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EXPLORING THE INFLUENCE OF TRADE AGREEMENTS ON AGRICULTURAL EXPORTS AND IMPORTS

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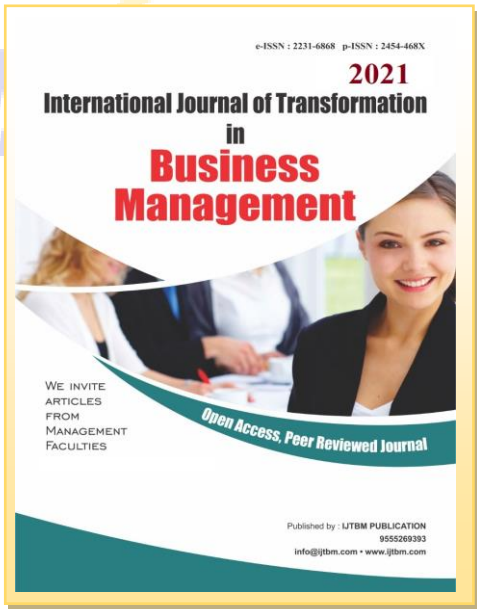

ABSTRACT

The primary emphasis of this study is on trade agreements and the influence that they have on the dynamics of India's agricultural imports and exports. Because of India's participation in a number of international trade accords, the country's agricultural markets have been shaped throughout the course of time. These treaties have an effect on a variety of different items, including tariffs, subsidies, quotas, and non-tariff obstacles for example. The purpose of this article is to investigate the effects that these accords have had on global commerce, market access, and the competitiveness of agricultural products originating from India. Not only does the research emphasise the economic, social, and environmental implications, but it also evaluates the influence on India's export and import sectors. By comparing India to other countries that have signed equivalent trade agreements, the purpose of this study is to assess how these agreements have impacted the price of agricultural products, supply networks, and the rural economy of the country. Agricultural products from India, such as wheat, rice, and spices, are given special attention in the context of international trade circumstances.

Keywords: *Agricultural; Influence; Trade agreements; Imports; Explore; economic.*

INTRODUCTION

Trading goods and services is simpler now than 40 years ago, when the international economy was more restricted. Rapid economic globalisation (EG) has struck India's agricultural, industrial, and service sectors hardest. Developing states like India prioritise global economic integration. EG rates in South Asia and India grew 50% and 45%, respectively, in the recent decade. EG's social and economic implications are still debated, but India and other developing nations fight to mitigate globalization's negative effects. India, like many other countries, has relied on trade aid strategies like minimum support prices (MSP), agricultural input subsidies, public distribution systems (PDS), and income support programs like the Pradhan Mantri Kisan Samman Nidhi to protect producers and control food security. To ensure corporate transactions comply with international trade norms, the government has been active in the WTO.

India's trade policy was shaped by GATT and WTO membership. After GATT ended in 1995, the WTO helped liberalise India's economy. India has fought against tariffs, anti-dumping measures, and non-tariff obstacles at the WTO. Even though India supports free trade, local sector tariffs and subsidies continue to hinder it. The government limits imports and boosts domestic production, notably in agriculture,

using quantity-based limitations. Despite increasing WTO violations, India supports free trade policies, particularly in the Asia-Pacific region. About 12% of Asia's agricultural exports were rice, spices, and cotton from India in 2017. India's foreign trade has accelerated industrialisation and competitiveness in medicine and textiles.

India's agriculture industry, a major economic engine, has prioritised openness and change policies. This includes support for producer organisations and farmer cooperatives, land system changes, and agricultural market reforms like e-NAM. India's agricultural reforms during the last 30 years have centred on farm reorganisation and market-oriented institutions.

These measures and India's growing involvement in international trade deals have tripled agricultural exports in 30 years. India's agriculture investments rose 12% from 2020 to 2024. Due to enhanced export possibilities and market access, local agricultural markets have more supply. Despite India's WTO membership helping reduce rural poverty by improving wages for unskilled rural labourers, problems remain. Despite these advances, market distortions still threaten the agriculture sector, and 78 million rural Indians live in abysmal poverty.

India's agriculture sector is difficult to negotiate in trade negotiations. Though crucial to the Indian economy, the industry is one of the most safeguarded due to its significance for rural livelihoods and food security. Foreign cash, food, and work are provided. Policymakers must preserve India's agriculture industry while promoting globalisation.

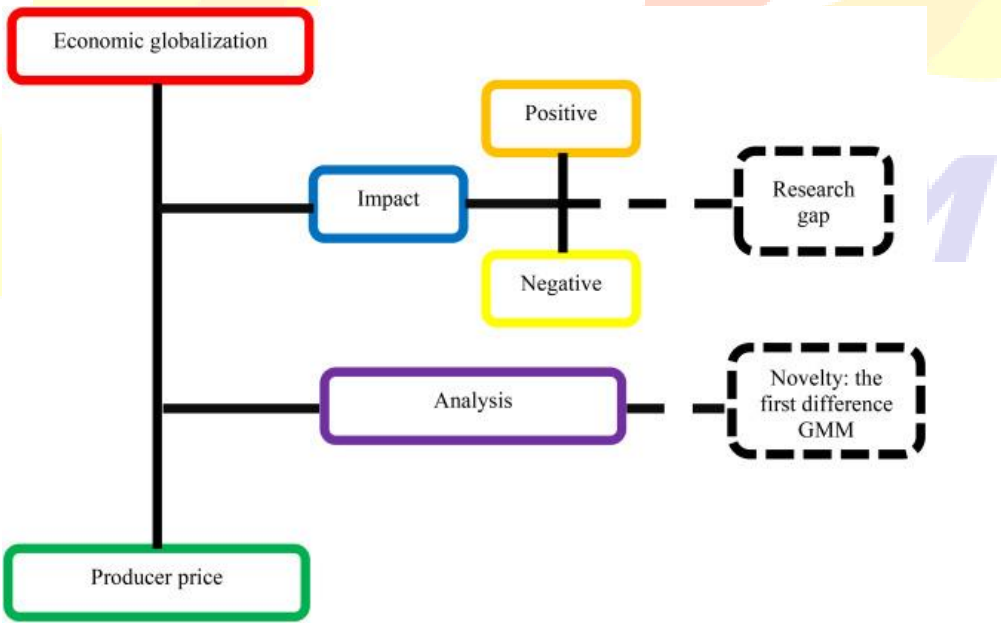

Figure. 1. Roadmap of the research.

In light of this context, an essential question arises: how have international trade treaties, such as the General Agreement on Tariffs and Trade, the Doha Round, and the establishment of the World Trade Organisation, impacted the prices that India's agricultural farmers charge for their products? The purpose of this study is to investigate the impact that the Doha Round, the General Agreement on Tariffs and Trade (GATT), and the World Trade Organisation (WTO) have had on the pricing of agricultural farmers in India.

This research has contributed two new understandings to the existing body of information that has been accumulated. The first factor that makes this research stand out from others is that it investigates the ways in which global trade agreements have impacted the pricing of agricultural farmers. Another large number of studies have investigated the ways in which access to the World Trade Organisation (WTO) and economic openness have influenced many aspects of Indian agriculture. These aspects include production, food security, employment, value-added, diversification, supply chain management, trade, foreign direct investment (FDI), and technology. Despite the presence of a large number of previous research, there has not been a comprehensive investigation of the impact that these characteristics have on the price of producers.

The second thing that will be taken into consideration in this study is the various local factors that have an effect on the pricing of agricultural products in India. Market reforms such as the National Agriculture Market (e-NAM) initiative, inflation, changes in rural infrastructure, and government interventions such as the Minimum Support Price (MSP) are some of the variables that contribute to this phenomenon. By integrating the dynamics of worldwide commerce with the variables of the local economy, the purpose of this study is to give a comprehensive analysis of the elements that influence the prices that farmers in India earn.

RTA trends in India

Over the course of the years following the year 1990, India's participation in both bilateral and regional integration increased (Figure 2). Twenty free trade agreements (FTAs) have been negotiated by India, with 18 of those agreements having been signed since the year 1990. As of January 31, 2014, the number of agreements that have been negotiated and executed comprises eight free trade agreements (FTAs), four economic unions (EEAs), and eight restricted scope agreements. Currently, India is a participant in a number of regional trade agreements

(RTAs), including the ASEAN-India, the APTA, the SAPTA, and other accords that incorporate bilateral integration.

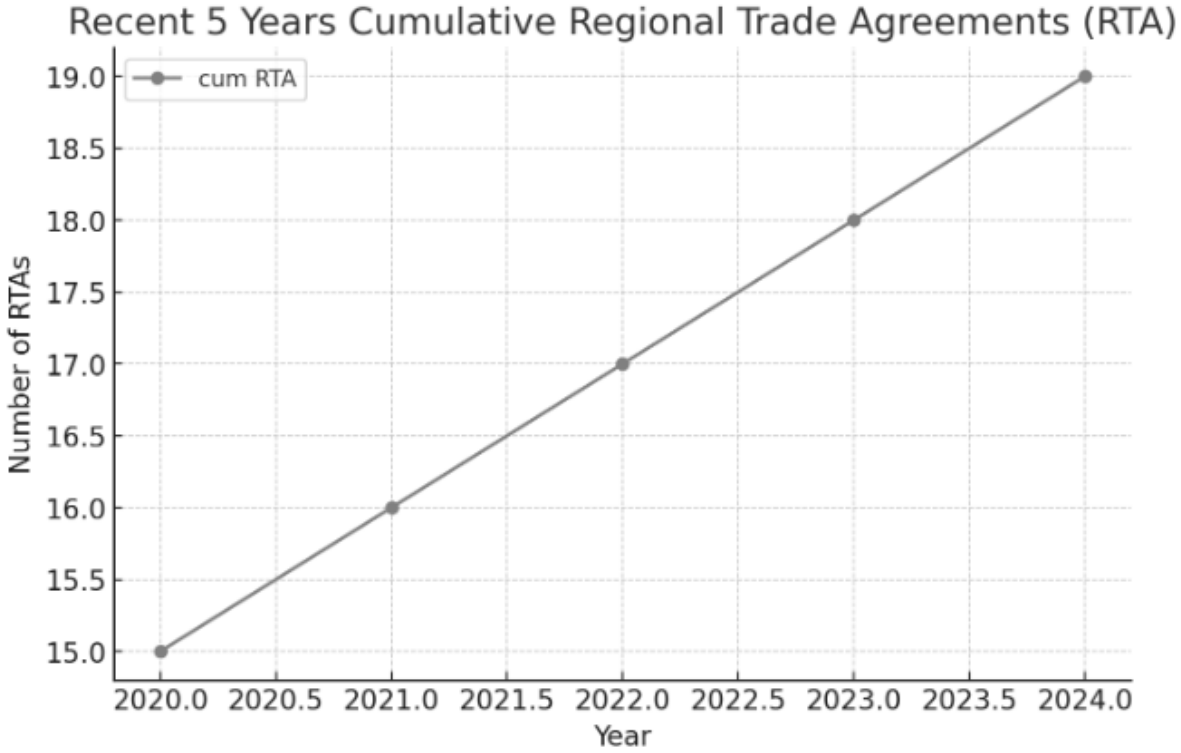

Figure 2: Total RTAs in India since 1988

The two major regional trade agreements that we have examined are the South Asian Free Trade Area (SAFTA) and the Asian Pacific Preferential Trade Agreement (APTA), both of which India has actively participated in for over ten years. Good coverage of these two preferential trade agreements includes agricultural items, and they were negotiated before 1999. So, it's easy to see how these two big RTAs have affected India's agricultural exports over time. After its first name change to the Bangkok Agreement in 1976, the Asian Pacific Preferential Trade Agreement (APTA) obtained its current name. At the moment, APTA is comprised of the following member nations: Sri Lanka, Republic of Korea, Bangladesh, India, and Lao People's Democratic Republic. The commerce among the member states of APTA has increased tremendously, with total intra-APTA exports jumping from 39 million (in thousand) US dollars in 2001 to 348 million (in thousand) US dollars by the end of 2013. In 2013, Indian exports to APTA were estimated at around 32 million (in thousand US dollars), accounting for nearly 10% of total intra-APTA exports. India has been an active member of APTA.

The second significant RTA dealt with in the research is SAFTA, a regional trade agreement that was negotiated among the

SAARC nations in an effort to enhance economic ties and liberalise trade. Seven countries—Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan, and Sri Lanka—were parties when the agreement took effect in December 1995. The overall intra-SAPTA exports amount to 19 million US dollars, with 16 million of those dollars going to India. Among all member countries of SAPTA, India accounts for over 85% of the total export volume. To foster regional economic cooperation and commerce, SAPTA came into effect in 1995. In contrast, SAFTA went ahead of SAPTA by agreeing to gradually eliminate trade tariffs, as did all seven members of SAPTA. To put it simply, SAFTA went into effect in 2006. Although the value of exports within SAARC has climbed by a factor of eight in the last decade, this region's share in global exports is a meagre four percent. With Afghanistan's addition, the bloc now has eight members..

The agricultural exports from India

Indian agricultural exports have increased in tandem with the country's increasing number of RTAs (Figure 3). The primary agricultural goods exported by India are floriculture, fresh produce, grains, meat, and processed and semi-processed fruits and vegetables. Exports of agricultural products from India reached $39 billion in 2013, up from $5 billion in 2003, according to the 2014 report on international agricultural commerce. India is the world's sixth-largest net exporter, and its exports are over double those of the EU-28 (International Agricultural Report, 2014).

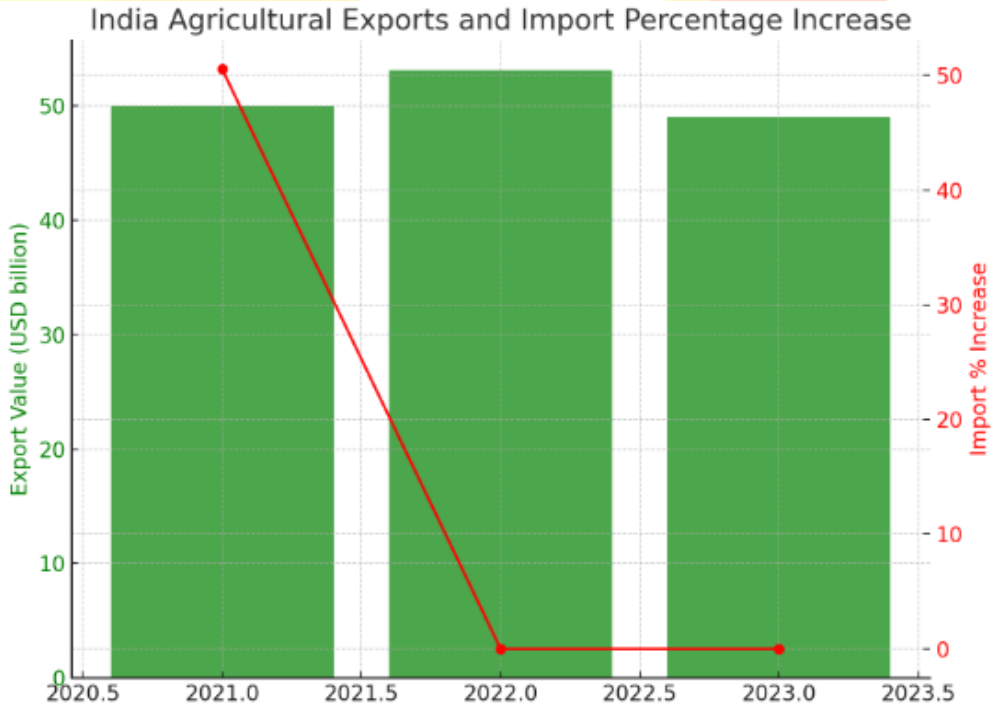

Figure 3: India 's exported agricultural products.

The Indian economy has seen several structural and economic shifts within the last 20 years. In spite of this, the vast majority of Indians still work in agriculture, and the country ranks high among global exporters of agricultural goods. At the same time, there have been international initiatives to liberalise trade and enhance cross-border commerce via regional economic integrations. Hence, it is critical to examine how current RTAs affect agricultural exports from India. This is why we look at how the SAARC trade bloc and the APTA, two big RTAs, have affected India's agricultural exports. The purpose of our research is to identify the factors that influence India's agricultural exports, specifically looking at the exporter-importer labour participation ratio and two important RTAs of India.

OBJECTIVES

1. To research RTA trends in India.
2. To research agricultural exports from India.

RESEARCH METHODOLOGY

Panel data regression is a suitable subject for the study because of the two-dimensional data. When recording panel data regression models, we may use either fixed effects specifications or random effects specifications. To investigate time- or context-specific effects, a fixed effects (FE) model is specified that correlates individual effects with the explanatory variable. Furthermore, we may determine that every cross-sectional object is unique. However, the FE model has a significant flaw: if the organisations or individuals involved don't change significantly or at all over time, it can't be a superior measure. Since our study simultaneously includes time-variant and invariant elements, we started by using both random and fixed effects on the explanatory variables. The Hausman test was then used to determine if the effects were fixed or random. The Hausman test result validated the fixed effects requirement. Time-invariant regressors may be included, and their influence is linked to the explanatory variable. The HT estimate is often used to circumvent the issues with the FE and RE models. This study examines the explanatory variables using FE and HT estimations to determine how RTAs impacted agricultural trade in India.

Data and Research Methodology

Through the use of gross domestic product (GDP) and international distance (as a substitute for trade cost), the gravity model illustrates the manner in which bigger economic organisations are able to attract commercial activity. In order to determine whether or not a person is participating in RTA, we make use of an augmented gravity model that takes into account factors such as

common boundaries, language, and dummies.

Sample

Over the period of thirteen years, starting in 2001 and continuing until 2013, an investigation on the impact of two regional trade agreements (SAPTA and APTA) on India's agricultural exports (AgroExp) is carried out. A number of different economies, including those of China, Vietnam, the United Arab Emirates, Bangladesh, Saudi Arabia, Malaysia, Indonesia, Thailand, Pakistan, Japan, Korea, Sri Lanka, Jordan, the Philippines, Singapore, and Nepal, are also included in the study. These countries are the recipients of the vast bulk of India's agricultural exports.

Data sources

Through the use of Trade Map, we were able to accomplish the task of gathering information on agricultural exports between India and its primary trade partner in Asia. According to the World Trade Organisation, these exports belonged to the category of "agricultural products" (the list of these items and the standardised codes that correspond to them may be found in Annexure 1). For the purpose of forming the bilateral agricultural export statistics, all of the "Agriculture"-related export data from India's trading partners are integrated. The definition of agriculture that is implemented by the World Trade Organisation (WTO) serves as the basis for an agricultural export measure. For the purpose of gathering information on the gross domestic product (GDP), GDP per capita (GDP), and labour participation rates of both of the countries that are involved in trade, the database of the World Bank was used. The data obtained from UNCTAD, which measures trade as a proportion of GDP, was used in order to ascertain the degree of trade openness shown by the importing nation. During the process of putting together the information required for regional integration, we made use of the WTO RTA database. For the purpose of obtaining information on the distance between the two countries, the languages that are spoken, and the shared boundaries, the French research centre for international economics (CEPII) was consulted.

Model Specification

The following is the functional version of our gravity model that captures the factors that determine India's agricultural exports:

logAgroEXijt = (logGDPit, logGDPjt, DIFFijt, LogLabRatioijt, LogTOPNjt, LogDISijt, Com_borijt, Ling_proijt, SAARCcijt, APTAcijt) where logAgroEXijt is the bilateral agricultural export as the dependent variable. logAgroEXijt is a representation of the log of agricultural

exports flows from India i to partner nation j during the year t that is being discussed.

Independent variables

The gross domestic product of India (GDPit) measures the size of the exporting nation's economy. To put a number on India's serving strength, the variable has been included. The agricultural output that the economy is ready to sell is likewise detailed by the variable. Agricultural exports are anticipated to benefit from a larger economy.

H1o: The gross domestic product of India has no impact whatsoever on the agricultural exports of the nation. The Gross Domestic Product of India, H1a, has a positive influence on the agricultural exports of India.

A measure of the soaking capacity of the partner economy is the gross domestic product (GDP) of the country that is doing the importing. There is a clear connection between the size of the economy of a trading partner and the demand for agricultural goods and other essential items. A direct link exists between the two. As a consequence of this, it is projected that the variable will have a favourable impact on agricultural export trade from India.

H2o: Trade-related GDP has no impact on agricultural exports from India. Hypothesis 2a: India's agricultural export is favourably impacted by the GDP of trading nations.

The absolute difference in the gross domestic product per capita of the two trading economies (abs GDP per capita of India-GDP per capita of country j) is a new statistic that has been established for the purpose of determining the gap in the purchasing power of individuals by comparing the two countries. Using the gap, one may quantify the different preferences that exist in the two economies. As the distance between the preferences of the two nations becomes wider, the quality of the bilateral trade that occurs between them often decreases. When there is a disparity in the purchasing power of the economies that are engaged, there is a negative impact on the trade of goods and services that goes in several directions.

RESULTS AND DISCUSSION

For the thirteen years spanning 2001–2013, the model's output utilising fixed effects and HT estimation is shown in Table1. An adjusted R-squared value of around 86% indicates that the gravity model well captures the effect of RTAs on agricultural exports from India. The outcomes for the two models are very comparable. We find statistical significance for the majority of the gravity model's traditional variables, and we get the predicted outcomes for a large number of coefficients. Indian agricultural exports have a positive and statistically significant correlation for GDP. India might provide a greater market for agricultural goods as its

GDP (economic size) increases. Indian agricultural exports benefit from the broader market offered by partner economies with higher gross domestic product (GDP).

A rise in transportation costs deters exports, according to the findings for bilateral distance. Significantly, the distance coefficient turns out to be negative. If we look at India's agricultural exports through the lens of shared borders and language closeness, we see no meaningful consequences. Such outcomes could have been influenced by advancements in transportation and trading networks. Both the fixed effects and HT estimations show that the coefficient for the difference in GDP per capita is not significant. That the disparity in buying power between the two countries has little impact on agricultural commerce is supported by this. Reasons for this might include the low-income elasticity of agricultural products and their status as fundamental, homogenous goods. The finding for the trading partner's trade openness is favourable and statistically significant. This lines up with predictions showing that trade-friendly countries are better places for India's farmers to sell their goods. Also, the exporter-to-importer labour involvement ratio has a positive coefficient, meaning that India's agriculture is being bolstered by its stronger labour engagement relative to the related economy.

Table 1: The Fixed Effects and Hausman Taylor Gravity Models Have Produced Their Initial Results for the Years 2020–2023

	Fixed effects			HT estimation		
Laexp	Coef.	Std. Err	p-value	Coef.	Std. Err	p-value
Lingpro	-------	-------	-------	-0.004	0.353	0.991
c_bor	-------	-------	-------	-0.545	0.585	0.382
Aptac	0.367**	0.183	0.054	0.362**	0.169	0.029
Saptac	0.037	0.062	0.526	0.086	0.061	0.489
Diffijt	0.122	0.235	0.619	-0.016	0.218	0.853
Lgdpi	0.415	0.279	0.105	0.493**	0.264	0.024
Lgdpj	1.151*	0.270	0.000	1.047*	0.258	0.000
Ldisij	-------	-------	-------	-2.84*	1.079	0.016
Ltopnj	1.09*	0.199	0.000	0.57*	0.170	0.000
Loglab	5.38*	1.911	0.005	3.10*	1.494	0.076
Const	-14.48	1.002	0.000	-3.626	4.044	0.363
R-squared		87.48%		F-statistic		58.7672

				8
Adjusted R-squared	85.99%		Prob(F-statistic)	0.000000
S.E. of regression	0.167625		Durbin-Watson stat	1.425980

Both of the regional trade agreements, namely SAPTAc and APTAc, were shown to have positive coefficients, as was revealed. The findings for APTA have been judged to be significant, in contrast to the results for SAPTA, which have been ruled to be negligible. As a result, it can be concluded that the market that is provided by members of APTA is better than that of SAARC. China and the Republic of Korea are both significant players in the Asia-Pacific Trade Agreement (APTA), and China is one of the top five importers of India's processed agricultural exports. Both of these countries play crucial roles in the APTA. In addition, both Sri Lanka and Bangladesh, who are members of the RTA, import a significant quantity of fresh onions, lentils, fruit and vegetable seeds, and some other items. The SAARC member nations are aiming to promote agricultural trade among themselves, which is another sector that the governments are working to enhance. In 2011, the member nations of the South Asian Association for Regional Cooperation (SAARC) signed an agreement to establish a seed bank with the purpose of fostering and enhancing agricultural practices.

DISCUSSION

Trade agreements have a substantial influence on agricultural imports and exports because they result in the reduction of trade barriers such as tariffs and quotas and the establishment of rules that are consistent across all member states. Agricultural product market access is improved as a result of these agreements, which include the establishment of a steady flow of imported commodities and the facilitation of exporters' access to clients internationally. The global supply and demand are heavily influenced by the trade agreements that are in place. For instance, treaties such as the North American Free Trade Agreement (NAFTA) and the United States-Mexico-Canada Agreement (USMCA) have been significant since they have eliminated tariffs on a variety of agricultural products. The Common Agricultural Policy (CAP) of the European Union is an example of a regional agreement that serves a similar purpose. Regional agreements provide member states a framework enabling them to engage in organised commerce. Although trade agreements have the ability to increase export prospects and stable supply chains, they also have the potential to have an effect on local agricultural enterprises. This is because they expose native farmers to a

greater degree of competition from producers from other countries. There are a number of factors that may influence the degree to which trade agreements boost agricultural commerce. These factors include variances in regulation, phytosanitary and sanitary measures, and environmental and political factors. Trade agreements, which in turn have an effect on agricultural exports and imports, are responsible for shaping global food markets, maintaining price stability, and fostering economic growth in the fields of agriculture.

CONCLUSION

According to the findings of the study, the traditional factors of gravity that have a substantial influence on India's agricultural exports are the distance between the two countries, the gross domestic product (GDP) of the countries that import their goods, and India's own GDP. There are a number of aspects that are very important for India to consider when it comes to agricultural commerce. These include the size of trading economies and the cost of bilateral transit. India is also benefiting from countries that have liberal trade policies and trade openness, which are helping the country market its agricultural products. Our findings, however, indicate that time-invariant characteristics such as shared boundaries and linguistic proximity do not have any importance. As far as the agricultural sector in India is concerned, the outcomes for our target variables, APTA and SAARC, are positive; however, APTA produces more encouraging results than SAARC does. Considering that Bangladesh and Sri Lanka, two large nations that purchase agricultural commodities from India, are members of both SAARC and APTA, it is probable that these results were driven by the fact that they are members of both organisations. The South Asian Association for Regional Cooperation (SAARC) nations are continuously working to improve their agricultural practices. For instance, they have developed a regional seed bank in order to ease agricultural trade throughout the SAARC region.

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