Developments in Agriculture Trade in the BIMSTEC Region

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INNOVATION LAB FOR
FOOD SECURITY POLICY RESEARCH, CAPACITY, AND INFLUENCE (PRCI)

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE
IFPRI

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Preface

Professor Sachin Chaturvedi
Director General, RIS

BIMSTEC is one of the fastest-growing regions in the world, where the member nations have shown steady growth despite changing global trade regimes in a quick succession. With a strong agriculture sector and emerging manufacturing and services sector, BIMSTEC is managing the adverse effects of the global pandemic. However, the prolonged recession along with COVID-19, caused macroeconomic imbalances in many regional economies in the form of galloping inflation, unmanageable balance of payment situation, rising unemployment, etc. However, the regional economies learnt to live with high growth through exports as the engine of growth, despite receiving very little support from regional integration process.

At the 5th BIMSTEC Summit, the Honourable Prime Minister of India advised RIS to focus on food chains for all the BIMSTEC members. RIS has been keenly focusing on examining the prospects and role of agriculture and its specific sub-sectors in fostering the process of intra-regional trade in the BIMSTEC region. The present study is a continuation of our ongoing work programme with International Food Policy Research Institute (IFPRI) on the agriculture sector in the BIMSTEC region.

This study was supported by Policy Research, Capacity and Influence (PRCI), led by Michigan State University, USA and IFPRI, Washington DC. I would like to thank Dr Suresh Babu, Senior Research Fellow, IFPRI for useful inputs at different stages of the study. Ms Nandita Srivastava, IFPRI extended timely coordination support during the study.

I compliment Professor S. K. Mohanty and Dr Pankhuri Gaur, Assistant Professor, RIS for bringing out this important study, which would serve as a useful reference for policymakers, academicians, practitioners, and other stakeholders in the BIMSTEC region. Dr Priyadarshi Dash, Associate Professor, RIS has been coordinating the programme at RIS.

I also thank Shri Tish Malhotra and the RIS Publication Unit for bringing out the report elegantly and well in time.

Sachin Chaturvedi

Executive Summary

BIMSTEC has been one of the topmost economic growth hotspots of the world, reigning almost over the past three decades. The region has displayed growth resilience and has circumvented the pressure of the prolonged global recession which has concluded its 15th year in a row. The growth profile of the region was almost uninterrupted irrespective of the shift in the global trade regimes. Most of the regional countries embraced trade as the driver of growth after repeated failures in the import substitution strategy, which was pursued for a long period. The export-led growth strategy paid a rich dividend to the regional economies, though remained gradually ineffective during the spell of the global recession. As a latecomer to the regional process, BIMSTEC regional economies successfully adopted export strategies independently, as their national development plans progressed well over the years. India is also advancing to become the third-largest economy in the world, presumably by 2030. Graduation or in the process of graduating from LDCs to developing countries, the economic accomplishment achieved by regional economies such as Bangladesh, Nepal and Bhutan, is a testimony of the region's fast economic progress. The rise of regional economies has been the outcome of their prudent macroeconomic domestic policies. In the process of shaping the domestic economic policies for higher growth, the region failed to trigger its efforts to leverage the integration process in the BIMSTEC region. Consolidation of the integration process was lagging within the region, which could have added strength to the endeavours of the regional economies to maintain high growth, unlike many Regional Integration Arrangements (RIAs) in the immediate neighbourhood. Although regional integration did not yield much in the past, the performance of the region in terms of a rising share of real GDP and trade in the world economy grew consistently during the last three decades. The pressing issue is how to raise Intra Regional Trade (IRT) through the regional integration process to contribute to the region's efforts to maintain further high growth.

Since regional economies embarked on globalisation as the main plank of their development strategy, trade liberalisation became the cornerstone of their economic policies. Though the agricultural sector has been a tiny sector in BIMSTEC, its performance has a predictable impact on the regional economy. In the total trade of the region with the world, the share of the agricultural sector was 10.67 per cent in 2020, but the region adopted an

inward-oriented strategy in the sector, even with a country like Thailand was part of the Cairns Group in WTO, supporting the plight of rapid sectoral liberation globally. Agriculture constitutes a very small proportion of the total trade, but high protection in the sector is due to the food security and livelihood security of millions in the region. As compared to other broad economic sectors, the speed of liberalisation was low in agriculture, but the reverse process of liberalisation was put in place during the latter part of the second phase of the recession in response to the global protectionist trade policies from certain quarters. The average import weighted tariff was in double digits in the agricultural sector, whereas it was less than 2 per cent in the mining sector and marginally higher than 9 per cent in the manufacturing sector in 2019. Cross-country variations in average tariff protection are also significant and tariff variations among sectors within these countries differ remarkably, showing the sectoral competitiveness of different sectors among regional economies. Among broad regional sub-sectors, animal fats and vegetable oils are more protected than others. The regional experience indicates that after the animal fats and vegetable oils sub-sector, other sub-sectors in the order of tariff protection are prepared food, fruits & vegetables and animal products. The evidence from time-series analysis indicates that the order in the level of protection is not yet changed over the last three decades. The BIMSTEC accord required bringing down the average tariff to the zero level with Special and Differential Treatment (S&DT) provisions for LDCs within the region. The region has embarked on high protection against processed food relative to non-processed. Fish has been the only processed commodity which has been subjected to the least protection in the region. Among other broad processed commodities, oils, dairy, coffee, etc. have attracted high tariffs than commodities like cereals, sugar, fruits, etc. The processed food sector presents a possibility of large opportunity for trade liberalisation among regional economies to attract substantial regional trade.

The region has a booming agricultural trade sector relative to other broad economic sectors. The region's trade permanence within the grouping is consistent with its global behaviour in the agricultural trade sector. The share of the agricultural trade in the region's total trade increased significantly over the years to reach 10 per cent in 2020. The global trade regimes played an important role in shaping the performance of the sector and the sector registered a double-digit growth during the period of the global buoyancy (2003-07). Though the performance of the sector was adversely affected by the onset of the recession, the agricultural sector was relatively less affected compared to the other two sectors, manufacturing and minerals. The sector also has generated a trade surplus for the region and contributed to narrowing down the overall trade deficit of the region. The empirical examination in the study indicates that with the increase in the average income of regions, the relative size of the agricultural trade decreased in favour of the manufacturing trade. The BIMSTEC, being a low-income group region, large trade potential rests with the agricultural sector. Unlike other sectors, supply disruption had little effect on the sector during the pandemic. Since BIMSTEC is over-represented by LDCs, the average per capita income of the region is lower than that of many others in the world. Therefore, IRT in agriculture is dominating the other two broad economic sectors, including manufacturing and minerals, and the region should take full advantage of such a trend. The region has shown that the agricultural sector has been generating a trade surplus which is increasing in recent years. Within the agricultural sector, the food sector is the most dominant one, and processed food is becoming significant in the food sector. In the broad processed food sector, two specific sub-sectors, such as fruits & vegetables and processed food, have shown their dominance in the regional trade, demonstrating the possibility

of wider trade cooperation possible between the regional members for boosting regional trade. Agriculture is a broad heterogeneous sector and products within the sector are divided into several splinter sub-groups with varying characteristics. For understanding the sector more closely from the standpoint of production, trade and negotiations for regional cooperation, the study evolved a classification for the agricultural trade sector to examine the sector effectively.

Classification of the agricultural sector is seen in the literature from the point of view of nutrition, food security, etc., but a few classifications of agricultural products are seen to facilitate trade negotiations and also to examine trends in agricultural production. Integrating these two dimensions of agricultural trade, a few studies are seen in the literature and the present study has followed the classification of Mohanty (2006 and 2014). The classification of the agricultural sector is based on Harmonised System of trade which uses products at a 6-digit level. There is a great deal of difference between the classification of agriculture in the framework of trade and production. While processed agricultural products are lumped in one HS Section or 9 Chapters under HS, FAO classification takes into account broad product groups such as cereals, edible preparation, fish, meat, etc. In the classification used in the study, agriculture is divided into agricultural raw materials and food which is again categorised into processed and non-processed food. Considering the importance of the global agricultural trade, processed food is further categorised into 11 groups, including fish, meat, eggs, fruits, vegetable, coffee, sugar, dairy, cereals, edibles, and oils. Each of these processed food sub-sectors consists of a set of HS codes at 6-digit HS. In an accounting framework, the sum of trade under processed, non-processed food and agricultural raw materials would provide the total trade of the agricultural sector, and the classification is consistent with the framework.

The use of the classification of agricultural processed food has been the basis of sectoral analysis in the BIMSTEC region. The empirical analysis has shown that the agricultural trade sector was least affected in the region while the global economy was reeling under the pressure of the prolonged recession and the supply chain disruption. For example, the total agricultural trade of the region was USD 126.8 billion in 2019 and rose to USD 131.6 billion in 2020. The regional agricultural trade was mostly led by fruits & vegetables and processed food sectors. Such dominance of these sub-sectors was seen both in exports and imports in recent years. The region is critically dependent on the imports of animal fats and vegetable oils from the world and the exports of the region in the sub-sector have been very shallow. While trade surplus has been substantial in sub-sectors like fruits & vegetables, processed food and animal products, a substantial trade deficit is observed in the animal fats and vegetable oils sub-sector. The impact of the global recession was adverse but with a lesser impact on the region, nevertheless, the prolonged recession, particularly the second phase was distressed for the regional agricultural trade. Agricultural trade was dominated by fruits & vegetables and processed food within the region.

Since the region is an agrarian economy, the regional trade in the sector is dominated by the food sector. The flourishing food trade continued to maintain positive growth in all sub-periods of the global trade regimes, irrespective of the global buoyancy or recession since 2002. Agricultural trade within the region accounted for USD 6.44 billion in imports and USD 7.26 billion in exports in 2020. Despite the food trade assuming importance as the key sector in regional trade, the non-processed food trade also assumes great importance in the regional food trade in both exports and imports in recent years. The study examined 11 broad groups of processed food, covering a wide

range of product categories, including prepared cereals, fruits, vegetables, animal products, meat, fishery, eggs, beverages, vegetable oils, etc. Among these broad agricultural tradeable products, the fishery sector has been holding the largest chunk of the regional processed food trade with the world. During the period of global buoyancy and the first phase of the recession, the growth performance of the trade sector within the region continued to maintain positive in most of the broad agricultural product groups. The second phase of the recession remained distracting for the world agriculture trade but growth rates happened to be positive for most of the broad agricultural product groups of the region. Significant trade among the regional partners was confined to a selected number of 6 agricultural product groups including fish, edible preparations, sugar and vegetable oils to name a few. The pattern of commodity trade within the region is significantly different from their trade pattern with the world. The agricultural trade presents a set of stylised facts for the region. With the intensification of the global recession, regional trade in various agricultural commodity groups was adversely affected in the years 2019 and 2020. In these years, the growth performance of various processed food sectors was mixed for the regional trade. It is important to note that most of the broad agricultural groups registered double-digit annual growth in these two years. It is evident from these trends that the region enjoys a considerable level of intra-industry trade in the processed food sector.

In the Intra-Regional Trade (IRT) of BIMSTEC, the agriculture sector is emerging as the key growth driver for regional trade. The IRT ratio of the sector was higher than that of the overall, manufacturing and mineral sectors of the region for the last two decades. In the surge of the region's overall IRT ratio from 4.7 per cent in 2002 to 6.2 per cent in 2020, the agro sector played a critical role as a trade stimulator. The IRT ratio of the region experienced uninterrupted expansion between 2011 and 2018, and a substantial part of such surge was supported by the agricultural sector. The agriculture IRT ratio of the BIMSTEC region passed through three phases during the period of recession, i.e. 2009-11, 2012-15 and 2016-18. The agro-IRT ratio resurged since 2019 despite the economic slowdown and the onset of the global pandemic. Sectoral trade liberalisation also contributed to the expansion of the regional agricultural trade and this process would sustain trade activities among the member countries.

As such, average tariff protection is high in the agriculture sector for maintaining food security and livelihood security, but liberalisation in this sector is required for augmenting regional trade, and therefore, should focus on specific sub-sectors within agriculture to retain externalities of trade. The empirical estimates demonstrate that IRT ratios in processed food and fruits and vegetables are much higher than that of the overall agricultural trade sector. The IRT ratio for the overall agriculture trade sector was 9 per cent in 2020 and the corresponding figures for fruits and vegetables and processed food sub-sectors were 13.3 per cent and 10.3 per cent, respectively. Similar patterns of IRT ratio existed in the past years. Live animals and animal products have a large trade potential to augment regional trade. It may be concluded that substantial tariff reduction in processed food and fruits and vegetable sub-sectors can induce a rapid rise of IRT by focusing on small segments rather than the entire agricultural trade sectors in the region.

1 Introduction

The BIMSTEC region has emerged as one of the fastest growing regions in the world, with very little support garnered from its trade activities from the regional process. During the past three decades, the region has learned to maintain high growth by deploying trade as the driver of growth with persistent trade liberalisation (Banerjee and Dey; 2016 Mohanty, 2021). Regional integration in the BIMSTEC has not yielded the expected results (Moise, *et al.*, 2013) since trade among member countries is not expanding in a manner that is consistent with the performance of other Regional Integration Arrangements (RIAs) in the immediate neighbourhood (Hussain, 2018). The Intra-Regional Trade (IRT) of the region can be expanded robustly if the region focuses on the agriculture trade which is a low hanging fruit in the region. In this regard, further liberalisation in the agricultural sector could be the most ideal sector for promoting IRT in the region, to begin with, and similar views are complemented by other studies like Rahman and Kim (2016).

From various counts, the agricultural sector assumes great importance in the region for trade (Ghonkrokta, 2021). As the BIMSTEC is located in the tropical region, natural calamities affect the area intermittently, often causing food insecurity in certain economies in the region (Chaturvedi, 2020). Secondly, the average real income of the region is growing and there has been a perceptible change in the dietary habits of people in the region, particularly the growing demand for more proteinous and processed food for consumption and trade (Geyik, *et al.*, 2021). Thirdly, the demand for agricultural raw materials is growing fast on account of the surging agro-based industries in the region such as textile and clothing, tea & coffee, edible preparations, wood products and pulps, ingredients for herbal medicines, etc., and several countries are becoming the manufacturing hub for certain finished products using such raw materials in the region (Coulibaly, *et al.*, 2019; Sharma, *et al.*, 2021). Expanding the region's trade, within the region and outside, in non-processed products is a testimony of the region's urge to participate in the production and trade of processed food in the agricultural value-chains. Regional trade in the agricultural sector could provide numerous solutions to the outstanding issues in the region.

The region is comfortably placed due to strong macroeconomic fundamentals in most of the member countries, barring a few in recent years. The onset of COVID-19 was a major setback for the region and derailed its growth

prospects (Ganeshan, 2021; Kapoor, Tewary, and Mohanty, 2022). In the pre-pandemic period, the real income of the region grew faster than the rest of the world, following its persistent rise in the share in the Global World Product (GWP) in real terms since 2003. The share of the region in the GWP was 2.7 per cent in 2003 and increase to 4.8 per cent in 2020, showing the resilience of the region. Further, BIMSTEC is emerging as a 'group of trading nations' as trade has dominated most of the economic activities. The expansionary phase of the trade sector was hindered by endogenous and exogenous shocks, in varying degrees, during the period of the global recession (Lee, *et al.*, 2013). During the period of deep recession, prospects of the regional trade suffered adversely, primarily during the second phase of the recession (Mohanty, 2021). On the other hand, it was robust during the first phase of the recession with the trade openness close to 65.6 per cent of the region's GDP in 2013. In fact, the openness of the region contracted significantly with the prolongation of the global recession. With the deepening of the recessionary phase, new challenges have surfaced which need fresh initiatives, for redressal, to deal with the situation. The revival of the region is critically dependent on the performance of the trade sector (Madhusudan, 2021), led by the value chain sector (Rahman and Bari, 2018). With the emergence of Mega-Regionals in the immediate neighbourhood (Gaur, 2022), BIMSTEC needs to take advantage of the trade integration process. The agricultural trade within the region could be the key element in triggering the region's overall trade.

This study examines some of these pressing issues in the BIMSTEC region. Section 2 presents some broad macroeconomic developments concerning the agricultural trade sector. The nature of trade liberalisation and tariff regimes in the agricultural sector are discussed in Section 3. The pattern of regional trade in agriculture is analysed in Section 4. The dynamics of trade in the food sector are examined in Section 5. The broad conclusions and policy recommendations of the study are presented in the last section.

2 Macroeconomic Profile of BIMSTEC

2.1 Managing Growth and Macroeconomic Stability

The resurgence of BIMSTEC as a credible regional grouping is gradually gaining recognition in the global economy with its track record of high growth performance which persisted over the last three decades. Following the 'Asian Crisis' in the mid-90s, buoyancy returned to the world economy in the early 2000s (Dowling and Rana, 2010). The change in the global trade regime brought optimism to the BIMSTEC region and steered the region on a high growth trajectory (Mohanty, 2016). Considering the trade integration strategy adopted by ASEAN countries, BIMSTEC as a regional caucus was formed with 5 members in 1997 and it was expanded further with time (RIS, 2004). As the regional integration did not make any significant headway over the years (Nakandala, 2016), individual member countries evolved their development strategies to be on a high growth trajectory.

Most of the regional economies adopted their independent development strategies based on the self-propelled growth models by pooling their domestic resources. In the entire journey of the last 30 years, these regional countries achieved high growth with macroeconomic instability, but their macroeconomic adjustment was managed at a high cost. In their resource management efforts, high savings and investment ratios, consistent inflows of Foreign Direct Investment (FDI) and remittances played an important role in supporting the government's efforts to shape national strategies for high growth. On account of high growth, persistent integration efforts and trade liberalisation, Asia has been the centre of attraction for FDI inflows in recent years. In all these efforts, trade remained pivotal for determining the pattern of growth under the two-gap and three-gap models.

Though regional countries have focused on trade as the engine of growth and have adopted an independent trade policy, a common policy on regional trade could not be adopted. The much-discussed Free Trade Agreement (FTA) initiative is yet to be adopted (Hossain, 2013). However, the trade sector grew rapidly in the region due to the efforts of individual countries and not because of the favourable impact of IRT. Instead of expansion of IRT, extra-regional trade grew rapidly, and extra-regional players

became dominant in the region. Expectations are running high in the region to make substantial gains from the regional integration process. To initiate the regional integration process, certain low-hanging sectors in the agriculture sector are to pick up first, followed by more critical manufacturing sector in the later phases, to lead the process of regional integration in the BIMSTEC region.

During the period 2003-07, the average GDP growth rate of the region was 8.2 per cent and nominal GDP was almost doubled since 2003 to touch USD 1.6 trillion in 2007. The onset of the recession adversely affected the growth prospects of the region and the average growth rate declined to 5.5 per cent during 2003-20. Regional GDP in nominal terms was recorded at USD 855 billion in 2003 and increased to USD 3642 billion in 2020, registering almost a 4¼-fold increase during 2003-20. At constant prices, the surge in reported GDP was a 2½-fold rise during the same period.

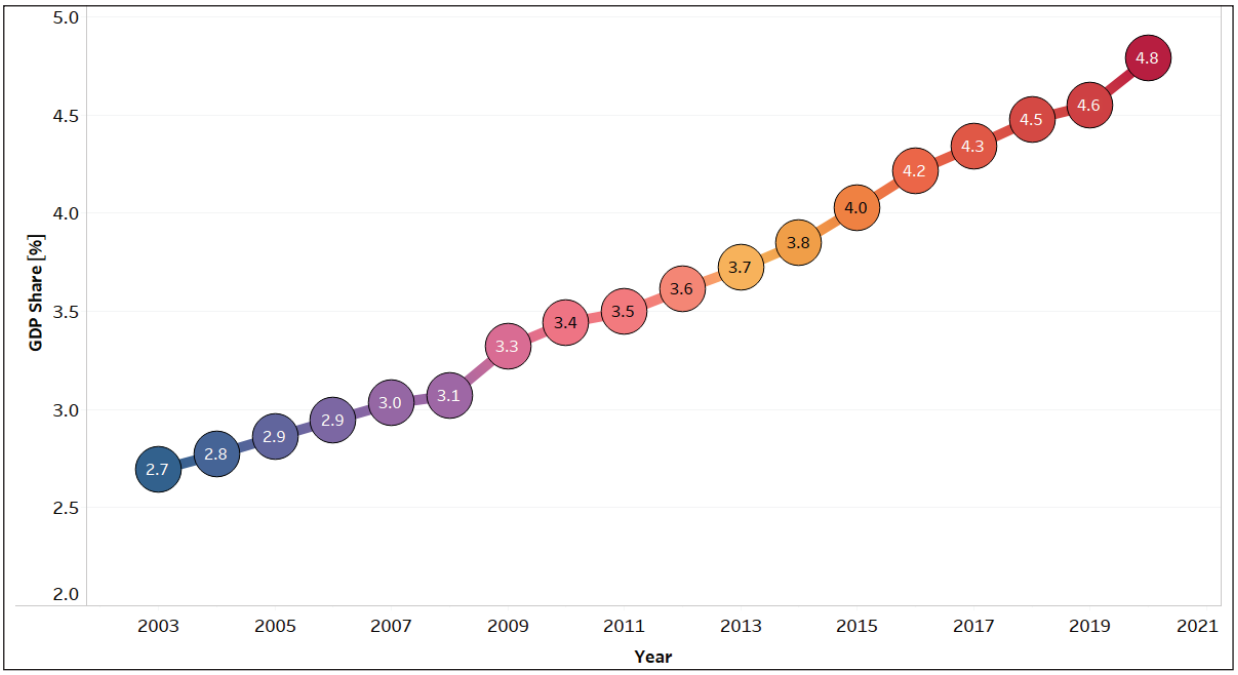
Though the GDP growth rate of the region slowed down during the recession, the effects of the recession were different during 2008-20 (Kapoor, Tewary and Mohanty, 2022). The region experienced a major shock in the first phase of the recession, spanning the period 2008-12, but recovered gradually in the second phase (2013-20), which again fell due to the pandemic situation in 2020. In the first episode of the recession, GDP growth slowed down significantly by 3.8 per cent during 2008-13. The region regained the lost ground by posting a growth rate of 4.9 per cent for the period 2014-20. During the pandemic year 2020, the growth rate of the region declined by -7.08 per cent, which was much deeper than that of the global average. However, the growth effects of the region had a positive spillover on the average per capita income of the region. The growth convergence of the region led to the convergence of the growth performance of regional per capita income (Elangovan, 2019). Per capita income, in real terms, grew at the rate of 6.3 per cent during 2003-07 but declined in the range of almost 2 to 5 per cent during 2008-13. With improvement in the growth prospects of the region, the growth rate increased to 3.7 per cent during 2014-20. On an average, the per capita income growth rate was 4.2 per cent in real and 7.6 per cent in nominal terms during 2003-20.

The share of BIMSTEC in the gross world product (GWP), as seen in Figure 2.1, has shown a persistent increase, despite the recession in the global market. The share of BIMSTEC increased from 2.7 per cent in 2003 to 3 per cent in 2007. The region recorded a 0.3 percentage point increase during the period of global buoyancy. The rising share of BIMSTEC in the world's GDP showed steady growth during the recessionary period. It increased to 3.1 per cent in 2008 and further to 4.8 per cent in 2020. This share was not affected by the global slowdown, showing the rising contribution of BIMSTEC in the world. There are various studies discussing the trends in macroeconomic parameters of the region (Dey, 2006; Banik, 2006 and 2007; Chowdhury and Neogi, 2013; Kaur, Sarin and Dhami, 2016; Palit *et al.*, 2018). Kaur, Sarin and Dhami (2017) estimated the correlation between GDP growth rate and the intensity of market forces, represented by exports, in the BIMSTEC region. They found that there was a bi-directional causality between GDP and exports of the region. Therefore, high growth in GDP could be one of the factors providing stimulus to increase the regional exports in BIMSTEC and vice-versa.

The BIMSTEC region had a large population of 1.7 billion and a credible labour force of 625.4 million in 2020. While the world economy is grappling with the crisis of ageing (Crampton, 2009), the region has a relatively large young population which can generate a large demographic dividend for the region (Bhutia, 2021). Of the total of 7 member countries in the region, five of them are in SAARC where intensive trade liberalisation

Figure 2.1: Rising share of BIMSTEC in Gross World Product

(in %)



Source: Estimation of the authors based on World Development Indicators, World Bank, 2021.

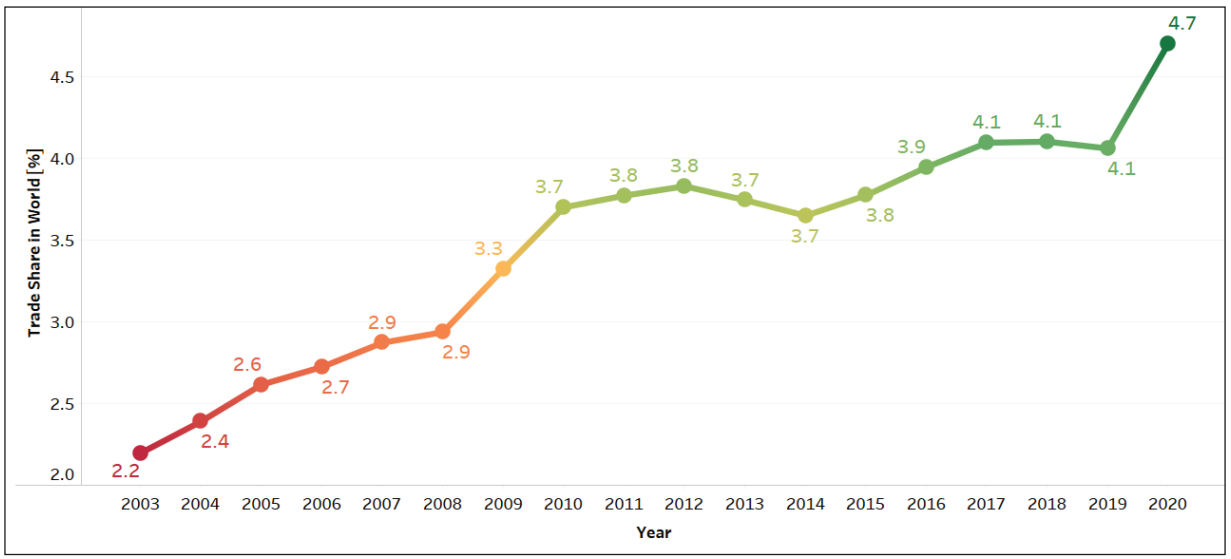
took place between them in the past (RIS, Forthcoming). High growth effects of the region were mostly propelled by indigenous efforts of individual member countries and a little support was coming from the regional integration process. Trade can be pushed again on the fast track because of its large potential and strong macroeconomic stability in most of the member countries of the region.

2.2 Trade Trends in BIMSTEC Region

Many of the BIMSTEC member nations had major economic reforms in the 1980s and 1990s, like India, Bangladesh, Nepal, and Sri Lanka (Salim, 2003; Sharma, 2006; Duma, 2007; Kabir and Salim, 2010). The share of BIMSTEC in global trade was recorded at 0.67 per cent in 1997 (Kaur, Sarin and Dhami, 2017). With the structural changes, such as reforms in financial markets, simplification of tariff regimes and many other policy changes, the region is emerging as a global trading hub with a rising share of trade in the world. BIMSTEC recorded a total trade of USD 1,636.4 billion in 2020 and had grown from USD 397.8 billion in 2003. The region surpassed the mark of USD 2.0 trillion in trade in 2018, where the exports recorded more than 47 per cent of its share in total trade and reached nearly 50 per cent of total trade in 2020. The surge in exports was more than many known RTAs in the world, particularly Pacific Alliance, Andean and Mercosur in Latin America, SADC, ECOWAS and SACU in Africa, SAARC and GCC in the Middle East and Asia.

The region experienced high growth in exports and imports during buoyancy, with imports growing at the rate of 31.6 per cent per annum and exports at the rate of 27.5 per cent for the period 2003-07. The trade performance of the region, though affected by the global recession in 2008, was better than many other RTAs, with imports and exports growing at the rate of 8.3 per cent and 7.4 per

Figure 2.2: Increasing role of BIMSTEC in the Global Trade



Source: Estimation of the authors based on World Development Indicators, World Bank, 2021.

cent, respectively, during the first phase of the recession (i.e., 2008-12). However, it was adversely affected by the second phase of the recession, with exports and imports falling sharply with a de-growth of 0.1 per cent and 1.1 per cent per annum, respectively, during 2013-20. However, the region's share in global trade was less responsive to the global trade regimes, as shown in Figure 2.2.

With the onset of the global financial crisis in 2008, many countries in the region witnessed a reduction in trade. The share of trade of BIMSTEC in the world market increased from 2.9 per cent in 2008 to 3.7 per cent in 2010, when most of the economies of the world were struggling with the aftermath of the global financial crisis. In the recessionary phase, the region witnessed a minor setback during the second phase of recession, where the share of the region's trade in the world declined by 0.1 percentage points in 2013 (from 3.8 per cent in 2012) but increased subsequently to 4.1 per cent during 2017-2019. Interestingly, when the world was grappling with the pandemic, the region stepped up and shared 4.7 per cent of the global trade in 2020. Further exports and imports of the region were expected to rise by 10 per cent and 7.5 per cent, respectively, during the post-pandemic period (IMF, 2021). The region was expected to flourish and reach new heights in the global trade.

3 Trends in Trade Liberalisation in BIMSTEC

It has been argued that the high tariff barriers in the BIMSTEC region have affected their trade prospects at the intra-regional and extra-regional levels. However, there have been conscious efforts to liberalise tariff regimes in the region, as tariff has been a major policy instrument to drive regional integration (Brandao and Martin, 1993; Behar and Edward, 2011). In the present analysis, liberalisation of the region is measured through Import Weighted Tariff (IWT) for the period 2003-19. We have not considered the pandemic year because of its abnormality in certain cases. The region was engaged in the process of liberalisation during the period 2003-2019, where overall IWT was reduced from 14.9 per cent in 2003 to 8.6 per cent in 2019. The liberalisation trend in the region was explicitly visible during the period of global buoyancy, where the IWT rates fell from nearly 15 per cent in 2003 to 9.1 per cent in 2007. The level of tariff again declined during the first phase of the recession, ranging between 6-7 per cent per annum. However, IWT for the region started rising during the second half of the recession and reached the level of 8.6 per cent in 2019 in response to the conservative trade policies adopted by the global economy with the prolongation of the global recession for the longest spell in the post-war period. The BIMSTEC region is a mix of developing and least developed countries (LDCs), which are generally characterised as highly protected nations compared to developed economies (Devi, 2007). Many BIMSTEC member countries liberalised their economies, like India, Bangladesh, Nepal, and Thailand, whereas a few others, for instance, Bhutan and Myanmar, raised their import duties over time.

One can classify the group of BIMSTEC members into three broad categories, where a) undisrupted tariff liberalisation continued in countries like India[1], Bangladesh, Nepal, and Thailand during 2003-19, b) level of tariffs remain in a similar range in countries like Sri Lanka and Myanmar and c) where overall tariff increased from 15.5 per cent in 2003 to 27.5 per cent in 2008, and then brought down to 18.8 per cent in 2019 as on the case of Bhutan. The IWT levied by Bhutan was the highest among the member countries in 2019, which was followed

by Nepal. The overall import-weighted tariff rate of the rest of the member countries was lower than 10 per cent in the same year. As in the case of regional IWT, the tariff rates of individual member countries remained high during the recessionary period, though several of them experienced tariff liberalisation during the period of global buoyancy. Moreover, the trends of tariffs in different broad economic sectors have followed the same pattern during different phases of the business cycles since 2003.

3.1 Protected Agriculture Sector in the BIMSTEC

The global consensus on the process of agricultural trade liberalisation was evolving gradually and was firmly commenced with the Agreement on Agriculture (AoA) in 1995. The agreement allowed developed countries to maintain their counterparts in the developing world with a certain level of market discipline (McCalla, 1969; Skogstad, 1998). Agriculture, still, is a highly protected sector in many countries, including developed, developing and LDCs (Aksoy and Beghin, 2005). Asymmetry in the tariff structure between developed and developing countries was discussed in the Doha Round for quick redressal.

In the BIMSTEC region, tariff asymmetries have been substantive among the regional economies. Among the broad economic sectors, the agriculture sector is the most protected one in the region on the ground of food security and livelihood security (RIS, 2021). The sectoral IWT in agriculture was 49.58 per cent in 2019, which increased from 33.52 per cent in 2003, as shown in Table 3.1. On the contrary, the mineral and manufacturing sectors experienced gradual tariff liberalisation over the years. The IWT in the mineral sector declined sharply from 9.14 per cent in 2003 to 1.88 per cent in 2019, whereas the same for the manufacturing sector was 14.8 per cent in 2003 and declined substantially to 9.1 per cent in 2019.

Table 3.1: Protected Agriculture sector of BIMSTEC (%)

Year	Agriculture	Minerals	Manufacturing
2003	33.52	9.14	14.80
2007	36.71	5.11	9.09
2013	35.26	0.91	7.62
2019	49.58	1.88	9.08

Source: Estimation of the authors based on TRAINS, WITS, 2021

The region experienced variation in the agriculture tariff liberalisation in different economic cycles. During the global buoyancy, the IWT in the agricultural sector witnessed a continuous fall in average tariff rates. The rates reduced from 33.5 per cent in 2003 to 24.6 per cent in 2006. The tariff rates jumped to 36.7 per cent in 2007-08 with the beginning of the sub-prime crisis towards the end of the year. Subsequently, during the period 2009-11, the IWT of agriculture in the BIMSTEC region bounced back to the pre-recession level, ranging between 24-25 per cent. Like in the first phase of the recession, the agricultural IWT of the region increased again at the beginning of the second phase of the recession. The global economy was facing the protectionist wave from various quarters and the regional economies responded to such global policy changes. Within the BIMSTEC region, the agriculture IWT in regional economies also varies in their levels and trends.

Based on the trade policies adopted in the agricultural sector, the BIMSTEC member countries can be broadly classified into three groups accordingly to levels of agriculture tariff, namely, highly protected, moderately protected, and liberalised. Countries considered under the highly protected group levied IWT of more than 30 per cent on the agriculture sector like India (61.8 per cent) and Bhutan (42.9 per cent) in 2019. The moderately protected economies imposed tariffs ranging from 10 per cent to 24 per cent – such as Thailand (23.5 per cent), Sri Lanka (16.1 per cent) and Nepal

(10.9 per cent) in the same year. Among the less protected countries, Bangladesh, and Myanmar, levied IWT in the range of 6.8 per cent to 7.9 per cent on agricultural products in 2019. However, the trend of IWT was heterogeneous in BIMSTEC member countries over the years. A detailed analysis of the level of protectionism in different member countries would provide a comprehensive snapshot of the tariff situation in the BIMSTEC region.

We have estimated the IWT of the agricultural sector for member countries in three different periods–2003-07, 2007-13 and 2013-19–denoting changes in the business cycle regimes. Countries like India, Sri Lanka and Thailand recorded an increase in the tariff rates during the global recession and witnessed a certain number of spikes in agricultural IWT, particularly in the initial years of the second phase of the recession. For instance, the import weighted tariff rates for agriculture products in India got reduced from 65.4 per cent in 2003 to 48 per cent in 2013 and rose again to 61.8 per cent in 2019, showing a high degree of fluctuations during 2003-19. Conversely, in the case of Bhutan, the country experienced liberalisation in the initial years of the financial crisis in 2008, reducing IWT from 67.7 per cent in 2007 to 46.5 per cent in 2009, and thereafter, the level of protection remained at a similar level over the years. Countries like Bangladesh, Myanmar and Nepal experienced a volatile liberalisation path during the period 2003-19. As in the case of regional economies, sectoral distribution of agricultural tariffs at a disaggregated level can provide new insights for the BIMSTEC region, and some of these issues are discussed in the following section.

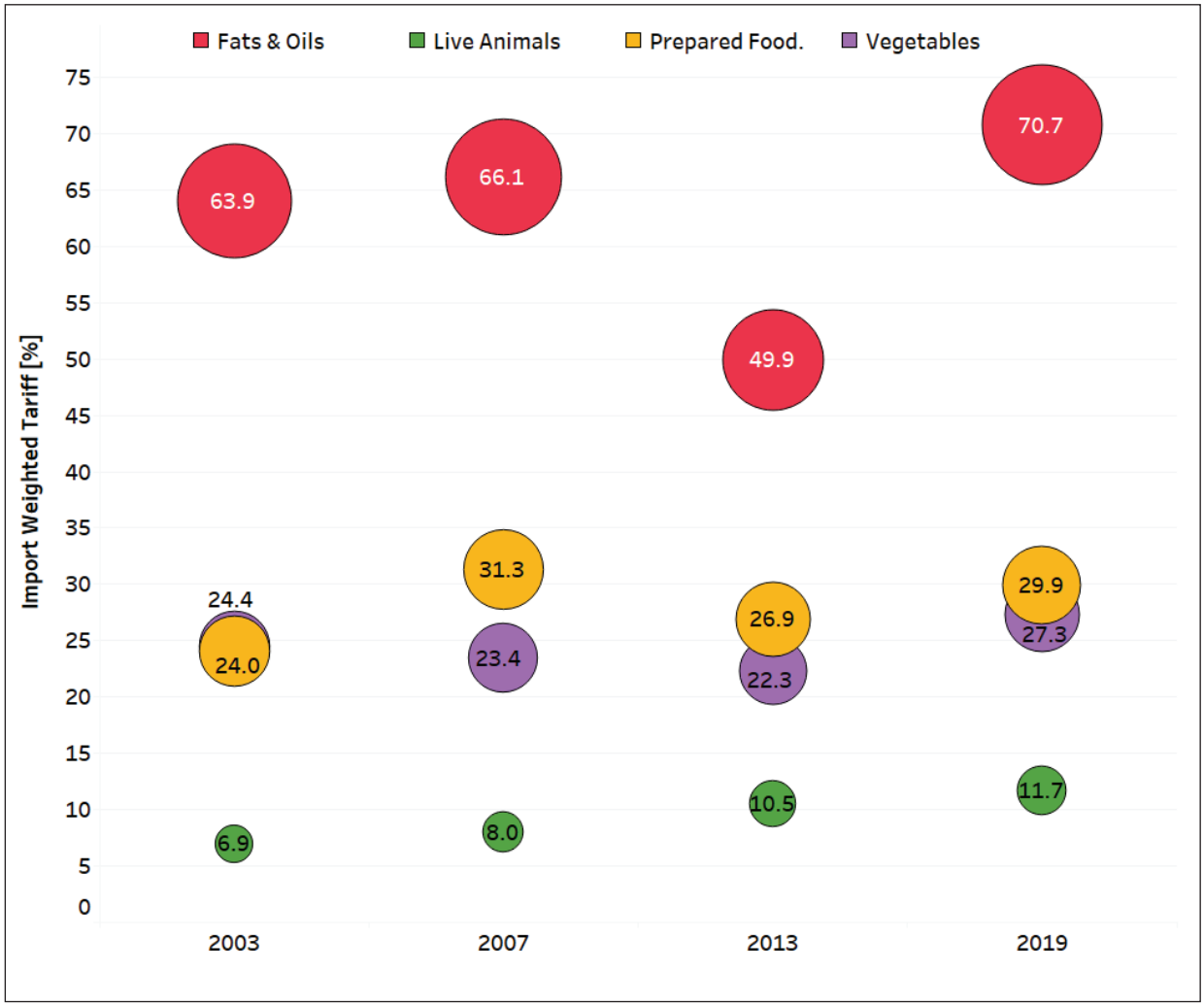
3.2 Sectoral Comparison in the Agriculture Sector in the BIMSTEC

To understand heterogeneity at a disaggregated level, the IWT is estimated for the BIMSTEC region for various HS sections and chapters in the agriculture sector. The highly protected agriculture sector in the region is a testimony to secure food and livelihood security in the region where much of the population is directly and indirectly linked to the agriculture sector (Dorosh, 2001; Pyakuryal, Thapa and Roy, 2005). Interestingly, all the agriculture sectors, except live animals and animal products, have experienced a dip in the IWT with varying intensities in 2013. With the wave of protectionism encompassing the world economy in 2018 and 2019, BIMSTEC countries also raised their IWT on certain agricultural products, showing the upward movement in the trend line of tariffs for all the sectors in 2019. The ranking of the region's agricultural sub-sectors remained unchanged over the years, with fats and oils taking the position of the most protected sector which was followed by the prepared food and fruits & vegetable sector. The most liberalised sector was the live animal and animal product sector, with IWT ranging from nearly 6 per cent to 12 per cent during 2003-20.

Within different HS sections of agriculture, IWT of the fats and oils sub-sector recorded the highest tariff protection, which was even higher than the most protected sub-sectors within the minerals and manufacturing sectors. Sectoral IWT at the level of the HS section for certain points of time is presented in Figure 3.1. The fats and oils sub-sector posted the highest tariff rate, which revealed a persistent rise in IWT from 63.9 per cent in 2003 to 70.7 per cent in 2019. Among the member nations, India levied the highest IWT on the fats and oils sub-sector in the region - more than 80 per cent in 2019[2]. This was followed by Bhutan, which increased its IWT from 30 per cent in 2003 to 50 per cent in 2019. On the other hand, IWT in the sub-sector experienced certain degrees of fluctuations over the years in Thailand. The country pursued a liberalisation policy in the global buoyancy, phase, which was discontinued following the deepening of the recession, where the IWT increased from 21.2 per cent in 2013 to 50.5 per cent in 2019. Bown (2011) observed that an inward approach towards the agricultural sector was a global phenomenon during the period of the global recession.

Figure 3.1: IWT of Agriculture sector in BIMSTEC

(in %)



Source: Estimation of the authors based on TRAINS, WITS, 2021

Like the fats and oils sub-sector, the prepared food sub-sector follows a volatile trend in tariff liberalisation. However, the rise of IWT in 2019 was relatively lower than that of fats and oils. The BIMSTEC region levied around 30 per cent IWT on the prepared food sector in 2019. India and Bhutan maintained a high degree of sectoral protection with IWT of 55.9 per cent and 39.6 per cent, respectively, in the same year. The major protected product groups in India were beverages, spirit & vinegar, sugar & sugar confectionery, and miscellaneous edible preparations within the prepared food sector. The similar product groups for Bhutan were tobacco & manufactured tobacco, beverages, spirits & vinegar, and preparation of vegetables, fruits, nuts, etc. Thailand also levied relatively high tariffs on the prepared food sub-sector which was liberalised during the first half of the recession, however, the tariff rates increased further to 29.9 per cent in 2019, with tobacco and beverages being highly protected sectors in the country. Other member countries like Nepal, Myanmar, and Sri Lanka were moderately liberalised in the agricultural sector. Bangladesh has appeared as a highly liberalised economy,

among the BIMSTEC members, in the prepared food sector, where import-weighted tariff rates declined from 18.8 per cent in 2003 to 5.5 per cent in 2019.

The fruits & vegetable sector is highly protected globally and is subjected to several tariff and non-tariff barriers, including seasonal tariffs, dispersed and high ad valorem tariffs, specific duties, tariff escalation, tariff-rate quotas, etc. (Diop and Jaffee, 2005). However, the sector is relatively liberalised in the BIMSTEC region compared to several other regions in the world. Though IWT in the fruits & vegetable sub-sector experienced a small but consistent fall during the periods 2003-07 and 2007-13, the rise of the tariff rates in 2019 surpassed the level of tariff recorded in 2003 in the region. Fruits & vegetable products were highly protected in Bhutan, levying import weighted tariff of 44.3 per cent, followed by Thailand (35.9 per cent) and India (33.5 per cent) in 2019. Bhutan was the most liberalised economy in 2003 but experienced a hike in its sectoral tariffs in 2007. Sectors like processed edible, fruits & vegetables, coffee & tea, cereals, and oilseeds were some of the highly protected product groups in Bhutan. Thailand saw a rise in tariffs in the fruits and vegetables during the period of recession whereas certain other sectors like coffee & tea and oilseeds experienced a hike in the tariff rates since 2003. India, like Thailand, witnessed a rise in tariff rates from the beginning of the recessionary period in products like coffee, tea and vegetables which were also highly protected during buoyancy. The rest of the member countries, except for Sri Lanka, had a liberalised fruits & vegetable sector with an IWT of less than 10 per cent in 2019.

Unlike other agriculture sectors which witnessed a fall in the IWT, over the period, the live animal and animal product sub-sector was the only one having a persistent rise in the tariff rates globally (Spencer, 2003; Ucak, 2007), and a similar pattern was also observed in the BIMSTEC economies. The regional countries, under this section, can be classified into highly protected, moderately protected, moderately liberalised, and highly liberalised groups. It was the most liberalised sector of the region with Myanmar having a highly liberalised market with an IWT of 5.7 per cent in 2019. Except for meat and edible meat offal products, all other HS chapters in the sector posted IWT of less than 10 per cent in 2019. Thailand, Sri Lanka, and Nepal were moderately liberalised with tariff rates ranging between 10 and 14 per cent in the same year. Bangladesh was moderately protected with an import weighted tariff of 18.3 per cent in 2019. The country levied a 25 per cent of tariff on HS chapters like meat & edible meat offal and fish & crustaceans in 2019. As in the case of many other agricultural sub-sectors, Bhutan was the most protected economy, followed by India with tariff rates of 40.3 per cent and 30.6 per cent, respectively. Dairy products were the most protected sector in both India and Bhutan, like many countries in the world (Salois, 2016). However, India liberalised the sector by reducing IWT from 42.2 per cent in 2003 to 37.8 per cent in 2019, whereas Bhutan raised the level of protection by raising tariffs during the same period.

The BIMSTEC Accord proposed to reduce the tariffs to zero level by 2014, where the LDCs were given three more years to reduce their tariff lines to the level of zero, under the Free Trade Zone among the member countries of BIMSTEC (Kaur, Sarin and Dhami, 2017). The proposal is not yet implemented and the countries are still finalising the implementation of the trade agreement. Many BIMSTEC members have unilaterally liberalised their tariffs, without any reciprocal tariff reduction, yet there are opportunities for the member countries to reduce the trade frictions among themselves, particularly in the agriculture sector by undertaking further liberalisation. Free flow of agriculture goods, with reduction of non-tariff barriers[3] and improvement in

trade facilitation measures (Wilson and Abiola, 2003), would not only improve intra-regional trade of BIMSTEC but would also make the region a large food supplier for countries in the extra-regional space. A liberalised tariff regime among the member countries, especially in agriculture, may act as a stepping-stone to the formation of an agriculture hub in the Bay of Bengal region.

Endnotes

1. A swift liberalisation of India in the BIMSTEC region increased its exports to nearly 75 per cent in 2003 (Sen, 2006; Chowdhury and Neogi, 2013).
2. India has been maintaining high tariffs on fats and oils because of high domestic consumption and a short supply of such products in the domestic economy (WTO, 2020).
3. Non-tariff barriers in form of SPS and TBT, standards, etc. are significant barriers to exports of developing countries as enunciated by several studies (Otsuki, Wilson and Sewadeh, 2001a; Otsuki, Wilson and Sewadeh, 2001b; Wilson, 2002; Wilson and Otsuki, 2003; Wilson, Otsuki and Majumdar, 2003; Kim and Reinert, 2009).

4 Analysis of the State of Agricultural Trade

4.1 Importance of Agriculture Trade in the BIMSTEC region

The agriculture sector in developing countries, including LDC, plays a vital role in economic development. It not only ensures food security, as a vital source of nutrition, for the nations but also continues to provide livelihood security, with job opportunities, for the population dependent on the sector (FAO, 2002; Cervantes-Godoy and Dewbre, 2010; Martin, 2017). Besides, developing countries are characterised by having a comparative advantage in agricultural trade, with natural endowments and low cost of labour, which enable them to be efficient in agricultural production. It has been estimated that half of Asia's agriculture trade is absorbed within the continent (Kaul, 2021). Unlike in the 1980s and the early 1990s, where the global agricultural trade declined with a lower elasticity of demand for agriculture products in advanced economies and declining commodity process (Aksoy and Beghin, 2005), the agriculture trade in the global market is rising over the years with a growing emphasis on agricultural raw materials and food (Briones and Rakotoarisoa, 2013). However, non-tariff barriers, product quality, economies of scale, etc. come as key challenges in the exports of agriculture products in the markets of developed countries, especially for the small and medium exporters of developing economies (World Bank, 2007). As in the case of many developing countries, agricultural trade is not seen as the largest trading sector in the BIMSTEC region.

A sectoral decomposition of trade in the BIMSTEC region showed the dominance of the manufacturing sector, with a trade share of 75 per cent in 2003. However, the share of the sector has been presenting a declining trend in the region's total trade. The trade share of the manufacturing sector declined to 70 per cent in 2007 and to 65.8 per cent in 2013. On the contrary, other broad economic sectors of the region experienced a rise in their trade share. The agriculture sector contributed 7.8 per cent of total trade of the region in 2007, which increased to 10.7 per cent in 2020, showing a persistent rise in the share of the sector during the period of recession. The agriculture trade recorded a

double-digit growth during the period of global buoyancy (i.e. 2003-07), where both exports and imports grew a little over 14 per cent per annum. However, in comparison with sectors like minerals and manufacturing, the share of the agricultural sector in the regional trade was considered to be the lowest in recent years.

Since the commencement of the global recession in 2008, the growth performance of the agriculture trade was better than the other two broad economic sectors during the entire period of the global recession. As a fall out of the growing sectoral exports and imports, the agriculture sector recorded a rising trade surplus over the years for the BIMSTEC region as shown in Figure 4.1. Agriculture exports and imports grew at 4.4 per cent and 6.8 per cent, respectively, for the entire recessionary period (2008-20). The second phase of the recession (i.e., 2013-20) affected agricultural exports more than agriculture imports which grew at the rate of 0.4 per cent and 3.7 per cent, respectively.

In a significant development, the region was least affected in its agricultural trade while several parts of the global economy were reeling under supply disruption in agricultural trade. Moreover, the growth performance of the region's agricultural exports and imports in the pandemic year was not significantly different from that of the rest of the earlier recessionary period, where many other sectors have experienced heavy fall due to nation-wide lockdowns and restrictions on the international borders amid COVID-19. The total agriculture exports of the region increased from USD 126.8 billion in 2019 to USD 131.6 billion in 2020. The overall trade surplus in the agriculture sector could partially compensate for the trade

Figure 4.1: Trends in Agriculture Trade of BIMSTEC

(in Billion USD)

Source: Estimation of the authors based on UN ComTrade database, WITS, 2021.

deficit generated in the other two sectors of the region. It is, therefore, important to analyse the sectoral composition of the agricultural trade to understand the dynamics of the sector in the region.

4.2 Composition of Agriculture Trade Basket

The world has seen a structural change in the agricultural trade since the 1980s, where the majority of the share of agricultural exports shifted from grains in the 1980s to fruits and vegetables in the 2000s (Diop and Jaffee, 2005; FAO, 2022). An interesting fact from the previous study is that the share of fruits and vegetables in agricultural exports has increased more in the case of developing countries than that of developed nations. Huang (2004) found that specific regions such as South and Southeast Asia benefitted from the trade in fruits and vegetables from the rest of the world. The study also observed that India and Thailand were among the top 30 exporters of the world during 1999-2001. A similar trend has been seen in the case of BIMSTEC. A close look into the four HS sections of the agricultural sectors, including animal products, fruits & vegetables, fats and oil and prepared foods, reveals that the agriculture trade sector of BIMSTEC seems to be attractive. A large part of the regional agriculture trade was dominated by the fruits & vegetables trade where the sector constituted 39.6 per cent of the agriculture exports and 31.6 per cent of the agriculture imports in 2003. The sector shared 5.5 per cent of total exports and 2.1 per cent of total imports of the region with the world. This sector continued to be the largest component in agriculture exports and imports in the region. The sector showed a constant rise in the size of imports to the extent of USD 18.9 billion and exports of USD 34.7 billion in 2020, as shown in Figure 4.2.

The growth of the fruits and vegetables sector was more than 15 per cent per annum in the case of exports and 20 per cent per annum in the case of imports during global buoyancy. The exports of the sector showed resilience in the first phase of the recession, where they grew at the rate of 13.5 per cent per annum during 2008-12. However, the second phase of the recession had an adverse impact on exports of fruits & vegetables sub-sector of the BIMSTEC region, as it slowed down to 0.1 per cent per annum during 2013-20. The imports of the sector were also affected by the recession, yet the impact was not devastating for the region, as the growth rate was around 7 per cent per annum for the entire period of 2008-20. Trade restriction measures coupled with the global recession were instrumental in reducing import demand of the sector in the region. To substantiate observation, the WTO study (2012) points out that the fruits and vegetable trade constituted 10 per cent of the agriculture food trade in the world and among several SPS complaints filed in the WTO, 1/3rd of it was related to the sector. Such trade barriers not only affected the fruits and vegetable sub-sector, but have been instrumental in restricting trade in other agricultural sectors.

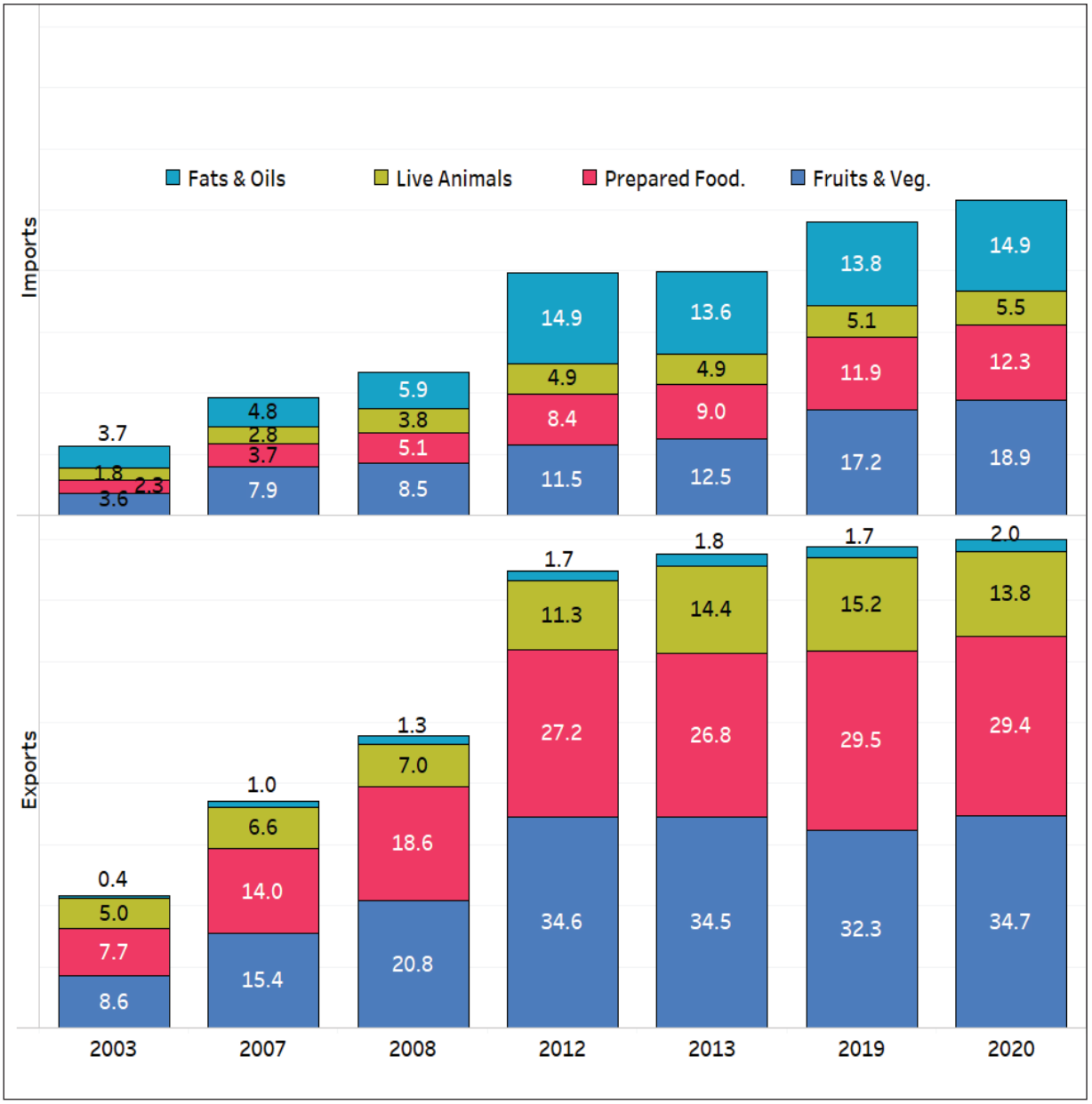
The world economy witnessed a surge in the processed food trade at the rate between 5-10 per cent per annum during 1975-95 (Rae and Josling, 2003), and a few regions, like the developing world from Asia, experienced brisk business with the world in this sector (Huang, 2004). The BIMSTEC region is one of such regions in Asia where trade in fruits & vegetable products, covered both in, the processed and non-processed sectors, are thriving with sizable market share and high growth in recent years. The prepared foodstuff sector exported 35.3 per cent of the region's agricultural exports and 4.9 per cent of total exports of the region in 2003. The share of the sector was robust and was accounting for more than 35 per cent of the agriculture trade, with a minor exception in the initial years of the second phase of the recession. Additionally, the sector revealed an increase in its share in agriculture imports from 19.9 per

cent in 2003 to 23.8 per cent in 2020. Putting them together, fruits & vegetables and prepared food constituted 75 per cent of agriculture exports and 65 per cent of agriculture imports in the regional trade.

Like in the case of fruits & vegetable products, the prepared foodstuff also had double-digit growth during 2003-07 with exports and imports growing at the rate of 16.3 per cent and 13.4 per cent per annum, respectively. The first phase of the recession did

Figure 4.2: Agricultural Trade of the Region with the World in Broad Food Sectors

(in Billion USD



Source: Estimation of the authors based on UN ComTrade database, WITS, 2021.

not have any impact on the imports of the sector as the sector grew at the same pace as during the period of global buoyancy. The exports of the sector faced a downturn during 2008-12 but grew at 10 per cent per annum during the same period. The impact of the recession crept into the sector during the second phase of the recession, where both exports and imports grew at a lower rate of 1.3 per cent and 4.5 per cent per annum, respectively, during 2013-20.

The live animal and animal products sub-sector was the third-largest agriculture sector in the BIMSTEC region, sharing 17.2 per cent of agriculture exports and 2.4 per cent of total exports of the region in 2020. The import share of the live animal sector was more than 10 per cent of total agricultural imports of the region during 2003-20. These three sectors, including live animals & animal products, fruits & vegetables, and prepared foodstuff, persistently recorded a significant sectoral trade surplus for the region, which was not the case with the fats and oils sub-sector. The fats and oils sub-sector experienced a negative trade balance as the sectoral deficit started increasing from USD 3.3 billion in 2003 to USD 12.9 billion in 2020. As in the case of fruits & vegetable products, the live animal sub-sector of the regional trade experienced higher growth of imports than its exports to the global economy during the phase of buoyancy, which reversed during the first phase of the recession, where exports grew twice as imports at a rate of 12.8 per cent per annum. Following such exceptional growth, live animal & animal exports were hit the hardest in the agriculture sector in the second phase of the recession with a CAGR of -0.6 per cent per annum. This is the only sub-sector in the agriculture trade where it recorded a de-growth during the period of recession in the BIMSTEC region.

Lastly, the fats & oils sub-sector constitutes the second-largest import in the agriculture basket of the region in 2020. The share of the sub-sector was 32.6 per cent in 2003, which recorded a sharp fall to 25 per cent at the beginning years of the first phase of the recession. It further got raised to 37.6 per cent at the end of the first phase of the recession and finally came down to 29 per cent towards the end of 2020. The share of the sub-sector in the total region's imports was 2.2 per cent in 2003 which reduced to nearly 1 per cent in 2007 and 2008. The importance of the sub-sector for the region was seen again with a rising share of the sub-sector in total imports worth 2.2 per cent of the total in 2020. Interestingly, the fats and oils imports of the region grew at a slower pace (close to 6.9 per cent per annum) in comparison to the other agricultural sectors before the recession, i.e., during 2003-07, whereas exports of the sector grew at more than 25 per cent per annum in the same period, which was the highest among the various agricultural sub-sectors. The recessionary period of 2008-12 showed a reverse trend of trade in the fats and oils sub-sector where the imports grew at 25.9 per cent per annum and the exports grew at 6.4 per cent, showing a hard-hit on exports of fats and oils of the region. The second phase of the recession again represented a sharp decline in both exports and imports, where the latter grew at 1.3 per cent per annum.

The agriculture trade and its various sub-sectors experienced similar trends during the business cycle in the BIMSTEC region. All the sub-sectors have had phenomenal growth in the global buoyancy, except in the case of exports of live animal & animal products and import of fats and oils. The second phase of the recession had severely impacted the trade in all the agriculture sectors, where the magnitude for the live animal and animal product sub-sector was the strongest in its exports. However, the overall impact of the recessionary period (2008-20) was not as severe as the mineral sector of the region, which recorded a negative Compound Annual Growth Rate (CAGR) for the entire period.

4.3 Intra-Regional Trade in BIMSTEC

BIMSTEC region has been negatively portrayed due to its low level of intra-regional trade (IRT) (Banik, 2006 and 2007; Batra, 2010; Hossain, 2013) as compared to the other RTAs of the world. However, while comparing BIMSTEC, one should not compare it with RTAs like NAFTA, the EU, etc., which are at different stages of economic development. A comparison should be made between the RTAs, which consist of countries of similar development stages. The BIMSTEC experienced an increase in its IRT ratio from 4.7 per cent in 2002 to 6.2 per cent in 2020, with the highest ratio recorded in 2018 at 6.3 per cent. The value of trade increased 6 times from USD 12.85 billion in 2002 to USD 76.77 billion in 2020. This has been greater and comparable with many important RTAs in the world like Mercosur (USD 66 billion), SADC (USD 54 billion), COMESA (USD 19 billion), and SACU (USD 18 billion), etc. in 2020.

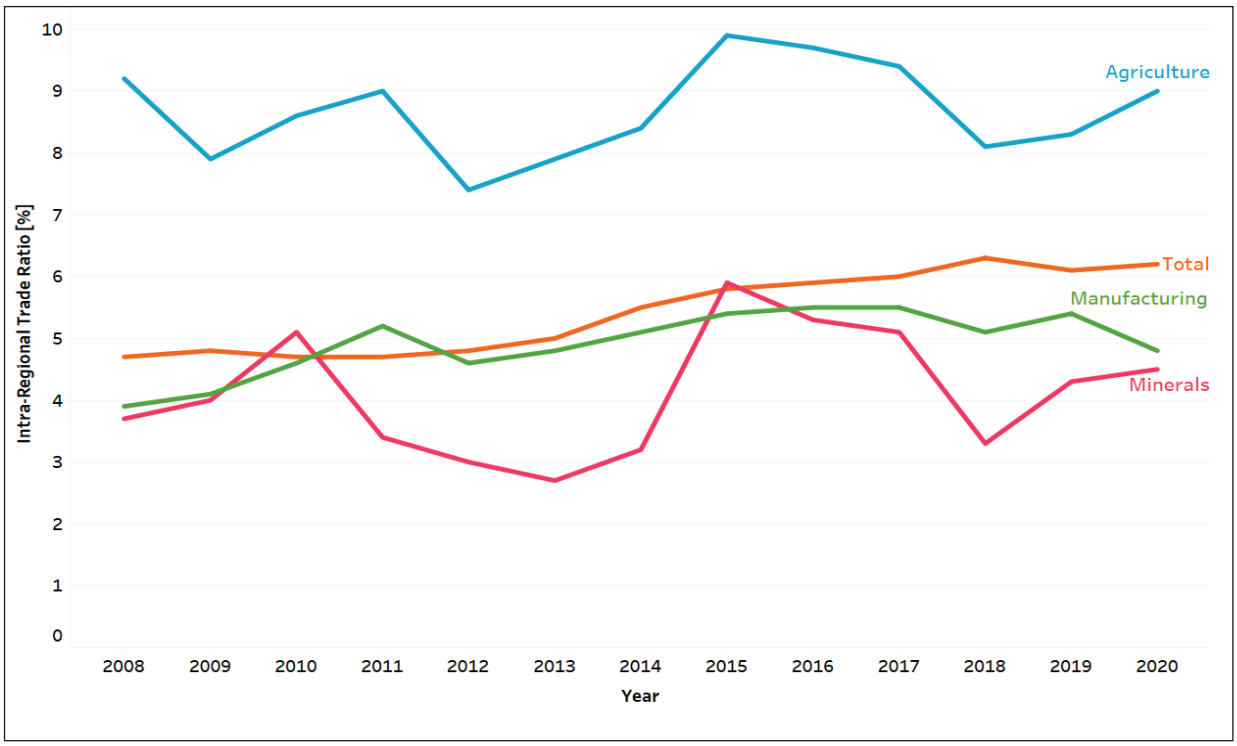
This increase in IRT of BIMSTEC represents the increased trade engagement among member countries in the region. The growth of trade of the region was profound during the period of buoyancy, recording a growth rate of more than 20 per cent per annum. Likewise, IRT grew much faster during the period of buoyancy compare to that of the recessionary period. While intra-regional imports grew at 20.8 per cent per annum and exports expanded at 14.8 per cent during 2003-07, the commensurate figures for the recessionary period (2008-20) were 3.5 per cent and 4.9 per cent, respectively. The volume of IRT witnessed a continuous rise from 2003 until it fell in 2009 due to the influence of the global financial crisis. The IRT bounced back in 2010 with an annual growth of 30 per cent over the previous year, representing resilience in trade between the regional countries. This rising trend followed for a few years till 2014, where IRT was recorded at USD 75 billion. However, during the second phase of the recession, the intra-regional trade grew at the rate of 1.6 per cent per annum whereas BIMSTEC trade with the world recorded a de-growth of the same quantum, demonstrating a slowing down of the trading activities. The same trend was also observed in another study (Kabir and Selim, 2010).

With a contraction in IRT in 2015 and 2016, it started expanding again and reached USD 95 billion in 2018. With the trade slowing down with the world, IRT of BIMSTEC also slowed down in 2019 and almost reached the levels of 2014 with a value of USD 76.7 billion and this was due to the upsurge of the pandemic in 2020. However, an interesting point to note is that the intra-regional trade ratio of the agriculture sector was higher than the overall IRT of the region. Agriculture IRT was higher than overall IRT and performed better than other sectors like manufacturing and minerals for BIMSTEC, as shown in Figure 4.3. The IRT in agriculture was recorded at 9 per cent in 2020, whereas the same for mineral and manufacturing sectors was 4.5 per cent and 4.8 per cent, respectively. The intra-regional trade of the BIMSTEC region in the agriculture sector constituted 17.9 per cent of intra-regional imports and 18.6 per cent of its exports in 2020. The agricultural IRT ratio has been higher than the manufacturing and mineral sectors since 2003. The intra-regional agricultural trade of the region grew in double digits during the global buoyancy, whereas it was affected by the recession. However, intra-regional imports and exports of agriculture grew higher than the other two sectors in the second phase of the recession.

The IRT ratio in the agricultural sector of BIMSTEC was recorded at 9.2 per cent in 2008, which fell to 7.9 per cent in 2009 with the onset of the global financial crisis. However, the IRT rebounded in just two subsequent years and reached its pre-crisis level in 2011. In the first half of the second phase of the recession, the IRT experienced a continuous rise from 7.9 per cent in 2013 to 9.9 per cent in 2015. Coincidently, the region registered its peak IRT ratio of the entire recessionary period in 2015. Though IRT

Figure 4.3: Surging IRT Ratio in the Agriculture sector

(in %)



Source: Estimation of the authors based on UN ComTrade database, WITS, 2021.

of the agricultural sector was more volatile than manufacturing trade, it continued to be robust and supported the rebound in the overall IRT ratio of the region. In the last two years, the region witnessed a rise in the IRT ratio. The agricultural IRT is a major source for the revival of the overall IRT for the region during the COVID-19 period. It may be concluded that the agriculture trade in the region may be the low-hanging fruit for the trade sector among the BIMTEC countries. For prioritising specific agricultural sub-sectors for the initial years to enhance the overall trade of the region among its member countries, it is necessary to analyse the trend of IRT in different sub-sectors of agriculture.

4.4 Structure of Agriculture IRT of BIMSTEC

In the global exports of fruits & vegetables, developing countries contributed 16.7 per cent in the early 1980s and it went up significantly to 21.8 per cent in 2000-01, showing the prominence of developing countries in the sector (Diop and Jaffee, 2005). Similarly, within intra-regional agriculture trade in the BIMSTEC region, fruits & vegetable products constituted almost half of the exports and imports. The share of fruits & vegetable products reduced to 42 per cent of overall IRT exports of BIMSTEC in 2019, and again crossed the 50 per cent mark in the pandemic year, i.e., 2020. The intra-regional exports of the sub-sector grew at the rate of 7 per cent per annum and the same for imports were 10.8 per cent per annum during 2003-07. As in the case of total trade in the sub-sector, intra-regional trade was also affected by the global financial crisis. The intra-regional exports grew at the rate of 4.1 per cent per annum and intra-regional imports grew at 6.3 per cent per annum for the entire recessionary period (2008-20) for fruits and vegetables. The sector

was majorly affected during the first phase of the recession; however, it recorded the highest growth in intra-regional exports among the other agriculture sub-sectors in the second phase of the recession. Next to the fruits & vegetable sub-sector, the largest contributor of IRT in the agriculture sector was prepared foodstuff. The fruits & vegetables and prepared foodstuff sectors together contributed more than 80 per cent of IRT in the agricultural sector in 2020.

The prepared food sub-sector's contribution ranged from 20 per cent in 2003 to nearly 40 per cent in 2019 in the total IRT of the region. The sub-sector recorded nearly 20 per cent growth in intra-regional exports and 18 per cent growth in intra-regional imports during the period of the global buoyancy. It was not much affected in terms of intra-regional exports in the first phase of the recession, recording a growth of 15 per cent per annum. However, the ratio of the intra-regional import was affected during the same period, logging a growth of 3.9 per cent per annum, for 2008-12, in comparison to a growth of 6.8 per cent per annum in the second phase of the recession. On the other hand, the intra-regional exports were affected majorly during the second phase of the recession growing at a rate of 1.3 per cent per annum.

Followed by prepared food was the live animal & animal product sub-sector contributing around 10.4 per cent of the total intra-regional agriculture trade in 2020. The intra-regional share of live animal & animal product sub-sector in BIMSTEC increased from 4.7 per cent and 9.2 per cent in 2003 to 14.7 per cent and 10.9 per cent in 2019 for exports and imports, respectively. It is important to note that the sector recorded faster growth in intra-regional exports during the recessionary period than in the period of the global buoyancy. It grew at 7.6 per cent per annum for the period 2003-07, whereas for the entire recessionary period (2008-20), the exports grew at 12.4 per cent per annum, which was highest in comparison to all the other agriculture sub-sectors. In the case of intra-regional imports of the sub-sector, the performance of the live animal & animal products sub-sector was affected during the recession, where the imports grew at 11.2 per cent per annum during the global buoyancy as opposed to 4.8 per cent per annum during 2008-20.

The smallest contribution in the intra-regional agriculture trade of BIMSTEC was made by the fats and oils sub-sector, with a share of around 6 per cent in the overall IRT of the region in 2020. The share of intra-regional exports of the sector had fallen from 6.8 per cent in 2003 to 3.6 per cent in 2020. The share in intra-regional imports, on the other hand, increased from 5.8 per cent in 2003 to 11.6 per cent in 2007. This was followed by a dip in the share to 2.9 per cent in 2012, and thereafter rose continuously to reach the level of 9.3 per cent in 2020. The intra-regional exports and imports of the sector increased significantly during the global buoyancy with compound annual growth rates of 23.7 per cent and 36.5 per cent per annum. However, the sector was severely affected by the first phase of the recession where both the intra-regional exports and imports recorded a de-growth of 13.4 per cent and 14 per cent per annum respectively. The imports bounced back in the second phase of the recession with a growth rate of 13.4 per cent per annum, whereas the exports recorded at just 0.2 per cent per annum. It is interesting to note that, though the fats and oils sub-sector recorded a negative trade balance with the world, intra-regional trade posted a trade surplus, except for the years 2019 and 2020 when the trade deficit was USD 302 million and USD 339.5 million, respectively.

India has been dominating in the agricultural intra-regional trade, comprising 25.6 per cent of imports and nearly 52.2 per cent of exports in 2020. Following India, the intra-regional export was dominated by Thailand and Myanmar where the share of Thailand increased from 10.2

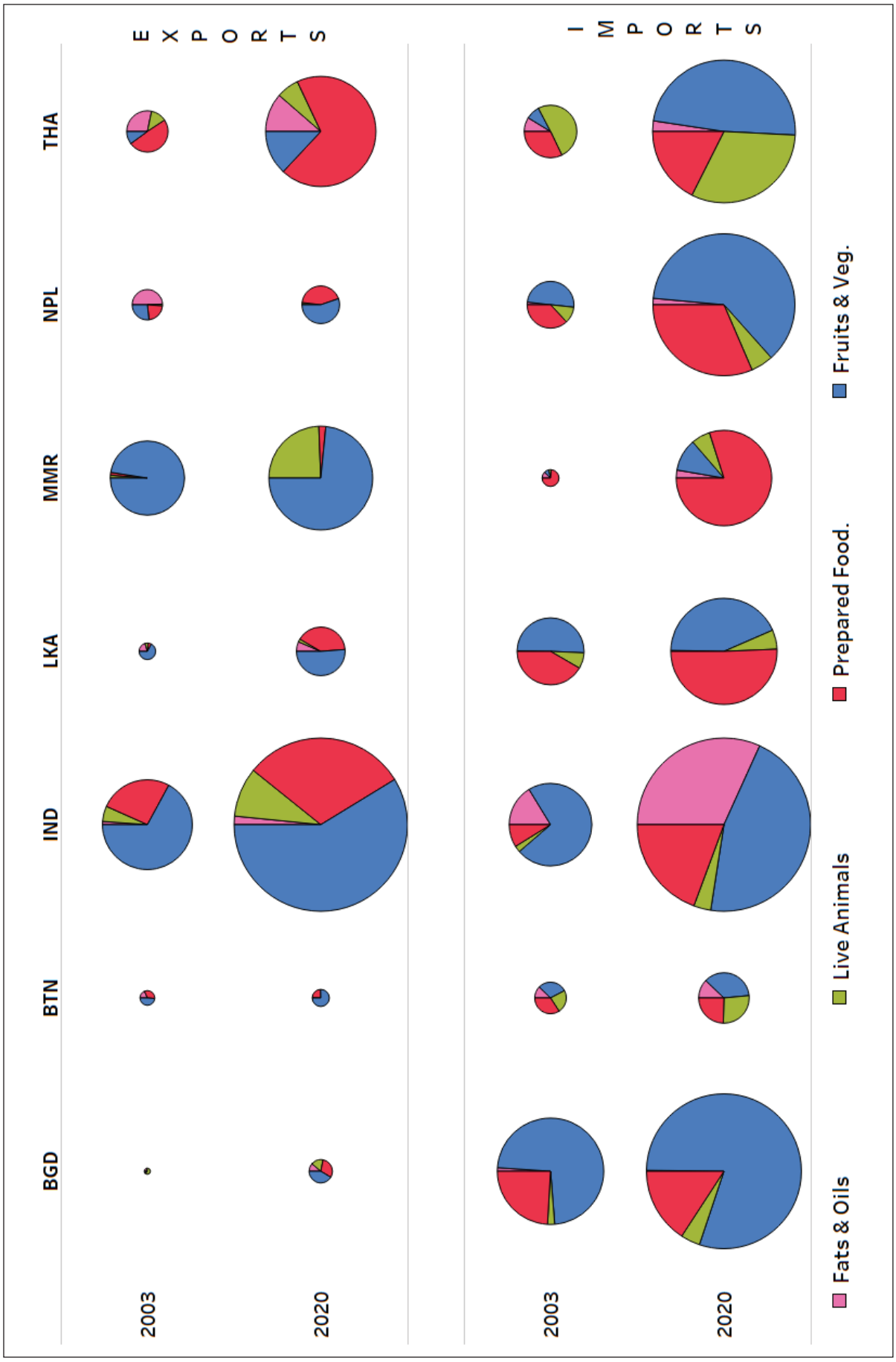
per cent in 2003 to 21.1 per cent in 2020 and the same for Myanmar declined from 32.9 per cent in 2003 to 18.7 per cent in 2020. The shares of the rest of the member countries were relatively small, ranging from 4.1 per cent (Sri Lanka) to 0.5 per cent (Bhutan) in intra-regional exports. In the intra-regional imports segment, following India, Bangladesh was the second-largest economy sharing 20.4 per cent of the total intra-regional imports of the region in 2020. Its share has been declining over the years despite being a major importer of the region. Other member countries like Nepal and Thailand contributed 17 per cent each to the intra-regional imports, followed by Sri Lanka at 9.6 per cent in 2020. Myanmar and Bhutan accounted for 7.8 per cent and 2.2 per cent, respectively, of the intra-regional imports of the region. However, unlike the composition of agriculture sub-sectors of the region, the composition of agricultural sectors has varied with regional economies in the intra-regional trade, as shown in Figure 4.4.

The leading regional players in the fruits & vegetable sector were India and Myanmar in 2020, where both countries collectively accounted for 86.3 per cent of the total intra-regional exports in the sector. India's share increased from 47.1 per cent in 2003 to 59.6 per cent in 2020. Conversely, the share of Myanmar declined from 46.7 per cent in 2003 to 26.7 per cent in 2020. Both the countries recorded a trade surplus in the sector. Other member countries like Sri Lanka and Thailand experienced an increase in the share of intra-regional exports in the fruits & vegetable sub-sector. In the intra-regional imports, Bangladesh recorded the highest share in the fruits & vegetables, which contracted from 48.1 per cent in 2003 to 30.9 per cent in 2020. In this sector, Nepal and Thailand improved their share in the sectoral IRT by almost 14 percentage points each between 2003 and 2020.

The intra-regional export of the prepared food sector is dominated by India and Thailand with a share of 46.8 per cent and 42.8 per cent, respectively, in 2020. India's share in the sectoral intra-regional exports shrank to 63.8 per cent in 2003, showing a fall of 17 percentage points from 2003 to 2020. On the other hand, Thailand saw an increase in its share by 17.5 percentage points, with its exports to the region, growing at the rate of 14.5 per cent per annum during 2003-20. Member countries like Bangladesh and Sri Lanka displayed sharp growth in the intra-regional exports in prepared food, where Bangladesh increased its exports from USD 0.3 million in 2003 to USD 21 million in 2020, growing at a rate of 28.4 per cent per annum. The same is the case with Sri Lanka, where the export sector grew at the rate of 26.5 per cent per annum for the entire period of 2003-20. The intra-regional import share of member countries in prepared food is rather more diverse than its exports. The largest importer among the member countries was Myanmar, with 22 per cent, followed by Nepal, India, and Sri Lanka, where intra-regional import share of the countries ranged from 17 per cent to 19 per cent. In this category, Bangladesh and Thailand, the share was posted more than 10 per cent each in 2020.

In the live animal & animal product sub-sector, the highest intra-regional share was recorded by India in exports and Thailand in imports in 2003. Though Thailand maintained its share of importing more than half of the intra-regional trade of animal products, India experienced a fall in its export share from 56.7 per cent in 2003 to 43.4 per cent in 2020. Myanmar recorded the largest growth in exports of live animals & animal products, which grew at 23.9 per cent per annum, gaining 32.6 percentage points during 2003-20. In the fats and oils sub-sector, intra-regional exports were dominated by Thailand, amounting to 66.7 per cent in 2020, which increased from 42.5 per cent in 2003. On the other hand, India is the leading member among other regional countries, importing nearly half a billion of fats and oils, in value terms, from the BIMSTEC

Figure 4.4: Changing Composition of Agriculture IRT in the region



Source: Estimation of the authors based on UN ComTrade database, WITS, 2021

members, recording a trade deficit of USD 463.7 million in 2020. The country's intra-regional imports of fats and oils grew at 13.5 per cent per annum during 2003-20, revealing large demand for fats and oils in the region and would sustain for a long period.

4.5 Sectoral IRT in Agriculture and Future of Trade Liberalisation

It is evident from earlier studies that global and regional trade in the agricultural sector has got more opportunities for job creation, increasing foreign exchange earnings, and improving food and livelihood security for the masses (Jha, Roland-Holst and Behnke, 2010; OECD, 2019; FAO, 2022). A similar trend is also perceived in the trade sector among the BIMSTEC regional economies in agriculture. As the agricultural sector is not a homogeneous sector, which is accommodating a divergent set of sub-sectors including animal products, vegetables, fruits, fats & oils, processed food etc., identification of specific sub-sectors with high trade intensity can induce regional economies in fostering trade through IRT. Moreover, these sub-sectors are happened to be low-hanging trade sub-sectors, which can be leveraged further to support ongoing efforts to augment regional trade. This would induce regional economies to focus on trade liberalisation in specific sub-sectors to invoke interest in regional trade. It is observed that IRT is consolidating in specific sub-sectors such as fruits & vegetables and processed food. For reinforcing these findings further, IRT ratios are estimated at the level of HS sections for the agricultural sector.

In this study, disaggregated agricultural products, particularly 729 items at 6 digit HS are taken for examining regional trade during 2002-20, using 2002 nomenclature. Categorisation of the bilateral flow of trade within region-specific sub-groups of the products at the HS section level, using WCO classification of trade, is used for the classification of agricultural products in trade. For bilateral trade flows in the region at the disaggregated sub-sector level, 220 product lines are taken for live animals & animal product trade, 269 items for fruits & vegetables, 46 items for animal fats and vegetable oils, and 194 products for the processed food sector. A similar exercise was repeated for each sub-sector to estimate the region's sectoral trade with the world. Using time series data, the sectoral IRT ratio at the HS Section level is estimated.

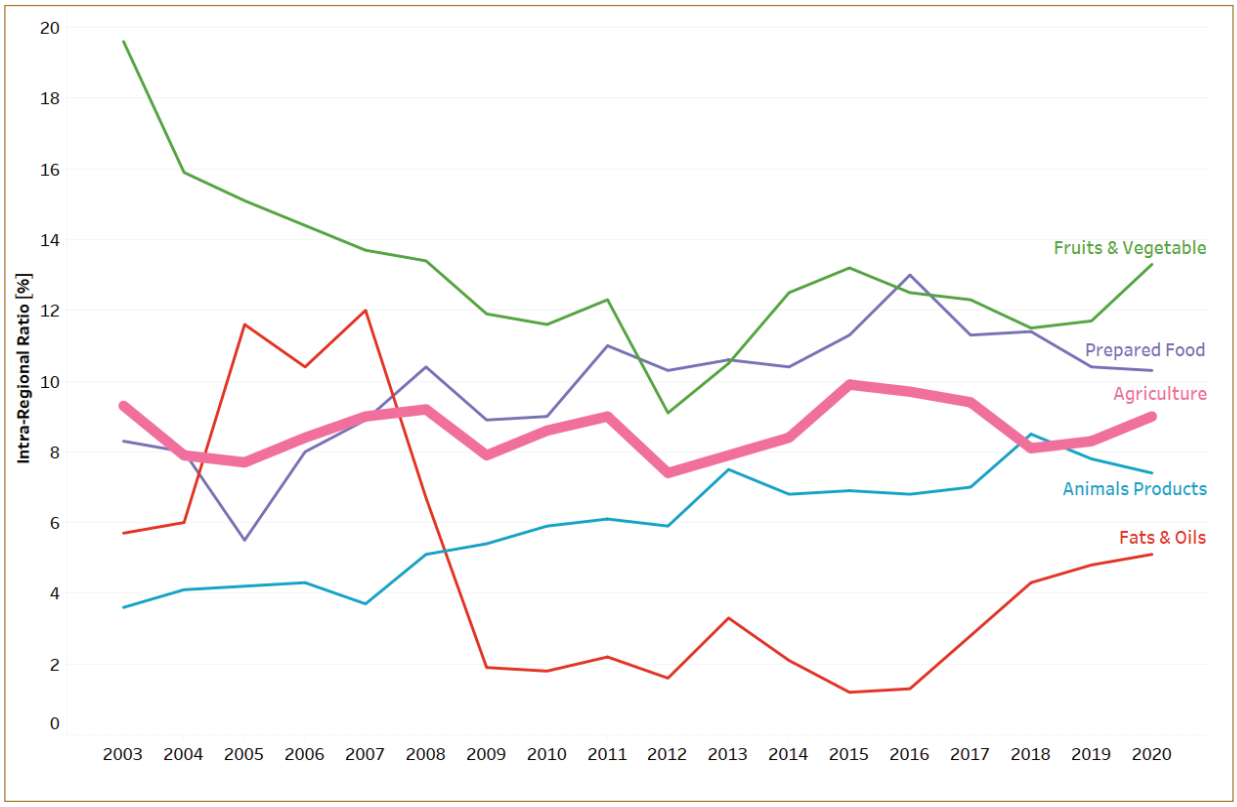
IRT ratios for overall and various sub-sectors in the agricultural sector are shown in Figure 4.5. Overall agricultural IRT ratio appeared to be less volatile than other sub-sectors in the agricultural sector. The extent of variability in the IRT ratio was more pronounced during the period of global buoyancy and the recession but declined in recent years. To be more specific, variations in IRT ratios were at their minimum at the beginning of the second phase of the recession and also remained marginal in recent years.

Similarly, the fruit and vegetable sector was highly progressive during the period of the global buoyancy but the sub-sector remained subdued until the beginning of the first phase of recession but resumed sustained growth in recent years. The live animal & animal product sector has been a promising sub-sector for the region and has made steady progress during the last three decades. Several other agro-manufacturing sub-sectors demonstrated high IRT ratios in sectors like agricultural raw materials including articles of wood, textile, etc. In years of stress like 2019, the IRT ratio was significantly promising for the region, signifying larger dependence of the member countries on the region for agro-trade. The agricultural sector could be the pathfinder for the region to advance regional trade with new vigour with the support of processed food and fruits and vegetable sectors.

The high intra-regional agricultural trade among the member countries also points out high intra-industry trade (IIT) in the agriculture sector for the regional economies. There are

Figure 4.5: Trend of IRT in Agriculture and its sub-sectors

(in %)



Source: Estimation of the authors based on UN ComTrade database, WITS, 2021

shreds of evidence showing IIT between India and Thailand, India and Nepal and India and Bangladesh in agricultural sectors like the live animals & animal products, fruits & vegetable products, prepared foodstuffs and the magnitude of the index has changed over the years (Kaur, Sarin and Dhami, 2016). BIMSTEC countries have shown a similar export profile which would help them in raising a unanimous voice in the global negotiations for the reduction of tariffs and non-tariff barriers (Banik, 2006 and 2007). However, the new debate in the agricultural trade is surrounding the classification of processed food, which would facilitate ongoing negotiations on agricultural trade. It has also been argued that the structure of trade within agriculture has shifted from traditional sectors to new products like seafood, etc. in the world, (Briones and Rakotoarisoa, 2013). Hence, it is imperative to explore the contribution of the processed food trade in the BIMSTEC region, which is discussed in the following section.

5 Regional Trade in the Food Sector

5.1 Food trade in the World Economy and Regional Groupings

Food is an important segment of the global trade, performing moderately in recent years, particularly under the pressure of the global recession. Though food trade forms the bulk of the global trade, demand for non-food trade has been robust over time due to the industrial sector's pressure. With the rising purchasing power, there is a change in the dietary habit of people as stipulated by Engle's law which is aptly applicable in various regions (Diop and Jaffee, 2005), including BIMSTEC. The share of processed food in the agriculture trade has increased even during the recessionary period in the 1990s (Rae and Josling, 2003), which has continued in the subsequent decades. Despite the rising demand for processed food within the food segment, the market share of non-processed food remained sturdy in the world economy. However, future trade in the global economy would be more towards value-added processed food. However, demand for various categories of processed food varies from one region to another.

The global trade registered over 2½ fold rise in food trade between 2003 and 2020. Food exports increased from USD 557.9 billion in 2003 to USD 1516.7 billion in 2020 and the corresponding figures for the global imports were USD 588.3 billion and USD 1468.5 billion, respectively. In the food trade sector, the non-processed sector has been larger than the processed food sector during 2003-20. The food trade sector gradually slowed down with the prolongation of the global recession. In the first phase of the recession, the global food exports increased at a decreased rate, thus managed a moderate level of growth rate in the food trade sector. But deceleration of the growth rate of the global food trade was recorded for many food trade segments.

The food sector trade surged significantly by over 14 per cent in both exports and imports during 2003-14, where the non-processed food sector trade expanded more rapidly than the processed food trade, however, the regional trend is somewhat opposite to the trend seen in the global economy (Majumdar, 2013). The rapid growth of the food trade ceased to

some extent with the onset of the recession, although the growth momentum of the sector continued in the first phase of the recession (2008-12). The food sector and its sub-groups, including processed and non-processed food trade sectors, maintained growth rates in the range of 4.3 per cent to 7.0 per cent during 2008-12. Continuation of recession, during the second phase of the recession, brought serious concern for the food trade with negative CAGR including processed and non-processed food sectors, and in both exports and imports during 2013-20 in the world economy. Perhaps the rebound of the growth process in the world economy could extend leverage to the global food trade sector. In this regard, regional economies should choose low-hanging sectors for intensive trade among them to promote IRT which would steer the regional growth process and contribute to global recovery.

For low-income economies, it is convenient to trade intensively among themselves in the agricultural sectors, focusing initially on primary agricultural trade to more processed trade. With the increase in the level of income, trade becomes diversified, and the central focus of high-income regional groupings moves towards the manufacturing sector. It is advantageous for emerging countries to focus on intra-regional trade in agriculture, to begin with, as it is the low-hanging sector for being 'naturally advantageous' to the countries and fostering high trade complementarities vis-a-vis other tradable sectors.

Empirical shreds of evidence indicate that intra-regional trade (IRT) in agriculture has been two to three times high than that of overall IRT in low-income countries as shown in Table 5.1. The gap between agricultural and overall IRT declines as we move from low

Table 5.1: Advantages of Leveraging on Agricultural IRT in Emerging Countries

(in %)

Region	Sector	2003	2008	2013	2019	2020
Low-income economies	Overall	9.0	10.5	12.3	12.4	12.0
	Agriculture	27.4	21.9	24.6	19.6	21.5
Low-Middle income economies	Overall	15.4	20.4	21.2	21.5	21.2
	Agriculture	22.7	27.0	30.8	33.4	33.5
Upper-Middle income economies	Overall	7.2	9.5	9.7	10.6	10.6
	Agriculture	11.3	15.1	16.1	14.2	15.0
High-income economies	Overall	70.8	64.0	59.6	59.3	58.4
	Agriculture	73.6	68.8	65.7	64.4	64.4
Mercosur	Overall	13.9	14.9	14.0	11.5	11.5
	Agriculture	14.4	15.6	13.3	11.6	10.6
BIMSTEC	Overall	4.8	4.7	5.0	6.1	6.2
	Agriculture	9.3	9.2	7.9	8.3	9.0

Source: Estimation of the authors based on UN ComTrade database, WITS, 2021

to middle-income groups. There is a further decline in the gap between agriculture and overall IRT in the case of developed countries. These pieces of evidence have suggested examining the linkages between overall and agricultural IRT in emerging RIAs, including BIMSTEC. The agricultural trade sector becomes a low-hanging sector to promote IRT, and therefore, efforts to improve sectoral IRT in the sector may contribute to the overall IRT of a region. From this perspective, several RTAs from different income levels and continents are chosen to examine the linkages between IRT in agriculture and the overall trade situation. It is amply evident from several RIAs with diverse backgrounds that IRT in agriculture is higher than the overall IRT ratio, meaning thereby the need for indulging in agricultural sectoral trade to improve the overall IRT of a low/middle-income region. In the case of BIMSTEC, the IRT ratio of the agricultural sector has been larger than the overall IRT ratio of the region since the emergence of the global buoyance in the early 2000s. Even though the overall IRT ratio of the region is on its rising path, agricultural trade has an upper hand over other sectors in trade among member countries. It is in the interest of the BIMSTEC region to evolve a strategy to promote intensive agricultural trade among member countries to improve upon the overall IRT of the region.

5.2 Trade Trends of BIMSTEC in Processed and Non-Processed Food with the World

As a vibrant trading region in the world, BIMSTEC has not been a significant player in the agricultural trade globally though Thailand is a member of the Cairns Group in WTO. While the region's trade was at USD 1.23 trillion, the agricultural trade was reported at USD 131.5 billion, nearly 10.7 per cent of the total regional trade in 2020. From the total food trade of the region, export was constituting 60.26 per cent in the same year. In the agro trade sector, the region has been exporting more than its imports, thus maintaining a trade surplus with the region during the last two decades. Though agricultural trade was small in volume, the size of the region's trade surplus was almost similar to its sectoral imports in 2003, and the deficit to trade ratio in the agricultural sector started declining during 2003-20. The region witnessed a sharp increase of 14.2 per cent CAGR in agricultural exports and 14.5 per cent in sectoral imports during the period of global buoyancy (2003-07), leading to a narrowing down of the trade gap in the regional agricultural trade.

It may be noted that agricultural trade expanded more rapidly than overall trade with the world, mostly by the agricultural imports during 2003-20. In the agricultural trade, the food trade dominated historically both in exports and imports. In the overall trade of the region with the world, the food sector continued to be very low at 13.4 per cent for exports and 7.5 per cent for imports in 2020. Processed food is becoming significant for the BIMSTEC region in the food trade sector, where the region maintains a large trade surplus with the world, and both exports and imports go hand in hand, particularly in the case of non-processed food.

With a largely populated region like BIMSTEC, food trade has been relatively low as compared to several Regional Integration Arrangements (RIAs) across the globe. The region's food imports stood at USD 50.21 billion and exports at USD 76.16 billion in 2020. Though food and non-food sectors are small in the overall trade of the region, the agricultural trade has continued to maintain high growth in different sub-sectors. An important aspect of agricultural trade in the region is that the region has registered a trade surplus in most of the major and minor sectors of the agricultural trade. In the non-food segment, exports are large but erratic over the years, leading to a lack of predictability about trade surplus from the sector. On the contrary, import of non-food agricultural trade was low

but growing persistently during 2003-20 with the least fluctuations. The bulk of the region's trade has been steaming from the food trade sector. Earlier studies have summarised that consumers in BIMSTEC countries, like India, have had a preference for unprocessed and fresh food, which has recently been shifted to processed food with a change in consumption pattern accompanied by increased income, urbanisation and participation of women in the workforce (Chenggapa, et al., 2005; Mukherjee and Patel, 2005; Goyal and Singh, 2007). Such transformation towards the food processing sector, at the country level, would foster restructuring of food industries in the domestic economies along with rising in export earnings (Wilkinson, 2004).

The region's exports in processed and non-processed exports are almost at the same level, but a large trade surplus is accrued to the region from the processed food sector as shown in Figure 5.1. In the agricultural sector, food trade registered a high stake to the extent of 95.3 per cent in exports and 97.3 per cent in imports in 2020. The region's import demand for processed and non-processed trade grew at the rate of 9.4 per cent and 9.3 per cent during 2003-20 despite the re-occurrence of intermittent endogenous and exogenous shocks in the food sector. The export growth pattern of both processed and non-processed exports almost followed a similar pattern where exports of processed and non-processed food stood at USD 37.43 billion and USD 38.74 billion, respectively, in 2020.

It is imperative from the Figure 5.1 that both exports and imports of processed and non-processed exports grew robustly during 2003-20, despite a change in the global trade policy regime in the latter half of the 2010s. The empirical evidence indicates that growth rates of exports and imports remained positive in all sectors irrespective of the global trade regimes. Imports of both sub-sectors experienced faster growth rates than their exports. In the non-processed sector, there was not much trade surplus in 2003 and the trade surplus narrowed down in 2019 and 2020, but it was large in the earlier years. On the contrary, the trade surplus was substantial for processed food in 2003 and the gap was widened because of the rapid growth of the exports sector compared to its imports. Considering the recent agricultural trade pattern of the region, the food sector is likely to thrive in the medium term.

5.3 BIMSTEC Trade with the World in Processed food by Sub-Sectors

The global trade in agriculture and food has been expanding over the years as the food security issue is becoming acute in several developing countries. Classification of agricultural trade was necessitated to present in a system by combining various aspects of the trade and production sectors. Trade classification of agriculture is existing in the literature where it was based on Standard International Trade Classification (SITC) (Athukorala and Jayasuriya, 2005). As international trade practices adopted Harmonised System (HS) in 1988, and certain agricultural sectors were defined with more precisions, a separate agricultural trade classification was evolved, taking into account the aforesaid factors and differentiating between processed and non-processed food trade (Mohanty, 2006 and 2014).

For analysing the dynamics of agricultural trade in the region, the above trade classification is used in the present study. Agricultural trade is grouped into agricultural raw materials and food trade, which are further classified into processed and non-processed food. Processed food trade is again categorised into 11 sub-groups, including fish, meat, eggs, fruits, vegetable, coffee, sugar, dairy, cereals, edibles, and oils. Products at 6-digit HS are identified and put in these broad agricultural and food trade sectors. While re-classifying items into agricultural product groups for this study, HS classification of processed food is considered along with SITC and FAO classifications. There

have been considerable levels of variations observed in the pattern of trade across broad food sub-sectors in the region, as shown in Figure 5.2.

The fish sector is important for maintaining food security and nutritional security (Dutta, Haider and Das, 2017) and also fosters foreign exchange earnings (FAO, 2004) in developing countries. Ahmed (2006) found that net exports in the fishery sector, have been more than the exports in various other traditional sectors like coffee, sugar, beverages, etc. in the developing countries. In the BIMSTEC regional trade, fishery trade takes the lion's share among other broad food sub-sectors in the world. The sector in the regional countries, like Bangladesh, has generated a trade surplus, thereby reducing the overall trade deficit of the

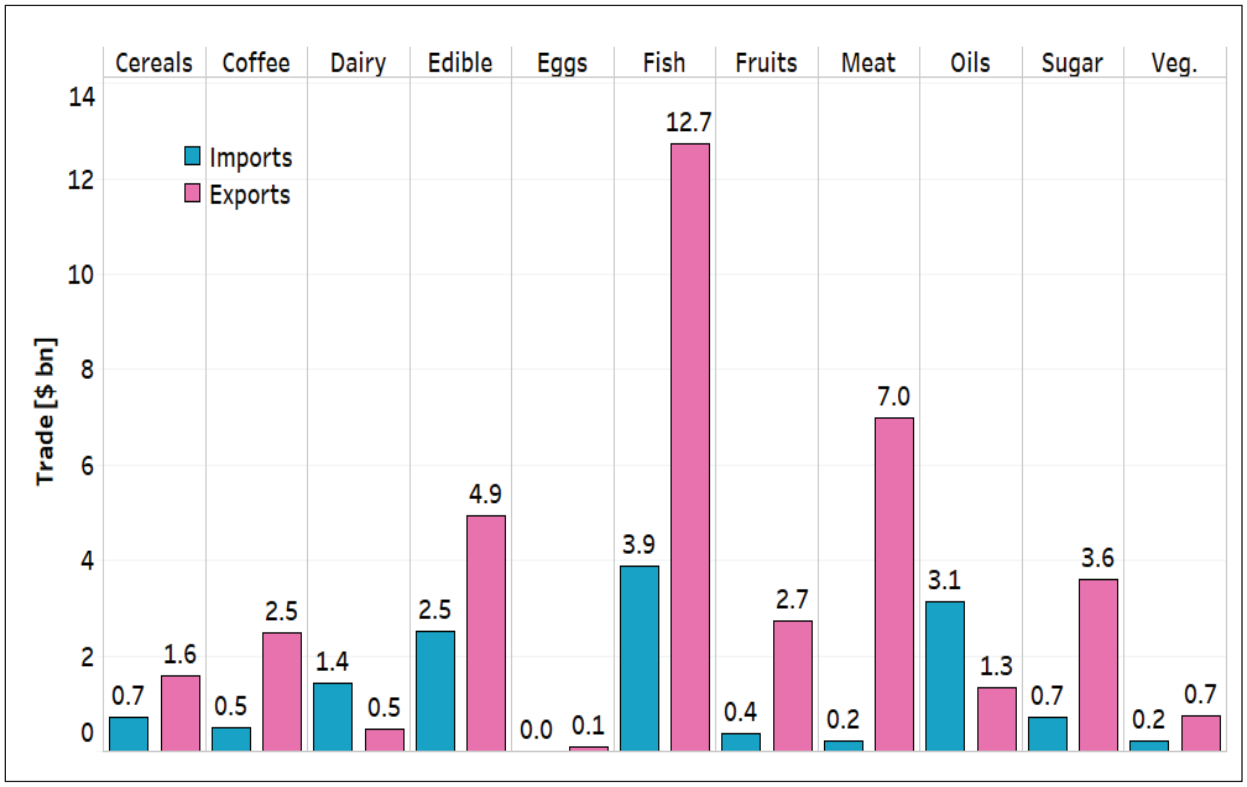
Figure 5.1: BIMSTEC Food trade in processed and non-processed sectors with the world

(in Billion USD)

Source: Estimation of the authors based on food trade classification (Mohanty, 2006) and UN ComTrade database, WITS, 2021

Figure 5.2: Skewed Distribution of Food Trade with the World in 2020

(in Billion USD)



Source: Estimation of the authors based on food trade classification (Mohanty, 2006) and UN ComTrade database, WITS, 2021

country (Shamsuzzaman, et al., 2020). Total exports of the region in the fishery sector were USD 12.7 billion, whereas imports were at USD 3.9 billion to the world in 2020. Between 2003 and 2020, the share of the fishery imports in the processed food imports declined from 38.1 per cent in 2003 to 28.3 per cent in the region and from 49.3 per cent to 33.7 per cent in exports during the same period. The region observed a surge in fishery exports and imports during the global buoyancy (2003-07), where exports grew at the rate of 12.5 per cent and imports by 9.2 per cent per annum. The rhythm of the high growth in the fishery trade continued in the first phase of the recession (2008-12) but declined sharply in the second phase (2013-20). Other lead sub-sectors in the processed food export sectors, such as meat, processed edible, sugar, cereals, etc. also noticed similar rising trends during buoyancy and the first phase of recession. In the import sector, growth of some of the dominant sectors like oils, processed cereals, dairy products, fish, sugar, etc. continued to remain slow or negative during 2013-20. The region experiences intra-industry trade in all broad processed food sub-sectors, where exports and imports are taking place simultaneously, except for egg imports. The egg sub-sector is the least exported processed food sector, where exports were USD 0.1 billion and import was negligible.

The region experienced moderate growth among member countries in the processed food trade during the entire recessionary period of 2008-20, where export expanded at the rate of 7.5 per cent and imports at 5.1 per cent. All sub-sectors in the processed food trade sector have not experienced a similar type of growth

performance. Some of the sub-sectors expanded rapidly to maintain double-digit growth during the entire period of recession. While some sub-sectors such as fish, meat, cereals, edible, vegetables and fruits etc. maintained high growth in exports, similar sub-sectors in imports were fruits, edible, cereals, meat and oil during the entire period of recession. There are several factors for the surge in food trade in the region. The BIMSTEC region has noticed high intra-industry trade in the sub-sectors of processed food trade, where the region is involved in simultaneous exports and imports of similar products with the world. With the rising per capita income, the region has shown a greater possibility of Intra Industry Trade (IIT) in processed food with the world.

5.4 Intra-BIMSTEC trade in processed and non-processed food

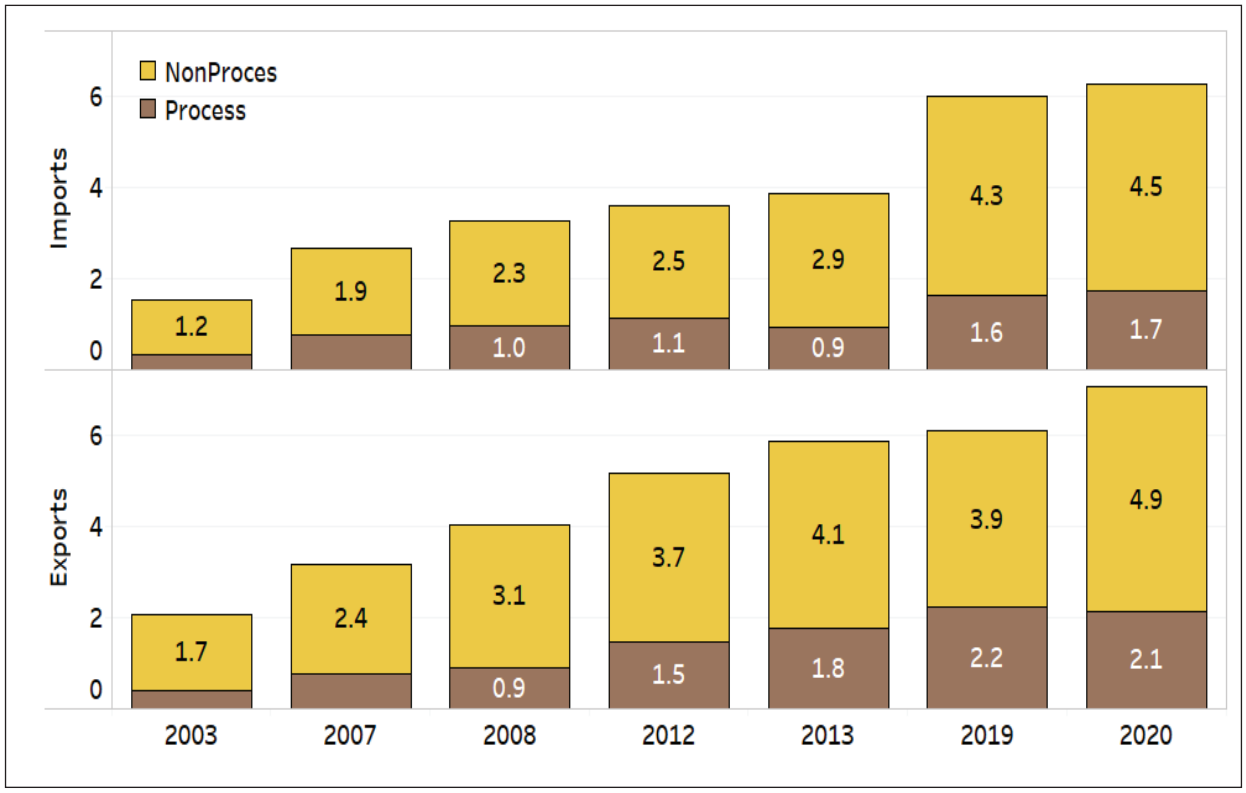
In the agricultural trade, the dominance of the food sector continues in the region. The global buoyancy brought optimism to the regional agricultural trade sector, where imports and exports of food and non-food sectors posted close to double-digit growth during 2003-07. Though trade in food and non-food sectors almost doubled between 2003 and 2020, exports and imports of the non-food sector grew faster than that of the food sector. While imports and exports of the non-food sector grew by 6.6 per cent and 5.3 per cent, respectively, the corresponding figures for the food sector were 5.6 per cent and 4.8 per cent, respectively, during the entire period of recession (2008-20). This reflects the growing importance of the non-food sector relative to the food sector. The global economy, particularly the developing world, experienced rapid growth in agriculture trade since the beginning of the millennium (Ash and Greenville, 2015; OECD, 2019) and a similar trend is also seen in the BIMSTEC region. The bulk of regional agricultural trade is in the the food sector. In 2020, intra-regional trade in food sector was USD 6.39 billion in imports and USD 7.1 billion in exports. Food trade was USD 13.4 billion from the total of USD 13.68 billion in agriculture in the same year. Share of food in agricultural exports was in the range of 87 per cent to 95 per cent and imports were between 97 per cent and 99 per cent of agriculture during 2003-20.

Though food trade is the key to the agricultural trade in the region, non-process food dominated the food sector, both in exports and imports, as shown in Figure 5.3. In 2020, non-processed export was 69.98 per cent of the food exports and imports 72.3 per cent of food imports in the IRT of BIMSTEC. The share of processed food exports in the food sector was small but growing systematically from 19 per cent in 2003 to 30 per cent in 2020 and the corresponding figures for imports were 21 per cent and 28 per cent, respectively. The most important feature of the region's food trade was that growth rates of exports and imports in all sectors remained positive in all periods, irrespective of the global trade regimes. This is an important revelation about the characteristic of the regional food trade. The surging trend in regional food trade can lend support to intra-regional trade. Though several agricultural products are traded in the region, some commodities are more demanded than others in the trade basket. Trade of these commodities may be identified and promoted for raising IRT.

In the broad agricultural sector, there has been a consistent rise in the food trade of the BIMSTEC region, barring a few years during 2003-20. Such volatility in food trade was mostly observed during the transitional years of the trade policy regimes. Regional trade flows in various food sectors passed through a phase of considerable variations during the period. Substantial trade in the regional food sector is mostly carried out in 6 sectors, including fish, edible preparations, sugar, and oils among others. Trade trends in these products are somewhat consistent with the pattern of trade existing with the world economy. The nature of the food trade varies from one sector to the

Figure 5.3: IRT of BIMSTEC in Processed and Non-Processed Food

(in Billion USD)



Source: Estimation of the authors based on food trade classification (Mohanty, 2006) and UN ComTrade database, WITS, 2021

other during various trade regimes and they can be put under certain 'stylised facts'. Some food sectors have experienced- a) lopsided development in sectoral exports and imports during the global buoyancy and balanced trade was pursued during the period of recession (i.e. cereals), b) continued to have favrourable trade balances (i.e. coffee), c) imbalances during the last two decades (i.e. dairy), d) large trade but variations in the magnitudes balanced in food sectors (i.e. processed edibles, sugar, fish, etc.), e) small share in exports and imports (i.e. eggs, vegetables), f) small trade in food sectors during buoyancy but picked up substantially during the recession with large exports (i.e. meat) and f) large imports along with small exports of the food sector (i.e. oils) in recent years. These diverse experiences in the agricultural sector demonstrate opportunities and challenges for the regional economies. The world economy observed certain degrees of deceleration of agricultural trade during COVID-19 in 2020 (Arita et al, 2022). The regional impact of the pandemic is shown in Figure 5.4.

The adverse effects of the pandemic on agricultural trade sectors of developed countries are also very much felt (Barichello, 2020). During COVID-19, BIMSTEC received a major setback in terms of the reduction of trade in most of the processed food sectors between 2019 and 2020. While imports in the sector grew by 6.3 per cent, the exports sector had negative growth of -4.4 per cent in 2020 over the previous year. In various food sectors, imports and exports of certain commodities registered high growth while many of them recorded negative growth rates. In certain food import segments such as

cereals, edible preparations, edible oils, and sugar; and exports segments such as cereals, oils, sugar and vegetables, the region could maintain positive growth performance, whereas other commodities witnessed a negative growth rate in 2020.

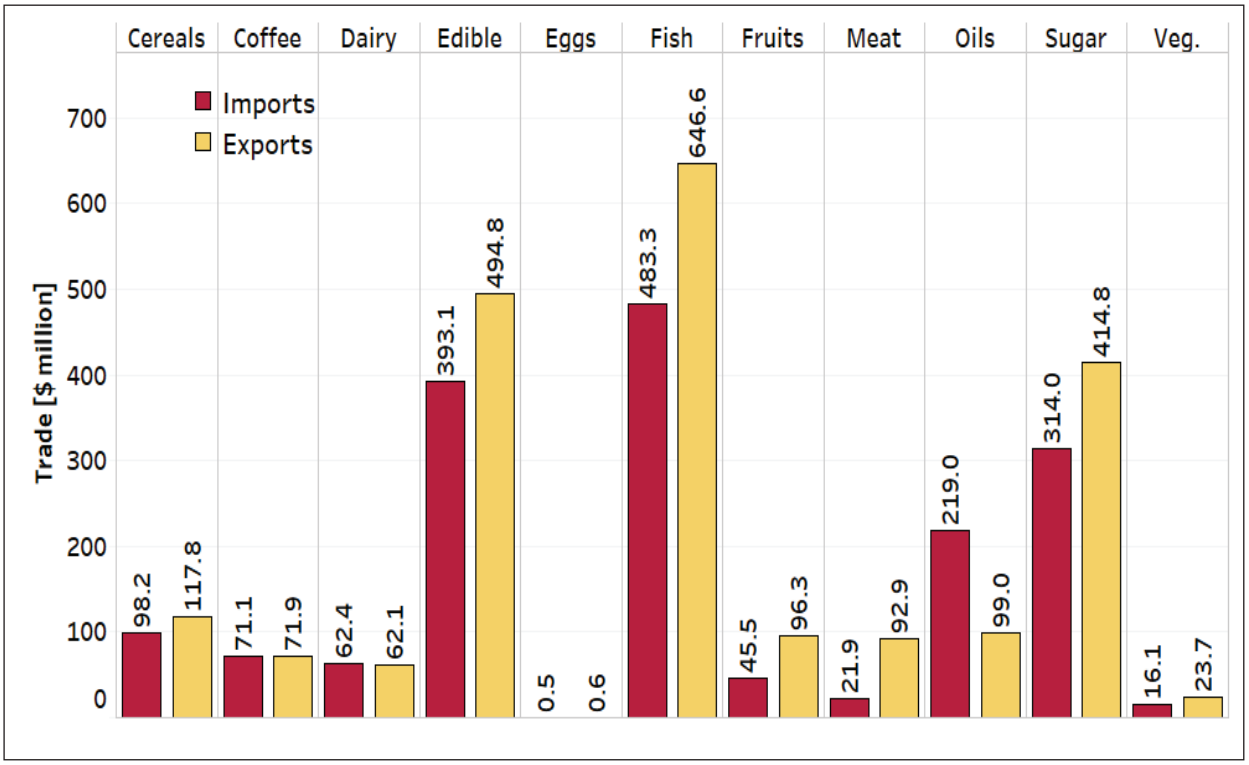
It may be noted that most of the commodities registered double-digit growth during the year of COVID-19, and similar experiences were observed in a number of developing countries across the globe (Erokhin and Gao, 2020). There were considerable variations in the sectoral trade of processed food in the BIMSTEC region. Even during the period of the pandemic, the region witnessed an improvement in the volume of processed food imports and exports over the previous year in certain sub-sectors, like oils, sugar, cereals, and edible preparations among the member countries. Though the distribution of trade in commodities of processed food is highly lopsided, the trade pattern of these commodities within the region is almost similar except for a few product groups like meat, oils, etc. in the pandemic years. While important export sectors of the IRT were fish, processed edibles, and sugar; the lead import sectors were fish, processed edibles, sugar, and vegetable oils for the region. These trends indicate that the region enjoys a considerable level of intra-industry trade in the processed food sub-sectors and also at the broad product level.

5.5 The pattern of Tariff Structure in the Food Sector

The BIMSTEC region is highly protected so far as agricultural trade is concerned, particularly

Figure 5.4: Sectoral IRT in Processed Food in 2020

(in Million USD)



Source: Estimation of the authors based on food trade classification (Mohanty, 2006) and UN ComTrade database, WITS, 2021

in the food sector. High protection to the sector is due to the critical issue of livelihood and food security for millions. Several regional countries have placed their country positions in the WTO in explaining the reason for high agricultural protection. In this regard, Thailand, being a member of the Cairns Group, has a liberal view from those of other regional countries in the WTO. Following the 'Asian Crisis', the world economy was passing through a phase of high protection, and it continued until 2003, when the trade policy regime took a different turn. Liberalisation in the food sector was taking place where processed food took an upper hand over non-processed food trade in carrying significant tariff cuts.[1] In this regard, the trade of non-processed food trade was more protected than the food trade during 2003-19 but the processed food trade reverted to high protection regime due to the continuation of recession for a long period and the reversal of tariff policies by many countries as shown in Table 5.2.

The IWT of the overall food sector was raised between 2003 and 2007, but declined at the beginning of the second phase of the recession in the region. As discussed earlier, fish preparation was an important sub-sector of the region, but the average protection level of the sub-sector remained very high during the early 2000s (Nag and De, 2007), and the level of IWT declined significantly during the second phase of the recession between 2013 and 2019 by half. During the period 2003-07, IWT adjustment took place in either way where a significant surge in trade protection was noticed in certain commodities in the category of processed food like meat, oils, and sugar, whereas a decline in

Table 5.2: Changing Dynamics of Import Weighted Tariff for Food Trade Product

(in %)

Product	2003	2007	2013	2019
Food	34.0	36.6	33.2	42.7
Non-Processed	40.1	40.9	39.0	46.5
Process	17.2	24.5	19.8	34.5
Cereals	12.8	9.6	12.7	14.6
Coffee	45.9	53.8	34.7	41.5
Dairy	14.0	16.1	30.7	49.4
Edible	24.8	23.2	21.0	22.0
Eggs	18.2	23.6	26.9	27.2
Fish	5.9	6.5	6.0	3.0
Fruits	48.9	9.2	8.3	13.1
Meat	26.5	38.5	39.4	37.9
Oils	37.1	62.9	28.1	62.7
Sugar	24.8	35.2	12.3	13.1
Vegetables	42.3	33.1	23.1	30.7

Source: Estimation of the authors based on food trade classification (Mohanty, 2006) and UN ComTrade database, WITS, 2021

IWT was observed in the case of fruits. With the onset of the recession, a profound change in the pattern of IWT was observed between 2007 and 2013.

Reduction in protection in the form of IWT to the extent of double-digit was found in the case of several commodities under processed food such as coffee, oils, sugar, and vegetables in the first phase of recession (2007-13). Substantial IWT rise was also marked in the case of the processed dairy sector during the period. Again, a reversal of tariff liberalisation took place during 2013-19 with growing protectionism in the West and the USA. In the BIMSTEC region, a rise in the average IWT of the processed food sector was again adopted by the regional countries in 2019. A steep surge in the sectoral IWT was experienced in the case of the processed food sector in the BIMSTEC region. Some of the major commodity groups that were severely affected by the increased IWT were dairy products, oils, and vegetables in 2019.

The global food trade declined in 2020 compared to 2013 due to COVID-19. The cascading effects of the global movement of food trade ended up with a rise in the level of protection in several member countries in the BIMSTEC region. It may be noted that India and Bhutan were highly protected regional economies in the agricultural sector, followed by Bangladesh and Thailand in 2003. In this regard, Myanmar was the least protected region in the year, followed by Sri Lanka and Nepal. In 2019, the trade protection scenario in the agricultural sector changed in the region with the deepening of the global recession. The response of the regional economies to the global recession was mixed. While Bangladesh brought down IWT significantly across all 11 processed food sectors except for meat. Bhutan decided to raise IWT in all sectors except for processed eggs in 2019. In other countries within the region, the handling of the tariff situation was mixed with the scaling up of IWT in certain sectors along with the reduction of sectoral IWT in others. In the case of India and Thailand, sectoral IWT declined in case of 7 sectors each from 11 sectors, 5 sectors in Nepal and 3 sectors each in case of Sri Lanka and Myanmar. In certain sectors, regional economies undertook eye-catching steps to either raise or downsize the level of protection in selected processed food sectors in 2019 compared to 2013. India raised its IWT in the edible oils sector to double-digits but at the same time decreased in coffee, meat, sugar and dairy products. While a significant reduction in IWT was noticed in processed sugar in Sri Lanka, eggs in Myanmar and fruits as well as vegetables in Thailand, IWT went up about the same level in the processed dairy in Thailand. Though sectoral balance was attempted through IWT adjustments across sectors, the overall IWT was enhanced for the region in 2019, particularly in the second phase of the recession. It is imperative from sections 5.4 and 5.5 that there is a certain degree of linkages between IRT and variation in the level of domestic tariff. In the BIMSTEC region, a certain level of trade liberalisation can support, rise in intra-regional trade in certain sensitive sectors, which can be used as the pump primer for the region to spur trade to take the region on a high IRT growth trajectory.

Endnote

[1] It has been estimated by Josling and Rae (2000) that the developing countries received large welfare gains with liberalisation in the process food sector.

6 Conclusions

Flamboyant growth in the BIMSTEC region was the outcome of considered strategies adopted by regional countries that embarked on sustained development over the past three decades. Several Regional Integration Arrangements (RIAs) experienced high growth during the period 2003-20, but BIMSTEC grew even faster than others which was amply reflected in the growing share of the region in the Gross World Product (GWP) from 2.7 per cent in 2003 to 4.8 per cent in 2020, without any major structural change despite the continuation of the recession. The region's growth was robust and consistent during the global buoyancy, but variability in the region's growth prospects crept into the region with the onset of the recession. Various indicators of macroeconomic stability, such as inflation, credit flows, etc. remained stable for the region despite volatility in the global market. The high growth profile of the region was mostly propelled by domestic resource mobilisation, particularly savings and investment rates which were considered to be high for the region. Domestic resources were also supplemented by other inflows, including remittances and FDI. Such a trend continued despite the periodic changes in the global trade policy regimes. In the 'growth miracle' of the region, the contribution of the regional integration effort was the least. Achieving the high impact of the regional integration effort is the main concern of the policymakers.

The region's growth was robust and consistent during the global buoyancy, but instability in the region's growth prospects crept into the region with the onset of the recession. However, similar to the region's share in the GWP, the share of the region's trade in the global trade followed a rising trend during 2003-20. The share of the region's trade in the global trade rose from 2.2 per cent in 2003 to 4.7 per cent in 2020. Various studies indicate that trade is the driver of growth and agricultural trade holds the reign in driving the regional trade agenda in the desired direction for the region. The region has a favourable trade balance with the world in the sector and the agricultural trade surplus of the region with the world widened during the second phase of the recession.

But the region has a highly protected agricultural sector because a large section of its population is engaged in the sector for their livelihood and food security. In broad trade sectors, agriculture is remarkably protected than others. According to the estimate for the region, using Import Weighted Tariff (IWT),

fats & oils have been the most protected sub-sector within the regional agricultural trade. All agricultural sub-sectors' export and import growth rates, including live animals & animal products, fruits & vegetables, fats & oils, and processed food, registered positive growth rates in all trade regimes since 2003. The agriculture intra-regional trade ratio curve for BIMSTEC is placed higher than mineral, manufacturing, and overall trade during 2003-20, meaning thereby substantial trade is happening in agricultural trade among member countries and such trade is happening more vigorously in the fruits & vegetable sector and perhaps the least in fats and oils within agricultural trade sector.

The region's agricultural trade in non-processed and processed segments was almost at the same level as the world during 2003-20, but the region benefitted from the latter trade segment due to a bulging trade surplus flowing from the sector. Further disaggregation of the processed food sector indicates that specific segments in the processed sector, such as fish, meat, processed edibles, sugar, etc. dominate the food trade sector, which is highly skewed across broad food segments. Among the processed and non-processed food sub-sectors, the region is deeply engaged among themselves in the latter sub-sector. In 2020, the IRT of the region in processed food segments were mostly dominated by fish, edibles, and sugar. The low IRT of the BIMSTEC region can be improved substantially with a focus on agricultural trade. Within the agricultural trade, specific sectors can be promoted in both processed and non-processed sectors to keep the region's comparative advantage in trade among the regional economies and the world.

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