Certain specialized agricultural goods, such as basmati rice, guar gum, and castor oil, have brought India to the point where it is now competitive in the international market.

When it comes to providing farmers and other individuals working along the food supply chain with a means of subsistence, trade is an extremely important factor. In addition to this, it helps to increase the variety of consumer goods available and contributes to the reduction of food insecurity all over the world. The liberalization of trade can also be beneficial since it can improve the efficiency of production in agriculture, make it possible to boost nutritional diversity, and increase access to agricultural products. By allowing commerce, the volatility of food prices is significantly reduced, and this is accomplished by diversifying the sources of supply.

Through participation in international trade, nations are able to broaden their business horizons and gain access to products and services that might not have been available within their own borders. There is a higher level of competition in the market as a direct outcome of international trade. At the end of the day, this leads to more competitive pricing, which eventually results in a cheaper product being brought home to the consumer.

One definition of international agriculture is “a program that focuses on the application of agricultural management and scientific principles to the problems of global food production and distribution, as well as to the study of the agricultural systems of other countries.”

### Commodities relating to agriculture in India's top 10

It is common knowledge that India is famous for the many agricultural products it produces. One thing that we are aware of is that India is a prosperous agricultural nation. We are displaying the list of the top ten agricultural commodities that are produced in India here. Have a look at the next item.

#### Grass rice

The consumption of rice in India is the highest among all other agricultural commodities' consumption. In India, the majority of rice is produced, including both white rice and brown rice, which are grown in the eastern and southern regions of the country. In terms of rice production, India is the second largest producer in the world. In India, rice cultivation is becoming increasingly popular as a result of rising market demand.

These are the states in India that produce the most rice.

- Punjab (Punjab)
- The state of Odisha
- Assam (State)
- The state of West Bengal
- India's Uttar Pradesh

#### Milk

Among all countries in the world, India is the one that produces the most milk. Milk is generated at a significant level in India from a wide variety of animals, including buffalo, cow, cattle, and many others. Following the events of the white revolution, India emerged as the world's leading producer of milk among all countries. At the present time, the agricultural sector in India is undergoing continuous development, and as a result, the poultry industries are expanding at a rapid pace.

The Indian states with the highest level of milk production

- India's Uttar Pradesh
- The state of Rajasthan
- This is Andhra Pradesh.
- (Gujarat) and
- Punjab (Punjab)

**It is wheat.**

Wheat is consumed and produced according to a wide range of standards in India. Wheat was an essential commodity that was utilized on a nearly daily basis in India. In addition to being an important agricultural commodity, it is abundant in proteins, carbs, and vitamins, and it is also included in the category of balanced foods. You may cultivate wheat on a wide range of soils, although the northern parts of India are where it is most commonly produced.

These are the states in India that produce the most wheat.

- Punjab (Punjab)
- India's Uttar Pradesh
- State of Madhya Pradesh
- The state of Haryana

**Mangoes (fruit)**

When it comes to fruits, the mango reigns supreme in India. Mangoes are a favorite fruit of the Indian people, and they go absolutely crazy for them throughout the summer months. A hotspot for unusual mangoes, India is well-known for its mangoes. It is a fruit that is abundant in flavor and sweetness, and it has a distinct flavor. As far as mangoes are concerned, the Alphonso, Hapus, Badami, Chausa, and Dasherri varieties are the most well-known varieties that can be found in India. In addition to this, you may find a wide variety of mangoes in the markets of India for purchase.

What are the most important mango-producing states in India?

- The state of Maharashtra
- The state of Karnataka
- State of Himachal Pradesh
- India's Uttar Pradesh

**Guavas (fruit)**

The guava is the sixth most widely farmed agricultural item, and it is also referred to as the "fruit of the poor." In addition to containing vitamin C, it is composed of antioxidant molecules. The systolic blood pressure can be controlled with the use of guava. Additionally, it is an effective remedy for constipation and the richest source of proteins. It is manufactured practically everywhere in India, with the exception of locations related to high heels.

These are the states in India that produce the most guava.

- India's Uttar Pradesh
- State of Madhya Pradesh
- Bihar (India)
- This is Andhra Pradesh.

**Sugarcane**

Farmers in India have been cultivating sugarcane for centuries, making it one of the most important agricultural commodities in the country. The fact that sugarcane is a native agricultural crop and a member of the bamboo family is something that is common knowledge among all of ourselves. Gur, sugar, and Khandsari are all derived mostly from sugarcane as their root source. India is an ideal nation for the cultivation of sugarcane, since it accounts for over half of the total sugarcane. The raw material of sugarcane is used in the production of alcohol and is left over.

States in India that are the most important producers of sugarcane

- India's Uttar Pradesh
- The state of Maharashtra
- It is Tamil Nadu.
- This is Andhra Pradesh.
- (Gujarat) and
- The state of Haryana

**Cotton**

India is the country with the greatest cotton production area in the world, second only to China and the United States of America. Cotton is the most important agricultural commodity or fiber crop in the world." Cotton is the principal raw material that is utilized by the textile businesses that are specialized in cotton. Long staple cotton, short staple cotton, and medium staple cotton are the three primary categories of cotton. Long staple cotton is the most common sort.

These are the states in India that produce the most cotton.

- Punjab
- The state of Haryana
- The state of Rajasthan
- State of Madhya Pradesh
- The state of Maharashtra
- Gujarat
- Andhra Pradesh
- Tamil Nadu

**Banana**

Bananas are a significant agricultural item that may be obtained throughout the entire year in India. Bananas are not only delicious but also nutritious, inexpensive, and employed in the medical field. It has a considerable amount of potential for export and is the fruit that is in most demand in India. From 15 to 20 different types of bananas can be found in India, but there are over 300 different kinds of bananas found all over the world.



These are the states in India that produce the most bananas.

- It is Tamil Nadu.
- Gujarat
- Maharashtra
- Karnataka
- Andhra Pradesh.
- Assam
- Madhya Pradesh

### Potatoes

It is considered an incomplete vegetable in India if it does not include a potato. Over the past few decades, potatoes have become an essential agricultural crop in India. Each day, it was consumed. India is third among the countries that produce the most potatoes. In the beginning, the Portuguese were the ones who grew potatoes, which they referred to as batata. These bangles are also referred to as potatoes, Alu, in addition to this.

These are the states in India that produce the most potatoes.

- Uttar Pradesh
- West Bengal
- Bihar
- Gujarat
- Madhya Pradesh
- Punjab

### [10] Nuts and seeds

Within the realm of oil fast agriculture, groundnuts are an essential product in India. The commodity that is available throughout the entire year is this one. Groundnuts are commonly referred to as peanuts, whereas in India they are referred to as Moongaphalee. It contains a high amount of protein and is utilized for a variety of purposes. Additionally, groundnuts come in a variety of flavor profiles, including crispy, sweet, and nutty, and they are primarily grown during the rainy season. Groundnuts are recommended for a diet that is healthy.

The most important states in India for the production of groundnuts

- Andhra Pradesh
- Gujarat
- Karnataka
- Maharashtra
- Rajasthan
- Tamil Nadu.

Market for Agricultural Commodities in Northern India

- Caramom (C)
- Jeera, Pepper, and
- Chilli pepper, red
- Commodity oil
- Beans (soybeans)
- a rubber
- Glucose

It is cotton

The agricultural products that India exports

Rice, both Basmati and Non-Basmati varieties

Veggies that are

- Fruits and flowers
- The groundnut
- The pulses

### Meat from cows and goats

#### The cereal wheat

- Products Derived from Dairy
- Drinks that include alcohol

The following is a list of the top ten agricultural commodities that are produced in India. The marketing structures, prices that growers and other market participants receive, and other market players are all impacted by the liberalization of trade rules. It is possible to gain an understanding of the impact that trade liberalization has had on the agricultural sector by analysing the changes that have occurred in the relative proportion of various crops, as well as changes in output, yield, and prices. It is more likely that the trade rules will have a greater impact on the crops that are geared toward export than they will on the other crops. Coffee is a significant plantation crop that is farmed in India with an emphasis on exportation. Upon completion of the analysis, it will be demonstrated that there has been a significant rise in the area that is devoted to plantation crops. When compared to the percentage of land under the share of plantation crops, the percentage of land under the share of plantation crops grew. However, the percentage of land under the proportion of coffee in the plantation crops increased only slightly. In spite of the fact that there has not been a significant shift in the relative proportion, the area under coffee has seen an increase during the period following liberalization. Additionally, during the period following liberalization, there was an increase in both the production and productivity of coffee, while the variability of the crop decreased.

### Agricultural and industrial terms of trade between the two sectors

TERMS of trade, more precisely, the ratio of agricultural prices to industrial prices, both of which are quantified as price indices, is the word that is used to describe the terms of trade between agriculture and industry.

A movement of income from the industrial sector to the agricultural sector will occur as a result of terms of trade that make the agriculture sector more advantageous. The overall savings of the economy may be impacted as a result of this. Because of this, the formation of capital will be negatively impacted. Without a shadow of a doubt, a portion of the additional money from agriculture can be collected through taxation.

In the first place, the conditions of commerce were maintained in a manner that was detrimental to agriculture. This was accomplished by imposing high delivery quotas, which resulted in a limited quantity of products in kind being available for domestic consumption. Secondly, the prices of agricultural products were kept low, and thirdly, the prices of manufactured goods were kept higher.

As far as agricultural products are concerned, the government of India had, for a period of time, adhered to a policy of negative pricing for agricultural goods. In India, the conditions of trade have been against agriculture ever since the commencement of the planning era, and this continued until 1963. Affirming the "general nature of this trend" are the following perspectives that were voiced by the Food and Agriculture Organization in 1958 regarding price policies in Asian countries. "...in the formulation" of food and agricultural price policies in the countries of the area (with the exception of Ceylon and Japan), the interests of agricultural producers have generally been put to second priority, according to the Food and Agriculture Organization (FAO).

However, it is not possible to maintain trade terms that are unfavorable to agriculture for an extended period of time after the development process has been launched. There will be a negative impact on the expansion of agriculture as a result of trade restrictions. According to Coale and Hoorer, "If one sector limits the growth of the other, it is more likely to be the case of agricultural growth limiting non-agricultural growth than vice versa." This is because agricultural growth tends to be more powerful than commercial growth.

Despite the fact that this argument is of a generic character, it becomes more pertinent after the process of economic development through industrialization has already begun.

This critical minimum rate of growth in agricultural production has been quite high in a number of developing nations due to the following reasons, as indicated by Raj Krishna, and according to Raj Krishna, this critical minimum rate has been quite high.

[1] As a result of the provision of enhanced medical facilities, the mortality rate in these countries has decreased by a significant amount. Because of this, there has been a significant increase in the number of people living in the world, which has led to an increase in the pace of growth in agricultural production.

[2] As a result of these countries' rising incomes, there has been a significant rise in the demand for agricultural products. The ever-increasing need for food could surely be satisfied by importing food from other countries. Nevertheless, the possibility of importing grains at affordable prices is not possible at this time due to the current circumstances. Assistance from other countries in the form of food grains such as P.L. As Furthermore, 480 is on a scale that is restricted, and in addition, the peasantry is being convinced to raise its production goals to a higher level as a result of the political and social awakening that is taking place among them.

When these conditions are present, it is necessary to establish conditions that are conducive to the expansion of the agricultural sector. The modification of trade terms in a manner that is advantageous to agriculture is one of the desirable strategies that can be used to accomplish this purpose. It is generally agreed upon that a negative price policy for agriculture cannot be implemented without the attendant risk.

At this moment, a question arises. Are there any concerns that the favorable terms of trade for farmers would, in the long run, have an impact on the expansion of the industrial sector? On the condition that the interdependence between the agricultural sector and the industrial sector continues to be as strong as it has ever been, the answer is yes.

And this is the reason why it is argued that the terms of trade need to be adjusted, and it is not just the agricultural sector that stands to benefit from these changes. Instead, during the process of development, the terms of trade need to be adjusted in favor of one sector or the other on occasion, depending on the circumstances. This is necessary in order to ensure maximum efficiency.

The price that farmers receive for the sale of their produce is lower than the price that they pay for their agricultural inputs and for services such as health and education. To put it another way, farmers are paying these higher prices. However, despite the fact that the agricultural industry is anticipated to expand at a healthy 3.9% in the fiscal year 2022, according to the initial advance projections of national revenue, this is of little concern to Indian farmers. This is owing to the fact that the terms of trade in agriculture have begun to go against them once more, after a hiatus of two years, as a result of rising inflation in the sector of the economy that is not agriculture [10].

### Agriculture in India and the World Trade Organization

When it was first implemented, the General Agreement on Tariffs and Trade (GATT) was intended to apply to the sale of goods, especially agricultural products. In spite of this, protectionist measures were able to continue to be implemented in the agricultural sector because of the numerous exceptions and exemptions offered to agriculture. The utilization of policy instruments, such as import quotas and export subsidies, led to the distortion of international agricultural trade, which was the consequence of this circumstance. In 1995, the Agricultural Agreement (AA) came into effect after being formulated by GATT member states with the intention of minimizing the impact of trade distortions on the agricultural sector.

Competition in export markets, domestic support, and market access are the primary goals of the AA. Market access is handled through the process of "tariffication," which is a strategy to trade that focuses solely on tariffs. When import limitations, such as quotas and non-tariff measures, are replaced with tariffs that are substantially similar to those restrictions, this process is known as tariffication. Following that, the agreement stipulates that tariff rates will be lowered, with the decrease to take place gradually over a number of years. It is expected that developed countries drop their tariffs at a faster rate and to a greater extent than developing countries do. On the other hand, least-developed countries (LDCs) are not forced to reduce their tariffs. For the purpose of protecting countries from imports that fall below a certain price as well as unanticipated increases in imports, special safeguards have also been put into place.

Subsidies and other domestic support schemes that could potentially distort trade are also addressed by the AA. The term "trade distortion" refers to situations in which the prices of commodities are either greater or lower, as well as the quantities of items that are produced, purchased, or sold, than what would be

the case in a market that is competitive. Through the use of a categorized box system, the American Economic Association differentiates between support programs that directly encourage production and, as a result, distort trade and those that do not have any direct influence on trade. In the business world, policies are frequently classified as either amber box, blue box, or green box policies, depending on whether or not they have an impact on commerce and to what extent.

According to Article 6 of the AA, the Amber box is comprised of all household assistance, with the exception of those that are represented in the blue and green boxes. Amber box policies, which are a reference to the amber color of traffic lights that indicate to vehicles to slow down, have a direct impact on output, which in turn causes trade distortion, and therefore are required to be decreased. This decline is based on the total aggregate measure of support (AMS), which is determined by taking into account the amount of support that each country provided to agriculture over the years 1986-1988. In addition, payments of up to ten percent of output value are excluded from approval under the amber box category since they are considered to be insufficient to merit control (*de minimis*). Beginning in 1995, developed nations reached an agreement to cut their AMS by twenty percent over a period of six years.

There are direct domestic support programs known as blue box policies, which are incorporated in paragraph 5 of Article 6. These policies oblige farmers to limit their production limits. The production incentive that is provided to farmers is the primary differentiator between the Blue box policy and the Amber box policy. Amber box policies are domestic assistance programs that stimulate increased output, whereas blue box policies are direct subsidies to farmers to limit production. Amber box policies are more desirable than blue box policies. In addition, blue box policies include payments for agricultural or rural development, as well as a *de minimis* payment support that is equal to or less than five percent of the entire value of the commodity that is being supported for developed countries and ten percent or less for developing countries. There is currently no cap on the amount of money that can be spent on blue box subsidies. The overall trade-distorting domestic subsidies were defined as the sum of amber box, blue box, and *de minimis* subsidies in the framework agreement that was reached during those Uruguay Round negotiations.

Green box policies, which are outlined in Annex 2, are domestic assistance programs that have a minimal influence on trade, if any at all, and can be utilized without any restrictions. In order for



policies to be eligible for this category, they must be sponsored by the government rather than being funded by charging customers higher costs, and they must not involve assistance with prices. These programs frequently consist of research, the construction of infrastructure, and direct payments to farmers that do not improve productivity (also known as “decoupled payments”), such as payments for the environment or some forms of income assistance. The current round of negotiations involves, among other things, a discussion of direct payments to producers (paragraph 5), including decoupling income assistance (paragraph 6), and government financial support for income insurance and income safety-net programs (paragraph 7). These are just a few examples.

The elimination of agricultural export subsidies was a component of the Nairobi Package Agreement, which was accomplished in the year 2015. All of the listed subsidies are required to be eliminated gradually over predetermined time periods. Developed countries were required to immediately abolish all remaining planned export subsidy entitlements, developing countries had until 2018 to do so, and least developed countries and countries that import food on a net basis have until the end of 2030 to continue to benefit from the original clause that allowed export subsidies [11].

The World Trade body (WTO) is an intergovernmental body that was founded in 1995 with the purpose of regulating and facilitating international trade. The United Nations System is utilized by states in order to establish, update, and enforce the laws that govern international trade. This is accomplished through effective cooperation within the international community.

An agreement known as the Agreement on Agriculture (AoA) is a pact that was created by the World Trade Organization with the intention of lowering the amount of agricultural support and subsidies that governments provide to domestic farmers. Within the World Trade Organization, it is one of the most controversial agreements.

When it comes to food and agricultural products, trade and markets are important to all of us, regardless of whether we are consumers of these products or also produce, alter, and trade them.

Through the conclusion of the Agreement on Agriculture, which entered into force in 1995, members of the World Trade Organization (WTO) were able to address government policies that distort markets and restrict trade. As a result, this led to the removal of trade barriers and subsidies, which ultimately resulted in more equitable and competitive markets. Additionally, it allowed for the

continuation of negotiations for additional reform at the member level, taking into consideration issues such as the environment and the safety of food supplies. During the course of these continuous discussions, a historic decision was reached in 2015 to do away with agricultural export subsidies and to establish new regulations for alternative types of farm export support.

The World Trade Organization’s Agriculture Committee is responsible for monitoring the implementation of the Agreement and providing a platform for members to discuss issues that are relevant to it.

#### Characteristics of the World Trade Organization’s Agreement on Agriculture

In general, the terms of the World Trade Organization Agreement on Agriculture pertain to three broad categories of agricultural and trade policy, which will be examined further down in this article.

#### As part of this, market access includes

- The term “tariffication” refers to the process of converting all non-tariff barriers into tariffs and removing them altogether. Factors such as fluctuating levies, minimum import prices, quotas, state trading policies, discretionary licensing, and other similar factors are examples of non-tariff barriers.
- **Tariff reduction:** Developing countries were required to significantly lower their tariffs by 24 percent over a period of ten years.
- **Accessibility:** A minimum access level that is equivalent to three percent of domestic consumption in the years 1986-1988 will need to be established for the year 1995, and this level will increase to five percent by the time the implementation period is over.
- The elimination of trade obstacles is included in this head, which aims to improve access to markets.

The term “domestic support” refers to the legislative assistance and financial assistance that nations provide in order to boost their own domestic output. The World Trade Organization (WTO) has categorized agricultural policies and subsidies into four distinct categories, each of which is elaborated upon in the following section.

When it comes to export subsidies, this section contains provisions that are associated with the pledges made by member countries to minimize export subsidies.

Developed nations are required to reduce the amount of export subsidies they get by 21% and their expenditures by 36% over the course of six years, in equal installments (from the levels that existed between 1986 and 1990).

It is necessary for developing countries to lower the volume of export subsidies by 14% and expenditures by 24% over a period of ten years, spread out in equal installments.

There are also options for special and differential treatment that are available for members who are from underdeveloped countries. Among these are purchases made for and sales made from food security inventories at administered prices, provided that the subsidy to producers is factored into the calculation of AMS. It is permissible for developing countries to distribute subsidised food without targeting specific populations in order to fulfill the needs of the urban and rural poor. Other types of subsidies that are not available to developing countries include investment subsidies that are typically offered to the agricultural sector and agricultural input subsidies that are typically offered to farmers in these countries who have low incomes and limited resources.

## India

What kind of impact does the World Trade Organization have on the agricultural sector in India? The agreement reached by the World Trade Organization (WTO) on agriculture has resulted in substantial changes, such as the reduction of trade barriers and domestic subsidies. However, there are still certain problems that are affecting Indian agriculture and have not yet been resolved. One of these problems is the patenting of plant types.

Because of the World Trade Organization, India's export competitiveness has increased. A more efficient integration into the global economy has been made possible as a result of the lower tariff. Over the course of its history, India has sought its growth and development through the transfer and exchange of ideas and technologies. Market access results in a reduction in both the amount of time and money required.

The removal of unwarranted obstacles to the export of agricultural products is beneficial to exporters of agricultural products in any country. Uncertainty regarding the terms and circumstances of selling to a particular market is reduced as a result of the SPS Agreement. Efforts to create food that is safe for another market should not be hampered by laws that are adopted for protectionist motives under the pretense of health safeguards.

The increased predictability surrounding border controls is particularly beneficial to businesses who import food and other agricultural items. As a result of the SPS Agreement, the foundation for sanitary and phytosanitary measures that restrict trade is made more transparent. Additionally, the SPS Agreement provides the foundation for contesting requirements that may not be justified. Additionally, this is beneficial to the numerous processors and commercial users of plant, animal, or food items that are imported.

Disease free zones with regard to rinder pest, bovine swine encephalitis, and foot-and-mouth disease have been developed and are being maintained by the Department of Animal Husbandry. Pest-free zones have been established and are being maintained by the Department of Agriculture and Cooperation in relation to the Mediterranean fruit fly, seed weevil, and pulp weevil. After doing a scientific risk assessment, India then makes judgments that are appropriate based on the findings. Concerns pertaining to the health of plants, animals, and food are currently being evaluated through the process of risk assessment. STDF provided financing for training on risk analysis and risk assessment processes with regard to food items (connected to the Codex), plant and plant related products (covered by IPPC), and animal health (covered by OIE). The purpose of this training was to develop the capacities of officials who were involved with these procedures.

Exporters of agricultural commodities in India do not receive any form of direct encouragement or support. The only subsidies that are available to them are in the form of (a) an exemption from income tax on export profits under section 80-HHC of the Income Tax Act. This exemption is not one of the mentioned subsidies because the total income from agriculture is exempt from income tax in and of itself. (b) subsidies on cost of freight on export shipments of specified products such fruits, vegetables and floricultural products. India has, in fact, expressed in our schedule of obligations that it reserves the right to make use of subsidies (such as cash compensatory support) during the implementation period. This is something that we have indicated.

## The Obstacles

- Competitiveness of India's Agricultural Products in the International Market
- Providers of Credit to Agricultural Exporters
- Facilitating Development Through Globalization and Trade
- Various policy challenges, such as investment, diversification, and the public-private partnership model, among others.

### The criticism

Those who are opposed to the Agreement argue that it gives wealthy nations the ability to continue providing financial assistance to its farmers while at the same time lowering the level of tariff protection afforded to small farmers, who are a significant source of revenue in developing nations.

The industrialized countries are able to extensively subsidize agriculture in their countries by cleverly classifying the subsidies into trade-distorting (amber box) and non-trade-distorting (green box) categories. At the same time, they are able to accuse developing countries, such as India, of engaging in trade-distorting practices.

According to the findings of a study that was conducted jointly by India and China, industrialized nations like the United States of America, Canada, and countries that are members of the European Union provide their farmers with subsidies that are many times more than those provided to farmers in other parts of the world.

Countries that are considered developed continue to pay subsidies that distort trade without incurring any fines from the World Trade Organization (WTO).

Under the Amber Box, industrialized countries were given the option of either accepting a product-specific ceiling of five percent or an overall cap. Both options were available to themselves. The majority of developed countries have been able to improve their ability to target irrigation practices for certain crops by selecting the later choice.

Even though India's subsidies are relatively minimal, the country should be concerned about exceeding the 10% cap on subsidies.

Developed nations are continuously holding developing nations accountable for policies such as the Minimum Support Price (MSP), while at the same time they continue to provide assistance to their farmers and erect obstacles to trade and market access.

The push toward globalization that is being made by the World Trade Organization (WTO) poses a threat to three aspects of a sustainable and equitable agricultural policy. These aspects are ecological security, livelihood security, and food security. The effects of globalization will be detrimental to producers who have limited or no access to finance and investment.

### The suggestions

[1] It is imperative that the developing nations, particularly India, provide assistance to the following

- Foster the development of new technologies and markets, as well as protect young businesses from the influence of foreign speculations
- Enhance investments in research, infrastructure, and training institutions respectively in addition to providing protection for workers' rights,

In order to protect farmers from the effects of price and market instability for their products, it is imperative that extra social safety nets be established.

[2] Foster the growth of exports through the development of infrastructure

[3] It is of the utmost importance to devise a marketing strategy that focuses on significant things that countries import and that makes use of the comparative advantage to concentrate on products that fall into this category.

Contract farming should be encouraged not only to provide a broad base for raw materials for processing, but also to supply the appropriate sort of inputs and other linkages that are necessary for the acceptability of quality requirements for competitive exports. This is because contract farming is critical to the success of competitive exports.

[5] There is also a significant requirement for the development of human resources, as well as the training of exporters in regard to the quality requirements, as well as the sanitary and phytosanitary procedures that must be adhered to.

[6] There is a requirement to supply updated data on a constant basis regarding market knowledge, market access, methods and processes, and other related topics.

Seventh, India has been acknowledged as one of the five most prominent leaders in the field of biotechnology in the Asia-Pacific region. India is ranked third in Asia in terms of the number of patents that this country has filed. The application of biotechnology results in a decrease in expenses and an increase in productivity. In light of the fact that the labor force is of high quality yet relatively inexpensive, there is a pressing requirement for the most efficient application of intellectual and biological resources in order to achieve cost effectiveness in production.

Panchayats and rural families should be made aware of the implications of the protection of plant varieties and the Farmers' Rights Act 2001 and the Biodiversity Act 2002, which contain provisions for recognizing and rewarding the contributions of the primary conservers of biodiversity and holders of traditional knowledge [8]. India should immediately launch genetic and legal literacy movements in order to raise awareness about these implications.

[9]. The Export and Import Bank (EXIM Bank), in conjunction with the Agriculture and Food Development Authority (APEDA) and the Ministry of Agriculture, may establish Farm Export Promotion Cells in each AEZ. These cells will offer exporters the required technical support and direction. It is also able to build abroad operations in countries that are popular destinations for Indian exports, in addition to opening offices in each state in order to promote agri-export.

[10] The only way for economies of scale and brand-banding to occur is for huge and extremely large enterprises to enter the market niche. As a result of this, credit facilities should be granted to contract farming and corporate farming with liberal conditions, and the storage, movement, processing, marketing, and sale of agricultural commodities should be free from restrictions and controls. When it comes to export financing of agricultural products that are perishable in nature, it is essential to take into consideration the possibility of expediting the process and making it more supportive of business owners. In a similar vein, the process of acquiring export credit guarantee cover ought to be simplified and made more user-friendly for exporters.

## Conclusion

In conclusion, let us remember the quote from our eminent agricultural scientist, Dr M S Swaminathan, "India should ensure that all boxes in the WTO must be abolished, and trade distortion, and unfair practices must be spelt out clearly and factors governing sustainable livelihood should be recognised so that resource-poor, developing countries should be able to place restrictions on imports" [12].

According to Adler, *et al.* [13], "We study the process of external adjustment to large terms-of-trade level shifts-identified with a Markov-switching approach-for a large set of countries during the period of 1960-2015." This study covers the period from 1960 to 2015. We have discovered that the process of adjusting to these shocks is relatively quick. A contemporaneous fluctuation of only about ½ of the amount of the price shock is experienced by current accounts, which indicates a considerable volume offset. Further-

more, the full adjustment occurs within three to four years. When it comes to terms-of-trade booms and busts, as well as for advanced and developing market economies, the dynamics are broadly symmetrical. As contrast to fluctuations in output, which are also reflected in the reaction of import rather than export volumes, the primary driver of external adjustment is the offsetting of movements in domestic demand. This indicates that there is a significant income channel at play. The flexibility of the exchange rate appears to have had a significant role in buffering the effects of booms, but less so during busts; on the other hand, international reserve holdings have been an essential instrument for easing the adjustment process.

## The agriculture of India

**Difficulties and Concerns:** The agricultural sector in India encounters a multitude of challenges, encompassing antiquated farming methods, inadequate infrastructure, limited adoption of technological advancements, water scarcity, and the susceptibility of small-scale producers to market volatility.

Various government initiatives, including the Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) scheme, the National Mission for Sustainable Agriculture (NMSA), and the Pradhan Mantri Fasal Bima Yojana (PMFBY), have been implemented by the Indian government to resolve these issues.

**Growth Potential:** Notwithstanding the obstacles encountered, the agricultural sector in India possesses substantial growth potential by embracing contemporary methodologies, allocating resources towards infrastructure development, and enhancing farmers' access to markets.

## Commerce on an International Level

India is an important participant in international commerce, with substantial contributions to its economy from both exports and imports. Agriculture, information technology, pharmaceuticals, and textiles are all critical components of India's international trade relations.

- **Trade Agreements:** With the aim of fostering economic cooperation and expanding market access, India has participated in bilateral and regional trade agreements. India initially entered into the Regional Comprehensive Economic Partnership (RCEP), but subsequently opted to withdraw from the accord. This was a significant agreement.
- **Trade Imbalances:** India is confronted with trade imbalances with specific nations, necessitating endeavors to rectify concerns pertaining to intellectual property rights, tariffs, and non-tariff barriers in order to cultivate equitable and mutually advantageous trade partnerships.

**WTO: World Trade Organization**

- **India's Role in the WTO:** India has advocated for the interests of developing nations through its active participation in the WTO. The primary objectives of the organization are to resolve trade disputes among member nations and facilitate international trade negotiations.
- **Difficulties and Reforms:** In recent years, the WTO has encountered difficulties, such as negotiations that have stagnated and criticism regarding its efficacy. Reforms have been advocated in an effort to increase the organization's responsiveness to the evolving global economic environment.

The discourse persists regarding the relative merits of multilateralism, as exemplified by organizations such as the WTO, and bilateral trade agreements. Similar to other countries, India must effectively manage these intricacies in order to safeguard its interests in the ever-changing global trade landscape.

Effective technological advancements, policy measures, and international cooperation are crucial for determining the future of Indian agriculture, international trade, and the WTO's role. India must concurrently confront domestic agricultural challenges, actively engage in global trade dialogues, and adjust to evolving trade dynamics in order to achieve long-term economic expansion.

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