AN EMPIRICAL STUDY ON INDIA'S TRADE RELATIONS WITH MEKONG GANGA COOPERATION

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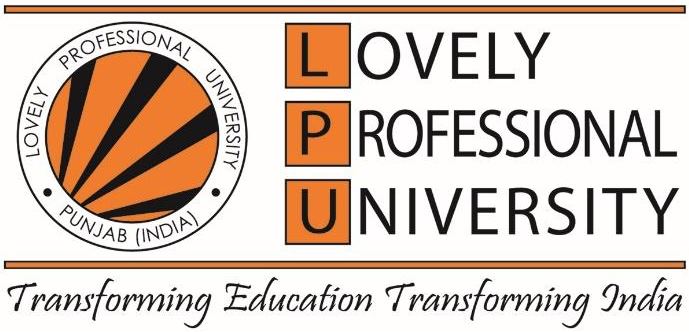

LOVELY PROFESSIONAL UNIVERSITY, PUNJAB

2023

DECLARATION

I, hereby declared that the presented work in the thesis entitled "AN EMPERICAL STUDY ON INDIA'S TRADE RELATIONS WITH MEKONG GANGA COOPERATION" in fulfilment of degree of Doctor of Philosophy (Ph. D.) is outcome of research work carried out by me under the supervision Dr Gurpreet Kaur, working as Asst Professor, in the Department of Economics of Lovely Professional University, Punjab, India. In keeping with general practice of reporting scientific observations, due acknowledgements have been made whenever work described here has been based on findings of another investigator. This work has not been submitted in part or full to any other University or Institute for the award of any degree.

(Signature of Scholar)

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CERTIFICATE

This is to certify that the work reported in the Ph. D. thesis entitled "AN EMPERICAL STUDY ON INDIA'S TRADE RELATIONS WITH MEKONG GANGA COOPERATION" submitted in fulfillment of the requirement for the reward of degree of Doctor of Philosophy (Ph.D.) in the Department of Economics, is a research work carried out by Anju Saini, 41800908, is a Bonafide record of his/her original work carried out under my supervision and that no part of thesis has been submitted for any other degree, diploma or equivalent course.

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ABSTRACT

Economic cooperation among countries at regional level help member nations in achieving many objectives like economic development, increase in GDP, improved infrastructure and better lifestyle. Partner countries get opportunities for trade and investments by removing the barriers on trade. It gives benefits to the countries in terms of scale of economies as well as the fragmentation of the process of production. Due to enhancement in competition, the efficiency and productivity improves. There are increased job opportunities, accelerated growth and better life standards. In 1992, India adopted the 'Look East Policy' and shifted its focus on Southeast Asian nations. India became member of many regional cooperation for improvement in economic relations and overall development. MGC (Mekong-Ganga Cooperation) is an initiative taken in 2000 by six member nations for economic and regional cooperation. Along with India the other five member nations are Cambodia, LAOS PDR, Myanmar, Thailand, Vietnam. MGC cooperation was initiated initially in the areas of Culture, Education, Tourism, Transport & Communication. Over the years, the cooperation has expanded its cooperation in the modern areas related to science, technology, nuclear, defense, humans, goods and services.

The present study aimed to empirically analyze trade relations of India with MGC nations. The study further analyzed India's trade trends, Intra industry trade, trade competitiveness, trade similarity and terms of trade with Mekong Ganga Cooperation nations. The period of study is from 2001 to 2020. The study has helped in identifying the trends in trade and trade possibilities at commodity level to further help industry by suggesting policy implications.

Study has been conducted based on secondary data taken from various authentic sites like United Nation Commodity Trade Database (UNCOMTRADE), United Nation Conference on Trade and Development (UNCTAD), Direction of Trade Statistics Year Book, IMF, Annual reports of Ministry of Commerce, UN Publications and World Bank.

Trade share is a building block for studying pattern of trade. The Compound Annual Growth Rate (CAGR) Rate, Direction and Composition of trade etc. has been used to calculate trade performance of India with MGC nations. To perform the empirical analysis various statistical and econometric methods/models such as Gravity Model, Trade Intensity Index (TII), Revealed Comparative Index (RCA), Intra Industry Trade Index (IIT), Trade Similarity Index (TSI) and Terms of trade index has been used.

The study has noticed a remarkable improvement in India's trade performance with MGC nations during the study period. India's trade flows, intra industry trade and competitive position has improved with MGC nations, but still immense trade potential is untapped because of geo political and structural issues. MGC is a great forum which can improve economic development of the region. India must adopt a well-planned strategy to accommodate the member nations.

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Anju Saini

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Chapter – 1

INTRODUCTION

This chapter deals with the background of this study and portrays the reason justifying the selection of the topic for the research. The chapter throws light on the importance of international trade and economic integration. It also highlights the rationale of Mekong Ganga Cooperation and its importance in growth of trade with India. The chapter pertains to scope, objectives, research methodology and design of the study. The main focus of the chapter is to present deeper insight for research topic.

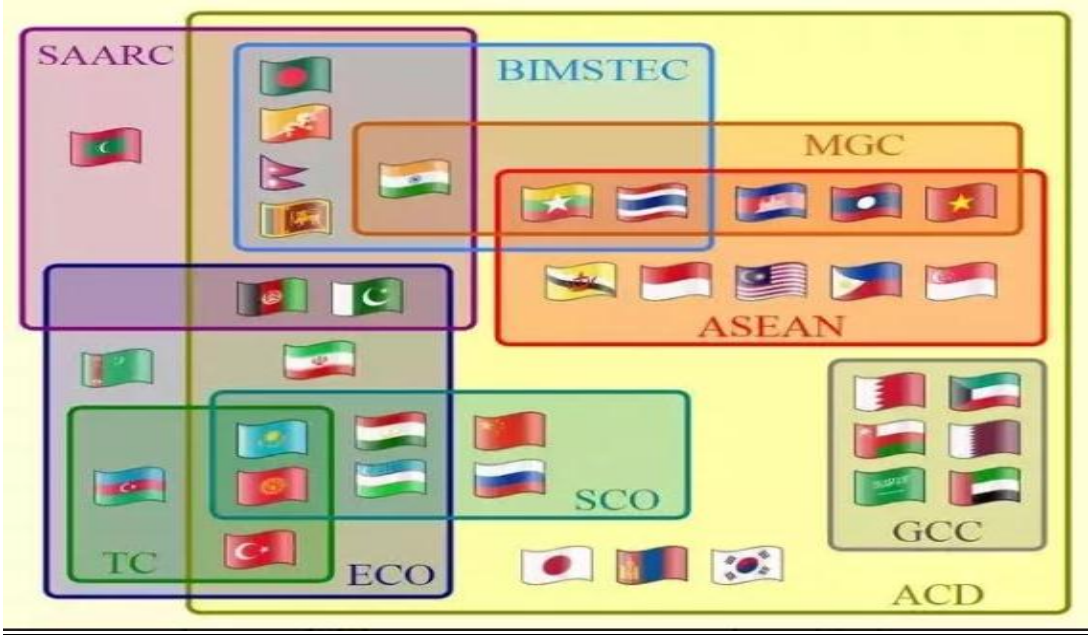
1.1 AN OVERVIEW

Every nation has competitive edge in one or the other resources. No country can live in isolation. There is a need of mutual cooperation. Countries specialize in natural, financial and human resources depending upon their geographical location, climate, level of development etc. International trade is based on the principal of mutual development by transferring goods and services across nations which results in specialization and division of labor. The level of economic interdependence of nations shows the historical advancement of economic and political regulation (Carbaugh, 2008). International trade is the act of specialization in production. International trade can be bilateral, when two nations exchange goods and services between them. It is multilateral, when more than two nations are involved in trade. The total value of trade done by a nation is considered as its volume of trade. The kind of goods and services traded by a country is known as its composition of trade. The direction of trade is another perimeter which clarifies the favored trading partners of a nation. Trade barriers like tariff are removed with partner nations to enjoy free trade.

To boost the economic development, the policy of liberalization, privatization and globalization was adopted. This has resulted in economic integration and interdependence of nations. In 1991, the foreign and economic policy of India saw a

major change when it started opening up with its neighbors for trade promotion. In 1991, India strived to expand its regional trade markets. Look East Policy was framed to recognize the important strategic position of South East Asian nations. This policy resulted in increase in the volume of trade with South East nations and consequently in economic development of member nations (Haokip, 2011).

To achieve economic and political motives, there has been an inclination to form trade blocs globally. The growth of Regional Trade agreements. Has been very rapid since 1990's. Economic integration is pursued by cooperation agreements between groups of nations (Kaur G, 2020). Balassa (2006) has rightly defined "economic integration as a process to eliminate economic discrimination among the economic units of member nations". Preferential Trade Area, Free Trade Area and Economic integration are the common forms of integration Regional trade blocs are made to promote trade between countries having geographical proximity, complimentary products and to eliminate restrictions on trading. Today more than 420 regional trade agreements generating a major part of world trade. Figure 1 below depicts major regional blocs in Asia.



Source: Asia.org

Figure 1.1 : The Major Regional Blocks in Asia

Fig 1 depicted the relationship between major regional trading blocks of Asia. India is a member nation in three major regional blocks of Asia. South Asian Association for Regional Cooperation (SAARC) was established in 1985 comprising eight members including India. Bay of Bengal Initiative for Multi sectoral Technical and Economic cooperation (BIMSTEC) was established in 1997 with India as member nation. Mekong Ganga Cooperation (MGC) was established in 2000 as a cooperation of six nations with India as member nation Association of Southeast Asian Nations (ASEAN) was established in 1967 with India as a dialogue partner. India has trade relations with other trading blocs like Economic Cooperation Organization (ECO), Asia Cooperation Dialogue (ACD), Gulf Cooperation Council (GCC) and Shanghai Cooperation Organization (SCO). The foreign trade policy of India focused on South East Asia as a launching pad for foreign trade and development since 1990.SAARC, ASEAN, BIMSTEC and MGC are some of the entities which are working as regional frameworks for establishment of regional cooperation and promotion of trade relations between member nations. The distinctive identities and focus of these regional frameworks are quite evident. India has been actively participating in regional forums like MGC, ASEAN Dialogue partner, BIMSTEC at various levels with specific focus areas but yet maintaining its distinctive identity. There seem to be an overlap in the purpose of establishment of these forums but still their functional areas vary. Mekong region has enough scope for economic grouping and support each other as well as to foreign trade partners for the prosperity of region. (Modi, 2019).

1.2 MEKONG GANGA COOPERATION

Partner countries of regional economic cooperation get opportunities for trade and investments by removing the barriers on trade. It gives benefits to the countries in terms of scale of economies as well as the fragmentation of the process of production. Mekong-Ganga Cooperation (MGC) is established as an initiative among six member nations, Cambodia, India, Laos PDR, Myanmar, Thailand and Vietnam, to deal with economic, cultural, political aspects for overall prosperity of the region. (aic.ris.org.in).

India and Mekong countries share a rich civilization and cultural relations. India has strong links with Mekong people in religious beliefs, language, civilization and culture. In spite of sharing geographical and cultural space, the distinctive identification of Mekong countries is intact. People in the region share closeness and cultural flows. MGC is an epitome of unity in diversity. Mekong-Ganga Cooperation (MGC) is a regional cooperation which was created in 2000 but it received momentum under the Act East Policy (AEP), which was unveiled in 2014. India-Myanmar-Thailand Highway (1408 KM) long route is an important project which will improve connectivity and trade in the region. Kaladan project is a connect seaport of Kolkata with sea port of Rakhine, Myanmar, to improve the maritime trade. Textile museum in Cambodia has been established to promote textile trade. India has started various scholarship programs with MGC nations in its focus area of functions. Programs in the area of legal arena, ICT, Financial Markets and Software Development are introduced to supplement the requirements of partner nations. Quick Impact projects are implemented in Myanmar, Thailand and Vietnam. India is working on various projects with MGC nations in the area of Space project tracking and reception, Project on combating malaria, Quality system in manufacturing, Biomining and Bioremediation technology, Restoration of temples, Visual arts think tanks, Language training and Business fairs. More than 1.5 billion lines of credit has been started for Myanmar, Vietnam and Lao PDR (aic.ris.org.in).

Table 1.1 brings out the important indicators of MGC nations in terms of size, scale and economic development. India has the largest land area in MGC with 2,973,190 Sq. Km which is 61per cent of total MGC land area. India is most populated nation in MGC with 1.36 billion people having 85 per cent of total population of MGC. India and MGC are on even platform at GDP at current prices. GDP of India is US $ million 2,868,929 which is 75 per cent of total GDP of MGC. The GDP Per Capita of India is low because of its large population, which is US $ 6996 only and 13 per cent of GDP Per Capita of MGC. Thailand comparatively has 3 times more GDP Per Capita as compared to India and contributes 36 per cent to total GDP Per Capita of MGC. The inflation rate of India is second highest at 6.6 per cent after Myanmar

having 8.8 per cent. The total trade of India is US $ thousand 80,21,34,455, which is highest among all MGC nations. Trade of MGC is almost 2.5 times of trade of India. The three important players in trade of MGC are India, Thailand and Vietnam. The other nations, Cambodia, LAOS and Myanmar are less developed nations with marginal share in trade of MGC. India is at 131 places at HDI out of 189 nations as compared to Thailand which is at a better place of 79 in the ranking. Unemployment rate in India is highest at 4.2 per cent signifying a large proportion of unemployed people who are willing to work but not employed. From the indicators it is clear that Thailand is the most developed nation followed by Vietnam in the MGC. Though India is the largest economy in terms of geographical territory and population but it has problem of over population, poverty, inflation and unemployment.

Table 1.1 : Key Economic Indicators of MGC Member Nations (2020)

Country	Total Land Area (KM Sq)	Total Population (Thousands)	GDP (At Current Prices) (US$ million)	GDP Per Capita (US$ PPP)	Inflation Rate (Per cent)	International Merchandise Trade (US$ Thousands)	Human Development Index (Rank) Total 189 Countries	Gross National Income (US$ PPP)	Unemployment (per cent)
Cambodia	1,76,520	16,486.54	27,089.39	4,583.00	2.9	3,51,04,207	144	4,250	0.3
India	29,73,190	13,66,417.75	28,68,929.42	6,996.60	6.6	80,21,34,455	131	6,390	4.2
Laos PDR	2,30,800	7,169.45	18,173.84	8,172.70	5.1	1,16,06,791	137	7,790	0.9
Myanmar	6,53,080	54,045.42	76,085.85	5,369.70	8.8	3,65,74,988	147	4,650	1.7
Thailand	5,10,890	69,625.58	5,43,548.97	19,276.90	1.2	48,55,19,661	79	17,730	1.0
Vietnam	3,10,070	96,462.11	2,61,921.24	8,397.00	1.8	51,80,52,339	118	8,200	2.2

Source : WorldBank

MGC cooperation was initiated in the areas of Culture, Tourism, Education, Transportation and Communication. The cooperation is expanding in modern areas related to science, technology, humans and goods. Table 1.2 gives a glimpse of traditional and new areas of cooperation.

Table 1.2 : Area of Cooperation MGC

Traditional	Modern
Trade	Trade
Culture	Science
Tourism	Technology
Education	Medicine & Health
Transportation	Small scale industries
Communication	Water resources
	Agriculture and Allied services

Source: aic.ris.org.in

India has developed economic and political ties with MGC over the period. India has been cooperating in execution of many programs in the field of agriculture, science and technology, transport connectivity, nuclear and science and people to people interaction. Thus, the cooperation which was started with few areas of cooperation has now evolved itself by incorporating modern and more viable focus areas in its ambit.

Annual ministerial meetings, meetings of senior officials and meetings of working groups are conducted at frequent intervals to discuss the progress of the Cooperation. Table 1.3 elaborates the series of ministerial meetings held by MGC along with the focus areas.

Table 1.3 : MGC Ministerial Meetings

Year	Venue	Focus Areas
2000	Vientiane	Making of five major working groups on Culture, Tourism, HRD, Transportation and Plan of action.
2001	Hanoi	Hanoi Program of action was adopted to confirm cooperation in Culture, Education, Tourism and Transportation.
2003	Phnom Penh	Road map to accelerate the implementation of all major MGC projects and activities.
2007	Manila	Thailand handed over the chairmanship of MGC to India.
2012	New Delhi	Assert cooperation in working groups
2016	Vientiane	Mutual agreements on trade enhancement, maritime connectivity, food security and information sharing.
2018	Singapore	Expediate the completion of pending projects
2019	Bangkok	Trade enhancement and infrastructure development
2021	Virtual platform	To strengthen support to member nations to fight with Pandemic

Source: aic.ris.org.in

Mekong Ganga Cooperation works in the framework of working groups wherein one member nation is made the lead country. Various working groups are given in table 1.4.

Table 1.4 : Working Groups of MGC

Area	Lead Country
Tourism	Thailand
Education (HRD)	India
Culture	Cambodia
Transportation and Communication	Lao PDR
Plan of Action	Vietnam

Source: aic.ris.org.in

India treats the Mekong region of great importance and hence seeks a multi-dimensional engagement with Mekong countries. India wants to identify newer areas of cooperation and doing so will broaden the partnership of the countries and promote better connectivity in this region through economic, digital and people-to-people connectivity.

1.3 RESEARCH GAP

Most of the research reviews are confined to economic, political, and regional problems of India and MGC member nations. There are some studies available but very few focused on this topic and patterns of trade relations of India with MGC nations. Since the MGC region is of strategic importance as it involves economic development of India as well as other members of the region, so intensive study has been conducted on the topic of, "An empirical study on India's trade relations with Mekong Ganga Cooperation" to meet the gap.

Present study has been focused on India's trade relations with MGC Countries and will help in framing trade policy to gain from this integration.

1.4 SCOPE AND OBJECTIVES

Economic integration between nations in the form of regional blocks help in promotion of trade and investments. The study aims to analyze the empirical analyses of trade performance among MGC nations with reference to India. India being the largest nation in terms of population and territory among MGC nations, has tried to achieve the objective of economic cooperation among member nations. There has not been any evident research conducted on trade trends between India and Mekong Ganga Cooperation. As five member nations of MGC are members of ASEAN as well, thus a comparative analysis of trade relations of India with ASEAN and MGC will further help in understanding the trends and pattern of trade between India and non MGC members of ASEAN. India has tried to lived up to the expectations of regional cooperation and carry forward the vision of mutual benefits of member nations. The scope of study has been restricted to analyze trade relations. Furthermore, study will help in identifying the trends in trade and trade possibilities at commodity level to further help industry.

The main objectives of the study are :

i) To find out trends and patterns of India's trade with Mekong Ganga Cooperation countries.

ii) To conduct a comparative analysis of trends and patterns of trade between MGC and ASEAN

iii) To assess the Intra Industry Trade with other Mekong Ganga Cooperation countries.

iv) To examine India's competitiveness with Mekong Ganga Cooperation countries.

v) To find out the trade similarity and terms of trade between India and Mekong Ganga Cooperation.

1.5 DATA SOURCES

To fulfill purpose of study, Secondary data has been used from 2001-2020. Study has been conducted by collecting secondary data from authentic sources in order to understand India's trade relations with Mekong Ganga Cooperation. Data has been taken from:

1) United Nation Commodity Trade database (UNCOMTRADE).

2) United Nation Conference on Trade and Development (UNCTAD).

3) Direction of Trade Statistics Year Book, IMF.

4) Annual reports of Ministry of Commerce.

5) World Bank.

1.6 RESEARCH METHODOLOGY

This study aims at empirically analyzing the trade performance among MGC nations with reference to India. For this purpose, secondary data from 2001 to 2020 has been used from various authentic sources.

Trade share has been calculated which is a building block for studying pattern of trade. It is calculated to know as to which economy is the most important destination for India's exports and imports. Trade share is the percentage of trade of India to the total trade going to partner nation. The trade share tells us the importance of partner nation to a country. Any change in percentage trade share over a period of time were indicate the relative importance of the partner to India.

CAGR, Direction and Composition of trade has been used to calculate the trade performance of India with MGC nations. To perform the empirical analysis various statistical and econometric methods/models such as Gravity Model, Trade Intensity Index (TII), Revealed Comparative Index (RCA), Intra Industry Trade Index (IIT), Trade Similarity Index (TSI) has been used. Following Statistical techniques are used in the study. The annual compound growth rate has been calculated with the help of the following formula

CAGR = (Xt_2 / Xt_1) (1/n–1) *100

Xt_1 trade value of product in the beginning of period

Xt_2 trade value of product at the end of period

n is the number of years

TRADE INDICES

1.6.1 Trade Intensity Index

Trade Intensity Index is an important index to find out the importance of a country in the world's trade. Alam and Ahmed (2015) used trade intensity index and concluded that India and Saudi Arab are not direct competitors in world and there is potential of improvement in trade flows. Anand and Garg (2018) used the TII to analyze intensity of India's trade with UAE and suggested India needed to expand its export basket with UAE. Kerio and Mumtaz (2020) used the index to review the trade flows between India and Pakistan and found that trade flows are not so good between these nations due to political reasons.

Trade Intensity Index = $\frac{\sum_{sd} X_{sd} / \sum_{sw} X_{sw}}{\sum_{wd} X_{wd} / \sum_{wy} X_{wy}}$

d is destination is the destination

s is the set of nations

wy are the countries in the world

X is total export

The index having value more (less) than one is considered as bilateral trade flows are greater (smaller) than the expected, given the other nation's importance in the world's trade. The index value zero indicates no trade association between the partners. Trade Intensity Index is preferred because it is not bias towards size of economy, so we can compare the statistics across regions and over a large period of time when trade is growing.

1.6.2 Sectoral IIT Index

The sectoral intra industry trade index is calculated to know the level of intra industry trade in the secto. Grubel and Lloyd in 1975 propounded the index and it was revolutionized further by Khalifah (1996) provided the empirical analysis and found that Intra Industry Trade is mainly for intermediate goods. KeikoIto (2004) studied the determinants of Intra Industry trade of automobile Industry with the help of Grubel-Lloyd index and found that market size plays a dominant role in growth of IIT. Veeramani (2009) studied the trends and pattern of India's intra industry trade and variables selected for analysis were Gross Domestic Product, Per Capita Income and Population. Anupam (2016) analyzed the IIT between India and ASEAN in manufacturing sector for 1993 and 2013 with GL index and concluded that stage of economic development and regional cooperation are important players in IIT.Aggarwal and Chakravarty (2017) used the index to analyse IIT of India with 25 major trading partners in the world to identify the determinants of IIT. Chandran (2018) used index along with gravity model analysis and concluded that common language, sharing of border and scale of economies influenced the index positively. Kesharwani (2019) examined the intensity of intra industry trade of india by dividing

the period in two phases. Dwesar and Kesharwani (2019) used the index to analyse the change in IIT in two phases of time periods. Shahid and Ahmad (2021) used the index and concluded that volatile currency and border tensions have negative impact on the intra industry trade in South East Asia. The index is calculated as:

$$\textbf{Intra Industry Trade} = 1 - \frac{|\sum_d X_{isd} - \sum_d M_{ids}|}{\sum_d X_{isd} + \sum_d M_{ids}}$$

Where s is the country of interest

d is countries in the world

i is the sector under study

X is export flow

M is import flow

The index ranges between 0 to 1, where 0 means pure inter industry trade and 1 is pure intra industry trade. The index measures the degree to which trade in a particular sector represents intra-industry trade. By engaging in IIT, a country can reduce the number of similar goods it produces, and benefit from scale economies.

1.6.3 Revealed Comparative Advantage

The Revealed comparative advantage index is used to measure a country's comparative advantage/disadvantage in a particular sector. It is also used to study a shift in comparative advantage over a period of time. RCA indices are calculated on actual data and these cannot capture the exact future potential but can give a general direction. RCA index gives a comparative position of a country's world export share in a commodity to its total export share in world. If a country's export in a particular commodity is more than the world's export then the RCA index is greater than one. A country has a revealed comparative advantage in those products where RCA is greater than one. The RCA index is defined as ratio between a country's share of a commodity export in total export divided by share of commodity export in world out of total of all export of the world.as the ratio of two shares

Relative Comparative Advantage = $$\frac{\sum_d x_{isd} / \sum_d x_{sd}}{\sum_{wd} x_{iwd} / \sum_{wd} x_{wd}}$$

Where s is the country of interest

d and w are set of world's countries

i is the sector of interest

x is the commodity export flow

X is the total flow of export

Higher RCA indicates higher comparative advantage of a country in given commodity. RCA index is reliable as it is not affected by trade cycles or changes in growth rates across the trading partners. RCA is not influenced by market access barriers against all exporters of a particular commodity but this index is sensitive to the market barriers of a particular country. Ishchukova and Samukta (2013) examined the Revealed Comparative Advantage of Foreign trade in agricultural and foodstuff. Peng (2020) conducted a study on export competitiveness with the help of Revealed Comparative index and Trade Specialization Index and concluded that factors affecting competitiveness are international prices, exchange rate and domestic consumption. Daulika and Peng (2020) conducted a study on export competitiveness of Indonesia with the help of Revealed Comparative index. Mehmood (2020) did comparative study of five nations in the cotton textile industry with the help of Balassa RCA index and found that quality, price, technology, infrastructure and marketing give a comparative advantage in export competitiveness. Anwar (2021) studied the export competitiveness of food products with the help of Balassa Revealed Comparative index in food product industry and concluded that value chain and infrastructure development are important determinants in export competitiveness.

Ahmed (2021) studies the export competitiveness of food products with the help of Balassa Revealed Comparative index in food product industry. RCA helps the country to find out export competitive potential, areas where country is gaining or loosing advantage. This is done by classification of export structure on HS -6 Digit product lines and further divided into four broader categories as per their RCA Profiles.

Table 1.5 : RCA Profile

Category	Explanation	Criterion
Competitively positioned	CP product lines are when RCA>1, depicting improvement in index over a period of time due to promising trade conditions.	RCA average of five years (2016-2020) is more than one i.e., RCA (avg.2016-2020) >1 Difference between RCA average of years (2001-2005) and (2016-2020) is positive i.e., RCA (avg.2016-2020) – RCA (avg.2001-2005) > 0
Threatened positioned	TP are product lines having RCA>1, but the index deteriorates over period of time due to deteriorating trade.	RCA average of five years (2016-2020) is more than one i.e., RCA (avg.2016-2020) >1 Difference between RCA average of years (2001-2005) and (2016-2020) is negative i.e., RCA (avg.2016-2020) – RCA (avg.2001-2005) < 0
Emerging products	EP product lines have RCA< 1 but shows signals of future export potentials. Their relative global position is improving over a period. These are divided in two sub categories.	Tier I: EP product has RCA avg. less than 1 and equal to or >0.5. RCA (avg.2016-2020) < 1or >0.5 Difference between RCA average of years (2001-2005) and (2016-2020) is positive i.e. RCA (avg.2016-2020) – RCA (avg.2001-2005)>0 Tier II:

Category	Explanation	Criterion
		RCA average of a product is < 0.5 Difference between RCA average of years (2001-2005) and (2016-2020) is positive i.e. RCA (avg.2016-2020) – RCA (avg.2001-2005)>0
Weak positioned	WP are product lines with RCA<1 but their relative position deteriorates over a period of time due to global and domestic reasons. These are further divided into two sub categories.	Tier I: WP product has RCA avg. less than 1 and equal to or >0.5. RCA (avg.2016-2020) < 1or >0.5 Difference between RCA average of years (2001-2005) and (2016-2020) is negative i.e. RCA (avg.2016-2020) – RCA (avg.2001-2005) <0 Tier II: RCA average of a product is < 0.5 Difference between RCA average of years (2001-2005) and (2016-2020) is negative i.e. RCA (avg.2016-2020) – RCA (avg.2001-2005) <0

Source: Author's development and S.Lall

The categorization of India's export structure on the basis of RCA profile is done in the following product lines.Competitively Positioned :These product lines have RCA index more than unity and show a consistent improvement in the index due to favorable conditions for exports over a period of time.

Threatened Position: These product lines have RCA index more than unity but show a decline in the index over a period of time due to unfavorable trade conditions.

Emerging Products Tire I &II: These product lines have RCA index less than unity but show an improved relative global position in export market. For better and deeper analysis, these product lines are further divided in Tier I and II on the basis of value of index.

Weak Products Tier I & II: These product lines have RCA index less than unity but their overall relative global position shows a consistent deterioration over a period of time due to various external and internal factors. These are further subdivided in Tier I and II on the basis of value of index.

The analysis helped to identify strengths and weaknesses of India's export competitive position with MGC by analyzing their export profile and categorizing the product lines on the basis of their competitive position.

This classification has two advantages as it does the SWOT analysis of a country's export profile and does evaluation of degree of export competitiveness.

1.6.4 Trade Similarity Index

The trade similarity index compares the trade profile similarity between two countries. Countries with similar trade profiles are competitors in the global market. Pham (2018) studied the export similarity index with the help of this index and analyzed the export competitiveness between ASEAN countries. Erlat (2020) examined the degree of competition between export in EU markets with the help of export similarity index and analysis at regional, country and sectoral level helped in determining the degree of competition. Wang Liu (2021) used this index in analysis

of trade Similarity between China and EU in world market. High index means that there is less potential of inter industry trade.

$$\textbf{Trade Similarity Index} = \sum_i \textbf{min}\left(\frac{\sum_w x_{isw}}{\sum_{wd} x_{sw}}, \frac{\sum_w x_{idw}}{\sum_w x_{dw}}\right) \times \mathbf{100}$$

Where d and s are the nations under consideration

w is the group of countries in the world

x is the specific product export/import flow

X is the all-product export/import flow.

The value of index lies between 0 to 100 percent. The value 0 means that the trade profiles are not similar and the value 100 means that the profiles are perfectly overlapping.

1.6.5 Terms of Trade

Terms of trade is the ratio between the price index of exports and imports. Terms of trade is an important index to determine the relative position of a country with its trading partner. More than unity value means that trade is favorable and exports prices are more than import prices. If the index is less than unity, that means that exports prices have fallen down as compared to import prices and the trade is unfavorable. Cakir (2009) did empirical analysis of relationship between terms of trade and prosperity in economy. Jwaid and Waheed (2011) studied the influence of terms of trade on instability of economic growth. Pant and Anusree (2018) concluded that trade agreements have positive impact on terms of trade.

$$\textbf{Terms of Trade} = \left(P x / P_m\right) \times \mathbf{100}$$

P_x = Export prices

P_m = Import prices

Value of index more than unity means that the trade is favorable and vice versa.

1.6.6 Econometric Model

Gravity Model

To analyze the bilateral trade flow between MGC and India Gravity Model has been used. The model is based on the law of physics that says that the force of attraction between two bodies depends upon their masses and distance between them. Gravity approach has a vast history of usage and strong theoretical base in economics in analyses of huge proportion of trade flows between economies. The index has explained the impact of various independent variables on the intra industry trade. Initially used in 1960s by Tinbergen (1962) and Linnemann (1966), the rule has implication on trade flows as well. The trade flows between two countries depend upon their scale and geographical distance. The former has direct relation and later has inverse relation with trade flows.The gravity approach was located on a firmer theoretical base by Anderson (1979) and Bergstrand (1985). The gravity model can explain the trade pattern of a block. The equation can be framed as:

$$\mathbf{Trade_{ij}} = \alpha \frac{\mathbf{GDPi * GDPj}}{\mathbf{Distanceij}}$$

The following equation is framed.

$$LIIT_{it} = \alpha 0 + \beta 1\ \mathbf{LTRADE_{it}} + \beta 2\ LGDPDIS_{it} + \beta 3\ \mathbf{LSCALE}_{it} + \beta 4\ \mathbf{LFDI}_{it} + \beta 5\ \mathbf{LDIST}_{it} + \beta 6\ BORDER + \beta 7\ FTA + \epsilon_0$$

Where α is constant term

βs are coefficients

L is log transformation of variables.

IIT_{it} are Intra Industry Trade for t year between India and country i.

$TRADE_{it}$ represents the total trade between trading partners.

$DIST_{it}$ represents geographical distance between the trading partners.

$GDPDIS_{it}$ represents GDP distribution of the trading partners for year t.

$SCALE_{it}$ represents total population of trading partners for year t.

FDI_{it} represents Foreign direct investments in trading partners for year t.

BOR (BORDER) and FTA (Free Trade Agreements) represent a dummy.

$Є_0$ is the error or Random Term

On the basis of observed literature, the following hypothesis are framed:

H_1: IIT and total trade between partner nations have positive correlation.

H_2: GDP of the trading partners have positive correlation with IIT.

H_3: IIT were increase with the increase in the total population of trading partners.

$H_{4:}$ There is a positive correlation between FDI and IIT between trading partners.

H_5: Higher the geographical distance between nations, lower were be the IIT.

$H_{6:}$ IIT were increase with existence of dummy variables of common border and FTA.

1.7 DESIGN OF THE STUDY

The study consists of eight chapters.

Chapter 1: The first chapter is devoted to the Introduction, Scope, Objectives, Research Methodology and Data Base

Chapter 2: The second chapter summarizes the Review of Literature

Chapter 3: The third chapter pertains to the India's trade performance with Mekong Ganga Cooperation

Chapter 4: The fourth chapter does the Comparative analysis of India's trade with MGC and ASEAN.

Chapter 5: The fifth chapter is focused on Intra Industry trade analysis of India with MGC.

Chapter 6: The sixth chapter pertains to the Export Competitiveness of India with MGC

Chapter 7: The seventh chapter throws light on the Trade similarity and Terms of trade between India and MGC

Chapter 8: The eighth chapter relates to Summary, Policy implications and Conclusion of the study.

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Chapter – 2

REVIEW OF LITERATURE

This chapter pertains to various studies and analysis done on the trade relations between the India and the countries in the Mekong Ganga Cooperation. The viewpoints of researchers contributed to designing the framework of proposed research. This chapter has been divided into two sections:

2.1 Role of Trade in Economic Development

2.2 India's Trade Relations with MGC Countries

2.1 ROLE OF TRADE IN ECONOMIC DEVELOPMENT

Trade stimulates the economic development of the economies. International trade expands the market for the products and thus increases production and results in economies of scale. It increases the prosperity and standard of living of the citizens.

Khan (1999) concluded that export stimulates economic growth by raising demand, factor incomes, technological advancement and improved productivity. Free trade policies boost foreign trade and speed up the engine of economic growth.

Baruah (2003) observed that the foreign trade of India had grown rapidly in recent past because of policy changes in the nation. India wanted to strengthen its economic relations with neighbors for getting strategic hold and domination in the region. All indications for future growth in the physical, investment and commercial sectors were showing positive signs and indicate towards economic development and India venturing in large Asia Pacific.

Batra and Khan (2005) studied the competitive advantage at both sector as well as product level. The comparative advantage was studied at different levels of sectors to find out the sectors where India had strong position. The paper suggested to improve the export competitiveness by reducing cost of production.

Anil (2007) studied the trade trends in post liberalization period and found that trade liberalization had focused on technology intensive industries but did not improve labor-intensive industries. There is dire need to invest in human resource development and research and development to produce skilled labor for rapid economic development. India's exports after liberalization were mainly agriculture products, minerals, ore, engineering goods and gems. India's imports after liberalization were edible oil, cereals. Fertilizers and petroleum products. The growth of SSI sector is pertinent to generate more employment opportunities.

Awokuse (2008) examined that economic growth was not only dependent on exports rather imports also play an important role. Export expansion policies helped in economic development but potential of import in enhancing growth is pertinent.

Singh (2008) analysed that India was an emerging power and fourth largest economy in the world. Look east policy initiative was a compulsion as India and Southeast Asia had geographically and cultural close inter relationship. Many areas had been shortlisted for mutual cooperation. Bilateral relations with each nation in the South East region as per unique requirements of these countries was the strategy to achieve confidence of these countries. Domestic economic compulsions of India posed challenges for it to become an emerging global power. India's Look East policy had limited success even though it has great future prospects to project India into the Asia-Pacific economic region.

Saikia (2009) elaborated the foreign trade strategy to be adopted diplomatically which would improve the development of India's region in north east because it was the gate way of relation with other parts of Asia. This region is not a homogenous block rather a heterogeneous one with each state of the Northeast has its own problems which makes it difficult to comprehend the situation and frame a uniform policy for the whole region. Diplomatic and conflict resolution efforts are needed to improve trade ties with India's neighbors through stability to the region. Therefore, it doubly compelled need for co-opting the Northeast into India's diplomatic initiative with immediate neighbors for economic growth.

Ahmed (2010) concluded that economic integration within regional trading blocs adds the significant value to increase economic growth, trade, investment etc. India and ASEAN FTA will have advantages in the field of welfare but in terms of trade it will be disadvantageous for India. The most vulnerable sectors will be food grains, textiles and manufacturing sector. On the whole it will have adverse impact on Indian labor and working class.

Ahmed (2010) concluded that India and ASEAN FTA can give benefits to India in social welfare but not in the trade flows. The most vulnerable sectors will be food grains, textiles and manufacturing sector. On the whole it will have adverse impact on Indian labor and working class.

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Haokip (2010) observed a great impact which North-eastern states had on the trade growth with South East Asia region. The study suggested that India must improve infrastructure, customs and govt procedures. Combating corruption, motivating intellectualism and trade openness can improve the trust factor and trade growth. The aspirations of the people of this region are to be nurtured in order to have better liaison with the External Affairs Ministry on various concerns related to foreign trade, foreign direct investment and economic development.

Jawaid and Raza (2012) observed that for the economic growth of India the Term of trade required should be less volatile. Thus, focus of policy makers should be on diversification in order to reduce the volatility of terms of trade which in turn will boost the trade surplus and economic growth of the country

Dhungel (2013) observed India as the main player in building a strong relationship with her neighboring countries and economic development of the region. There was

immense potential in the transport, education and tourism sector. These sectors needed to be explored further particularly in water-resource relationship with her neighboring countries. It was required to plan dialogues and data sharing and help in the development of mechanism for regional cooperation.

Dubey (2014) studied foreign trade policy with respect to India. The study outlined cultural and civilization links between nations as a strong connection. India is politically relatively well placed and changing economic realities are opportunities for it. The study concluded that insurgency, lack of political will and lack of coordination in Govt agencies are the hindrances

Sahni (2014) Studied the trends in the exports of India and concluded that in order to become a world leader in exports, India needed to increase its exports significantly, and more efforts should be put on exports of technology rich items like computing machines, pharmacy items and electrical machinery. India should focus on the products and services which skill intensive and of international quality. India should diversify and explore new markets for itself for exporting its products and services.

Mehta (2015) study concluded that both exports and imports have improved after the new economic policy but the rate of growth of imports was more than rate of growth of exports in India which has led to trade deficit.

Kumar (2015) conducted a comparative study of trade between India and other countries of ASEAN region and concluded that reliance of these nations on India is more as compared to China. India needed to take advantage of this trust factor and improve its trade relations especially in the field of infrastructure and Human resource.

Home (2017) examined sub regional strategy of India on economic growth focused on finding commitment between domestic and foreign policies. India aspired to outreach globally with a perquisition to have a stable neighborhood which could guarantee economic development and security. India's vision for eastern subregions had always been to share its economic growth, support security cooperation, peace

and prosperity in its neighborhood. It was utmost required at this hour to groom the strategy and assessment of its efficiency in these ever-changing regional dynamics.

Aggarwal and Chakraborty (2017) examined that product differentiation, trade reforms, trade agreements and efficiency dominate the intra industry at sectoral level. The study recommended that Indian firms should move up the value chain with innovation and skill development.

Hassan (2017) detected some lapses in implementations and meeting of deadlines of various projects undertaken for infrastructural development with the other countries. Study concluded that India has to effectively engage with countries in South East Asia in order to counter to dominate the region and speed up its economic development. It should find ways to overcome bureaucratic and institutional limitations for implementing and completing projects in a time bound manner.

Singh (2018) analysed that India was an emerging power and fourth largest economy in the world. Look east policy initiative was a compulsion as India and Southeast Asia had geographically and cultural close inter relationship. Many areas had been shortlisted for mutual cooperation. Bilateral relations with each nation in the South East region as per unique requirements of these countries was the strategy to achieve confidence of these countries. Domestic economic compulsions of India posed challenges for it to become an emerging global power. India's Look East policy had limited success even though it has great future prospects to project India into the Asia-Pacific economic region.

Pant and Anusree (2018) suggested that regional trade agreements boost the trade in case of those countries who are already having a large volume of trade but in case of India in South East Asian countries this trade agreements have not given any advantage in terms of trade as the volume is less.

Muneera (2019) analyzed the trade policy reforms in India after 1991 and its impact on foreign trade with special reference on pattern of foreign trade of India. The trends in India's foreign trade during the globalization era. India's trade had increased considerably during the period of planning. Opening up of the economy, corporate

restructuring, export-orientation of domestic manufacturers helped in growth in manufacturing sector. Study also witnessed specific changes in the direction as well as composition of foreign trade from intermediate to finished goods.

Reghutia (2020) empirically analyzed the relationship between trade openness and economic growth and found a substantial long-term positive relationship between trade openness, economic growth, financial development, technological development, labor force and inflation.

Kim and Banik (2020) concluded that Indian products are not able to compete due to distortionary domestic policy measures and constrains in trade. Indian firms need to become part of ASEAN supply chain network, as an important factor to have deeper economic integration.

De and Kumaraswamy (2021) studied the impact of COVID 19 pandemic on India's economic relations and found that trade growth has suffered due to pandemic as it has reduced aggregate demand but new integration opportunities have also emerged in the service sector especially in medical and people to people contact services.

Das and Guha (2021) examined the policy effectiveness and trade growth. It analyzed the data with the help of gravity model and found that dummy variable of time has a positive relation with India's bilateral export of merchandise product to ASEAN.

2.2 TRENDS AND PATTERNS OF TRADE BETWEEN INDIA AND MGC

International trade improves the availability of quality goods, market expansion, raises the standard of living of people and brings economies of scale and specialization. The cooperation between India and MGC countries has occurred in areas like military alliances, economic affairs, and improvements of territorial boundaries.

Levesque (2007) has apprehensions about the progress of projects undertaken due to geo political and security issues in the MGC region. Greater Mekong Sub-region

(GMS) was started having all nations of MGC except India. This had given a setback to India's trade with MGC countries. Tourism required an improvement in transport connectivity.

Parameswaram (2007) studied the future opportunities and challenges in the success of MGC. It has identified the major areas of cooperation between the nations and emphasized that improvement in infrastructure would benefit all member nations. There was a great potential of trade between the nations which was not tapped yet because of focus on culture and educational exchanges.

Mazumdar (2009) proclaimed cooperation as the binding force in all nations in MGC cooperation. Mutual trust, mutual understanding and cooperation can fulfil the dreams of founder of this project and benefit to all member nations. The aspects that brought nations close should be focused and encouraged. Trade should not be focused on bilateral terms rather multilateral concerns should be opted to achieve the objectives.

Ghuman (2009) found a strong improvement in India's relations with its neighbors due to opening up of economy. Trade performance of India with South East Asian was comparatively more than with any other region of the world during post WTO period

Sinha (2009) tried to find out what India needed to do to maintain a strong tie with Myanmar as it shared a long border with it. Trade in the areas of culture, tourism, biodiversity, communication, industry, climate change would be an important area of cooperation to maintain a strong tie with Myanmar.

Moorthy (2010) comparative studied that the people of LAOS PDR and Thailand had strong entanglement culturally, linguistically and religiously. This close cooperation had a positive influence on their foreign trade policy framing towards India. Happy and prosperous life with mutual cooperation and understanding, which in turn help in mutual respect, sympathy, understanding, fraternity, equality and good-will would maintain peace not only with India but in the South East Asian region.

Vannarith (2010) found that Mekong region was filled with positive and negative factors in trade relations. Common agenda point could not be chalked out due to difference in interests of nations. Lack of political will and Geo political issues have casted shadow on the MGC nations and expected trade results could not be yielded.

Lan (2010) concluded that Mekong Ganga Cooperation was created with trade interests, security and safety strategy seeking common development of India with five other nations. It achieved progress after a decade development but still facing few challenges. India can still push the development or may be some western powers involve in the initiative.

Barman (2011) examined bilateral HRD ties between India and the MGC on case study basis taking India one to one with other member nations. Study concluded that HRD potentials of India were high in-service sector. India needed to focus more on human resource development projects with MGC countries to make this project a success.

Rao (2012) concluded that India had strong strategic position and could position itself as a major stabilizer in the Mekong sub region. India could work as source of welfare for the region especially in service sector. It is the largest nation in MGC with huge market which can influence trade policies.

Chakraborty (2013) examined the role of external powers had played in the foreign policy implementation. India's security relations with the MGC countries, as well as its extended neighbors in East Asia and beyond have improved. India has been successful in conduct of its economic diplomacy. India improved cultural relations and narrowed the development gap between the CLMV and ASEAN members.

Chatterjee (2014) observed that India needed to consider Myanmar as a land gateway to Southeast Asia and invest in the North-eastern region's development, physical connectivity and political negotiation to enhance the region's economy. Physical infrastructure, improved markets and the creation of new supply chains in the region should be undertaken. However, the Look East Policy remains underplayed due to domestic drivers which have remained largely untapped.

Salim (2015) studied the India's trade with MGC nations. Cambodia, which has transformed itself from a planned economy to open economy. Cambodia had two largest industries textiles and tourism. Lao PDR is agricultural economy and trying to shift to industrialized and service economy. Myanmar gets half of GDP from agriculture production and tourism is largest industry for Myanmar. Vietnam is fastest growing economy and relationship of India and Vietnam improved due to exchange of delegates. Thailand has extended maritime boundary in the Andaman Sea having a fourth largest trading partnership for India among all ASEAN countries. India needed to make products at cheaper price or better-quality products with differentiation in marketing strategies to compete with Chinese products. Study concluded that over the period trade has improved but could not reach its fullest potential.

Kaur (2015) studied the relevance of various policies and opportunities available for India in the form of MGC as all other countries in the cooperation are developing and it has a potential to improve the north east region of the nation.

Renjini and Karu (2016) studied the trade intensity, composition, complementarity and comparative advantage of trade of India for the period 1995-2014.The result revealed. India's most preferred trading partner were Thailand, Myanmar and Vietnam as compared to others. India required to focus on cotton, fruits and coffee where competitiveness was required to be increased.

Bhattacharjee (2017) observed that India was considered as a very minimal trading partner in the Mekong sub region but with latest changes in policies, growth path and institutional developments; the indications for future developments were positive.

Bhogal (2018) identified that India had a comparative edge in Information technological sector which can be tapped and people to people connectivity can improve cooperation in the sector. India had many incomplete infrastructural projects in Mekong sub region which were main obstacle in improving economic growth and development in this region.

Renjini (2018) studied the trade patterns in MGC nations and found that Vietnam is the fastest growing nation and has improved its economic conditions impressively. India could explore the share in animal products meat and cotton industry. Vietnam offers substantial tariff reduction to India under Agreement. This would improve trade volume and economic development of both the nations further.

Shahriar (2020) observed that cross border trade engagements between India and Myanmar are getting strong because of India's neighborhood trade promotion policy, connectivity, economic corridor and geo political dynamics. The ethnic disturbances and weak border infrastructure are the bottlenecks in the development of trade development between both.

Ahmad (2021) concluded that security issues, economic instability, lack of infrastructure, volatile currency and cross border tensions are the factors due to which the trade was not flourishing. Study tried to ascertain the impact of pandemic on the trade in the region by analyzing number of cases, GDP and trade performance.

2.3 CONCLUSION

It is clear from the literature review that there are many studies conducted on the economic, political and social relations between counties including India but there is no specific study conducted on trade relation between India and MGC. There is a need to analyze the trends and patterns of trade between India and MGC which will help in framing policy on foreign trade related issues. It is indispensable to analyze the trends and patterns of India's trade with MGC nations to study the role of MGC regional cooperation in the economic development of the region. The growth in India's trade share and Trade Intensity with MGC will support the empirical study. The performance and export competitiveness of Indian products in MGC market over the study period will highlight the competitive position of product lines. Favorable terms of trade are most important to maintain trade balance and economic development of India. In order to attain a better position in export market, it is crucial that India's export profiles are not similar with MGC nations. There is a need of identifying trade possibilities at commodity level to further help industry to focus on specific areas where the regional growth can be prioritized. It is well understood by

MGC nations that economic cooperation and support to one another is essential in the era of globalization. The area of cooperation between MGC nations are not confined to traditional ways of economic relations but has advanced to a level which are futuristic in nature. Thus, the prominence of MGC is naturally important for all the members to fulfil their developmental goals. India needs to play a dominant role in the region to ensure its political, economic, social and security sanctity.

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Chapter – 3

INDIA AND MGC TRADE : AN OVERVIEW

This chapter has assessed the trade performance of India with MGC nations. MGC was established in the year 2000 with an objective to strengthen the economic, social and cultural ties between all MGC nations, and overall development of the region. The political and economic relations between member nations have improved after the establishment of MGC. The chapter has analyzed trade growth, trade composition, trade direction and trade flows between India and MGC for the study period 2001- 2020.

3.1 AN OVERVIEW

India's trade with MGC has been influenced by many factors such as close cultural ties, North Eastern Regional Development, low cargo cost and neutralizing the dominance of China in the region. MGC can supply raw material to India and in return India can supply finished goods, consultancy services and technical know-how. In fact, there are big trade gaps among MGC nations, which leads to disability in economic integration of MGC nations. There is a need to rework on policy measures in order to utilize the untapped trade potentials between MGC nations. (aic.ris.org.in)

Trade patterns of India with MGC nations have shown a paradigm shift over the study period. MGC nations were the best options available to match the raw material, semi-finished, finished goods and technical know-how requirements of India. Although, there are huge disparities between MGC member nations and their national developmental stages but India being the largest country in area, population and GDP has a lot of potential of bilateral trade.

3.2 TRADE AT BILATERAL LEVEL

It is a proven fact that open economies grow faster than closed economies. Growth dynamics of a country depends upon its level of international trade as it increases the production and enrich the foreign exchange reserves of the country. India and MGC

trade including investment relations are growing gradually. Table 3.1 depicts the share of India's trade with MGC in US $ thousand for the study period 2001-2020.

Table 3.1: India's Trade with MGC

During 2001-2020

US $ Thousand

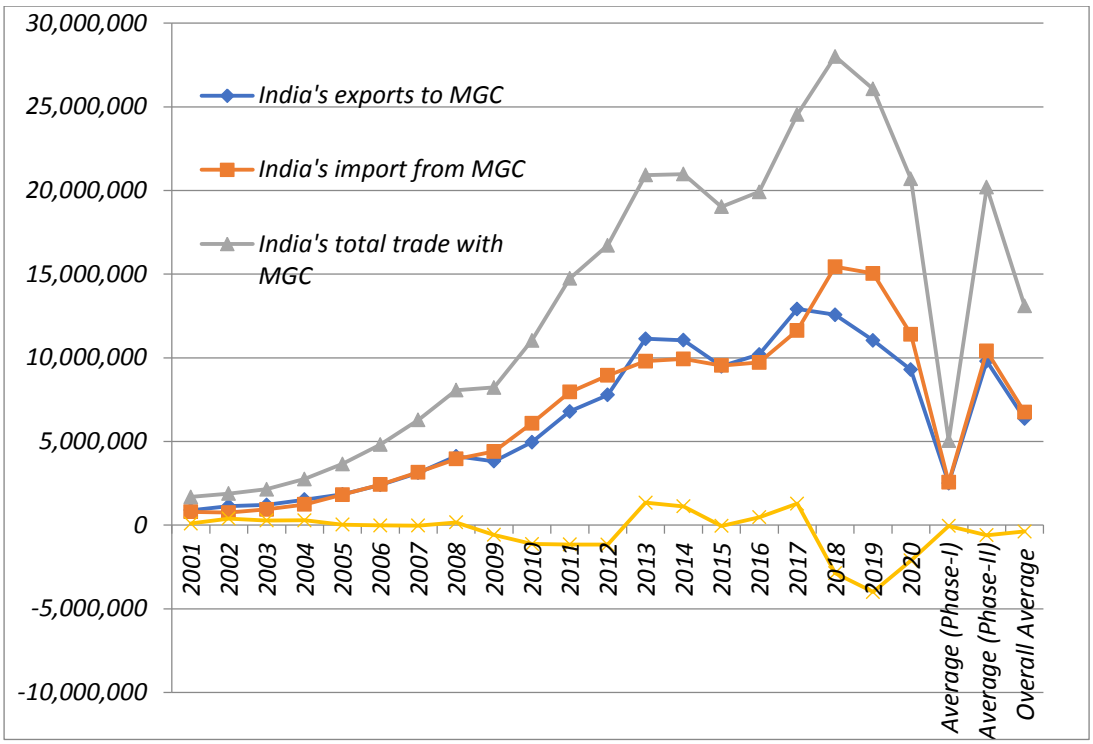
Year	Exports to MGC	Import from MGC	Total Trade	Trade Balance
2001	8,90,223	7,93,495	16,83,718	96,728
2002	11,38,555	7,46,747	18,85,302	3,91,808
2003	12,08,013	9,33,549	21,41,562	2,74,464
2004	15,22,079	12,34,383	27,56,462	2,87,696
2005	18,37,868	18,13,634	36,51,502	24,234
2006	23,99,622	24,15,191	48,14,813	-15,569
2007	31,25,336	31,55,894	62,81,230	-30,558
2008	41,13,665	39,47,459	80,61,124	1,66,206
2009	38,20,974	44,04,555	82,25,529	-5,83,581
2010	49,56,982	60,84,233	1,10,41,215	-11,27,251
2011	67,93,837	79,50,465	1,47,44,302	-11,56,628
2012	77,76,530	89,44,796	1,67,21,326	-11,68,266
2013	1,11,32,365	97,92,469	2,09,24,834	13,39,896
2014	1,10,51,254	99,31,437	2,09,82,691	11,19,817
2015	94,91,926	95,37,080	1,90,29,006	-45,154
2016	1,01,93,183	97,22,060	1,99,15,243	4,71,123
2017	1,29,13,809	1,16,28,884	2,45,42,693	12,84,925
2018	1,25,72,909	1,54,39,863	2,80,12,772	-28,66,954

Year	Exports to MGC	Import from MGC	Total Trade	Trade Balance
2019	1,10,34,705	1,50,36,342	2,60,71,047	-40,01,637
2020	92,87,154	1,14,04,251	2,06,91,405	-21,17,097
Average (Phase-I)	25,01,332	25,52,914	50,54,246	-51,582
Average (Phase-II)	97,95,517	1,03,99,010	2,01,94,526	-6,03,493
Overall Average	63,63,049	67,45,839	1,31,08,889	-3,82,790

Source: Author's calculations based on United Nations Commodity Trade Database (UNCOMTRADE)

Table 3.1 depicts that bilateral total trade between India and MGC are increasing gradually. But India's trade balance had remained negative in most of the years. Which signifies that India is importing more as compared to exports. About 25 per cent of India's imports have been in Mineral oil and fuels, whose demand and prices have kept on increasing, due to which there has been a trade deficit in India's trade from MGC.

India's exports from MGC have increased from US $ thousand 8,90,223 in 2001 to US $ thousand 92,87,154 in 2020.Similarly, the imports have also increased from US $ thousand 7,93,495 in 2001 to US $ thousand 1,14,04,251 in 2020.Total trade has also increased 12 times during the period. The imports of India from MGC are more than exports especially in last decade except 2013, 2014 2016 and 2017. It is evident that India's average exports to MGC have grown in second phase. The impact on average import is similar and it has grown four times in second phase as compared to first phase. Thus, overall average trade has shown upward thrust in second phase as compared to first phase. The average trade deficit has increased due to average imports being more than average exports. The increase in averages is due to increase in volume of trade between India and MGC. Trade relations with India and MGC have got fillip in second phase due to ASEAN India signing of FTA in 2010.India has set free more than 4500 products by 2020.



During 2001-2020 **US $ Thousand**

Source: Author's development based on data from United Nations Commodity Trade Database. (UNCOMTRADE)

Figure: 3.1: India and MGC Trade

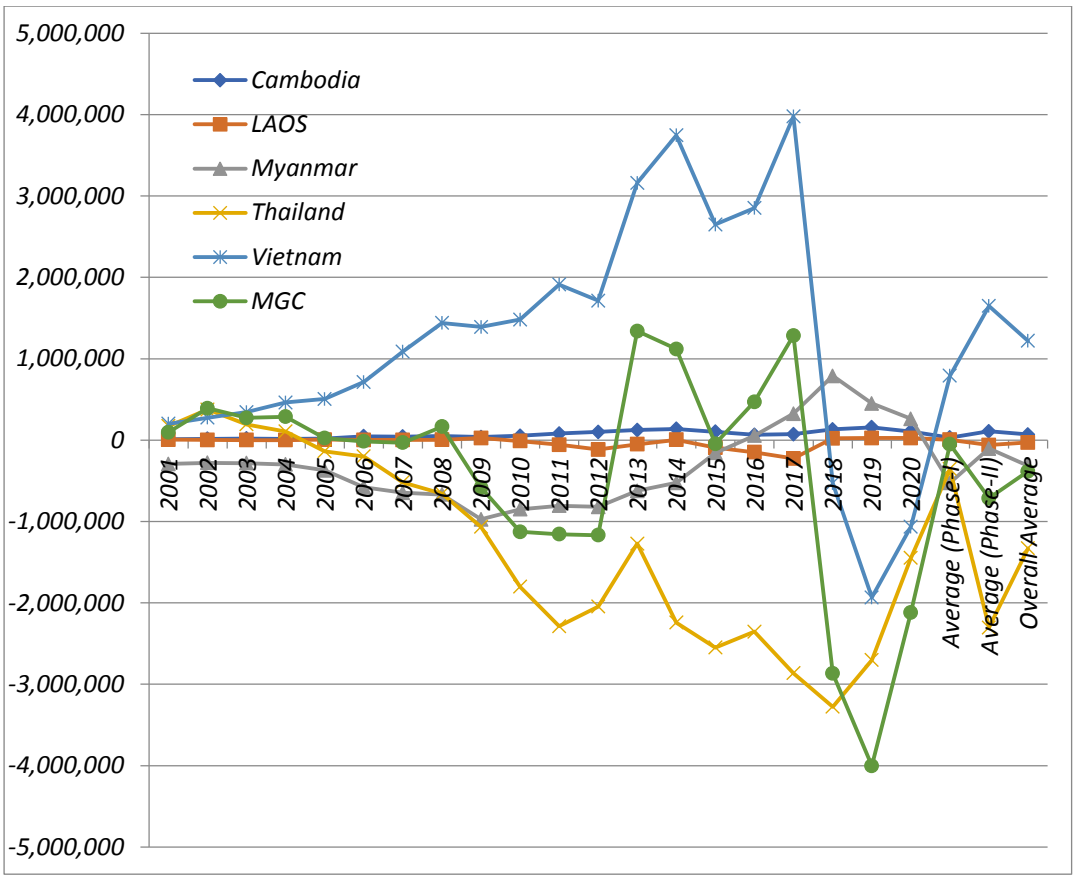
The fig 3.1 has made the trend clear as there is an increase in overall trade during the study period and increase is more in phase II as compared to phase I. Though the trade balance has remained negligible or negative.

Table 3.2: India's Trade Balance with MGC Nations

During 2001-2020 **US $ Thousands**

Year	Cambodia	LAOS	Myanmar	Thailand	Vietnam	MGC
2001	9,434	5,765	-2,92,757	1,73,705	2,00,581	96,728
2002	16,285	1,956	-2,78,917	3,76,096	2,76,388	3,91,808
2003	19,964	309	-2,83,621	1,92,528	3,45,284	2,74,464
2004	16,520	861	-2,97,987	1,06,664	4,61,638	2,87,696

Year	Cambodia	LAOS	Myanmar	Thailand	Vietnam	MGC
2005	20,925	6,468	-3,71,916	-1,37,330	5,06,087	24,234
2006	46,607	1,986	-5,78,610	-1,99,824	7,14,272	-15,569
2007	43,581	2,859	-6,46,310	-5,19,031	10,88,343	-30,558
2008	49,583	4,066	-6,68,934	-6,59,511	14,41,002	1,66,206
2009	37,819	26,725	-9,73,642	-10,65,077	13,90,594	-5,83,581
2010	53,408	-11,937	-8,49,568	-18,01,238	14,82,084	-11,27,251
2011	81,160	-56,204	-8,06,185	-22,87,644	19,12,245	-11,56,628
2012	99,956	-1,16,420	-8,19,332	-20,45,145	17,12,675	-11,68,266
2013	1,23,971	-50,020	-6,23,371	-12,71,630	31,60,946	13,39,896
2014	1,37,640	3,985	-5,24,223	-22,42,416	37,44,831	11,19,817
2015	1,02,298	-92,041	-1,56,731	-25,47,940	26,49,260	-45,154
2016	66,059	-1,48,475	56,154	-23,54,088	28,51,473	4,71,123
2017	72,482	-2,26,145	3,25,605	-28,63,846	39,76,829	12,84,925
2018	1,31,430	21,188	7,88,391	-32,76,624	-5,31,339	-28,66,954
2019	1,57,413	26,663	4,50,171	-27,02,661	-19,33,223	-40,01,637
2020	1,05,857	25,799	2,62,030	-14,46,698	-10,64,085	-21,17,097
Avg (Phase-I)	31,413	3,906	-5,24,226	-3,53,302	7,90,627	-51,582
Avg (Phase-II)	1,07,827	-61,167	-1,04,749	-23,03,869	16,47,961	-7,13,998
Overall Average	69,620	-28,631	-3,14,488	-13,28,586	12,19,294	-3,82,790



During 2001-2020 **US $ Thousands**

Source: Author's development based on data from United Nations Commodity Trade Database. (UNCOMTRADE)

Figure 3.2: India's Trade Balance with MGC Nations

Table 3.2 and fig 3.2 further explains the trade balance of India with MGC Nations. The trade balance is favorable with countries like Cambodia, Vietnam and Laos, where exports of India to these countries are more than imports. But in case of Myanmar and Thailand, it has remained negative. In the year 2017, India recorded highest trade surplus with Cambodia and Vietnam. Trade balance was negative with Vietnam in 2018 and 2019.India's imports from Thailand has always been more than exports after 2005.Imports from Myanmar has been more than exports except in 2016 onwards. Myanmar is world's oldest oil producer having in abundance of natural gas and oil resources much more than its own consumption. Myanmar has rich resources of precious stones and pearls. The surplus has increased in second phase with the

increase in exports to Cambodia. Vietnam has come out as a major trading partner of India with trade surplus. There has been a shift in structure of trade in Myanmar, as trade deficit has reduced in second phase, which shows that India has exported more to Myanmar in second phase. Thailand is the major exporter to India and the deficit has increased tremendously in second phase. Major items exported to India by Thailand are Machinery, Transportation, Plastic and rubber items. Overall trade deficit with MGC has also increased 14 times in second phase showing reliance on India for imports on MGC. Thailand is the major exporter followed by Vietnam and Myanmar.

Table 3.3: Compound Annual Growth Rates of India with MGC

During 2001-2020 **(Per Cent)**

Country	**CAGR Exports (2001-2010)**	**CAGR Exports (2011-2020)**	**AV CAGR Exports**	**CAGR Imports (2001-2010)**	**CAGR Imports (2011-2020)**	**AV CAGR Imports**
Cambodia	0.19	0.05	0.12	0.21	0.16	0.19
Laos	0.04	0.07	0.05	0	-0.30	0
Myanmar	0.17	0.06	0.12	0.12	-0.08	0.02
Thailand	0.14	0.03	0.08	0.25	0.00	0.13
Vietnam	0.28	0.03	0.15	0.50	0.14	0.32
MGC	0.19	0.03	0.11	0.23	0.04	0.13

Source: Author's calculations based on United Nations Commodity Trade Database (UNCOMTRADE)

Table 3.3 depicts that both India's CAGR in the first phase (2001-2010) has been comparatively better than phase II (2011-2020). Thus, year on year growth had been not so good. Trade ties of India with MGC are improving in the long run. India's export with MGC has increased by 11 per cent on an average when compounded annually. The CAGR of exports for the first phase was 19 but it reduced to 3.0 during the second phase. India's import with MGC has also grown on an average with 13

per cent compounded annually. The CAGR of import, which was 23 for first phase, has reduced to one third at 4 in second phase. The CAGR of imports of India from Myanmar was negative for the second phase depicting a sharp reduction in imports from Myanmar in second phase.

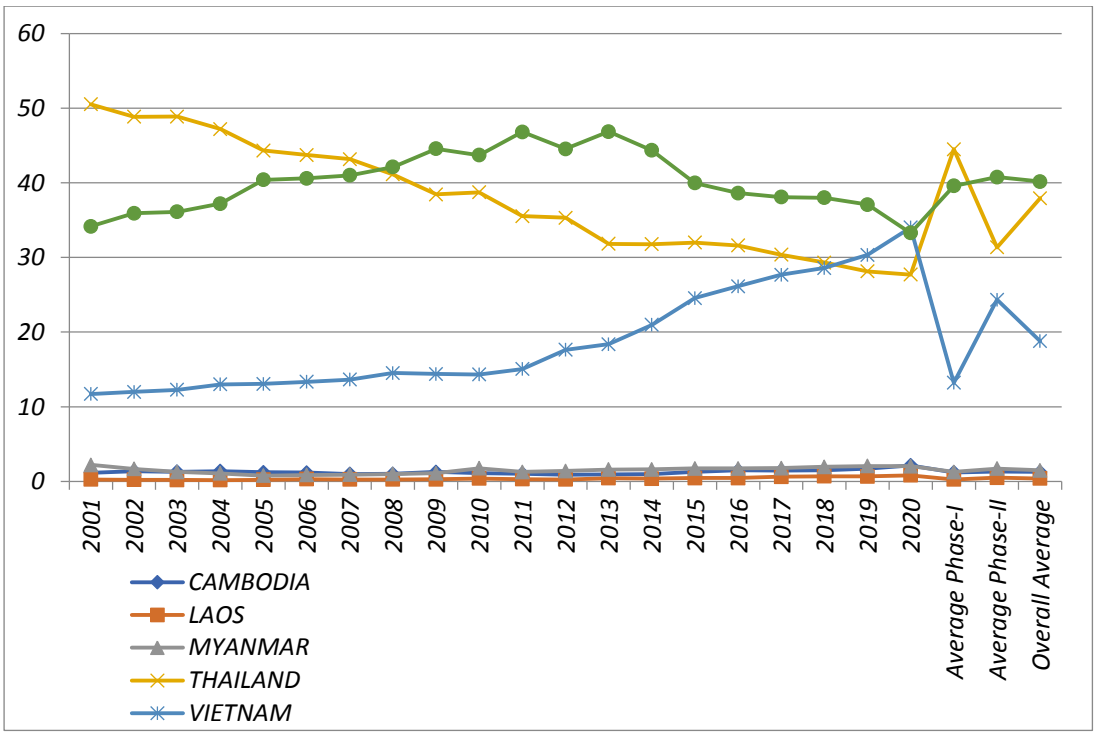
Table 3.4: Member Nation's Share of Exports to MGC

During 2001-2020 **(Per Cent)**

Year	Cambodia	Laos	Myanmar	Thailand	Vietnam	India
2001	1.17	0.25	2.22	50.52	11.7	34.15
2002	1.38	0.22	1.67	48.84	11.98	35.92
2003	1.29	0.2	1.26	48.87	12.26	36.12
2004	1.37	0.18	1.07	47.19	12.99	37.21
2005	1.22	0.22	0.77	44.33	13.06	40.4
2006	1.19	0.3	0.85	43.73	13.34	40.59
2007	0.99	0.26	0.91	43.17	13.65	41.01
2008	1.01	0.25	0.99	41.13	14.51	42.11
2009	1.26	0.27	1.1	38.44	14.39	44.55
2010	1.11	0.38	1.76	38.73	14.32	43.7
2011	1.04	0.3	1.26	35.54	15.05	46.82
2012	0.89	0.25	1.39	35.31	17.62	44.54
2013	0.93	0.42	1.59	31.82	18.38	46.86
2014	0.96	0.36	1.6	31.78	20.97	44.34
2015	1.29	0.45	1.73	32	24.55	39.98
2016	1.48	0.46	1.73	31.6	26.13	38.61
2017	1.45	0.63	1.79	30.36	27.69	38.08
2018	1.49	0.68	1.96	29.31	28.58	37.99
2019	1.7	0.67	2.06	28.14	30.35	37.08
2020	2.14	0.81	2.04	27.7	34	33.28

Year	Cambodia	Laos	Myanmar	Thailand	Vietnam	India
Avg (Phase-I)	1.199	0.253	1.26	44.495	13.22	39.576
Avg (Phase-II)	1.337	0.503	1.715	31.356	24.332	40.758
Overall Average	1.268	0.378	1.4875	37.9255	18.776	40.167

Source: Author's calculations based on United Nations Commodity Trade Database (UNCOMTRADE)



During 2001-2020 **(Per Cent)**

Source: Author's development based on data from United Nations Commodity Trade Database. (UNCOMTRADE)

Figure 3.3 : Member Nation's Share of Exports to MGC

Table 3.4 and fig 3.3 shows the share of member nations including India in total exports to MGC. India, Thailand and Vietnam are the major trader comprising almost 95 per cent trade of MGC. A noteworthy point is that the share of India has remained stable between 35 to 40 per cent. But the share of Thailand has reduced gradually from 50 per cent 2001 to 28 per cent in 2020. Vietnam has shown an improvement

and its share has increased three times. Vietnam has transformed from a controlled economy to open economy, which has helped it to change its status from poor economy to middle income economy.

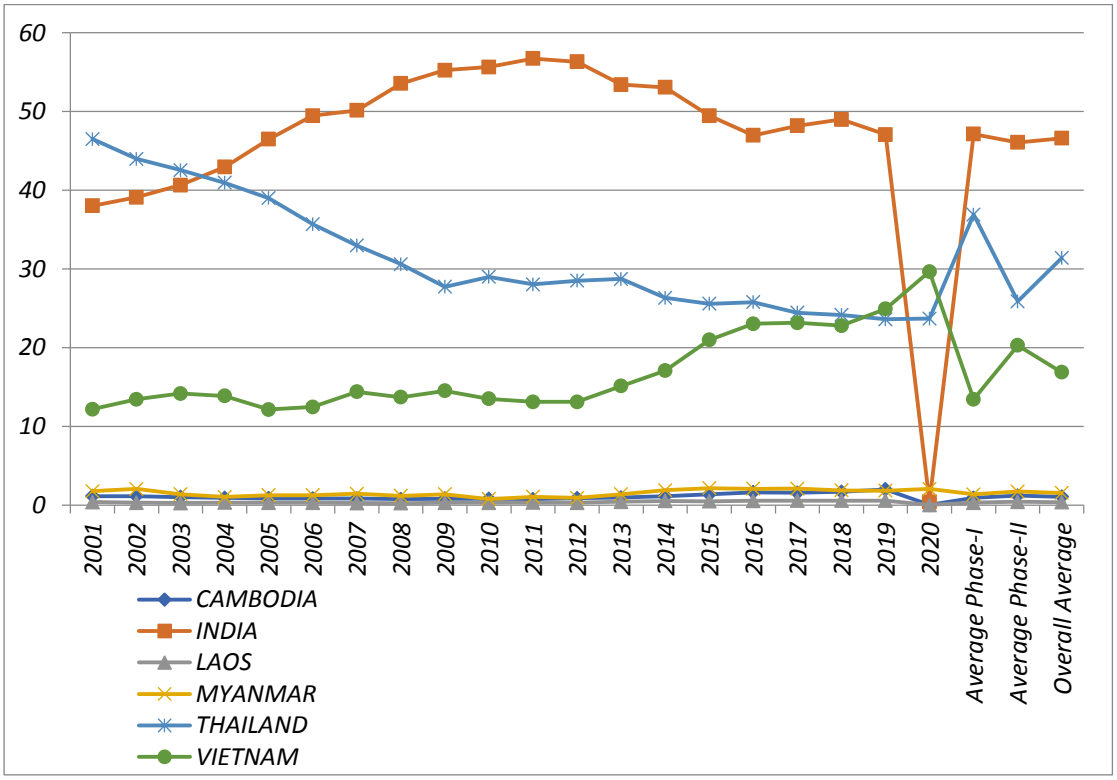
Table 3.5 : Member Nation's Share of Imports From MGC

During 2001-2020 **(Per Cent)**

Year	Cambodia	India	Laos	Myanmar	Thailand	Vietnam
2001	1.13	38.03	0.38	1.77	46.51	12.17
2002	1.13	39.09	0.3	2.05	43.98	13.44
2003	1	40.64	0.26	1.38	42.55	14.17
2004	0.9	42.95	0.31	1.02	40.96	13.87
2005	0.84	46.49	0.29	1.25	39	12.13
2006	0.83	49.47	0.29	1.26	35.69	12.46
2007	0.82	50.14	0.25	1.43	32.97	14.39
2008	0.75	53.55	0.24	1.17	30.6	13.69
2009	0.81	55.25	0.3	1.38	27.74	14.51
2010	0.78	55.66	0.29	0.77	29	13.49
2011	0.75	56.74	0.32	1.05	28.04	13.1
2012	0.86	56.32	0.3	0.9	28.51	13.11
2013	0.94	53.41	0.41	1.38	28.73	15.13
2014	1.12	53.07	0.51	1.88	26.33	17.08
2015	1.35	49.47	0.48	2.14	25.58	20.98
2016	1.62	46.96	0.54	2.07	25.77	23.04
2017	1.55	48.2	0.56	2.09	24.44	23.16
2018	1.67	48.98	0.56	1.86	24.15	22.78
2019	1.99	47.08	0.57	1.83	23.61	24.92
2020	0.02	0.42	0.01	2.04	23.68	29.66

Year	Cambodia	India	Laos	Myanmar	Thailand	Vietnam
Avg (Phase-I)	0.899	47.127	0.291	1.348	36.9	13.432
Avg (Phase-II)	1.187	46.065	0.426	1.724	25.884	20.296
Overall Average	1.043	46.596	0.3585	1.536	31.392	16.864

Source: Author's calculations based on United Nations Commodity Trade Database (UNCOMTRADE)



During 2001-2020 **(Per Cent)**

Source: Author's development based on data from United Nations Commodity Trade Database. (UNCOMTRADE)

Figure 3.4: Member Nation's Share of Imports From MGC

Table 3.5 and fig 3.4 shows the per centage share of member nations including India in total imports to MGC. India, Thailand and Vietnam are the major importers

comprising almost 95 to 98 per cent imports of MGC. A noteworthy point is that the share of India has remained stable between 38 to 56 per cent. But the share of Thailand has reduced gradually from 46 per cent 2001 to 23 per cent in 2019. Vietnam has shown an improvement and its share has increased sharply.

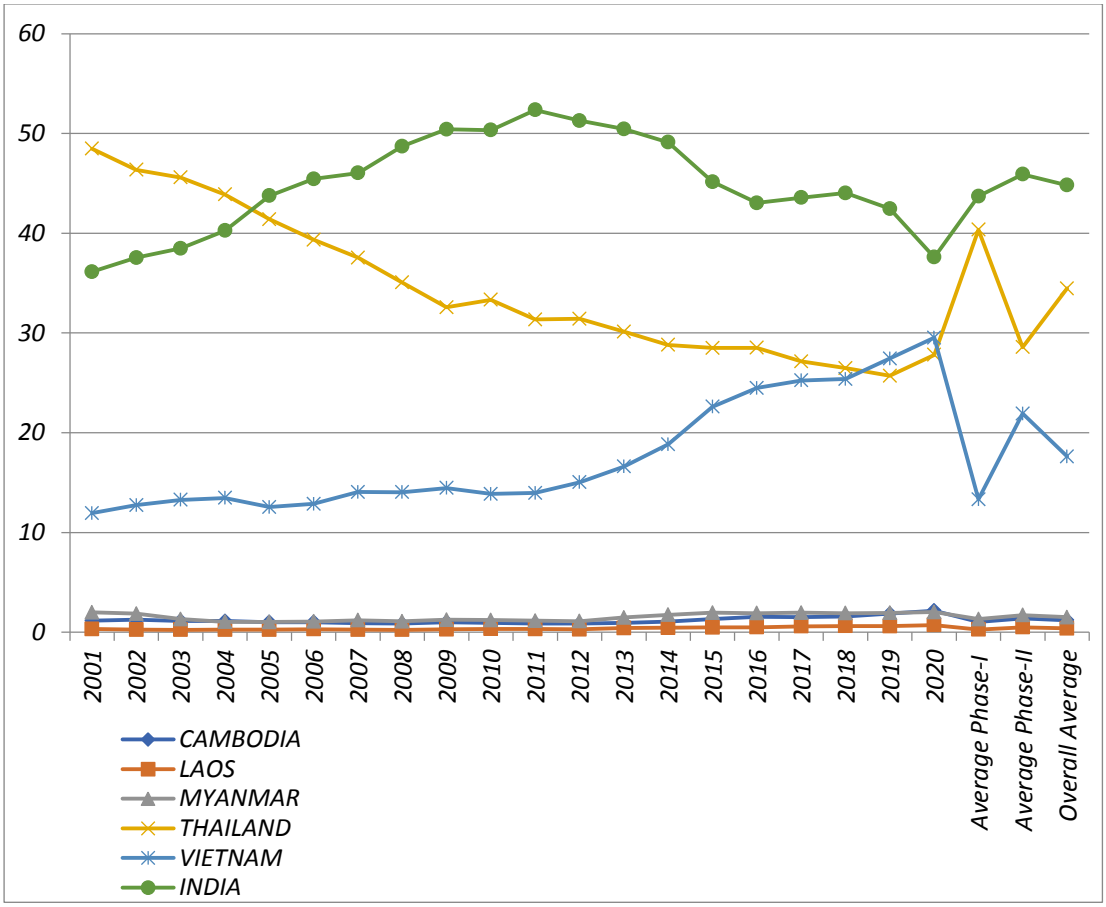
Table 3.6: Member Nations Share of Trade In MGC

During 2001-2020 **(Per Cent)**

Year	Cambodia	Laos	Myanmar	Thailand	Vietnam	India
2001	1.15	0.32	1.99	48.48	11.94	36.13
2002	1.25	0.26	1.86	46.35	12.73	37.55
2003	1.14	0.23	1.32	45.58	13.26	38.47
2004	1.12	0.25	1.04	43.88	13.46	40.25
2005	1.01	0.26	1.03	41.4	12.55	43.75
2006	1	0.3	1.07	39.34	12.86	45.44
2007	0.9	0.25	1.2	37.55	14.06	46.04
2008	0.86	0.24	1.09	35.06	14.04	48.71
2009	1.01	0.29	1.25	32.57	14.46	50.42
2010	0.93	0.33	1.21	33.33	13.86	50.34
2011	0.88	0.31	1.15	31.35	13.96	52.36
2012	0.87	0.28	1.11	31.42	15.04	51.28
2013	0.94	0.41	1.47	30.13	16.6	50.45
2014	1.05	0.44	1.75	28.8	18.84	49.12
2015	1.33	0.47	1.96	28.5	22.61	45.15
2016	1.55	0.5	1.91	28.51	24.49	43.03
2017	1.51	0.59	1.95	27.15	25.23	43.57
2018	1.59	0.62	1.9	26.47	25.39	44.03
2019	1.86	0.61	1.94	25.7	27.43	42.46
2020	2.16	0.72	2.02	27.8	29.52	37.6

Year	Cambodia	Laos	Myanmar	Thailand	Vietnam	India
Average Phase-I	1.037	0.273	1.306	40.354	13.322	43.71
Average Phase-II	1.374	0.495	1.716	28.583	21.911	45.905
Overall Average	1.2055	0.384	1.511	34.4685	17.6165	44.8075

Source: Author's calculations based on United Nations Commodity Trade Database (UNCOMTRADE)



During 2001-2020 **(Per Cent)**

Source: Author's development based on data from United Nations Commodity Trade Database. (UNCOMTRADE)

Figure 3.5 : Member Nations Share of Trade in MGC

Table 3.6 and fig 3.5 substantiates the case by depicting three major nations in trade in MGC comprising 95 per cent trade namely India, Thailand and Vietnam. Share of India is stable but share of Thailand dropped from 48 per cent to 27 per cent. Share of Vietnam has improved from 11per cent to 29 per cent.

Table 3.7: Direction of India's Export

During 2001-2020 **(Per Cent)**

Sr no	Country	2001	2005	2010	2015	2019	2020
1	USA	19.3	16.8	10.6	15.2	16.7	17.9
2	China PR: Mainland	2.1	6.6	7.9	3.6	5.3	6.9
3	UAE	5.9	8.5	13.2	11.4	9.2	6.5
4	China PR: Hongkong	5.6	4.4	4.3	4.6	3.7	3.5
5	Singapore	2.1	5.4	4.2	2.9	3.3	3.0
6	Bangladesh	2.3	1.7	1.4	2.2	2.5	2.9
7	UK	5.0	4.8	2.9	3.3	2.7	2.8
8	Germany	4.1	3.5	2.7	2.6	2.6	2.7
9	Netherland	2.0	2.3	3.0	1.8	2.7	2.3
10	Malaysia	1.8	1.1	1.5	1.8	1.9	2.2

Source: Author's calculations based on International Monetary Fund Database

Table 3.7 shows the direction of India's export during the study period. USA had been the preferred nation for exports by India since 2001 although UAE took over in 2010 but again USA regained the throne in 2015.China is at the second position in the list of favored nations in terms of exports. None of MGC nations could secure the position in first ten preferred nations in the direction of India's exports. India is mainly exporting textiles and machinery parts to USA.

Table 3.8: Direction of India's Import

During 2001-2020 **(Per Cent)**

Sr no	Country	2001	2005	2010	2015	2019	2020
1	China Mainland	3.6	7.2	11.8	15.8	14.2	15.9
2	USA	6.1	5.9	5.5	5.2	7.3	7.2
3	UAE	1.8	3.6	8.8	5.2	6.3	6.5
4	Saudi Arabia	0.1	1.1	5.8	5.4	5.6	4.8
5	Iraq	0	0	2.1	2.8	4.6	4.7
6	China PR: Hongkong	1.4	2.1	1.4	1.2	3.7	4.0
7	Korea	2.3	3.1	2.8	3.3	3.4	3.4
8	Indonesia	1.9	2.1	2.8	3.6	3.2	3.3
9	Switzerland	6.8	5	6.3	5.4	3.7	3.1
10	Germany	3.8	3.9	3.3	3.0	2.7	2.6

Source: Author's calculations based on International Monetary Fund Database

Table 3.8 depicts the direction of India's imports during 2001 to 2020. China is at first position in imports by India. The per cent share of Imports of India from China has increased from 3.6 in 2001 to 15.9 in 2020. USA is at second position and per centage share of India in imports from USA is 7.2 in 2020. UAE is at the third place with 6.5 per cent share. MGC nations are not able to get position in first ten preferred nations for imports by India. USA, China and UAE are the most preferred trading partners of India. MGC nations are not able to get position in first ten preferred nations for trade by India.

Table 3.9: Composition of India Export to MGC

During 2001-2020 **(Per Cent)**

Sr. No	Code	Product label	2001	2005	2010	2015	2019	2020
1	‘27	Mineral fuels, mineral oils and products …	4.89	10.46	17.23	11.70	13.78	10.03
2	‘71	Natural or cultured pearls, precious or semi-precious stones….	16.00	16.09	14.73	14.69	11.36	8.88
3	‘30	Pharmaceutical products	2.39	2.34	2.77	4.75	5.03	6.69
4	‘84	Machinery, mechanical appliances, nuclear reactors, boilers; parts thereof	3.61	4.05	3.70	5.01	6.58	6.52
5	‘29	Organic chemicals	3.70	4.43	3.90	4.26	5.64	6.33
6	‘85	Electrical and mechanical equipment, recorders and TV	3.01	2.63	3.95	3.01	4.62	4.89
7	‘87	Vehicles except railway or tramway and accessories	1.99	3.19	4.21	5.33	5.39	4.72
8	‘72	Iron and steel	2.10	4.32	3.17	2.39	3.02	3.86
9	‘10	Cereals	2.05	1.91	1.33	2.58	2.19	3.15
10	‘39	Plastics and articles thereof	1.79	2.21	1.65	1.90	2.27	2.40

Source: Author’s calculations based on International Monetary Fund Database

From table 3.9, it is evident that India is exporting mineral fuels, pearls and stones and pharmaceuticals products to other nations. India is exporter of mechanical and electrical parts to other countries. India has got skilled labour and established strong value chain in these product lines.

Table 3.10: Composition of India Import to MGC

During 2001-2020 **(Per Cent)**

Sr.no	Code	Product label	2001	2005	2010	2015	2019	2020
1	‘27	Mineral fuels, mineral oils bituminous substances…	31.13	32.88	31.67	26.77	31.88	28.36
2	‘85	Electrical machinery and equipment and television ...	5.86	7.85	7.30	9.20	10.62	11.67
3	‘71	Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad ...	19.12	16.56	19.61	15.27	12.30	11.16
4	‘84	Mechanical appliances, nuclear reactors, boilers	8.35	9.15	7.93	8.21	9.29	9.57
5	‘29	Organic chemicals	3.49	3.62	3.46	4.08	4.29	4.93
6	‘39	Plastics and articles thereof	1.42	1.72	2.09	2.90	3.05	3.25
7	‘15	Animal fat or vegetable fats and oils and edible fats; animal ...	2.96	1.72	1.84	2.68	2.05	2.88
8	‘90	Optical, photographic, cinematographic, medical or surgical ...	2.25	1.82	1.51	1.84	1.99	2.23
9	‘72	Iron and steel	2.09	3.77	3.06	2.99	2.46	2.05
10	‘31	Fertilisers	0.86	1.18	1.76	1.91	1.50	1.95

Source: Author’s calculations based on International Monetary Fund Database

Table 3.10 elaborates that major composition of India’s imports are confined to few products i.e mineral products, natural and cultured products, electrical machinery, pharmaceutical products, organic chemicals, iron and steel, optical photographic and fertilizers, animal and vegetable fats and plastic thereof. India’s major trade is in Mineral fuels and precious stones with rest of the world.

3.3 TRADE INTENSITY BETWEEN INDIA AND MGC

Countries tend to trade more with the countries in its close geographical proximity in order to enjoy various benefits of close proximities. The trade intensity index more than unity suggests that bilateral trade flows are more than expected level and vice versa.

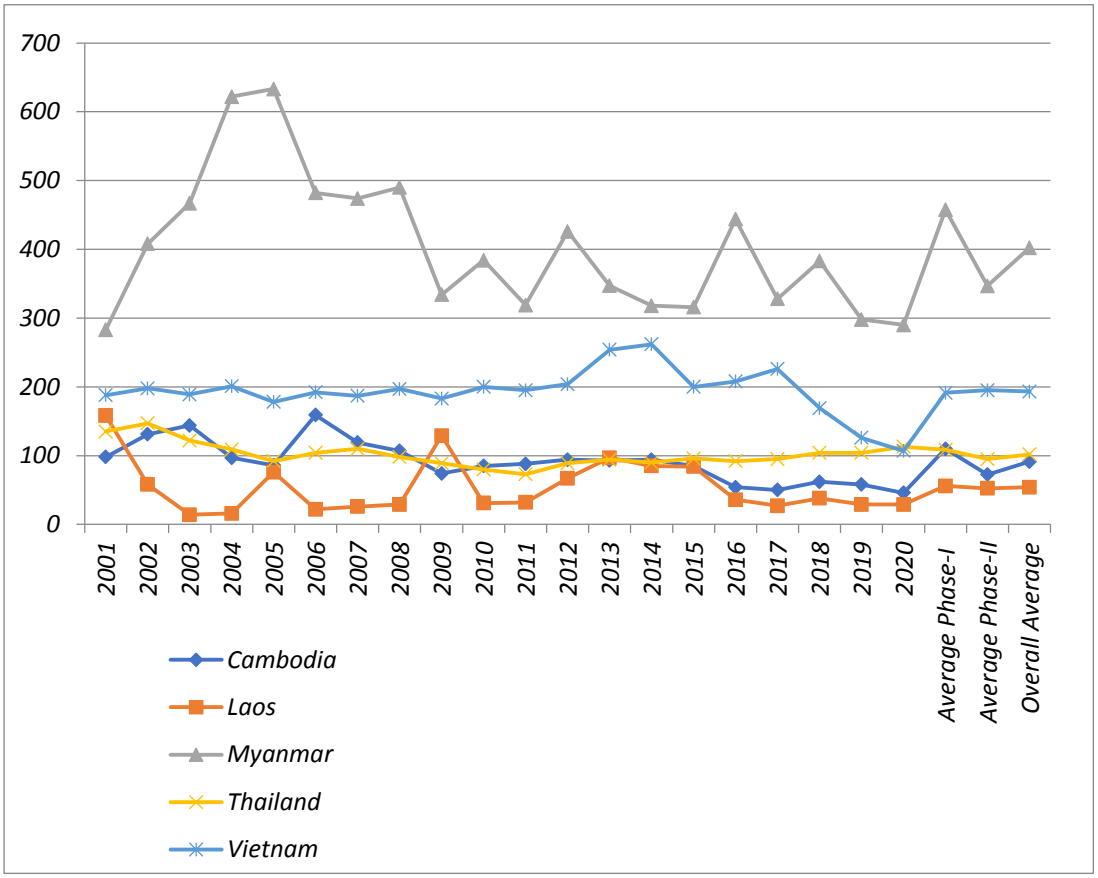
Table 3.11: Trade Intensity Index of India with MGC Nations

During 2001-2020 **(Per Cent)**

Year	Cambodia	Laos	Myanmar	Thailand	Vietnam
2001	98	158	283	135	188
2002	131	58	408	147	198
2003	144	14	467	122	189
2004	97	16	622	109	201
2005	86	76	633	92	178
2006	159	22	482	104	192
2007	119	26	474	110	187
2008	107	29	490	98	197
2009	74	129	334	89	183
2010	85	31	384	80	200
2011	88	32	319	73	195
2012	94	67	426	89	204
2013	93	97	347	94	254
2014	94	85	318	90	262
2015	85	84	316	96	200
2016	54	36	444	92	208
2017	50	27	328	95	226
2018	62	38	383	104	169

Year	Cambodia	Laos	Myanmar	Thailand	Vietnam
2019	58	29	298	104	126
2020	46	29	290	113	107
Average (Phase-I)	110	55.9	457.7	108.6	191.3
Average (Phase-II)	72.4	52.4	346.9	95	195.1
Overall Average	91.2	54.15	402.3	101.8	193.2

Source: Author's calculations based on United Nations Commodity Trade Database (UNCOMTRADE)



During 2001-2020 **(Per Cent)**

Source: Author's development based on data from United Nations Commodity Trade Database. (UNCOMTRADE)

Figure 3.6: Trade Intensity Index of India with MGC Nations

Table 3.11 and fig 3.6 showed trade intensity index of India with MGC Nations. Trade intensity index of India with Myanmar is greater than unity and Myanmar is the most preferred nation in MGC for trading exclusively in oils and gases. Vietnam is second preferred nation in terms of trading by India and index has stayed more than unity. ASEAN India free trade agreement 2009 has put Vietnam at an improved position in trade 2010 onwards. Trade was positive with Thailand in initial years but started declining 2008 onwards but picked up again in 2018. In case of Laos the index has remained less than unity except for two years 2001 and 2009.The index has stayed less than unity in case of Cambodia except for the period 2002-2003 and 2006 -2008. It means that there is still a scope of improvement in developing good trade relations with MGC. Depicts that trade flows have negatively affected with Cambodia in second phase. Even Myanmar has witnessed decline in trade flows in second phase. Her is negligible variation with other MGC nations.

3.4 CONCLUSION

India and MGC ties are maturing over years and trade volume has risen from 16,83,718 US $ thousand in 2001 to 2,06,91,405 US $ thousand in 2020, which is increase of almost 12 times from 2001.Although the trade has been tilted in favor of MGC as India's trade balance with MGC is either negligible or it is negative in most of the years and trade deficit was US $ thousand 21,17,097 in 2020. At country level India's trade balance in 2020 was positive with Cambodia, LAOS PDR and Myanmar, but this was offset by a huge trade deficit with Thailand and Vietnam. Over last two decades the trade deficit of India had been very high with Thailand among all MGC Nations. Major exports from Thailand to India are electronics, machinery, automobiles and rubber products. Year on year India's average growth rate to MGC has been more in case of imports i.e., 13 per cent as compared to exports which was 11 per cent. Share of India in MGC trade has remained consistent in both exports and imports but a noticeable change is that Vietnam has emerged as a major player in MGC nations. Vietnam has become fastest growing economy because of its trade liberalization policy and investments in physical and human capital.

India’s direction of trade has been showing an interesting pattern as China has come out as a main trading partner over the years, although USA and UAE are the other two major trading partners of India. None of MGC nations have not made place in top ten trading partners of India during the study period. As during the study period, the volume of India’s foreign trade has increased many folds but China, USA and UAE are the most preferred nations as India’s trading partners. MGC nations are the neighboring countries with many cultural similarities. MGC nations provide a huge market for trade to India. India being the largest nation in MGC in terms of area, population and GDP can accelerate the rate of its economic growth along with Thailand and Vietnam. This shows that a lot of trade potential with MGC nations is still untapped.

Composition of India’s trade has shown that there has been sharp decline in India’s export of natural and colored pearls and increase in pharmaceutical products and mineral fuels from 2001 to 2020. India has the monopoly in production of pharmaceutical products. India’s imports in electronics have almost increased twice from 2001 to 2020.

India has a very high trade intensity index with Myanmar as they share common border. India’s Trade intensity index has been favorable with Vietnam followed by Thailand, where it has remained more than unity. The index is not very promising with Cambodia and LAOS PDR as it has struggled to reach up to unity over the study period.

In nutshell, despite optimistic statistics of India’s trade with MGC, the gap of opportunities lost and untapped potentials are quite apparent. Thailand, Vietnam and Myanmar are inching close to India as trading partners in last two decades among MGC nations. Trade issues and geo political issues should be resolved at a faster rate to reap the benefits of cooperation.

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Chapter – 4

INDIA'S TRADE WITH ASEAN AND MGC: A COMPARATIVE ANALYSIS

This chapter is focused on a comparative study of India's trade with MGC and ASEAN. Regional Economic Cooperation help partner countries to take opportunities of trade by removing many barriers on trade and factors of production. ASEAN and Mekong Ganga Cooperation are two such important regional associations in South East Asia which are putting efforts in achieving economic growth of all its members. Though ASEAN and MGC are two important entities in South East region with overlapping of membership but their focus areas and objectives are different from each other. This chapter tries to do comparative analysis of India's trade with ASEAN and MGC.

4.1 AN OVERVIEW

ASEAN was established in August 1967 in Thailand by signing a declaration by five of its founder nations: Thailand, Indonesia, Malaysia, Philippines and Singapore. Later on, other nations like Brunei, Vietnam, LAOS PDR, Myanmar and Cambodia joined the association. ASEAN is a multilingual and multicultural region. The economies of all nations have some common features like less economic growth, high inflation rate, high population growth rate, lack of infrastructure, dominance of agriculture and rich in natural resources. In 1992, India joined ASEAN as dialogue partner and became member of ASEAN Regional Forum (ARF) in 1996. As developing nations, they are anxious enough to collaborate with each other so that they can solve their problems of material shortage, technological and industrial backwardness. These nations have very narrow regulations for controlling imports and generally price and quality are the determinants for fulfilling their import requirements. (asean.org)

The objectives of ASEAN countries are:

- To promote economic growth and social progress of members.
- To maintain regional peace, stability and justice.

- To collaborate and share assistance on matters of joint interest.
- To maintain cooperation with international organizations.
- To promote Southeast Asian studies.

MGC, on the other hand, was established in 2000 as a regional cooperation between six member nations including India with focus on economic and cultural association. The main focus areas of MGC are education, culture, tourism and transportation. ASEAN and Mekong Ganga Cooperation have five common member nations: Cambodia, LAOS PDR, Myanmar, Thailand and Vietnam. India has a history of strong cultural and trade relation with both MGC and ASEAN. A comparative analysis of trade between MGC and ASEAN will give a clear picture of areas where MGC can focus to improve its trade relations.

4.2 TRADE AT BILATERAL LEVEL

India and ASEAN trade including investment relations are growing gradually. Table 4.1 depicts trade between ASEAN and India.

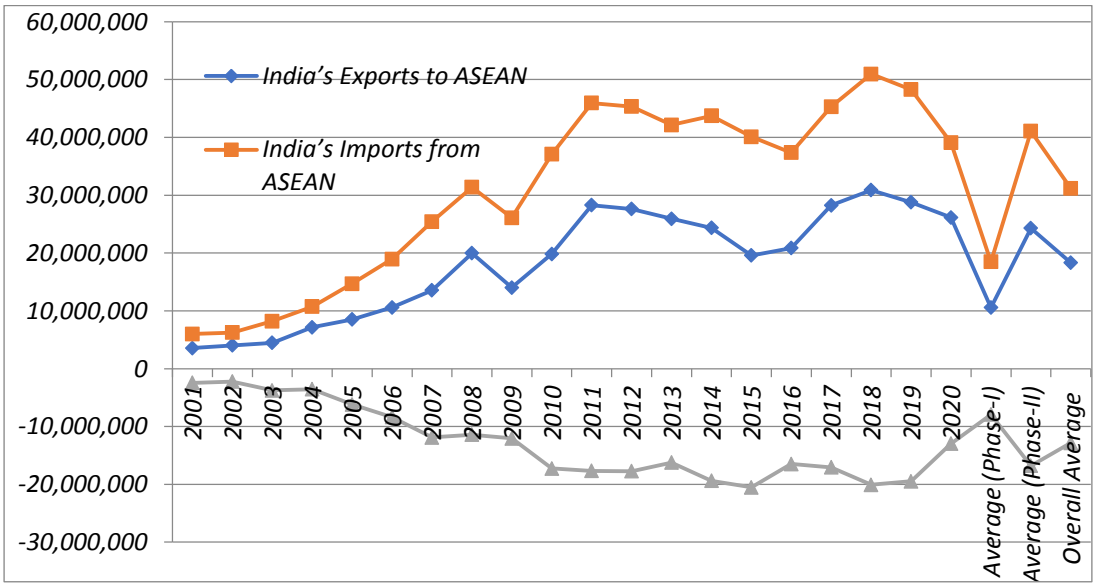
Table 4.1: India's Trade with ASEAN

During 2001 -2020 **US $ Thousands**

Year	Exports of India to ASEAN	Imports of India from ASEAN	Trade Balance with ASEAN
2001	35,61,146	60,01,097	-24,39,951
2002	40,32,124	62,55,608	-22,23,484
2003	44,68,339	82,25,496	-37,57,157
2004	71,65,343	1,07,27,106	-35,61,763
2005	85,20,290	1,46,94,020	-61,73,730
2006	1,05,90,934	1,89,55,070	-83,64,136
2007	1,35,58,056	2,54,43,413	-1,18,85,357
2008	1,99,74,924	3,13,81,335	-1,14,06,411
2009	1,40,31,053	2,60,89,181	-1,20,58,128
2010	1,98,34,017	3,70,98,234	-1,72,64,217

Year	Exports of India to ASEAN	Imports of India from ASEAN	Trade Balance with ASEAN
2011	2,82,68,918	4,59,39,586	-1,76,70,668
2012	2,76,05,682	4,53,25,671	-1,77,19,989
2013	2,59,28,579	4,21,62,239	-1,62,33,660
2014	2,43,43,734	4,37,21,632	-1,93,77,898
2015	1,96,02,081	4,01,08,749	-2,05,06,668
2016	2,08,77,328	3,73,52,293	-1,64,74,965
2017	2,82,66,106	4,53,17,903	-1,70,51,797
2018	3,08,87,898	5,09,65,946	-2,00,78,048
2019	2,87,93,820	4,82,58,006	-1,94,64,186
2020	2,61,57,879	3,91,10,947	-1,29,53,068
Average (Phase-I)	10573622.6	18487056	-7913433.4
Average (Phase-II)	24303672.96	41081044.2	-16777371.24
Overall Average	18323412.55	31156676.6	-12833264.05

Source: Author's calculations based on United Nations Commodity Trade Database. (UNCOMTRADE)



Source: Author's development based on data from United Nations Commodity Trade Database. (UNCOMTRADE)

Figure 4.1: Trade between India and ASEAN

Table 4.1 and fig 4.1 clearly depict that there has been an increase in India's trade with ASEAN under the period of study. But India has relied more on imports from ASEAN rather than exports. The trade balance has reflected negative balance throughout. The actual value of trade deficit has been US $ thousand 1,29,53,068 in 2020. Trade deficit was highest in 2015 and 2018. Total trade deficit has reduced in 2019-2020 due to impact of COVID 19 on trade worldwide.

A comparison of trade statistics of India with MGC it is evident that total trade of India with MGC is almost one third in 2020 and revamping of past years trade has also shown the same pattern. Trade between India and ASEAN has always stayed at three to four times of India's total trade with MGC in last two decades. Evidently, the reason of higher trade value with ASEAN is the involvement of more member nations as compared to MGC. Secondly, the members of ASEAN, especially Singapore and Malaysia are developed and rich countries and India's trade flows with these two countries are very high. MGC, on the other hand, is a comparatively smaller entity and members are also underdeveloped except Thailand, which has shown an exceptional rate of transformation by doing structural changes in its economy.

There has been export growth of India to ASEAN in phase II but there has been growth in imports as well which has created a deficit in trade. The value of trade deficit has increased from US $ thousand -1,07,23,630 in phase I to US $ thousand -1,13,73,616.

Table 4.2: Compound annual growth rates of India with ASEAN

(Per Cent)

Country	CAGR Exports (2001-2010)	CAGR Exports (2011-2020)	Av CAGR Exports	CAGR Imports (2001-2010)	CAGR Imports (2011-2020)	Av CAGR Imports
ASEAN	5.26	4.78	5.02	5.61	4.26	4.94
MGC	0.19	0.03	0.11	0.23	0.04	0.13

Source: Author's calculations based on United Nations Commodity Trade Database (UNCOMTRADE)

Table 4.2 substantiated the case further that India's trade with MGC is marginal as compared to ASEAN. The average CAGR of exports is 0.11 Per Cent with MGC as contrary to 5.02 Per Cent in case of ASEAN. The condition of imports is no better where the average compound annual growth rate of imports is 0.13 Per Cent with MGC as contrary to 4.94 Per Cent in case of ASEAN. Thus, the average year to year growth rate of exports and imports has almost five times greater in case of ASEAN as compared to MGC.

The year-on-year growth for both the entities have shown a pattern, in case of ASEAN the average CAGR of exports is more as compared to imports which means that India exports to ASEAN are showing more growth than imports, which indeed is a healthy sign in trade relations. On the contrary, India's average growth rate of imports from MGC is more as compared to exports. This may lead to further negative trade balances in years to come.

4.3 TRADE INTENSITY INDEX

TII is an important index to find out the importance of a country in the world's trade. It is calculated as one country's export share to its partner divided by world's export to its partner. The index value zero indicates no trade association between the partners and index value of unity or more means that trade flows are good.

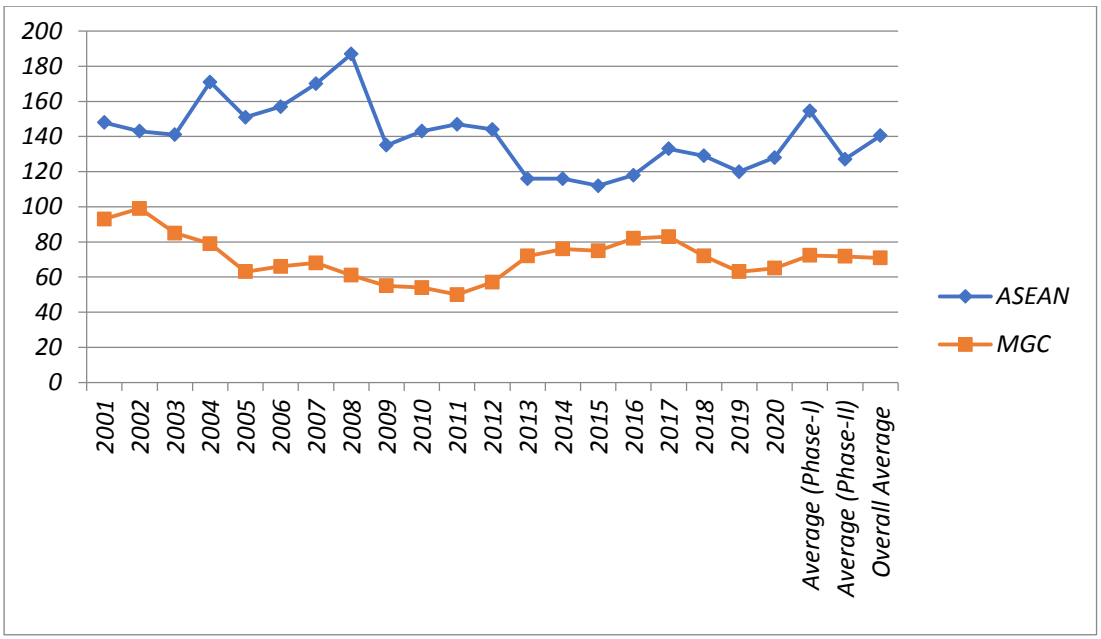
Table 4.3: TII of India with ASEAN and MGC

During 2001 -2020 **(Per Cent)**

YEAR	ASEAN	MGC
2001	148	93
2002	143	99
2003	141	85
2004	171	79
2005	151	63

YEAR	ASEAN	MGC
2006	157	66
2007	170	68
2008	187	61
2009	135	55
2010	143	54
2011	147	50
2012	144	57
2013	116	72
2014	116	76
2015	112	75
2016	118	82
2017	133	83
2018	129	72
2019	120	63
2020	128	65
Average (Phase-I)	*154.6*	*72.3*
Average (Phase-II)	*127.06*	*71.73*
Overall Average	*140.45*	*70.9*

Source: Author's calculations based on United Nations Commodity Trade Database (UNCOMTRADE)



During 2001-2020 **(Per Cent)**

Source: Author's development based on data from United Nations Commodity Trade Database. (UNCOMTRADE)

Figure 4.2: Trade Intensity Index of India with ASEAN and MGC

Table 4.4 and fig 4.2 show that trade flows of India with ASEAN has always remained more than unity during study period. The trade flows with MGC have comparatively remained very low.

Trade balance of India with ASEAN is in huge negative which means that India's imports from ASEAN is hugely greater than exports during the study period as compared to MGC.CAGR of ASEAN is five times greater than the MGC, signifying that year-on-year growth in trade is higher than MGC. Trade Intensity Index has remained more than unity throughout the period which again validate the fact that trade flows between India and ASEAN are better than MGC.

4.4 COMPARATIVE ANALYSIS OF INDIA'S TRADE WITH ASEAN AND MGC

India- ASEAN trade and investments are improving over the study period, Being ASEAN as the major trading partner. India's trade with ASEAN has increased from

95,62,243 thousand US $ in 2001 to 6,52,68,826 thousand US $ in 2020, which is 6 times increase. But the trade of India with ASEAN has been unfavorable during the study period as the imports of India has always been more than its exports. The year 2015 has witnessed the highest trade deficit. The compound annual growth rate of trade of India with ASEAN has increased but if we compare the year-on-year growth of MGC with ASEAN, the difference is huge. It shows that India is able to get benefits from various policies adopted as Look East Policy or advantages of AIFTA, but at the same time MGC nations are not as much benefited. Trade Intensity index between India and ASEAN is favorable throughout the study period. Singapore and Malaysia have maintained their position in preferred destinations for exports of India. Indonesia has also emerged as an important source of imports by India. But none of MGC nations have found place in top ten preferred destinations of India's trade.

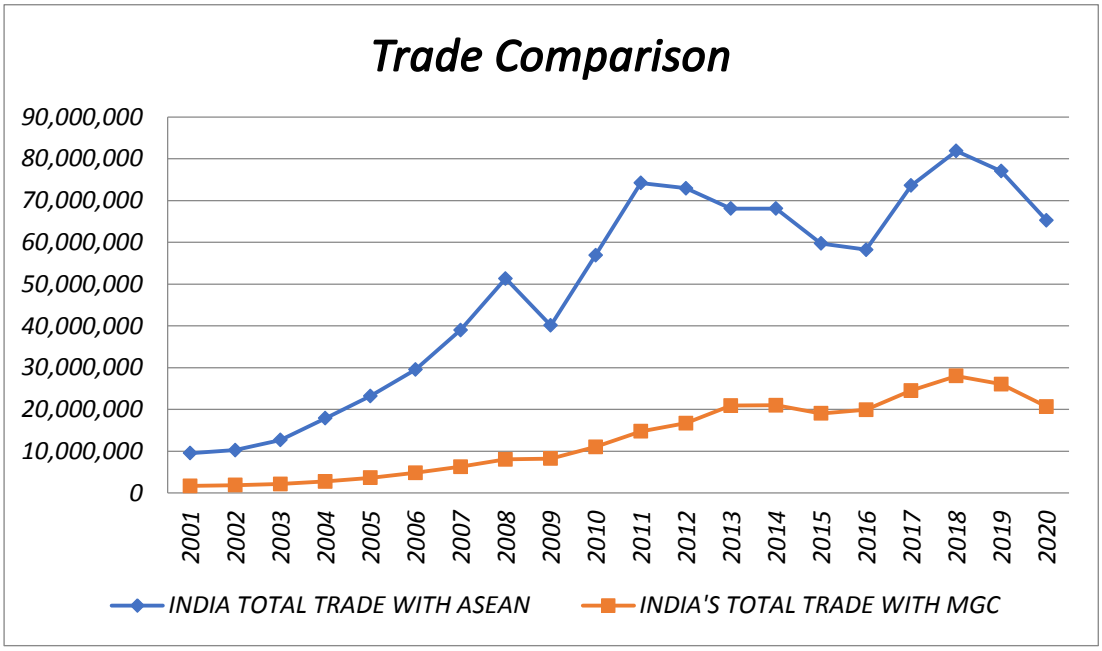
Table 4.4: India's total trade between ASEAN and MGC

US $ Thousands (2001-2020)

Year	Total Trade with ASEAN	Total Trade with MGC
2001	95,62,243	16,83,718
2002	1,02,87,732	18,85,302
2003	1,26,93,835	21,41,562
2004	1,78,92,449	27,56,462
2005	2,32,14,310	36,51,502
2006	2,95,46,004	48,14,813
2007	3,90,01,469	62,81,230
2008	5,13,56,259	80,61,124
2009	4,01,20,234	82,25,529
2010	5,69,32,251	1,10,41,215
2011	7,42,08,504	1,47,44,302
2012	7,29,31,353	1,67,21,326

Year	Total Trade with ASEAN	Total Trade with MGC
2013	6,80,90,818	2,09,24,834
2014	6,80,65,366	2,09,82,691
2015	5,97,10,830	1,90,29,006
2016	5,82,29,621	1,99,15,243
2017	7,35,84,009	2,45,42,693
2018	8,18,53,844	2,80,12,772
2019	7,70,51,826	2,60,71,047
2020	6,52,68,826	2,06,91,405

Source: Author's calculations based on United Nations Commodity Trade Database (UNCOMTRADE)



US $ Thousands (2001-2020)

Source: Author's development based on data from United Nations Commodity Trade Database. (UNCOMTRADE)

Figure 4.3 : India's Trade with ASEAN And MGC Countries

From the figure 4.3, it is clear that the level of India's total trade with ASEAN is comparatively very high as compared to India's trade with MGC. The line graph ASEAN is showing upward trend except decline in 2008 -2009 due to worldwide depression in trade. There is a steep rise in total trade after 2010 due to signing AIFTA. Again in 2019-2020 the line has shown downward trend due to decline in global trade due to COVID 19. The trade line of MGC has stayed below the trade line of ASEAN, signifying a huge difference in value of total trade.

4.5 CONCLUSION

A comparative analysis of both entities shows that even though five member nations of MGC are members of ASEAN out of total ten members even then the condition of bilateral trade between India and MGC is grim as compared to bilateral trade relations of India with ASEAN. The reason is clear that India is trading more with non MGC member nations in ASEAN like Singapore, Indonesia and Malaysia. India signed an agreement on economic cooperation with Singapore, Comprehensive economic cooperation agreement (CECA) 2005 which has resulted in boosting the trade. Followed by Indonesia and Malaysia due to presence many positive factors like strong air connectivity, friendly relations and Banking and Financial sector reforms. Complementary economic structure of ASEAN can provide mutual gains for both. ASEAN markets are opening new opportunities for Indian products in future and a slow and steady approach will bring fruitful results in future. Mutual trade intensity index always remained more than desired level as far as India ASEAN trade is concerned.

In order to improve and ripen the similar benefits from MGC, India should try to strengthen its air connectivity, banking and financing support and economic cooperation agreements with MGC member nations too. There is need to resolve the political and border unrest with member nations like Myanmar and Vietnam.

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Chapter – 5

INTRA INDUSTRY TRADE BETWEEN INDIA AND MGC NATIONS

This chapter has focused on studying the Intra Industry trade of India with countries of MGC and further analyzing the empirical relationship between IIT and various determinants with the help of panel data for the period 2001 to 2020 at HS 2-digit code at sectoral level.

5.1 INTRA INDUSTRY TRADE : AN OVERVIEW

Economies with large differences in opportunities and production costs should exchange goods to get advantage as suggested by economic theory on comparative advantage. But similar high-income economies are involved in trade of similar goods. This is known as Intra industry trade when trade of goods within the same industry from one country to other takes place. This is attributable to two reasons (i) Division of labor which leads to specialization and innovation. (ii) Economics of scale. The intra industry trade facilitates the splitting up of value chain. The specialization allows different countries to specialize on a particular part of value chain and then exchange with other countries. Economies of scale is another reason for reduction in costs and increase in intra industry trade.

(https://www.researchgate.net/publication/290821134_Comparative_Advantage).

Intra Industry trade between nations depends on many factors like (i) GDP Per capita income; higher the per capita income leads to higher demand of variety means higher level of Intra Industry trade.(ii) Economic development of countries; higher the stage of development higher is the level of Intra Industry trade.(iii) Size of country; countries with large GDP offer huge markets thus high level of Intra Industry trade.(iv) Level of integration; countries which are part of some regional trading zone, Free trade agreements etc have high Intra Industry trade (v) Geographical proximity; countries having common borders have high level of Intra Industry trade. A country can lower the number of related goods produces Higher IIT ratios, indicate

that these sources of gains are being exploited in the form of innovation, specialization and economies of scale by engaging in IIT.

5.2 INTRA INDUSTRY TRADE: INDIA AND MGC

India and MGC trade are growing gradually and following analysis presents the level of Intra Industry trade at sectoral level for the study period i.e., 2001 to 2020.The trade between all MGC nations have grown over the years, although at different rates depending upon their level of development, GDP, population growth and various other economic and political factors. We will analyze the Intra Industry trade of India with each MGC nations individually at sectoral level and find out the sectors with high level of IIT trade. The gravity model analysis is done to examine determinants of IIT index for the study period.

5.2.1 Intra Industry Trade of India and Cambodia

India and Cambodia relations are very old and date back when Hinduism and Buddhism paved its path in Cambodia. Trade relations between both the countries have grown with trade balance from 9434 thousand US $ in 2001 to 1,05,857 thousand US $ in 2020. India is exporting more to Cambodia than imports. Major exports of India to Cambodia are pharmaceutical products, yarn, leather and some engineering products. India's imports from Cambodia are dominated by primary products and textiles. Cambodia's major trading partners are United States and Singapore. Trade between India and Cambodia has not flourished much due to lack of infrastructure and economic problems of Cambodia. The economy of Cambodia is dependent on primary sector and the labour is unskilled which hampers the industrial sector and foreign trade. The following table lays down the data of IIT.

Table 5.1: Intra Industry Trade index between India and Cambodia

At HS 2-digit code **During (2001-2020)**

Codes	Product label	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
01 to 05	Animal & Animal goods	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06 to 15	Vegetable Products	0.00	0.21	0.00	0.00	0.90	0.15	0.21	0.80	0.06	0.02	0.32	0.58	0.03	0.12	0.12	0.39	0.49	0.81	0.92	0.60
16 to 24	Foodstuffs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.42	0.27	0.20	0.17
25 to 27	Mineral Products	0.00	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.11	0.07	0.00	0.00	0.00	0.00	0.00
28 to 38	Chemicals & Allied Industries	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.01	0.00	0.00	0.01	0.03	0.05	0.02	0.01	0.00
39 to 40	Plastics / Rubbers	0.15	0.02	0.00	0.03	0.00	0.01	0.00	0.00	0.13	0.65	0.81	0.93	0.80	0.33	0.94	0.60	0.47	0.55	0.74	0.99
41 to 43	Animal Skin Hides, Leather, & Furs	0.00	0.00	0.00	0.01	0.06	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.01	0.02	0.01	0.02	0.23	0.07	0.16	0.14

Codes	Product label	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
44 to 49	Wood & Wood Products	0.00	0.19	0.00	0.76	0.14	0.00	0.00	0.02	0.03	0.52	0.19	0.24	0.21	0.00	0.12	0.17	0.82	0.92	0.93	0.45
50 to 63	Textiles	0.00	0.01	0.02	0.02	0.03	0.01	0.01	0.02	0.05	0.02	0.04	0.16	0.28	0.33	0.37	0.69	0.67	0.76	0.85	0.92
64 to 67	Footwear / Headgear	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.01	0.46	0.20	0.10	0.12	0.09	0.09	0.10
68 to 71	Stone / Glass	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.03	0.11	0.53	0.65	0.03	0.18	0.03	0.00	0.06	0.32	0.20
72 to 83	Metals	0.38	0.91	0.00	0.39	0.00	0.89	0.00	0.18	0.07	0.00	0.02	0.01	0.20	0.35	0.48	0.08	0.04	0.00	0.11	0.05
84 to 85	Machinery / Electrical	0.05	0.33	0.02	0.07	0.01	0.04	0.01	0.00	0.04	0.02	0.09	0.08	0.07	0.06	0.01	0.02	0.07	0.06	0.59	0.69
86 to 89	Transp-ortation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.81	0.00	0.00	0.00	0.04	0.07	0.14	0.86	0.60	0.37	0.05	0.00	0.00
90 to 99	Miscell-aneous	0.00	0.01	0.03	0.10	0.11	0.01	0.01	0.02	0.00	0.03	0.09	0.11	0.20	0.01	0.11	0.14	0.62	0.52	0.55	0.12

Source: Author's calculations based on data from United Nations Commodity Trade Database (UNCOMTRADE)

Table 5.1 shows that IIT index for sector Plastic and rubbers is nearly unity in the year 2020, which means that there is pure intra industry trade between India and Cambodia in this sector. The products traded in this sector are polythene, ethylene, polymers, tires, tubes, hoses, belts, surgical gloves etc. There has been a major shift from pure inter industry trade to pure intra industry trade in this sector from 2001 to 2020.The demand for natural rubber has increased in recent years for making industrial and automobile parts. In Cambodia, natural rubber industry has been addressed as strategic industry in the national economic policy. The cost of production is low in Cambodia as compared to other rubber producing countries like Myanmar and Thailand. The plantation areas have been increased since 2000 to meet the demand of natural rubber. The international prices of natural rubber have increased in since 2000 (Hirohata, 2015). The second important sector in with high IIT index of 0.92 is Textiles and manmade textile articles. Cambodia earns 15 per cent of its GDP from garment industry. It has advantage of low-cost labor but it is able to satisfy only 1 percent of world's garment demand because of low productivity of unskilled labor. (Monineath, Singhapreecha, 2016). Then followed by Machinery and Electrical product lines including machinery, mechanical appliances, nuclear reactors, boilers, electrical machinery & equipment, sound recorders and television etc. Intra industry trade has been high in case of vegetable products including coffee, tea, spices, cereals, edible vegetables and fruits, oil seeds, lacs and gums etc. Cambodia has large area under plantation of vegetable products and enjoys economies of scale. IIT index has stayed at 0 for animals and animal products, mineral, chemicals and transportation representing that trade is pure inter industry.

5.2.2 Intra Industry Trade: India and LAOS PDR

Table 5.2 below has revealed pure inter industry trade in most of the sectors and only one sector i.e Vegetable products including coffee, tea, spices, cereals, edible vegetables and fruits, oil seeds, lacs and gums etc. has shown IIT index above average i.e 0.61. LAOS is an agricultural economy and rich in forestry and aquaculture. The cultivation of paddy, coffee, tea and vegetables is given priority The reason for low IIT index is because of low economic development of LAOS and less volume of trade between both the nations. LAOS has been adversely affected by US - Vietnam war and many land areas are having unexploded bombs which hinders `cultivation. (Kethongsa, 2014)

Table 5.2: Intra Industry Trade index between India and LAOS PDR

At HS 2-digit code **During (2001-2020)**

Codes	Product label	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
01 to 05	Animal and animal products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06 to 15	Vegetable Products	0.00	0.92	0.72	0.00	0.00	0.02	0.51	0.00	0.02	0.00	0.20	0.80	0.00	0.58	0.00	0.98	0.15	0.22	0.00	0.61
16 to 24	Foodstuffs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.53	0.00	0.00	0.00	0.00	0.00	0.18	0.11	0.00	0.00
25 to 27	Mineral Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28 to 38	Chemical industry	0.00	0.00	0.00	0.05	0.16	0.19	0.00	0.01	0.02	0.02	0.10	0.02	0.04	0.01	0.02	0.14	0.17	0.04	0.03	0.00
39 to 40	Plastics / Rubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.01	0.40	0.34	0.00	0.96	0.75	0.00	0.00	0.00
41 to 43	Leather, raw hides, skin and fur	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00

Codes	Product label	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
44 to 49	Wood and Wooden products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.24	0.46	0.89	0.36	0.72	0.02	0.01	0.02	0.01	0.23	0.20	0.14
50 to 63	Textiles	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.00	0.00	0.00	0.11	0.46	0.11	0.11	0.73	0.08	0.00	0.34	0.45
64 to 67	Footwear / Headgear	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90	0.00
68 to 71	Stone / Glass	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.17	0.00
72 to 83	Metals	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.08	0.02	0.10	0.00	0.50	0.16	0.24	0.52	0.02	0.32	0.29
84 to 85	Machinery / Electrical	0.00	0.00	0.00	0.00	0.00	0.06	0.01	0.94	0.01	0.00	0.07	0.86	0.01	0.00	0.54	0.01	0.02	0.03	0.13	0.01
86 to 89	Trans-portation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90 to 99	Miscell-aneous	0.00	0.00	0.91	0.86	0.00	0.00	0.00	0.83	0.00	0.00	0.00	0.01	0.00	0.00	0.07	0.00	0.00	0.04	0.00	0.37

Source: Author's calculations based on data from United Nations Commodity Trade Database (UNCOMTRADE)

5.2.3 Intra Industry Trade between India and Myanmar

The geographical proximity between India and Myanmar has helped in making better trade relations and facilitated people-to people links. It is a proven fact that Nations with common border tend to trade more due to hassle free transportation, lesser costs of insurance etc. India values the relations with Myanmar due to its strategic location and common border. India needs support of Myanmar in dealing with security issues and flushing out terrorism from its territory. Many joint projects have been started between both the nations. Construction of highway connecting India with Myanmar and development of sea ports are some of the quick projects which are under process. These steps will have a positive impact on the bilateral trade between both the nations. India's imports from Myanmar are dominated by agricultural items such as beans, pulses and forest-based products, covering about 90 per cent of total imports. India's main exports to Myanmar are steel and pharmaceuticals products. Economic cooperation pertains to a vast area covering trade, border trade, investment, energy, infrastructure and other joint projects. The following table lays down the data of IIT index calculated for trade between India and Myanmar for the period 2001 to 2020.

Table 5.3 : Intra Industry Trade Index between India and Myanmar

At HS 2 Digit Code **During (2001-2020)**

Codes	Product Label	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
01 to 05	Animal & Animal Products	0.95	0.58	0.36	0.09	0.67	0.69	0.21	0.79	0.55	0.31	0.33	0.39	0.35	0.66	0.50	0.24	0.36	0.06	0.15	0.47
06 to 15	Vegetable Products	0.01	0.04	0.03	0.05	0.03	0.01	0.01	0.04	0.00	0.00	0.01	0.02	0.07	0.04	0.03	0.03	0.05	0.10	0.14	0.12
16 to 24	Foodstuffs	0.06	0.21	0.00	0.00	0.36	0.00	0.20	0.03	0.54	0.17	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.20
25 to 27	Mineral Products	0.00	0.00	0.00	0.00	0.00	0.29	0.11	0.00	0.00	0.09	0.84	0.28	0.37	0.10	0.16	0.16	0.03	0.00	0.03	0.03
28 to 38	Chemicals & Allied Industries	0.02	0.07	0.18	0.01	0.00	0.00	0.00	0.03	0.00	0.01	0.28	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39 to 40	Plastics / Rubbers	0.20	0.11	0.01	0.10	0.74	0.38	0.23	0.07	0.08	0.21	0.53	0.45	0.02	0.05	0.02	0.09	0.09	0.36	0.59	0.63
41 to 43	Raw Hides, Skins, Leather, & Furs	0.49	0.82	0.84	0.46	0.61	0.87	0.88	0.77	0.88	0.34	0.69	0.92	0.54	0.74	0.60	0.51	0.87	0.87	0.46	0.48

Codes	Product Label	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
44 to 49	Wood & Wood Products	0.02	0.04	0.01	0.01	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.05	0.04	0.04	0.10	0.11	0.15
50 to 63	Textiles	0.57	0.07	0.00	0.00	0.23	0.00	0.08	0.00	0.00	0.04	0.13	0.07	0.00	0.00	0.00	0.00	0.03	0.08	0.12	0.25
64 to 67	Footwear / Headgear	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.44	0.03	0.00	0.00	0.04	0.06	0.12	0.22	0.22	0.52
68 to 71	Stone / Glass	0.82	0.33	0.20	0.03	0.55	0.33	0.24	0.04	0.04	0.75	0.59	0.47	0.01	0.01	0.01	0.01	0.01	0.05	0.10	0.57
72 to 83	Metals	0.02	0.01	0.01	0.02	0.02	0.00	0.00	0.00	0.01	0.02	0.10	0.12	0.00	0.00	0.00	0.13	0.49	0.44	0.61	0.26
84 to 85	Machinery / Electrical	0.16	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.40	0.20	0.01	0.00	0.01	0.01	0.01	0.02	0.03	0.07
86 to 89	Transp-ortation	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.15	0.00	0.00	0.00	0.90	0.01	0.02	0.03	0.01
90 to 99	Miscell-aneous	0.00	0.32	0.66	0.16	0.16	0.03	0.03	0.03	0.39	0.24	0.92	0.45	0.15	0.09	0.08	0.12	0.09	0.08	0.6	0.04

Source: Author's calculations based on data from United Nations Commodity Trade Database (UNCOMTRADE)

From table 5.3 it is clear that only three sectors have IIT index above average, Plastic and rubbers has IIT 0.63. There has been a major shift in this sector from inter industry trade to intra industry trade during the study period as the IIT index was 0.20 in 2001.Other two sectors with IIT more than average are Stone and Glass articles with IIT of 0.57 including product lines of stone, plaster, cement, mica, ceramic and glassware and Footgear/Headgear with IIT index of 0.52, including footwear, gaiters. Headgears, umbrellas, sticks and artificial flowers. Myanmar has consistent advantage in natural resource industry specifically natural gas, precious stones, beans, pulses and rubber. In fishery (Kim, Thunt 2017)

5.2.4 Intra industry trade between India and Thailand

India and Thailand have many cultural similarities. Trade and economic linkages and tourist traffic continue to grow steadily. Trade between India and Thailand has flourished in all the sectors because both the nations are developing rapidly. India has many synergies with Thailand in automobile sectors and Electronics. Many Indian companies are operating in Thailand in automobile, Pharmaceuticals and Iron and steel sector. Thai companies are operative in India to promote trade in both the nations. Thailand has a dominant position ASEAN as well along with Malaysia and Singapore. Trade between these two nations can uplift the development of the region. The following table lays down the data of IIT index between both the countries.

Table 5.4: Intra Industry Trade index between India and Thailand

At HS 2- digit code **During (2001-2020)**

Codes	Product label	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
01 to 05	Animal and animal products	0.05	0.09	0.08	0.06	0.10	0.02	0.04	0.03	0.02	0.06	0.03	0.02	0.01	0.00	0.01	0.01	0.01	0.01	0.02	0.02
06 to 15	Vegetable Products	0.91	0.73	0.56	0.83	0.56	0.90	0.61	0.91	0.96	0.96	0.72	0.44	1.00	0.71	0.35	0.29	0.82	0.82	0.74	0.79
16 to 24	Foodstuffs	0.10	0.23	0.31	0.23	0.30	0.33	0.25	0.10	0.79	1.00	0.41	0.30	0.27	0.65	0.94	0.84	0.99	0.87	0.95	0.86
25 to 27	Mineral Products	0.65	0.12	0.26	0.85	0.89	0.53	0.38	0.45	0.50	0.51	0.58	0.48	0.54	0.79	0.82	0.70	1.00	0.72	0.97	0.46
28 to 38	Chemical and allied ..	0.37	0.44	0.48	0.61	0.62	0.83	0.77	0.78	0.97	0.77	0.71	0.78	0.85	0.75	0.90	0.86	0.78	0.85	0.84	0.99
39 to 40	Plastics / Rubbers	0.34	0.20	0.17	0.17	0.17	0.21	0.16	0.17	0.14	0.13	0.17	0.16	0.16	0.16	0.17	0.19	0.19	0.19	0.22	0.24
41 to 43	Raw hides, skin, leather and fur	0.06	0.22	0.11	0.21	0.46	0.45	0.48	0.67	0.93	0.81	0.95	0.85	0.78	0.92	0.49	0.54	0.48	0.39	0.44	0.53

Codes	Product label	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
44 to 49	Wood and wooden products	0.64	0.42	0.54	0.42	0.25	0.23	0.16	0.28	0.39	0.40	0.34	0.32	0.41	0.47	0.42	0.55	0.43	0.36	0.46	0.57
50 to 63	Textiles	0.78	0.68	0.68	0.73	0.70	0.89	0.97	0.94	0.90	0.96	0.99	0.80	0.75	0.95	1.00	0.83	0.82	0.81	0.84	0.87
64 to 67	Footwear / Headgear	0.27	0.11	0.14	0.21	0.05	0.73	0.90	0.74	0.52	0.97	0.98	0.19	0.29	0.65	0.52	0.77	0.66	0.57	0.55	0.50
68 to 71	Stone / Glass	0.17	0.13	0.22	0.29	0.25	0.36	0.39	0.52	0.59	0.66	0.82	0.84	0.54	0.35	0.39	0.43	0.45	0.83	0.96	0.84
72 to 83	Metals	0.09	0.12	0.20	0.27	0.39	0.37	0.58	0.52	0.45	0.46	0.39	0.33	0.26	0.38	0.43	0.44	0.44	0.46	0.43	0.41
84 to 85	Machinery / Electrical	0.49	0.30	0.46	0.48	0.65	0.64	0.66	0.72	0.82	0.90	0.76	0.77	0.67	0.79	0.85	0.83	0.86	0.81	0.80	0.71
86 to 89	Transp–ortation	0.00	0.01	0.04	0.06	0.06	0.04	0.03	0.06	0.07	0.12	0.09	0.10	0.08	0.12	0.14	0.14	0.16	0.13	0.13	0.10
90 to 99	Miscell-aneous	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.04	0.04	0.11	0.05	0.03	0.03	0.03	0.02	0.02	0.02	0.02

Source: Author's calculations based on data from United Nations Commodity Trade Database (UNCOMTRADE)

Table 5.4 depicts a very promising statistics of Intra industry trade with Chemical and allied sector having pure intra industry trade and IIT index is 0.99 and this sector has witnessed intra industry trade throughout the period of the study. Textile is another sector with high intra industry trade with IIT index of 0.87, and the trend has shown that it has remained high during study period with at peak in 2015 with IIT index of 1. Even Foodstuff sector has witnessed intra industry trade during this period comprising of meat, fish, aquatic invertebrates, sugar, cocoa, cereals, flour, vegetables, fruits, nuts, edible preparations, beverages, vinegar animal fodder and tobacco. Stone and Glass sector too has intra industry trade with IIT index of 0.84 including product lines of stone, plaster, cement, mica, ceramic and glassware. Vegetable products sector with product lines coffee, tea, spices, cereals, edible vegetables and fruits, oil seeds, lacs and gums etc. are showing high intra industry trade. Machinery and electrical sector have also shown a trend of high intra industry trade. Out of fifteen sectors nine have shown IIT index above average. Thailand has become an important player in global economy because of its market size and trade openness. Trade liberalization, export led policy, productivity improvement and skill enhancement has attracted investors from world. India's Look East policy and Thailand's Look West policy is contributing to prosperous trade relations between both of these nations. In MGC Thailand ranks as the largest trading partner of India. Thai goods have benefitted from tax reduction under FTA i.e., 2010. Early harvest scheme between India and Thailand since 2004 has boosted bilateral trade. Both the countries have adopted reduced tariff rates for each other. Many Indian companies are working in Thailand e.g., TATA, Mahindra, Birla, Dabur, Ranbaxy, Lupin and Kirloskar. Similarly, many Thai companies are working in India like Charoen Pokphand, Italian Thai Development PCL and Krung Thai Bank. There is an active India Thai joint commission and Chamber of commerce to boost trade and economic development. Air connectivity between India and Thailand has grown reflecting growing traffic of tourists and entrepreneurs. (ambessayofindiabangkok.gov.in)

5.2.5 Intra Industry Trade between India and Vietnam

Major imports of India from Vietnam are Electrical and Machinery, Chemicals, vegetable and mineral products. Major exports of India to Vietnam are iron and steel,

meat, cotton, electrical and mechanical products, oil and seeds, pharmaceuticals and organic products. Bilateral trade between India and Vietnam has seen steady growth over the years. India is now among the top ten trading partners of Vietnam. The two sides decided to make economic cooperation a strategic thrust in the India-Vietnam Strategic Partnership. Based on the excellent relations and with the desire to contribute to regional peace, stability, cooperation and prosperity, Vietnam and India agreed to elevate the Strategic Partnership to a 'Comprehensive Strategic Partnership'. The ASEAN-India Free Trade Area (AIFTA), which Vietnam is a part of, was established in 2009 as a result of convergence in interests of all parties in advancing their economic ties across the Asia-Pacific. The following table lays down the data of IIT index calculated for trade between India and Vietnam for the period 2001 to 2020.

Table 5.5: Intra Industry Trade index between India and Vietnam

At HS 2-digit code **During (2001-2020)**

Codes	Product label	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
01 to 05	Animal & Animal Products	0.00	0.00	0.00	0.00	0.05	0.01	0.00	0.00	0.01	0.02	0.02	0.03	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.03
06 to 15	Vegetable Products	0.82	0.76	0.85	0.92	0.21	0.59	0.80	0.58	0.65	0.57	0.38	0.30	0.41	0.51	0.76	0.66	0.57	0.68	0.98	0.98
16 to 24	Foodstuffs	0.00	0.00	0.00	0.04	0.01	0.03	0.00	0.00	0.01	0.02	0.04	0.11	0.10	0.21	0.33	0.39	0.38	0.44	0.55	0.69
25 to 27	Mineral Products	0.04	0.01	0.89	0.81	0.72	0.39	0.42	0.21	0.63	0.26	0.56	0.42	0.87	0.80	0.89	0.50	0.97	0.80	0.87	0.92
28 to 38	Chemicals & Allied Industries	0.03	0.06	0.05	0.08	0.17	0.17	0.17	0.33	0.32	0.35	0.46	0.54	0.52	0.64	0.81	0.91	0.94	0.87	0.99	0.77
39 to 40	Plastics / Rubbers	0.07	0.07	0.10	0.08	0.26	0.18	0.20	0.38	0.57	0.99	0.85	0.79	0.85	0.91	0.71	0.70	0.83	0.85	0.62	0.88
41 to 43	Raw Hides, Skins, Leather, & Furs	0.19	0.04	0.03	0.02	0.02	0.08	0.06	0.13	0.12	0.14	0.25	0.19	0.17	0.23	0.26	0.44	0.44	0.49	0.52	0.52
44 to 49	Wood & Wood Products	0.50	0.13	0.87	0.56	0.98	0.97	0.95	0.93	0.72	0.93	0.67	0.57	0.79	0.58	0.72	0.93	0.57	0.82	0.95	0.80

Codes	Product label	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
50 to 63	Textiles	0.04	0.07	0.25	0.11	0.17	0.23	0.16	0.18	0.52	0.27	0.38	0.40	0.33	0.32	0.57	0.62	0.64	0.64	0.97	0.70
64 to 67	Footwear / Headgear	0.73	0.48	0.79	0.43	0.25	0.14	0.20	0.12	0.20	0.08	0.18	0.12	0.14	0.28	0.41	0.22	0.11	0.08	0.07	0.09
68 to 71	Stone / Glass	0.45	0.02	0.92	0.60	0.58	0.47	0.78	0.87	0.68	0.16	0.22	0.70	0.70	0.61	0.43	0.53	0.24	0.17	0.25	0.13
72 to 83	Metals	0.07	0.01	0.00	0.02	0.06	0.12	0.12	0.16	0.05	0.59	0.99	0.73	0.33	0.98	0.85	0.90	0.92	0.58	0.85	0.66
84 to 85	Machinery / Electrical	0.08	0.40	0.56	0.65	0.53	0.49	0.45	0.80	1.00	0.56	0.48	0.24	0.20	0.39	0.40	0.43	0.45	0.20	0.16	0.20
86 to 89	Transp-ortation	0.00	0.01	0.01	0.07	0.03	0.73	0.06	0.61	0.22	0.09	0.84	0.81	0.93	0.42	0.32	0.91	0.63	0.42	0.26	0.32
90 to 99	Miscell-aneous	0.09	0.08	0.15	0.21	0.34	0.53	0.62	0.81	0.86	0.63	0.29	0.27	0.35	0.26	0.96	0.66	0.25	0.50	0.47	0.57

Source: Author's calculations based on data from United Nations Commodity Trade Database (UNCOMTRADE)

India Vietnam economic relations are strategically important. India has signed a nuclear agreement in 2016 and two nations have agreed to take substantive measures to boost bilateral trade. A joint sub commission on trade was set up in 2016. Many Indian Private companies like Ranbaxy and Godrej have established their presence in Vietnam. (Pant 2018). Intra Industry trade between India and Vietnam is high in the sectors of vegetable products with IIT index of 0.98 and it has remained high in all the years under study period. Followed by sector of Mineral products with IIT index of 0.92 including product lines of salt, Sulphur, limes, cement, ores and mineral oils.

5.3 COMMODITIES CLASSIFICATION WITH IIT INDEX

Intra Industry trade can be horizontal if the similar products at the same level of processing with difference in quality are traded. In case of vertical intra industry trade the products are similar but level of processing is at different stage.

Table 5.6: Commodities classifications with IIT index value India and MGC During (2001-2020)

Codes	Product Label	Cambodia	Laos	Myanmar	Thailand	Vietnam
01 to 05	Animal and Animal goods	0.00	0.00	0.44	0.03	0.01
06 to 15	Vegetable Products	0.34	0.29	0.04	0.73	0.65
16 to 24	Foodstuffs	0.07	0.07	0.09	0.54	0.17
25 to 27	Mineral Products	0.03	0.00	0.12	0.61	0.60
28 to 38	Chemical industry	0.01	0.05	0.04	0.75	0.46
39 to 40	Plastics / Rubbers	0.41	0.13	0.25	0.19	0.54
41 to 43	Raw hide, leather, skin and fur	0.04	0.00	0.68	0.54	0.22
44 to 49	Wood & Wood Products	0.29	0.21	0.03	0.40	0.75

Codes	Product Label	Cambodia	Laos	Myanmar	Thailand	Vietnam
50 to 63	Textiles	0.26	0.14	0.08	0.84	0.38
64 to 67	Footwear / Headgear	0.06	0.05	0.09	0.52	0.26
68 to 71	Stone / Glass	0.11	0.05	0.26	0.50	0.48
72 to 83	Metals	0.21	0.12	0.11	0.37	0.45
84 to 85	Machinery / Electrical	0.12	0.14	0.05	0.70	0.43
86 to 89	Transportation	0.15	0.00	0.09	0.08	0.38
90 to 99	Miscellaneous	0.14	0.15	0.21	0.03	0.45

Source: Author's development based on data from United Nations Commodity Trade Database. (UNCOMTRADE)

From the table 5.6, it is clear that intra industry trade between India and MGC nations is vertical average as value of IIT for the study period is coming less than unity. Thus, trade is done vertically in those products which are differentiated by quality and price. India has got advantage in vertical intra industry trade with all MGC member nations. The involvement of nations in vertical IIT is based on comparative advantage. Trade is done in homogeneous goods and it enhances the industrial capabilities of producing high quality goods at cheaper rates due to economies of scale and managerial capabilities. Indian industries can learn from the experience and innovate products. Industries can specialise in specific part of supply chain.

5.4 GRAVITY MODEL FOR INTRA INDUSTRY TRADE

Gravity model is largely used in analyses of international trade, which is based on the gravitational force law of Newton. Jagdambe and Kannan (2020) used gravity model to analyze the effects of FTA on trade in agriculture sector of ASEAN countries. The model was further used by Das and Guha (2021) and observed that dummy variable

of common border and language have positive relation with trade development between trading partners. This model is used to explain the intra industry trade flows between India and MGC. The present research has first determined sectoral IIT index of India with MGC nations over the study period 2001 to 2020 and then following panel data model is estimated to explore the determinants of India's bilateral IIT for 2001-2020. The independent variables studied are Total Trade, Distance, GDP, Relative Importance, Foreign Direct Investments, Border and Free Trade agreements.

5.4.1 Hypothesis

On the basis of observed literature, the following hypothesis are framed:

H_1 : IIT and total trade between partner nations have positive correlation.

H_2 : GDP of the trading partners have positive correlation with IIT.

H_3 : IIT were increase with the increase in the total population of trading partners.

H_4 : There is a positive correlation between FDI and IIT between trading partners.

H_5 : Higher the geographical distance between nations, lower were be the IIT.

H_6 : IIT were increase with existence of dummy variables of common border and FTA.

Table 5.7: Gravity Model results

Independent Variables	Ordinary least square (OLS)	Random effect Generalised least square (GLS)
Trade	0.0192	-0.0037
GDP	0.0693	0.5903
Scale	-0.5613	0.1099
FDI	0.0214	0.0047
Distance	0.0002	-0.0001
Border	0.7361	0.2591
FTA	0.5712	0.6215
Constant	18.18	-3.09
Adjusted R_square	0.65	-
R_square	0.68	-

Gravity Model estimates under Ordinary Least Squares method along with the estimated parameters are presented below. Overall R- squared value is 0.68 and Adjusted R-squared value is 0.65. These values imply that coefficients are significant.

$$LIIT_{it} = 18.18 \text{ constant} + 0.0192\ TRADE_{it} + 0.0693\ GDPDIS_{it} - 0.5613\ SCALE_{it} + 0.0214\ FDI_{it} + 0.0002\ LDIST_{it} + 0.7361\ BORDER + 0.5712\ FTA$$

H_1 : IIT and total trade between partner nations have positive correlation.

There is direct relationship between total trade and IIT because as the trade flow increase the trade of similar products will take place between partner nations. Economies of scale and specialization play an important role in increasing production and total trade flows between nations. From the equation it is clear that there exists a positive relation between dependent variable IIT and independent variable total trade. Thus, the hypothesis is proved.

H_2 : GDP of the trading partners have positive correlation with IIT.

Nations with high GDP will have similar life styles and demands consequently IIT has direct relationship with GDP of trading partners. The variable value is 0.693 which proves the hypothesis.

H_3 : IIT will increase with the increase in the total population of trading partners.

With increase in population the Intra Industry trade will not increase. The value of variable in Gravity model estimate is -0.5613, thus disproving the hypothesis. The demand of products is not solely dependent on scale of population but also on the quality of population and their life style.

H_4 : There is a positive correlation between FDI and IIT between trading partners.

FDI improves the technological know-how and brings innovation in Industry. There are chances of diversification. With 0.0214 value of variable as per Gravity Model Estimate the relation is positive. Thus, hypothesis is proved.

H_5 : Higher the geographical distance between nations, lower will be the IIT.

Gravity model states that bilateral trade is inversely proportional to the distance between trading economies. More distances increase transportation costs and communication charges, which will increase prices and reduce their competitiveness, thus having a pessimistic impact on trade volume. But in the model the variable is found unproductive with very little value of 0.0002.

H_6: IIT will increase with existence of dummy variables of common border and FTA.

Sharing of common border and signing of trade agreements has a positive influence on trade. From the above equation, it is clear that common border and FTA are having positive values of 0.7361 and 0.5712 which indicates there is positive relationship between Intra industry trade, common border and foreign trade agreements.

5.5 CONCLUSION

From the equation it is clear that major factors that positively affects Intra Industry trade flows are Common border and Free trade agreements. India shares common border with Myanmar. Large scale countries in terms of GDP and population tend to trade more. Distance has negative impact on bilateral trade flows theoretically, which is proved in the estimation. Dummy variables, such as sharing a common language and common land border show a significant impact on bilateral trade flows.

MGC nations are rich in natural and human resources but they have remained underdeveloped and potential of trade is not fully exploited because of many social, economic and political issues. The exploitation of inter-regional trade is obstructed by many tariff and non-tariff barriers, poor communication, transportation links and lack of financing and lack of supply capacity with smaller nations. There is need that member nations should stress on investments in the economic development and to build capacity in the sectors of transport, tourism, agriculture and technological upgradation. The trade between India and Thailand has high potential as Thailand is rich in technological products and India in primary products. There is need to diversify in those sectors where trade has been minimal.

Chapter – 6

INDIA'S EXPORT COMPETITIVENESS WITH MGC NATIONS

This chapter is dedicated to study the export competitiveness of India with MGC nations. The chapter does RCA profile analysis of products at HS 6 Digit and categorize them under four categories as competitively positioned, threatening positioned, weakly positioned and emerging positioners, based on their performance during the study period and future prospects. The chapter tries to find out the shift of the products from one category to the other on the basis of their average performance. RCA analysis is done to find out comparative advantage of the products at HS 2 Digit code under categories of technological classification.

6.1 REVEALED COMPARATIVE ADVANTAGE (RCA): AN OVERVIEW

RCA index is an important index to determine the export competitiveness of a country in a particular industry. RCA helps in highlighting the shift of product lines from one category to other as per their competitiveness is concerned. RCA index can help in showing a general direction in which the comparative advantage is moving. The RCA indices highlight those industries which are currently in comparatively disadvantage position, but have potential to achieve export competitiveness. The industries can be divided in four broad categories as competitive, week, emerging, threatened.

6.2 AGGREGATE ANALYSIS OF LEADING PRODUCTS

The RCA analysis of product lines at 2 Digit at aggregate level will identify the comparative advantage enjoyed by India in specific technological classification industry.

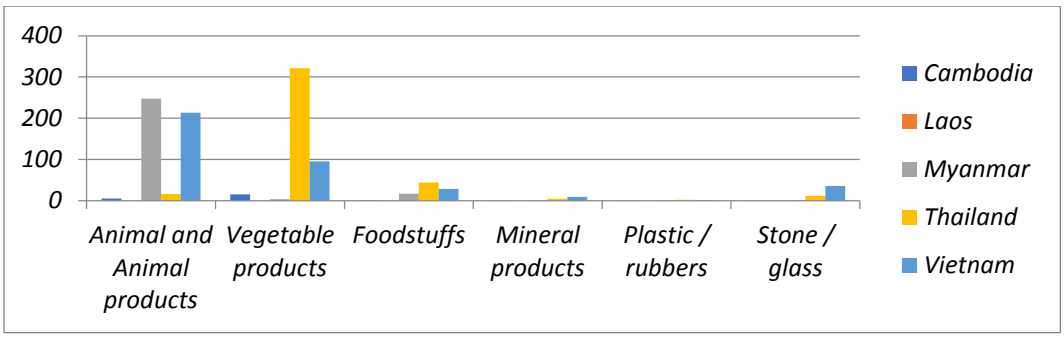
Table 6.1: Technological classifications and RCA of India with MGC

At HS 2-digit level in 2020

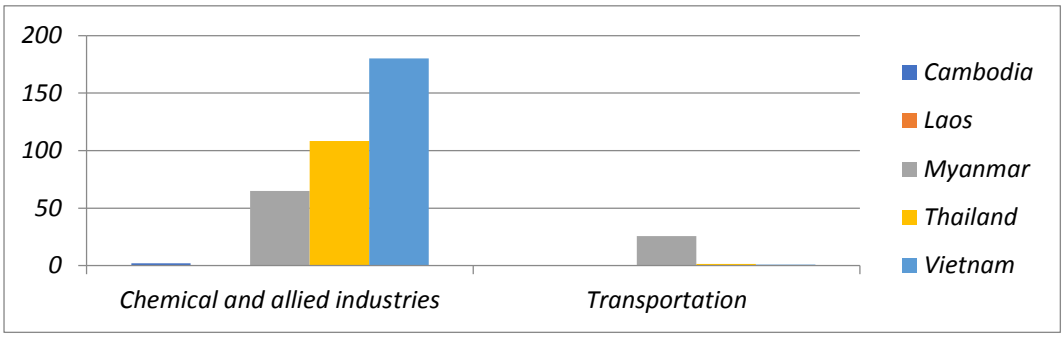
HS code	Product category	Technological Classification	Cambodia	Laos	Myanmar	Thailand	Vietnam
01-05	Animal and Animal products	RI	5.10	0.00	247.48	16.47	213.60
06-15	Vegetable products	RI	15.58	0.04	3.46	321.48	95.15
16-24	Foodstuffs	RI	1.10	0.17	16.67	43.84	28.45
25-27	Mineral products	RI	0.07	0.00	0.11	4.33	9.20
28-38	Chemical and allied industries	MTI	2.05	0.13	64.95	108.44	180.11
39-40	Plastic / rubbers	RI	0.09	0.00	0.28	2.43	1.53
41-43	Raw hides, skins, leathers and furs	LTI	16.21	0.76	9.23	29.30	170.98
44-49	Wood and wood products	LI	1.11	0.00	15.88	247.81	12.32
50-63	Textiles	LTI	41.34	0.18	20.06	119.12	126.83
64-67	Footwear / headgear	LTI	3.91	29.46	24.31	13.55	21.70
68-71	Stone / glass	RI	0.13	0.02	1.31	11.16	35.27
72-83	Metals	LTI	0.15	0.03	4.51	342.75	346.87
84-85	Machinery / electrical	HTI	0.01	0.01	0.05	0.39	0.18
86-89	Transportation	MTI	0.13	0.00	25.72	1.35	0.93
90-99	Miscellaneous	HTI	9.15	0.00	118.96	22.08	10.91

Note: RI: resource-intensive; HTI: High technological intensive: Low technological intensive, MTI: Medium technological intensive; LI: labour-intensive

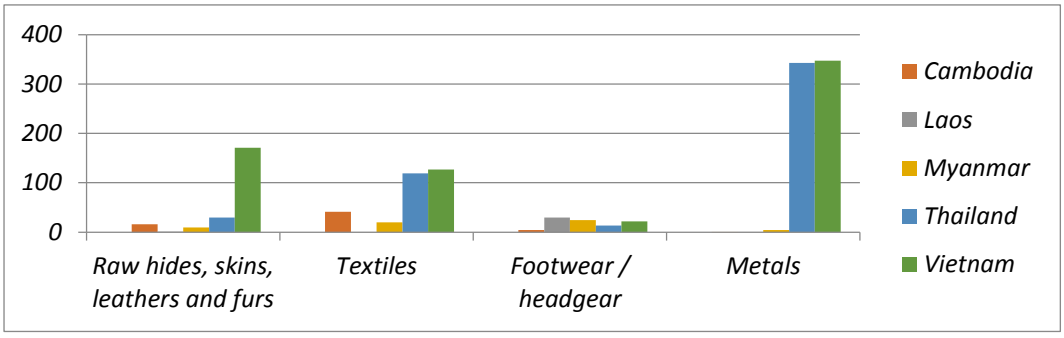
Source: Author's Development based on United Nation Commodity Trade Database (UNCOMTRAD)



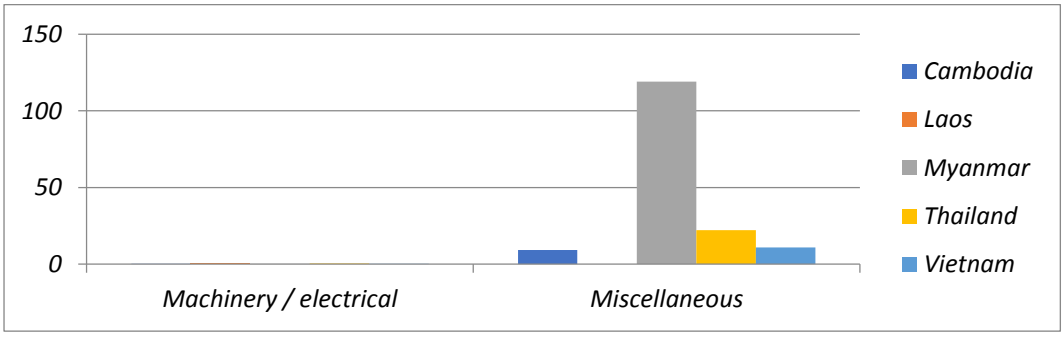
(A) Resource Based



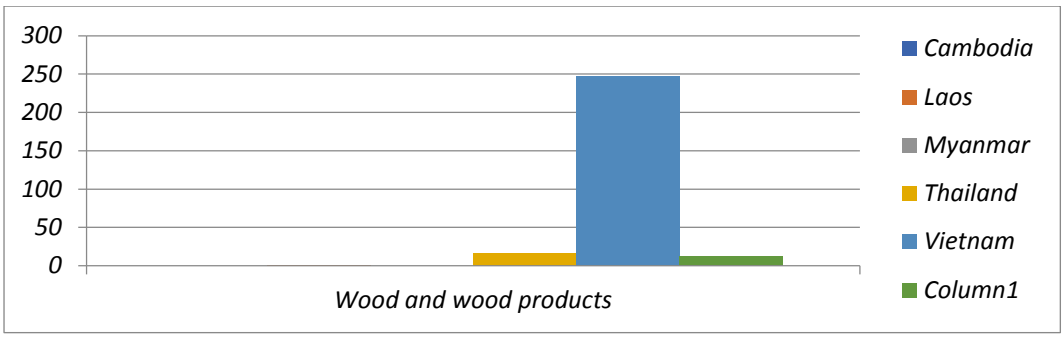
(B) Medium Technological Intensive



(C) Low Technological Intensive



(D) High Technological Intensive



(E) Labour Intensive

Fig 6.1: Technological classifications and RCA of India with MGC At HS 2-digit level in 2020

From Table 6.1 and Fig 6.1 it is evident that the export competitiveness of India in industries as per technological classifications and RCA index at HS-2-digit code in 2020 has shown that index is high at 247.48 for Animal and animal products with Myanmar in Resource intensive industry, followed by Miscellaneous at RCA index of 116 in High technological intensive industry. With Thailand India has export competitiveness in Metals with RCA index of 342.75 in Low technological intensive industry, followed by vegetable products with RCA index 321.48 in Resource intensive industry, Wood and wood products with index of 247.81 in labor intensive industry, and near unity in textile and chemical and allied industry which are low technological and medium technological intensive industries. Export competitiveness with Vietnam is highest in Metals with index of 346.87 in the category of low technology followed by Animal and animal products with index Of 213.6 in Resource intensive industry, Chemical and allied industry in medium technology with 180.11 and two industries in low technology i.e raw hides and skins with 180.11 index and textiles with170.98 index. RCA profiles of products at HS 2 Digit code for the study period has shown that India is gaining competitive position with MGC nations in Machinery, Electrical equipment, Transportation and Miscellaneous products which are high and medium technology based. India is at an advanced stage of network with Thailand and Vietnam in value chain in these product lines. India has established manufacturing units especially in small car segments and parts

thereof. India is losing its export competitiveness in resource-based products because all other MGC nations are rich in natural resources and enjoy economies of scale.

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6.3 RCA PROFILE AND PRODUCT GROUPING

The RCA profile of India with MGC nations is calculated at HS 6 Digit level and products are categorised as per table 6.1.

Table 6.2: RCA profile of India and Cambodia

At HS 6-digit code **During (2001-2020)**

HS code	Product label	CP	TP	EP TIER I	EP TIER II	WP TIER I	WP TIER II	TOTAL
01 to 05	Animal & Animal Products	7 (50)	0 (0)	1 (7)	6 (43)	0 (0)	0 (0)	14 (100)
06 to 15	Vegetable Products	17 (68)	0 (0)	1 (4)	3 (12)	0 (0)	4 (16)	25 (100)
16 to 24	Foodstuffs	3 (28)	1 (9)	2 (18)	2 (18)	1 (9)	2 (18)	11 (100)
25 to 27	Mineral Products	5 (50)	0 (0)	2 (20)	1 (10)	0 (0)	2 (20)	10 (100)
28 to 38	Chemicals & Allied Industries	39 (50)	2 (2)	4 (6)	10 (13)	1 (1)	22 (28)	78 (100)
39 to 40	Plastics / Rubbers	4 (21)	0 (0)	1 (5)	2 (10)	0 (0)	12 (63)	19 (100)
41 to 43	Raw Hides, Skins, Leather, & Furs	2 (67)	0 (0)	0 (0)	0 (0)	0 (0)	1 (33)	3 (100)
44 to 49	Wood & Wood Products	11 (58)	0 (0)	0 (0)	3 (16)	0 (0)	5 (26)	19 (100)
50 to 63	Textiles	37 (41)	3 (3)	4 (4)	3 (3)	0 (0)	44 (49)	91 (100)
64 to 67	Footwear / Headgear	2 (67)	0 (0)	1 (33)	0 (0)	0 (0)	0 (0)	3 (100)
68 to 71	Stone / Glass	11 (44)	1 (4)	0 (0)	6 (24)	0 (0)	7 (28)	25 (100)
72 to 83	Metals	18 (45)	1 (3)	4 (10)	5 (12)	0 (0)	12 (30)	40 (100)

HS code	Product label	CP	TP	EP TIER I	EP TIER II	WP TIER I	WP TIER II	TOTAL
84 to 85	Machinery / Electrical	34 (43)	1 (1)	3 (4)	23 (29)	0 (0)	18 (23)	79 (100)
86 to 89	Transportation	27 (38)	1 (1)	7 (10)	32 (45)	0 (0)	4 (6)	71 (100)
90 to 99	Miscellaneous	167 (78)	7 (3)	15 (7)	17 (8)	0 (0)	9 (4)	215 (100)
TOTAL		384	17	45	113	2	142	703

Note: CP (Competitively Positioned Products), TP (Threatened Positioned Products), EP (Emerging Positioned Products), WP (Weakly Positioned Products)

Source: Author's Development based on United Nation Commodity Trade Database (UNCOMTRAD)

In case of India and Cambodia trade, Miscellaneous product lines are competitively positioned with 167 product lines with 78 per cent falling in this category, followed by Chemical & allied with 39 product lines and Textiles with 37. In case of Emerging products both in Tier I and Tier II, Transportation and Machinery and Electricals are gaining competitive advantage with 32 and 28 product lines respectively. India has lost its competitiveness in Textiles with 44 product lines as Cambodia is a hub of textile and has a strong value chain, Machinery and Electricals with 18 product lines sliding down to week Position, Chemical by 23 product lines shifting to Weekly Positioned product category and Plastics and rubbers, Stones with 12 product lines. India – Cambodia trade is in 703 Product lines out of which 384 have maintained export competitiveness and 158 have are gaining comparative emerging position in both Tiers with potential competitiveness. There are 144 product lines which have shifted to a week position. Cambodia exports wood, rubber, textile and minerals to India. Its main imports from India are in pharmaceutical, transport and electrical supplies.

Table 6.3: RCA profile of India and LAOS

At HS 6 – digit code **During (2001-2020)**

Code	Product label	CP	TP	EP TIER I	EP TIER II	WP TIER I	WP TIER II	Total
01 to 05	Animal products and animals	1 (11)	0 (0)	1 (11)	2 (22)	1 (11)	4 (45)	9 (100)
06 to 15	Vegetable Products	12 (55)	0 (0)	0 (0)	4 (18)	0 (0)	6 (27)	22 (100)
16 to 24	Foodstuffs	3 (60)	0 (0)	0 (0)	0 (0)	0 (0)	2 (40)	5 (100)
25 to 27	Mineral Products	3 (60)	0 (0)	0 (0)	1 (20)	0 (0)	1 (20)	5 (100)
28 to 38	Chemicals & Allied Industries	23 (42)	3 (5)	2 (4)	11 (20)	0 (0)	16 (29)	55 (100)
39 to 40	Plastics / Rubbers	4 (29)	1 (7)	1 (7)	7 (50)	0 (0)	1 (7)	14 (100)
41 to 43	Raw Hides, Leather, skin & Furs	1 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (100)
44 to 49	Wood and wooden Products	4 (40)	0 (0)	0 (0)	2 (20)	0 (0)	4 (40)	10 (100)
50 to 63	Textiles	28 (52)	4 (7)	0 (0)	5 (9)	1 (1)	17 (31)	55 (100)
64 to 67	Footwear / Headgear	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
68 to 71	Stone / Glass	3 (75)	0 (0)	0 (0)	1 (25)	0 (0)	0 (0)	4 (100)
72 to 83	Metals	21 (44)	2 (4)	1 (2)	9 (19)	1 (2)	14 (29)	48 (100)
84 to 85	Machinery / Electrical	23 (43)	0 (0)	5 (9)	10 (19)	0 (0)	16 (29)	54 (100)
86 to 89	Transportation	0 (0)	0 (0)	0 (0)	1 (20)	0 (0)	4 (80)	5 (100)
90 to 99	Miscellaneous	80 (57)	4 (2)	12 (9)	31 (23)	5 (3)	8 (6)	140 (100)
TOTAL		150	37	55	84	8	93	427

Note: CP (Competitively Positioned Products), TP (Threatened Positioned Products), EP (Emerging Positioned Products), WP (Weakly Positioned Products)

Source: Author's Development based on United Nation Commodity Trade Database (UNCOMTRAD)

India – LAOS trade is minimal comprising only 427 products out which 150 are competitively positioned especially in Miscellaneous with 80, Textiles with 28 and Chemicals and Electricals with 23 each. 101 products have lost their position and fell into the category of weekly positioned products including both the Tiers. Products of Textiles and Chemical industries have maximum numbers in week position category. India's major exports to LAOS are in pharmaceutical, transportation, chemical and electrical parts. India has a strong hold on textiles, chemicals and electricals due to technology and skill-based advantage.

Table 6.4: RCA profile of India and Myanmar

At HS 6 – digit code **During (2001-2020)**

Code	Product label	CP	TP	EP TIER I	EP TIER II	WP TIER I	WP TIER I	TOTAL
01 to 05	Animal and Animal Products	15 (58)	1 (4)	0 (0)	1 (4)	0 (0)	9 (34)	26 (100)
06 to 15	Vegetable Products	29 (49)	11 (19)	2 (3)	7 (12)	1 (2)	9 (15)	59 (100)
16 to 24	Foodstuffs	19 (53)	3 (8)	0 (0)	4 (11)	0 (0)	10 (28)	36 (100)
25 to 27	Mineral Products	11 (35)	7 (23)	0 (0)	2 (6)	0 (0)	11 (36)	31 (100)
28 to 38	Chemicals & Allied Industries	74 (57)	11 (8)	7 (5)	1 (1)	2 (2)	35 (27)	130 (100)

Code	Product label	CP	TP	EP TIER I	EP TIER II	WP TIER I	WP TIER I	TOTAL
39 to 40	Plastics / Rubbers	29 (49)	9 (15)	0 (0)	7 (12)	0 (0)	14 (24)	59 (100)
41 to 43	Raw Hides, Leather, Furs and skin	8 (80)	0 (0)	0 (0)	0 (0)	0 (0)	2 (20)	10 (100)
44 to 49	Wood and Wood Products	26 (52)	9 (17)	3 (6)	1 (2)	0 (0)	11 (22)	50 (100)
50 to 63	Textiles	84 (62)	18 (13)	5 (4)	7 (5)	1 (1)	20 (15)	135 (100)
64 to 67	Footwear / Headgear	6 (60)	0 (0)	1 (10)	1 (10)	0 (0)	2 (20)	10 (100)
68 to 71	Stone / Glass	22 (47)	6 (13)	2 (4)	2 (4)	1 (2)	14 (30)	47 (100)
72 to 83	Metals	55 (50)	17 (15)	0 (0)	13 (12)	0 (0)	25 (23)	110 (100)
84 to 85	Machinery / Electrical	363 (59)	129 (21)	25 (4)	49 (8)	6 (1)	41 (7)	613 (100)
86 to 89	Transportation	75 (71)	16 (15)	3 (3)	7 (7)	3 (3)	1 (1)	105 (100)
90 to 99	Miscellaneous	218 (79)	49 (18)	3 (1)	2 (0.75)	1 (0.5)	2 (0.75)	275 (100)
TOTAL		1034	286	51	104	15	206	1696

Note: CP (Competitively Positioned Products), TP (Threatened Positioned Products), EP (Emerging Positioned Products), WP (Weakly Positioned Products)

Source: Author's Development based on United Nation Commodity trade database, (UNCOMTRAD)

Myanmar is the second most preferred destination of Indian exports after Thailand. India is exporting approximately 1696 product lines to Myanmar out of which 1034 are competitively positioned with Machinery and Electrical items getting comparative competitive edge in 363 product lines. As India has large scale production in this category and India is exporting Electrical and mechanical products to all MGC nations thus it has control over factors of production, technology and tie ups with Thailand and Vietnam in supply chain of parts and equipment. Miscellaneous product category with 218 product lines in competitive position. There are 286 products which has shifted to threatened product category with 129 from Machinery and Electrical items. The number of Emerging Products has been 155 in both Tier I and Tier II. But 221 Product lines have lost their position and fell into weekly positioned category.

Table 6.5 : RCA profile of India and Thailand

At HS 6 – digit code **During (2001-2020)**

Code	Product label	CP	TP	EP TIER I	EP TIER II	WP TIER I	WP TIER II	Total
01 to 05	Animal & Animal Products	28 (51)	9 (16)	0 (0)	1 (2)	0 (0)	17 (31)	55 (100)
06 to 15	Vegetable Products	27 (45)	10 (16)	0 (0)	1 (1)	1 (1)	23 (27)	62 (100)
16 to 24	Foodstuffs	29 (53)	12 (22)	2 (3)	0 (0)	0 (0)	12 (22)	55 (100)
25 to 27	Mineral Products	14 (52)	8 (30)	0 (0)	0 (0)	1 (1)	4 (7)	27 (100)
28 to 38	Chemicals & Allied Industries	108 (47)	46 (20)	1 (1)	5 (2)	1 (1)	67 (29)	228 (100)
39 to 40	Plastics / Rubbers	27 (36)	26 (35)	0 (0)	0 (0)	3 (4)	18 (24)	74 (100)

Code	Product label	CP	TP	EP TIER I	EP TIER II	WP TIER I	WP TIER II	Total
41 to 43	Skin, leather and raw hide	0 (0)	1 (50)	0 (0)	0 (0)	0 (0)	1 (50)	2 (100)
44 to 49	Wood & Wood Products	20 (43.4)	7 (15.2)	1 (2.3)	3 (6.5)	0 (0)	15 (32.6)	46 (100)
50 to 63	Textiles	111 (41)	79 (30)	0 (0)	2 (1)	8 (3)	65 (25)	265 (100)
64 to 67	Footwear / Headgear	16 (52)	10 (33)	2 (6)	2 (6)	0 (0)	1 (3)	31 (100)
68 to 71	Stone / Glass	79 (57)	49 (36)	0 (0)	2 (1)	3 (2)	5 (4)	138 (100)
72 to 83	Metals	251 (57)	180 (41)	1 (0)	1 (0)	4 (1.2)	3 (0.8)	440 (100)
84 to 85	Machinery / Electrical	417 (69)	178 (29)	4 (1)	3 (0.6)	2 (0.2)	2 (0.2)	606 (100)
86 to 89	Transportation	75 (70)	30 (28)	0 (0)	0 (0)	1 (1)	1 (1)	107 (100)
90 to 99	Miscellaneous	213 (76)	65 (23.7)	0 (0)	0 (0)	1 (0.3)	0 (0)	279 (100)
	TOTAL	1415	710	11	20	25	234	2415

Note: CP (Competitively Positioned Products), TP (Threatened Positioned Products), EP (Emerging Positioned Products), WP (Weakly Positioned Products)

Source: Author's Development based on United Nation Commodity Trade Database (UNCOMTRAD)

India is trading in maximum product lines with Thailand counting 2415 in total. Majority of traded products are in sector of Machinery and Electricals with 606 product lines out of which 417 product lines are competitively positioned but 178 product lines have lost their competitive position and shifted to threatened category. Followed by Metals with 440 product lines 251 are in competitively positioned and 180 have lost the comparative competitiveness. India is holding competitive position in case of Chemicals, Textiles and Miscellaneous product lines. The position of India is week and industrial players need to analyze the reason in case of Animal products, Vegetable products and Foodstuff category. These are resource intensive countries and India has not performed well in this category.

Table 6.6: RCA Profile of India and Vietnam

At HS 6 – digit code **During (2001-2020)**

Code	Product label	CP	TP	EP TIER I	EP TIER II	WP TIER I	WP TIER II	Total
01 to 05	Animal & Animal Products	4 (28)	0 (0)	0 (0)	1 (7)	0 (0)	9 (65)	14 (100)
06 to 15	Vegetable Products	2 (7)	0 (0)	2 (7)	4 (14)	1 (3)	19 (69)	28 (100)
16 to 24	Foodstuffs	1 (8)	0 (0)	1 (8)	2 (16)	0	9 (68)	13 (100)
25 to 27	Mineral Products	0 (0)	0 (0)	1 (12.5)	0	1 (12.5)	6 (75)	8 (100)
28 to 38	Chemicals & Allied Industries	4 (6)	1 (1)	5 (7)	9 (14)	0 (0)	46 (72)	65 (100)
39 to 40	Plastics / Rubbers	1 (5)	2 (8)	1 (5)	5 (20)	1 (5)	13 (57)	23 (100)

Code	Product label	CP	TP	EP TIER I	EP TIER II	WP TIER I	WP TIER II	Total
41 to 43	Raw hides, skin and leather	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
44 to 49	Wood & Wood Products	0 (0)	0 (0)	2 (29)	1 (14)	0 (0)	4 (57)	7 (100)
50 to 63	Textiles	10 (15)	5 (7)	2 (3)	2 (3)	1 (1)	47 71	67 (100)
64 to 67	Footwear / Headgear	1 (10)	5 (40)	0 (0)	0 (0)	0 (0)	6 (50)	12 (100)
68 to 71	Stone / Glass	12 (31)	4 (10)	2 (5)	7 (18)	0 (0)	14 (36)	39 (100)
72 to 83	Metals	94 (51)	40 (22)	7 (4)	29 (15)	6 (3)	9 (5)	185 (100)
84 to 85	Machinery / Electrical	121 (71.5)	28 (16.5)	4 (2)	7 (5)	6 (4)	3 (1)	169 (100)
86 to 89	Transportation	21 (78)	3 (12)	2 (7)	1 (3)	0 (0)	0 (0)	27 (100)
90 to 99	Miscellaneous	43 (87)	9 (17)	0 (0)	0 (0)	0 (0)	0 (0)	52 (100)
	TOTAL	314	97	29	68	16	185	709

Note: CP (Competitively Positioned Products), TP (Threatened Positioned Products), EP (Emerging Positioned Products), WP (Weakly Positioned Products)

Source: Author's Development based on United Nation Commodity Trade Database (UNCOMTRAD)

India is strongly positioned in Machinery & Electrical product lines with 121 products in competitive position followed by 94 products in Metal industry. But at the same time 40 product lines in Metals and 28 in Machinery & Electrical are in threatened position. 201 Product lines are in week position with maximum numbers in Chemical and Textile product lines.

6.4 CONCLUSION

In order to take advantage in export competitiveness, it is very important to study the structure of partner nations, their resources, technological advancement and human resources. India's export competitiveness is not same with all MGC nations neither the product lines competitiveness is similar. It differs from nation to nation depending upon factors of production and economies of scale of partner nation. The product lines which have been shifted to the category of weak or threatened position need to be revived. Those product lines which are competitive or emerging should act as a booster to India's foreign exchange. Product specific policies need to be framed. India is facing high competition from low-cost producer country like China. India's long-term viability depends upon to the extent how it improves its export competitiveness by lowering costs and improving quality of the products. Industrial restructuring and capability of the manufacturing sector to imprint its product differentiation is the crux of the export competitiveness. India's economic growth is based on the fact that it has to enhance its export competitiveness within MGC region.

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Chapter – 7

INDIA'S TRADE SIMILARITY AND TERMS OF TRADE WITH MGC NATIONS

This chapter has analyzed Trade similarity and Terms of trade of India with MGC countries. The Trade similarity analysis is based on the products exported and imported by India to MGC countries from 2001 to 2020 at HS 2-digit data and at HS 6-digit for top 10 products exported and imported by India to MGC nations for the year 2020.The analysis helped in determining the similarity or dissimilarity in the trade of India with MGC nations.

The chapter further focused on the Terms of trade of India with MGC nations done for aggregate of all the products for the period 2001 to 2020 at HS 2- digit code and for top ten products at HS 6-digit code level for the year 2020.

7.1 TRADE SIMILARITY INDEX : ANALYSIS

The trade similarity index is designed to calculate the similarity level between the export/import profiles of trading economies.

Table 7.1: Export similarity index of India with MGC nations (2001-2020)

HS-2-digit code (Per Cent)

Year	Cambodia	Laos PDR	Myanmar	Thailand	Vietnam
2001	14.14	0.00	0.00	48.35	45.88
2002	16.02	0.00	0.00	46.84	46.21
2003	15.05	0.00	0.00	46.04	45.11
2004	13.48	0.00	0.00	45.08	44.88
2005	13.04	0.00	0.00	45.19	46.27
2006	13.52	0.00	0.00	45.33	50.53
2007	12.74	0.00	0.00	45.79	52.14

Year	Cambodia	Laos PDR	Myanmar	Thailand	Vietnam
2008	12.78	0.00	0.00	48.34	57.31
2009	12.42	0.00	0.00	48.19	55.84
2010	13.31	27.59	42.85	46.28	51.41
2011	13.97	23.90	45.56	46.78	50.78
2012	17.62	31.23	36.96	50.48	48.00
2013	22.48	27.66	44.06	48.30	45.20
2014	16.72	27.30	46.31	47.90	45.12
2015	25.04	28.68	35.80	48.58	44.32
2016	26.87	27.05	38.85	50.16	42.90
2017	26.93	35.95	41.74	49.75	41.82
2018	25.14	36.32	44.29	51.96	40.75
2019	27.77	38.46	40.56	52.75	42.02
2020	34.46	41.70	36.71	53.18	43.87

Source: Author's calculations based on data taken from United Nation Commodity Trade Base (UNCOMTRAD)

From the table 7.1, it is clear that the three powerful competitors of India in world market in terms of exports are Thailand, Vietnam and Myanmar. Major exports similarity of India is with Thailand, Myanmar and Vietnam in Petroleum products and manufactured goods in Electrical, Mechanical and Automobile industry. India has large reserves of coal, natural gas, iron ore, manganese, bauxite, diamond and limestone. Similarly, Thailand, Myanmar and Vietnam are rich in energy reserves. These nations have achieved economies of scale in the production and cost of production is less. These nations have same export profiles and dealing in similar export basket in the world. The index has settled below average with Cambodia and LAOS, signifying that these two nations are weak competitors of India in the world export market.

Table 7.2 : Import similarity index of India with MGC nations (2001-2020)

HS-2-digit code (Per Cent)

Year	Cambodia	Laos PDR	Myanmar	Thailand	Vietnam
2001	38.48	0.00	0.00	99.99	100.00
2002	33.70	0.00	0.00	99.99	100.00
2003	34.55	0.00	0.00	99.99	100.00
2004	32.49	0.00	0.00	100.00	100.00
2005	32.65	0.00	0.00	99.99	100.00
2006	33.00	0.00	0.00	100.00	97.70
2007	34.47	0.00	0.00	100.00	100.00
2008	36.51	0.00	0.00	99.99	99.99
2009	40.72	0.00	0.00	100.00	100.00
2010	38.72	97.48	83.97	97.49	100.00
2011	41.06	97.18	99.96	97.47	99.99
2012	41.49	97.45	99.99	97.54	99.99
2013	41.27	97.62	99.99	97.62	44.39
2014	34.84	97.69	100.00	97.69	45.41
2015	36.84	97.22	99.99	97.22	99.99
2016	42.46	97.02	99.99	97.02	99.99
2017	41.75	99.09	99.99	99.09	99.99
2018	43.29	99.19	99.99	99.53	100.00
2019	45.21	59.21	99.99	99.58	52.79
2020	48.46	56.68	61.24	66.49	51.69

Source: Author's calculations based on data taken from United Nation Commodity Trade Base (UNCOMTRAD)

From the table 7.2, it is clear that India is importing similar products as MGC nations. The similarity is very high in case of LAOS PDR, Myanmar, Thailand and

Vietnam. These nations are the relatively strong competitors of India in import market as the similarity index has remained very high, near to perfect overlap. The index has settled below average with respect to Cambodia throughout the study period as major imports of Cambodia are in fabrics which are not major imports by India. India's major imports are Electronics and Machinery. The index has reduced to average and below in case of all MGC nations in 2020, due to set back to global trade due to COVID 19.

Table 7.3 : Export Similarity Index of India with MGC Nations (2020)

Top 10 products exported by India at HS 6-digit code (Per Cent)

Product Code	Product Name	Cambodia	Laos	Myanmar	Thailand	Vietnam
'271019	Medium oils and preparations, of petroleum	0.00	0.02	1.92	25.33	2.88
'710239	Diamonds	0.01	5.48	0.00	7.47	1.48
'300490	Medicaments for therapy or prophylactic	0.59	0.10	0.05	2.85	0.88
'271012	Light oils, petroleum preparations	0.00	0.00	0.12	12.98	1.11
'100630	Semi-milled or wholly milled rice	95.65	36.00	13.38	52.56	30.87
'711319	Articles of jewellery, precious metal	0.00	1.05	0.00	25.17	4.17
'030617	Frozen shrimps, prawns	0.00	0.00	36.53	17.82	50.12
'760110	Aluminium, not alloyed	0.00	0.00	0.20	0.34	0.00
'851712	Telephones and cellular networks	0.00	0.24	0.04	45.81	118.24
'020230	Frozen, boneless meat of bovine animals	0.00	0.00	0.01	0.02	0.03
	Total	96.25	42.89	52.24	190.35	209.79

Source: Author's calculations based on data taken from United Nation Commodity Trade Base (UNCOMTRAD)

From Table 7.3 it is evident that the top 10 products exported by India in 2020 in terms of value are used to calculate the export similarity index for the year 2020.The total export similarity index of India with respect to the top ten products is high with all MGC nations in the product code 100630 i.e rice. India is the world's largest exporter of rice comprising 39 per cent of total export of rice in the world. Thailand, Vietnam and Cambodia are other major exporters of rice in the world. The product code 030617 frozen shrimps and prawns has comparatively high similarity with Myanmar and Vietnam. India is the largest exporter in the world for frozen shrimps with US $ 3.9 in the year 2020 followed by Vietnam with US $ 3.8 billion The product code 851712 with Cellular, mobile and wireless network has a very high similarity index of 118 with Vietnam. Vietnam is at second place in the world in production of cellular phones. In the year 2020, Vietnam's share in the total world's export of cellular phones was 14 per cent. India is among top ten exporters in this category with 2 per cent share in the total world's exports.

Table 7.4: Import similarity index of India with MGC nations (2020)

Top 10 products imported by India at HS 6-digit code (Per Cent)

Product Code	Product Name	Cambodia	Laos	Myanmar	Thailand	Vietnam
'999999	Commodities not elsewhere specified	0.01	1.54	0.03	0.00	0.82
'870323	Motor cars and motor vehicles.	0.87	0.34	0.44	0.16	0.20
'854239	Electronic integrated circuits	0.04	0.00	0.06	1.63	1.63
'854232	Electronic integrated circuits as memories	0.00	0.00	0.00	0.31	0.80
'854231	Electronic integrated circuits as processors and controllers	0.00	0.30	0.01	1.72	2.26
'851712	Telephones and other wireless networks	0.04	1.23	1.48	1.48	0.57

Product Code	Product Name	Cambodia	Laos	Myanmar	Thailand	Vietnam
‘710812	Gold, platinum for non-monetary purposes	1.42	0.15	1.42	1.42	0.07
‘300490	Medicaments products for therapeutic or prophylactic.	1.02	0.32	0.00	0.64	0.71
‘271019	Medium oils not containing bio diesel	1.57	1.57	1.57	0.41	1.17
‘270900	Petroleum, oil and minerals	0.00	0.00	0.00	3.90	1.47
	Total	4.97	5.44	5.01	11.67	9.71

Source: Author’s calculations based on data taken from United Nation Commodity Trade Base (UNCOMTRAD)

The import similarity index of India with respect to top 10 products imported by India is shown in table 7.4. India’s top ten imported products are in the category of Electrical and Mineral products. The import similarity index of these top ten products with MGC nations is very low. None of the MGC nation is in direct competition with India in case of these products.

7.2 TERMS OF TRADE : ANALYSIS

Terms of trade, most widely used by economists is Taussig’s Net Barter Terms of Trade Index (Taussig, 1927) which was later called Commodity Terms of Trade by Jacob (Viner J., 1937), mainly because of ease in calculating and interpreting this index. Bjerke, K. (1968), further simplified and explained the different expressions of terms of trade. Gruss, B., & Kebhaj, S. (2019) elaborated on importance of terms of trade in economic growth. It is calculated as a ratio between price index of a nation’s exports to price index of its imports. The value above 100 means that the trade between paired nations has been favorable i.e., gains have been high, whereas, the value below 100 means that trade between paired nations has been unfavorable i.e., gains has been less or there were losses in that particular year. Unfavorable trade

means export prices have declined relative to import prices, thus terms of trade is said to be deteriorated.

The terms of trade analysis are done in two parts in the chapter. In Part I the index is calculated in aggregate of all products at HS 2 Digit code for the years 2001 to 2020. In Part II the index is calculated individually for all the products at HS 2 Digit.

7.2.1 Terms of Trade : Part I (All Product in Aggregate at HS 2 Digit Code)

Terms of trade is calculated as a ratio between the prices of exports and imports of a nation. Cakir (2009) observed that there is a positive relation between higher terms of trade and economic growth. Observed a positive relation between favorable terms of trade and economic growth of a nation. Raza (2012) found that diversification in trade is essential to reduce volatility in terms of trade. When more capital is leaving the country than is entering the country then, the TOT will be less than 100%. When the TOT is greater than 100%, the country is accumulating more capital from exports than it is spending on imports. A TOT over 100% or that shows improvement over time can be a positive economic indicator as it can mean that export prices have risen as import prices have held steady or declined. Terms of trade calculated in aggregate for Total of all products at HS 2 Digit code for the study period 2001 to 2020 is given in table 7.5 below.

Table 7.5: Total Terms of Trade of India with MGC

During (2001-2020) HS 2 -digit code (all products)

Country	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	595.45	1008.04	3252.46	6642.86	7554.17	3101.28	3254.38	1844.83	1724.26	901.78
Laos	--	7900.00	1053.33	330.77	5300.00	5470.00	682.86	3509.09	1698.11	84.44
Myanmar	29.01	16.26	22.34	21.92	27.89	21.05	17.94	22.98	23.86	16.12
Thailand	156.88	149.64	187.65	136.55	104.10	88.75	82.71	78.70	71.69	59.36
Vietnam	1823.24	1153.73	1156.24	1074.14	642.73	525.67	588.89	927.04	425.45	352.42

(Contd.)

Country	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cambodia	835.71	1367.95	1187.48	1120.52	793.60	262.74	291.02	217.42	459.72	402.91
Laos	5959.09	16.77	20.85	126.62	78.93	21.07	12.40	14.83	3786.54	811.65
Myanmar	31.51	39.49	38.55	56.39	62.79	108.78	103.81	151.05	231.18	177.96
Thailand	53.23	56.04	69.74	69.35	59.07	54.22	57.86	51.21	59.68	63.33
Vietnam	248.98	215.87	171.39	209.77	208.36	205.67	204.38	155.68	90.48	69.47

Source: Author's calculations based on data taken from United Nation Commodity Trade Base (UNCOMTRAD)

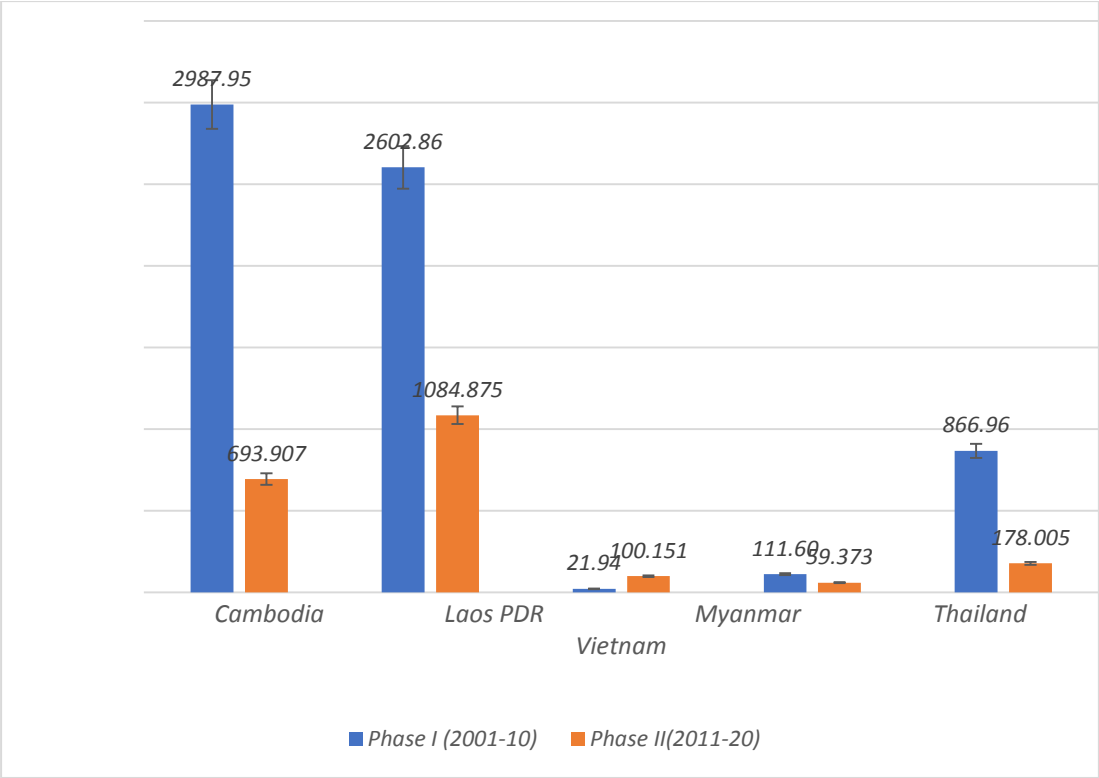
The table shows that India's terms of trade is unfavourable with Thailand and it has remained less than unity year 2006 onward. India's exports to Thailand are crude oil, mechanical and electrical parts. India's major imports are motor cars, automatic machines and rubber products. Over last 20 years, the imports of India from Thailand are almost double than what it exports, hence there is trade deficit throughout the study period. The tariff rates have reduced between Thailand and India. (https://embassyofindiabangkok.gov.in/eoibk). India imports pulses from Myanmar and due to price fluctuation, the terms of trade have remained less than unity since 2015. India has taken many initiatives to remove obstacles in border trade and bilateral trade has picked up after 2015.The terms of trade are favourable with Vietnam till 2018 , 2019 and 2020 due to sluggish trade and COVID 19. India has favourable Terms of trade with Cambodia for the study period. India has positive trade balance with Cambodia. And it was lowest in the years 2016-2017 due to financial crisis worldwide. There is no set pattern seen with LAOS due to irregular trade with it.

Table 7.5(a): Average terms of trade of India with MGC
During (2001-2020) HS 2 -digit code (all products)

Period/Country	Cambodia	Lao PDR	Myanmar	Thailand	Vietnam
Phase I (2001-10)	2987.95	2602.86	21.94	111.60	866.96
Phase II(2011-20)	693.91	1084.88	100.15	59.37	178.05

Source: Author's calculations based on data taken from United Nation Commodity Trade Base (UNCOMTRAD)

Table 7.5 (a) depicted the India's average terms of trade with each MGC nation in two phases. The first phase is from 2001 to 2010 and the second phase is 2011 to 2020.The average terms of trade in case of Cambodia has reduced from 2987. 95 in Phase I to 693.91 in Phase II. In case of Lao PDR, it has increased in Phase II to almost double from 1084.88 in Phase I to 2602.86 in Phase II. Average term of trade has increased from 21.94 in phase I to 100.15 in Phase II in case of Myanmar. In case of Thailand and Vietnam the average term of trade has reduced from 111.60 and 866.96 to 59.37 and 178.05 respectively.



Source: Author's calculations based on data taken from United Nation Commodity Trade Base (UNCOMTRAD)

Fig 7.1: Average terms of trade of India with MGC During (2001-2020) HS 2 -digit code (all products)

Fig 7.1 has further simplified the position of India's average terms of trade with MGC nations. The variations in Phase I and II for each nation can be seen. The index has shown decline from Phase I in case of all countries except Myanmar. The variation is very high in case of Cambodia and Lao PDR. Variation is moderate in case of Thailand and Vietnam.

7.2.2 Terms of Trade: Part II (Product At HS 6 Digit Code)

As we have seen the trend of terms of trade of data on aggregate price index of all the products in part I of the chapter, now in part II the terms of trade at HS 6 Digit code are analyzed individually to find out the top 10 product categories where the terms are favorable in 2020.

Table 7.6: Terms of Trade of India with MGC (2020)

HS 6-Digit Code **Top 10 Products with Favourable Terms of Trade**

	Cambodia		Laos PDR		Myanmar		Thailand		Vietnam	
Sr. No.	**Product (Code)**	**Terms of trade**	**Product (Code)**	**Terms of trade**	**Product (Code)**	**Terms of trade**	**Product (Code)**	**Terms of trade**	**Product (Code)**	**Terms of trade**
1	Vehicles and parts & accessories (87)	471100	Pharmaceutical products (30)	10900	Products of animal origin.(5)	65600	Pharmaceutical products (30)	43092	Pharmaceutical products (30)	126280
2	Organic Chemicals (29)	14475	Organic Chemicals (29)	775	Residues and waste of food industry, animal fodder. (23)	321600	Meat and edible meat offal. (2)	21684	Ships, boats and floating structures. (89)	62000
3	Wool, animal hair, yarn and woven fabric. (51)	9833	Electrical machinery, television and sound recorders (85)	667	Tobacco and its substitutes. (24)	18210	Tobacco and its substitutes. (24)	19245	Prepared feathers, artificial flowers, articles of human hair. (67)	38000
4	Essential oils, perfumes, cosmetics and toiletries.(33)	7100	NIL	-	Organic Chemicals (29)	14125	Project goods. (98)	17000	Animal or vegetable fats, oils and waxes. (15)	25950

Sr. No.	Cambodia		Laos PDR		Myanmar		Thailand		Vietnam	
	Product (Code)	**Terms of trade**	**Product (Code)**	**Terms of trade**	**Product (Code)**	**Terms of trade**	**Product (Code)**	**Terms of trade**	**Product (Code)**	**Terms of trade**
5	Raw hides and skin (41)	5282	NIL	-	Plastics and articles. (39)	44820	Fish, crustaceans, molluscs and aquatic invertebrates. (3)	10656	Animal origin products. (5)	20600
6	Manmade staple fibre (55)	5190	NIL	-	Cotton. (52)	119975	Coffee, tea, mate and spices. (9)	7248	Aircrafts and spacecrafts. (88)	3706
7	Nuclear reactors and boilers (84)	4500	NIL	-	Manmade staple fibre (55)	61900	Cotton. (52)	4571	Pearls, stones and artificial jewellery. (71)	3505
8	Electrical machinery, television and sound recorders (85)	2777	NIL	-	Iron and Steel (73)	144000	Lead and articles. (78)	2961	Organic Chemicals (29)	3265
9	Manmade filaments (54)	2100	NIL	-	Nuclear reactors and boilers (84)	21779	Apparel and clothing accessories. (62)	1413	Tanning, dyeing, colouring, paint, ink and putty. (32)	1974
10	Products of milling industry, malt, starch and wheat gluten.(11)	2000	NIL	-	Vehicles and parts & accessories (87)	18589	Zinc and articles. (79)	743	Fish, crustaceans, molluscs and aquatic invertebrates. (3)	1483

Source: Author's calculations based on data taken from United Nation Commodity Trade Base (UNCOMTRAD)

From the table 7.6 it is evident that India is in favourable position with Cambodia in the sectors of vegetable products, textiles and electricals with two product lines in each. Other sectors are vegetable products, leather, plastic and transportation. The maximum trade surplus is in transportation sector in the category of vehicles and parts thereof. In case of LAOS, India is trading in limited sectors hence the terms of trade are confined to only three product lines with maximum surplus in the category of pharmaceutical products in the sector of Chemical and allied services. With Myanmar India has trade surplus in Food stuff and wood products with two product lines each in these sectors. The other favourable sectors in terms of trade are Electricals, Metals, Plastics and Transportation. The maximum favourable terms of trade with Myanmar are in the sector of Animal and Animal products. In case of Thailand the favourable Terms of trade is in Animal products, textiles and chemicals with two product line each. The other sectors with favourable terms of trade are Vegetable, Food products and Minerals. India has favourable trade with Vietnam in the sectors of Chemical and allied industries, Transportation and Food stuffs. The highest favourable terms of trade are in pharmaceutical products. In nutshell, India has favourable terms of trade with MGC in the sector of Chemical and allied industries, followed by Animal products and textiles. India has an edge in pharmaceutical products and is in a favourable position in terms of trade with all MGC nations. Organic chemicals are also giving India a positive Terms of trade.

7.3 CONCLUSION

Both similarity index and terms of trade are important tools to analyze trade potential of a country and further helpful in framing foreign trade policies. The development of an economy depends upon the favorable foreign trade. The value of exports should be more than the value of imports to generate trade surplus and earn foreign exchange reserves. The exports basket of the economy should have distinctive place in the global market. If export profiles are similar then there is a possibility to face hard competition with other nations exporting similar products in the world market. The diversification of exports can give fruitful results. Vietnam, Myanmar and

Thailand are the strong competitor of India in world trade, whereas Laos and Cambodia are weak in the field. It is concluded that less volatility in trade is an essence for the economic growth of the nation. Export diversification can improve the trade relations of India with MGC nations. Improving the domestic currency exchange rates, export competitiveness and controlling inflation can improve the terms of trade. The export basket must contain large number of better-quality goods to offer to the global market. To conclude the economic health of a country largely depends upon the terms of trade.

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Chapter – 8

SUMMARY, CONCLUSION AND POLICY SUGGESTION

Trade relations between India and MGC has been analyzed in the present study. This chapter focuses on summary, conclusion and policy suggestions of the study. The rationale behind establishment of any regional group is based on similarities and complementarities between the partner countries, which are quite evident in MGC nations. This provides a strong base for mutual cooperation and development of the partner nations. The establishment of MGC has been aimed at economic development of this region which was neglected otherwise.

8.1 INDIA'S TRADE RELATIONS WITH MGC : AN OVERVIEW

The Mekong Ganga Cooperation was launched in Vientiane on 10 November 2000 during first Ministerial meeting to strengthen trade and investment cooperation in the region. The trade between India and MGC has seen an upward swing due to launching of MGC initiative. The total trade between India and MGC was US $ thousand 16,83,718 in 2001 but it has flourished to US $ thousand 20,69,1405 in 2020.Although the trade balance has also changed from surplus of US $ thousand 96728 to trade deficit of US $ thousand -2117097 during this period. Trade has been remained in deficit with Myanmar and Thailand throughout the period, evidently India is importing more from these two nations than exporting. The major imports of India from Myanmar are Oil and natural gas and food stuff. The value of imports is increasing due to increasing rates of oil and natural gas. India imports electronics, machinery and automobiles from MGC. India's share of trade to total exports to MGC has remained between 30 to 40 per cent during the study period. India is largely dependent on USA, China and UAE for its trade. None of the MGC nations are in top ten preferred nations for trade by India. Major product lines in which India is trading with the world are Minerals & Oil, Machinery, Pharmaceuticals, Pearls and stone and automobiles. Trade flows of India has been very favorable firstly with

Myanmar followed by Vietnam and Thailand. All these nations are progressive in nature and spending lot of funds on the development of their countries. On the other hand trade flows have been poor with Cambodia and LAOS. Both these nations are in the list of poorest nations in the world. These nations face challenges of poor infrastructure, health, education and gender discrimination.

India's trade relations with ASEAN have changed overtime. Between 2001 to 2020, export between India and ASEAN has grown at average CAGR of 5.02 and import has grown at an average CAGR of 4.94. Trade between India and ASEAN has flourished in mechanical, minerals and vegetable products. Overall ASEAN has got an upper hand in trade and benefitted by trade surplus. Trade has been in favor of ASEAN countries during the reference period. There are trade complementarities between India and ASEAN in agriculture, machinery and minerals so trade has been expanding during the study period. India's trade relations with ASEAN have been growing at faster rate as compared to its trade with MGC. India's total trade with ASEAN in 2020 has been US $ thousand 6,52,68,826 as compared to US $ thousand 2,06,91,405 with MGC. Even trade intensity index with ASEAN has remained more than unity throughout the study period as compared to MGC. Thus, India's trade flows with ASEAN are smooth and rich as compared to MGC. The main reason for prosperous trade with ASEAN is that three nations in this association; Singapore, Malaysia and Thailand are major trading partners of India. Information technology and Infrastructure development are the two sectors where India can further develop its trade relations with ASEAN. The opportunities for collaboration of interests of India and ASEAN are immense and both have proved themselves as the befitting partners for development and growth of the region.

Intra Industry trade with Cambodia has been consistently high in case of vegetable products, wood & wood products and textiles for the study period. But it had been near perfect unity in the year 2020.Cambodia has abundance of natural resources and vegetation. Its agriculture sector and fisheries are in dominance and absorb around sixty per cent of its population. Even textile sector has progressed dramatically focusing more on export-oriented production. Cambodia has got the status of Most Favored Nation from EU, USA, Canada, Japan and Australia. LAOS PDR is an

underdeveloped and poor country so the trade with it has been limited, consequently the inter industry trade has also been negligible. There is marginal intra industry trade in vegetable products and textiles. Myanmar shares border with India and has comparatively more trade with India as compared to Cambodia and LAOS, Intra industry trade with Myanmar has shown an upward trend during the study period in two sectors animal products and leather products. Thailand is among the most developed nation. Thai economy has passed through various stages of developments, from agricultural to industrial economy. The Thai foreign trade policy of export oriented structural reforms (1992-2000) has resulted in open market-oriented regime which proposed expansion of manufacturing sector with large scope of intra industry trade. Intra industry trade with Vietnam has remained high during the study period in sectors of vegetable products, mineral products, wood products and plastic and rubber. Vietnam has agriculturally based society and has rich natural resources. Maximum of its intra industry trade is in vegetable products and minerals.

The study has applied the Gravity model to find out the correlation between determinants of Intra industry trade i.e. Total trade, GDP, Population, Level of FDI in the economy, Geographical Distance, Sharing of common border and Free trade agreements. The results have shown that IIT between India and MGC is positively corelated with GDP, Total trade and FDI but Population does not have a major impact on IIT. Furthermore, sharing of common border and FTA are two very important variables with positive correlation. India shares common border with Myanmar and it has Free Trade agreements with Thailand, Myanmar and Vietnam.

The export competitiveness of India with MGC nations has been analyzed with the help of Reveled comparative analysis index. The export competitiveness of India in industries as per technological classifications and RCA index at HS-2-digit code in 2020 has shown that index is high at 247.48 for Animal and animal products with Myanmar in Resource intensive industry, followed by Miscellaneous at RCA index of 116 in High technological intensive industry. With Thailand India has export competitiveness in Metals with RCA index of 342.75 in Low technological intensive industry, followed by vegetable products with RCA index 321.48 in Resource intensive industry, Wood and wood products with index of 247.81 in labor intensive

industry, and near unity in textile and chemical and allied industry which are low technological and medium technological intensive industries. Export competitiveness with Vietnam is highest in Metals with index of 346.87 in the category of low technology followed by Animal and animal products with index of 213.6 in Resource intensive industry, Chemical and allied industry in medium technology with 180.11 and two industries in low technology i.e., raw hides and skins with 180.11 index and textiles with170.98 index. RCA profiles of products at HS 2 Digit code for the study period has shown that India is gaining competitive position with MGC nations in Machinery, Electrical equipment, Transportation and Miscellaneous products which are high and medium technology based. India is losing its export competitiveness in resource-based products.

Thailand, Vietnam and Myanmar are the strong competitors of India in international market with high trade similarity index. Terms of trade has remained positive with Vietnam and Cambodia relatively during the study period but it has shown a deficit with countries like Myanmar and Thailand.

The export oriented foreign policy of Thailand has played an indispensable role in making it the strongest player in MGC and world by providing quality goods at competitive rates. Vietnam has also done structural changes in its economy to give a competitive edge in the global market. Myanmar has abundance of natural resources rich in fuel and gas, which makes it competitive in foreign market.

8.2 FINDINGS OF THE STUDY

India's trade relations with MGC nations have been studied for a period of 20 years from 2000 to 2020 and following findings are compiled.

- India is the largest state of MGC in terms of territory and Population. Total trade of India with member nations of MGC has increased since the inception of the Mekong Ganga Cooperation.
- Along with increase in total trade the trade deficit has also increased especially with Thailand and Vietnam.

- Trade with Laos PDR and Cambodia is negligible as these are less developed states as compared to other members.
- Direction of India's trade has always been pointed more towards China, USA and UAE.
- India's Trade Intensity index is more favourable with ASEAN as compared to MGC because of two giant economies of Singapore and Malaysia being non MGC members of ASEAN.
- India's Intra Industry trade is high with Thailand because of open trade policy of Thai economy which promoted manufacturing sector and foreign trade with India.
- Myanmar shares common border with India which has favourably affected trade and consequently Intra industry trade.
- Vietnam is rich in natural resources thus India has high Intra industry trade in Minerals and vegetable products.
- GDP, Common border and Free trade agreements are positively related determinants in Intra Industry trade.
- India has gained export competitiveness with MGC nations in Machinery, Electrical equipment, Transportation and Miscellaneous products which are high and medium technology based. India has lost export competitiveness in resource-based products.
- Thailand, Myanmar and Vietnam are competitors of India in global export market with similar export basket to offer.
- India has negative terms of trade with Thailand and Myanmar out of all MGC nations.
- The impact of cooperation is not equally distributed in the region as Laos and Cambodia are least benefitted out of this arrangement.

- The trade ties are concentrated in large industrial areas of Electrical, Mechanical and Chemicals. Small and medium scale industries are not promoted.

- Infrastructural, Institutional and Legal issues are hurdles in the rapid improvisation of the region.

- Political thrust to establish the cooperation as an individual and strong entity as others in the region is lacking.

8.3 SUGGESTIONS AND POLICIES IMPLICATIONS

In light of the analysis and inferences, a number of policy implications and suggestions have been made to improve trade and economic relations between India and MGC.

- India's trade relations with MGC are dominated with huge trade deficit. India's trade deficit is highest with Thailand and Myanmar. India can meet the Pharmaceutical and precious stones demand of these countries by focusing on these two sectors and increasing the competitiveness of its product with lesser cost and investment in skilled labor.

- India-Thailand-Myanmar highway project is the backbone of the road connectivity and infrastructural development of the region. Quick actions need to be taken to complete this long pending project for enhancing road connectivity.

- Water transport of goods especially heavy machinery and vehicles can improve trade in the region. Project like Kaladan, which connects the Indian and Myanmar ports need to be taken to offset land connectivity issues and improve trade flows.

- The CAGR of trade has increased in second phase (2010-2020) due to signing of AIFTA. Such regional agreements will boost the trade in the region. Trade liberalization between member nations is the need of the hour.

- The aim of creation of MGC was to enhance economic development by creating free trade zone. The aim is not fully implemented equally with all nations. The trade barriers need to be removed and gradually the region should try to take more nations in its ambit globally.

- Small and Medium scale industries can be promoted with financial and technical assistance in the sectors of Mechanical, Electrical and Chemical sectors. Capacity building of these sectors is needed so that they can become a part of supply chain with both sided integrations.

- LAOS and Cambodia are primary economies with abundance of untapped resources in agricultural, fisheries and natural rubber. India should try to focus on these primary industries which can provide comparatively cheaper products as compared to other developed countries.

- Efforts need to be made to attract foreign investors as FDI facilitate innovation and technical advancement in the economies and speed up the level of infrastructure and trade development. Banking and Custom procedures need to be made user friendly.

- In order to achieve export competitiveness in the product lines where India is losing advantage, it should adopt less costly production techniques and procedures for trade promotion and marketing.

- Establishment of border industrial zones and improvement in physical and digital connectivity will improve trade in leaps and bounce.

- Involvement and interaction between different stakeholders like business community, technocrats and knowledge community is required to find out new avenues in trade relations.

- Ecotourism, excursions, adventurous sports can be offered which will promote economic relations between MGC nations. Buddhism is followed as a belief in the region and many historical monuments are present in India which can be a center for tourist attraction.

- The political thrust and integrated foreign policies are required for the promotion of the region, which is otherwise lacking and resulting in sluggish trade improvement.
- Cross border security issues and bone of contentions in the region is a hindrance in smooth economic relations between member nations. Political summits can resolve the issues and create positive environment for trade promotion.
- Many anti national terrorist groups are active in North East India. India needs to have good relations with the countries sharing its land and water territory to offset and flush out these separatists. Economic wellbeing of the region is of utmost importance to achieve this aim.
- Cambodia, LAOS and Myanmar are technologically backward economies and are burdened with unskilled labor. Projects of training and skill enhancement will help in the capacity building of manpower.
- The production of Competitively positioned industries need to be given more competitive edge by following the policies of cost reduction and technical improvement. India needs to overpower China by the strategy of providing comparatively cheaper products to MGC nations with technological advancement and economies of scale.
- India's tariff structure is still on the higher side as compared to international standards. There is scope to reduce rates through bilateral agreements.
- Trade share of MGC nations with USA and China is more as compared to India. The reliance of MGC nations on USA and China has increased over the study period. India needs to provide better products as substitutes for selective products to increase the trade share with MGC nations.
- Global competition is increasing, it is necessary to continue with positive outlook. Research and Development is required for adopting cheap and better technology to increase the share of exports. Research programs with collaboration with these nations can be started to focus mainly on improvement in trade relations.

- Cultural exchange programs and brain storming sessions especially in business and leucocratic community need to be arranged to learn from each other's culture and experiences.

- MGC countries should encourage joint identification, monitoring and timely implementation of quick impact projects (QIP) schemes with collaboration of Govt. in MGC framework. These projects do infrastructural improvements for the benefit of people at grass root level.

- India must focus on improving over physical and institutional connectivity to facilitate the trade. Physical connectivity through infrastructural improvement will reduce hurdles in speedy delivery and reduce transportation and insurance costs. Institutional connectivity can be improved by framing proper rules and procedures.

In nutshell, there is a strong political and commercial case for giving importance to India's trade relations with MGC. India's role in the region is very crucial for the development of this region, as India is the largest economy in the MGC in terms of geographical area, Population and GDP. India is having fifty per cent share of total trade in MGC. India' s financial sector is regularized under the aegis of RBI. Moreover, in political framework too, India has the largest democracy in the world. Being a secular state, India promotes and protects all religions and it is rich in its cultural heritage. India is a fast-developing economy with cordial relations with other nations. All these factors make India as indispensable for the trade and economic growth of the MGC.

It is imperative for India to adopt a more accommodating, pragmatic approach by given the geo-strategic importance of the MGC member states. To begin with, the Indian establishment should create a dedicated MGC division in the Ministry of External Affairs and the Department of Commerce to face the future challenges. A proper planning and careful execution will help the Mekong Ganga subregion. Thus, strategic policy implementation can drive motivation to find solutions to common problems and economic development of the region. The fusion of cultural past could

be enriched further through a robust cooperation between the Mekong region and India.

8.4 LIMITATIONS OF STUDY

1) The study has focused on only on trade of goods. Trade of services and capital flows are not included in the study.
2) The study was focused on trade and ignored other economic factors like GDP, poverty, unemployment and development etc.
3) The study is based on secondary data only.

8.5 DIRECTIONS FOR FUTURE RESEARCH

1) Economic relations of India with other countries in the region can be covered.
2) The study can be conducted by including primary data related to exporters and importers.
3) Export competitiveness of India with MGC at Product Code HS 6 Digit can be studied in detail by applying Spearman Rank Correlation and consistency tests.
4) Within MGC countries, some other macro-economic factors like investments level and foreign exchange can be studied.

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APPENDIX – 1

TECHNOLOGICAL CATEGORIES AND SUB-CATEGORIES

The lists the top exported with RCA ranking product lines in their technological orientation and relative factor intensities such as: (a) Resource-Intensive; (b) Scale intensive/Technological Intensive- Low, medium and high; (c) Labour-Intensive; and (d) Differentiation-based (Lall, 2000).

Primary products (and special transactions, excluded completely below) do not need much analysis in terms of the technological basis of comparative advantage. Within manufactured exports, the technological categories and sub-categories are as follows:

Resource based (RB) products tend to be simple and labour-intensive (e.g. simple food or leather processing), but there are segments using capital, scale and skill-intensive technologies (e.g. petroleum refining or modern processed foods). Since competitive advantages in these products arises generally — but not always — from the local availability of natural resources, they do not raise important issues for competitiveness. However, the segments with skill and technology intensive technologies do raise important competitiveness issues. We draw a distinction between *RB1, agriculture-based* products and *RB2, others*.

Low technology (LT) products tend to have stable, well-diffused technologies. The technologies are primarily embodied in the capital equipment; the low end of the range has relatively simple skill requirements. Many traded products are undifferentiated and compete on price: thus, labour costs tend to be a major element of cost in competitiveness. Scale economies and barriers to entry are generally low. The final market grows slowly, with income elasticities below unity. However, there are exceptions to these features. There are particular low technology products in high quality segments where brand names, skills, design and technological sophistication are very important, even if technology intensity does not reach the levels of other categories. We should note that products of major interest to developing countries tend to be in the lower quality segments, and are really based on simple technologies

and price rather than quality competition. We distinguish between *LT1, textile, garment, footwear* (_fashion ‘) cluster and the *LT2, other low technology* products. The former group has undergone massive relocation from rich to poor countries, with assembly operations shifting to low wage sites and complex design and manufacturing functions retained in advanced countries. This relocation has been the engine of export growth in this industry, though the precise location of export sites in textiles and clothing has been influenced strongly by trade quotas (under the Multi-Fibre Agreement as well as offshore assembly provisions and regional trade agreements like NAFTA). Other exports that have benefited from active relocation in this group are toys, sports and travel goods and footwear. Simple metal products have not shared in this particular process, perhaps because they are not equally prone to undifferentiated mass-assembly operations, or because skill needs are somewhat higher.

Medium technology (MT) products, comprising the bulk of skill and scale-intensive technologies in capital goods and intermediate products, are the heartland of industrial activity in mature economies. They tend to have complex technologies, with moderately high levels of R&D, advanced skill needs and lengthy learning periods. Those in the engineering and automotive sub-groups are very linkage-intensive, and need considerable interaction between firms to reach _best practice ‘technical efficiency. We divide them into three subgroups. *MT1, automotive products,* are of particular export interest to newly iipecializediiing countries, particularly in East Asia and Latin America. *MT2, process industries,* mainly chemicals and basic metals, are different in their technological features from *MT3, engineering products*. Process industries have stable and undifferentiated products, often with large-scale facilities and considerable technological effort in improving equipment and iipecialize complex processes. Engineering industries emphasise product design and development. Many have mass assembly or production plants and extensive supplier networks (SMEs are often important here). Barriers to entry tend to be high. The relocation of labour-intensive processes to low wage areas occurs but is not widespread: products are heavy and need advanced capabilities to reach world standards.

High technology (HT) products have advanced and fast-changing technologies, with high R&D investments and prime emphasis on product design. The most advanced technologies require sophisticated technology infrastructures, high levels of iiipecialized technical skills and close interactions between firms, and between firms and universities or research institutions. However, some products like electronics have labour-intensive final assembly, and their high value-to-weight ratios make it economical to place this stage in low wage areas. These products lead in new international integrated production systems where different processes are separated and located by MNCs according to fine differences in production costs. We separate *HT1, electronic and electrical products* from *HT2, other high-tech products*. Apart from electronics, other high-technology products (generating equipment, aircraft, precision instruments and pharmaceuticals) remain rooted in economies with high levels of skills, technology and supplier networks. Their comparative advantage continues to be ruled by the usual technological factors. At some risk of simplification, we place RB and LT products together as having *'easy' technologies*, with the main drivers of competitiveness being natural resource endowments in the former case and low wages in the latter. MT and HT products have *'difficult' technologies*, with high skill, complex learning and demanding technological activity. The obvious exceptions, as noted, are heavy low-technology products in the LT groups that are not readily amenable to relocation to low wage areas, and at the high end, electronic products that are.

Note that this classification, based on the complexity of technology within each activity, is not meant to suggest that some categories of exports remain competitive without technological effort. All industrial activities, regardless of the level of technology, need to constantly upgrade technologies to retain international competitiveness (this also applies to many primary products). The nature of capabilities and the kinds of technological effort needed differ, of course, but there is no activity that is immune to technical change. The same applies to technology upgrading via FDI. Multinationals transfer technology developing countries in each category, but their role differs. It is higher where cost-driven relocation is particularly important, especially in highly complex and differentiated products (where there are integrated production systems), and where local capabilities are weak**.**

APPENDIX – 2

MEKONG GANGA COOPERATION (MGC) PLAN OF ACTION (2019-2022)

August 02, 2019

This Plan of Action implements the goals and objectives of the MGC Partnership for the next three years (2019-2022) by laying out activities to be undertaken by all parties to further deepen and enhance cooperation in the MGC priority sectors. 1. Cultural Cooperation.

1.1 Organize a textile exhibition along with cultural activities to showcase the varied hand-woven fabrics of the MGC countries at the MGC Asian Traditional Textile Museum (ATTM), Siem Reap, Cambodia, involving the National Handlooms Promotion Development Agencies.

1.2 Promote capacity building and exchange best practices in preservation of historical and cultural monuments through exchange of delegations, conduct of workshops and training programmes. In this context, India will continue to offer ten scholarships, two each to Mekong countries for training in museology and conservation techniques at National Museum Institute, New Delhi.

1.3 Establish a Common Archival Resource Center (CARC) at Nalanda University as a repository of information on areas such as archeological sites, world heritages, history of trade, population and religious distribution data, and historical linkages between India and Southeast Asia for the use of academicians, researchers and scholars.

1.4 Invite craftsmen and cultural troupes from MGC countries to participate in prominent cultural fairs and festivals in India like Surajkund Mela of Haryana, Pushkar Mela of Rajasthan, Sangai Festival of Manipur, Hornbill Festival of Nagaland and Bali Jatra of Odisha etc. and conversely, encourage participation of Indian craftsmen and artistes in the cultural fairs and festivals in Mekong countries.

1.5 Cooperate in the field of radio and television broadcasting through exchange of content and programmes, exchange of personnel for training purposes, sharing of technical expertise and joint production of documentaries that enable promotion of cultural tourism among the MGC countries.

1.6 Develop a joint calendar of important Travel Fairs and Cultural Festivals in MGC countries for information dissemination and promotion.

1.7 Organise an MGC Conference on Heritage Conservation Techniques in 2020 at the MGC Asian Traditional Textile Museum at Siem Reap, Cambodia where archaeologists, and conservation agencies could come together to share experiences on conservation techniques most suitable for the climate of the region.

1.8 Organize events and activities to celebrate the 20th Anniversary of MGC in 2020 in a befitting manner, including production of a video documentary capturing salient achievements of the MGC since its formation in the year 2000; organizing an MGC cultural event showcasing music, visual and performing arts, cuisine; and joint inauguration of a QIP in Viet Nam during MGC Ministerial Meeting.

2. Tourism Cooperation

2.1 Organise trips of travel agencies and media familiarization visits to prominent Buddhist sites in MGC countries, and encourage travel agencies and tour operators to come up with tour packages for thematic circuits such as Buddhist Trails with multiple destinations in two or more MGC countries.

2.2 Showcase and popularise the rich culinary traditions of the MGC countries by organising food festivals.

2.3 Encourage exchange of students through offer of scholarships for diploma and certificate courses in tourism and travel management, hospitality management etc. To this end, Ministry of Tourism, Government of India will offer 5 scholarships (one to each MGC country) at Indian Institute of Tourism Management or Indian Institute of Hotel Management.

2.4 Develop institutional contact between National Hospitality/ Tourism Management Institutes or related agencies through exchange of experts, training collaboration and exposure visits of students.

3. Cooperation in Education

3.1 Promote the 50 MGC scholarships offered by the Indian Council for Cultural Relations (ICCR) to enhance utilisation by students from the Mekong countries.

3.2 Promote training in traditional systems of medicine through exchange of faculty and students among national institutions. Ministry of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy, Government of India will offer 10 scholarships annually to MGC countries for students interested in pursuing under-graduate/post-graduate/Ph.D in Ayurveda, Unani, Siddha, Homeopathy and Yoga.

3.3. Organize workshops and training programmes in digital connectivity and ICT infrastructure development for government officials from MGC countries.

3.4 Launch a website dedicated to MGC which would contribute to branding of the regional grouping and provide useful information on the various joint programs and activities.

4. Cooperation in Public Health and Traditional Medicine

4.1 Organize the 2nd workshop-cum-training for MGC countries' officials in India on eradication of communicable and non-communicable diseases with high incidences at the National Institute of Malaria Research, New Delhi.

4.2 Send Indian Ayurveda specialists under the Indian Technical and Economic Cooperation Programme (ITEC) of the Ministry of External Affairs, Government of India to Mekong countries upon request.

4.3 Organize a regional workshop on traditional and complimentary medicine focusing on issues related to regulatory systems and standardization procedures involving traditional medicinal systems of the region.

5. Cooperation in Agriculture and Allied Sectors

5.1 Organise a workshop on preservation of rice germplasm and productivity enhancement through mechanization by Crop Science Division, Indian Council for Agricultural Research.

5.2 Organise a workshop on sustainable fisheries and dairy by Fisheries Science Division/Animal Science Division, Indian Council for Agricultural Research.

5.3 Organise training courses/workshops on 'Integral Rural Development and Sustainable Development Goals (SDGs)' at National Institute of Rural Development & Panchayati Raj, Hyderabad for MGC countries' professionals, including in the areas of community-based farming and its adaptation to the challenges of climate change as well as rural information technology and rural water supply technology.

6. Cooperation in Water Resources Management

6.1 India will conduct training programmes and workshops to exchange experiences and best practices in community farming and water resource management.

6.2 Undertake collaborative projects in the areas of sustainable water management, water harvesting, water data collection, climate change adaptation and mitigation, integrated water resources management, groundwater management, transboundary basin management, water quality monitoring, flood and drought management and disaster reduction etc.

7. Cooperation in Science and Technology

7.1 Host an Innovation Forum in one of the MGC countries to promote social innovations in agriculture, transport, communication, industrial know-how transfer, e-commerce, information and communication technology (ICT), health, energy and environment, food etc.

8. Cooperation in Transport and Communications

8.1 Examine the feasibility of extending the India-Myanmar-Thailand Trilateral Highway to Cambodia, Lao PDR and Viet Nam, and its development as an economic growth corridor.

8.2 Explore ways and means for the conclusion of the India-Myanmar-Thailand Motor Vehicle Agreement to facilitate seamless movement of goods and passengers across borders, thus leading to greater trade and tourism.

8.3 Organise training programmes for MGC countries on preparation of feasibility studies and detailed project reports for highway projects and construction and maintenance of highways at the Indian Academy of Highway Engineers, NOIDA.

8.4 Promote exchange of experiences and information on policies and management regulations of ICT industry, popularization of public services, development of ICT infrastructure, e-governance, e-commerce, e-education and other related e-services.

8.5 Enhance connectivity and cross-border ICT services to promote e-commerce as well as social and cultural exchanges.

9. Cooperation in MSMEs

9.1 Organize an MGC Trade Fair either in India or any other MGC country in conjunction with a prominent trade exhibition focusing on MSMEs.

9.2 Task the Jakarta-based Economic Research Institute for ASEAN and East Asia (ERIA) to conduct research studies on 'Integration of MGC MSMEs into a Regional Production Chain: Potential and Challenges'.

9.3. Enhance cooperation in MSMEs sector with special focus on Youth and Women empowerment among the MGC countries.

9.4. Conduct exchange programmes on innovation and market access for MSMEs as well as on software training and online payment system development.

9.5 Organize an MGC Business Forum focusing on MSMEs on the sidelines of ASEAN-India Business Expo and Summit to be organized by Viet Nam in 2020.

10. Skill Development and Capacity Building

10.1 Organise training and scholarship programmes for MGC countries in the areas of national accounts statistics and large scale socio-economic sample surveys.

10.2 Facilitate knowledge sharing through exchange visits by experts from vocational training institutions and skill development authorities.

10.3 Organise annual training programmes on the topics related to MGC areas of cooperation as well as other relevant issues which are in line with the SDGs under Thailand's Annual International Training Courses – AITC.

11. Quick Impact Projects Scheme

11.1 Encourage joint identification of projects, their monitoring and timely implementation of the Quick Impact Projects scheme of the Ministry of External Affairs, Government of India under the MGC framework.

Bangkok
August 01, 2019

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