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# EXPANDING ACCESS TO EXPRESS COURIER SERVICES THROUGH THE BENAPOLE- PETRAPOLE LAND PORT

ECONOMIC STUDY

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ECONOMIC STUDY

**Contract No. GS-23F-0217P, Task Order No. AID-OAA-M-12-00008**

## DISCLAIMER

The authors' views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States government. It was written by Dr. Selim Raihan, a professor in the Department of Economics at the University of Dhaka and the Executive Director of SANEM, with assistance from Md. Nazmul Avi Hossain, Md. Jahid Ebn Jalal and Md. Sadat Anowar of SANEM.



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# ACRONYMS

ADB	Asian Development Bank
AMEG	USAID Asia and the Middle East Economic Growth Best Practices Project
ASYCUDA	Automated System for Customs Data
B2B	business to business
B2C	business to consumer
B2G	business to government
BBIN MVA	Bangladesh Bhutan India Nepal Motor Vehicles Agreement
BGMEA	Bangladesh Garment Manufacturers and Exporters Association
BLPA	Bangladesh Land Port Authority
BSTI	Bangladesh Standards and Testing Institution
CII	Confederation of Indian Industry
C&F Agent	clearing and forwarding agent
CGE	computable general equilibrium
ECTS	Electronic Cargo Tracking System
FBCCI	Federation of Bangladesh Chambers of Commerce and Industry
FICCI	Federation of Indian Chambers of Commerce & Industry
GDP	gross domestic product
GTAP	Global Trade Analysis Project
GPS	global positioning system
ICP	integrated check post
IT	information technology
LCS	land customs stations
LDC	Least Developed Countries
LPA	Land Port Authority
NTBs	non-tariff barriers
NTMs	non-tariff measures
RFID	Radio-Frequency Identification

RMS	Risk Management System
SANEM	South Asia Network on Economic Modeling
SME	small and medium-sized enterprise
SPS	sanitary and phytosanitary standards
TBTs	technical barriers to trade
UNCTAD	United Nations Conference on Trade and Development



# EXECUTIVE SUMMARY

Currently, a Bangladeshi small or medium sized enterprise (SME) cannot send small shipments via ground transportation to India using international express delivery services such as UPS, FedEx, or DHL. These shipments must travel via air, which inflates shipping costs and impedes Bangladeshi SMEs ability to serve India's burgeoning middle class and the opportunities presented by the rapid expansion of e-commerce (through such services as Amazon, eBay, Snapdeal, and Flipkart). In early 2017, the USAID Asia and Middle East Economic Growth Best Practices Project (AMEG) proposed a pilot project to demonstrate the viability and impact of expanding express shipments to the Benapole-Petrapole land port, one of the highest volume land ports in Asia.

*Proposed dual trial run.* Through this demonstration pilot, an express courier truck would travel from the Kolkata, India airport across the Benapole-Petrapole border crossing to the Dhaka, Bangladesh airport and vice versa. This proposed Dual Trial Run would be conducted according to the draft protocols of the Bangladesh Bhutan India Nepal Motor Vehicles Agreement (BBIN MVA). The BBIN MVA was signed by all four governments in 2015; however, it is still pending ratification in Bhutan. Stakeholders interviewed by AMEG expect the agreement to be ratified and fully implemented eventually.

Based on economic theory and stakeholder discussions, the AMEG team believed that the proposed dual trial run, if fully implemented, would reduce express courier shipping costs thereby increasing market access for Indian and Bangladeshi businesses, reducing prices for consumers, and accelerating regional integration. Yet key stakeholders within the Government of Bangladesh expressed skepticism about the impact of such an initiative and AMEG lacked hard evidence — i.e., economic analysis — predicting the impact of such reforms and promote evidence-based policy making.

*Research methods.* AMEG engaged the South Asia Network on Economic Modeling (SANEM) to conduct research to predict the economic impact of the governments of Bangladesh and India allowing express courier shipments via truck through the Benapole-Petrapole border crossing. SANEM Executive Director Dr. Selim Raihan and his team are the main authors of this report. To conduct the economic analysis presented, the SANEM study employed the computable general equilibrium (CGE) modeling framework of the Global Trade Analysis Project (GTAP), which is considered one of the best ways to analyze ex ante the economic consequences and trade implications of multilateral and bilateral trade agreements. In addition, the research team reviewed existing literature

## SANEM TEAM

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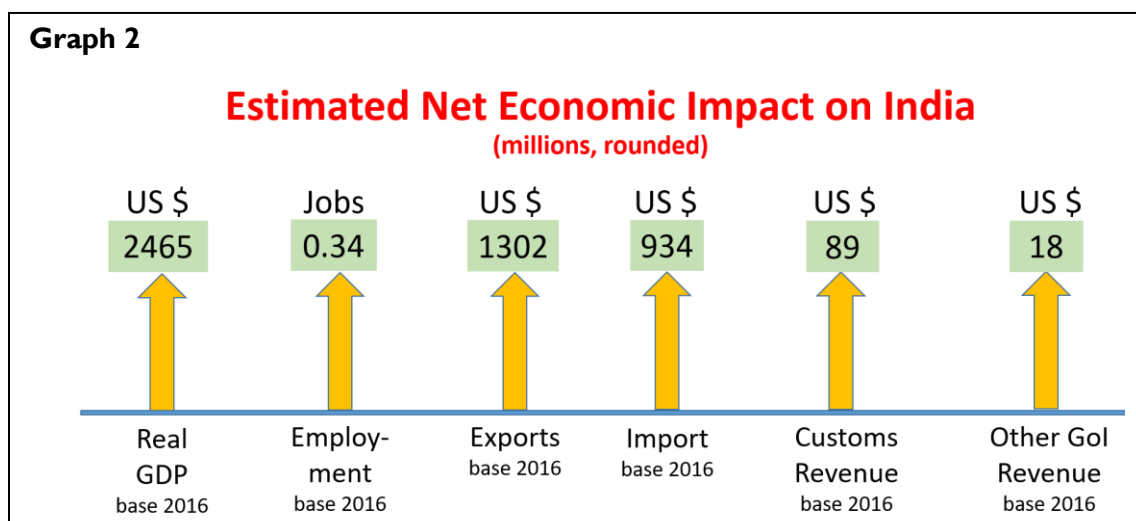
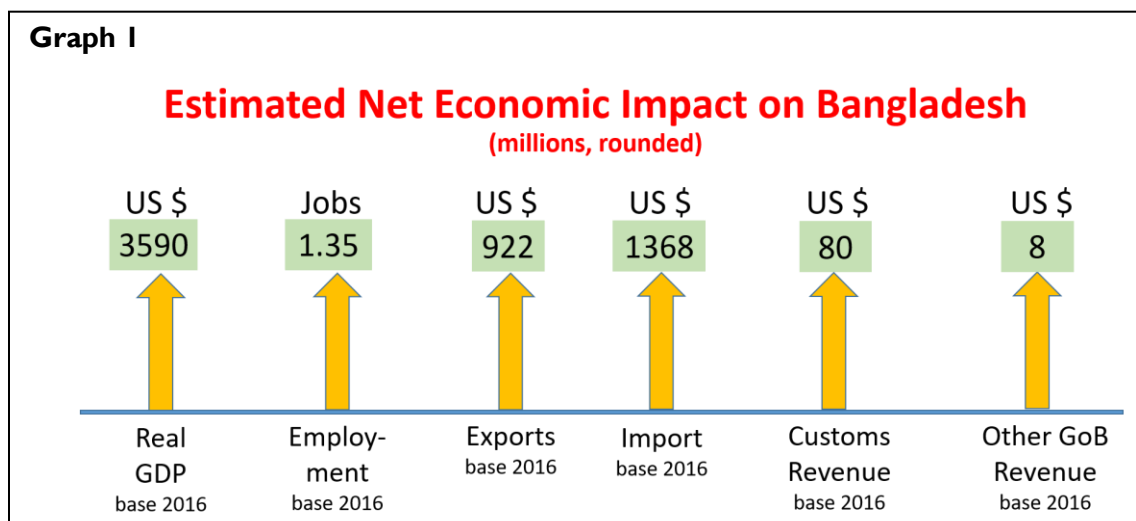
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and economic research, held interviews with key stakeholders, and visited key facilities where the proposed pilot would take place.

*Key conclusions.* SANEM’s economic model shows that express courier services via truck through land ports would result in significant positive economic gains for both Bangladesh and India. The gains are significant in terms of positive changes shown in indicators such as employment, export-import, and real GDP. As depicted in the Graph 1 and Graph 2, the SANEM study predicts the following additional economic benefits to accrue to Bangladesh and India over a 5-year period as a result of such regularization:

- Estimated Increase in Regional GDP: \$6,055 million
- Estimated Increase in Regional Employment: 1.69 million jobs
- Estimated Increase in Net Bilateral<sup>1</sup> Trade: \$2,263 million
- Estimated Increase in Regional Government Revenue: \$195 million



<sup>1</sup> Total imports plus total exports divided by two

In addition to the impacts highlighted above, the increased flow of information, faster communication, and enhanced knowledge sharing will contribute to other components of trade and regional connectivity between the two countries. This will set standards for other countries under the BBIN-MVA and demonstrate the potential for additional reform. It is important, however, to note that this study is a first step. Successful implementation of this Express Courier Dual Trial Run will shed light on the limitations, best practices, and relevant constraints needed to scale-up this project in the future.

## SECTION I

# INTRODUCTION

### A. BACKGROUND

The Express Courier Dual Trial Run is an initiative under the draft protocols of Bangladesh-Bhutan-India-Nepal Motor Vehicles Agreement (BBIN-MVA) with respect to the transit of express courier shipments via trucks and cargos between the customs facilities at Benapole land port and at Petrapole land port. The idea for the Dual Trial Run came out of the U.S. Department of State-sponsored Indo-Asia Connectivity for Shared Prosperity Conference in Kolkata in December 2017. The USAID Asia and Middle East Economic Growth Best Practices Project (AMEG) worked closely with private sector partners in Bangladesh and India — namely, the Business Initiative Leading Development (BUILD) and the Confederation of Indian Industry (CII) — to design the Dual Trial Run and engage the governments of India and Bangladesh to solicit input and buy-in for the demonstration pilot.

In the modern era of globalization, the world is trending towards a convergence where trade facilitation is not limited to the boundary of export-import. The inflow and outflow of ideas and the movement of information, knowledge, and insights have become new avenues of modern civilization's trade. The nations who have adopted the most favored policies for transferring ideas, knowledge, and information have progressed the most in past few decades.<sup>2345</sup> This highlights the importance of sending and receiving documents, books, news, e-commerce, and sensitive information through express courier services — quickly and affordably.

Under the historic Motor Vehicle Agreement (BBIN MVA) signed among Bangladesh, Bhutan, India, and Nepal, this geographic landscape aims to provide seamless people-to-people contact and enhance economic interaction by facilitating the cross-border movement of people and goods. Express courier services are one of the major areas which can significantly influence the communication and trade related exchange of documents among these four countries. With bilateral trade volume of around US\$ 6.5 billion in recent years<sup>6</sup>, India and Bangladesh are two of the most strongly associated countries in this BBIN region. It is important to diagnose the opportunities, scopes, constraints, and probable solutions in optimizing the express courier services between

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<sup>2</sup> OECD (1999). *The Future of the Global Economy: Towards a Long Boom?* The Organisation for Economic Co-operation and Development. Paris

<sup>3</sup> Ahya, C. and Xie, A. (2004), *New tigers of Asia. India and China: a special economic analysis*. Morgan Stanley, July 26, 2004, 59 p.

<sup>4</sup> Amable, B. (2000), *International specialization and growth*. *Structural Change and Economic Dynamics*, Vol. 11, pp. 413-431.

<sup>5</sup> Timmer, C.P. (2004), *The road to pro-poor growth: The Indonesian experience in regional perspective*. Working Paper 38, Center for Global Development, April 2004

<sup>6</sup> Raihan, S. (2015). "South Asian Economic Union – Challenges and Tasks Ahead". *South Asia Economic Journal* September 2015. 16: 3S-18S

these two countries, as their relationship is highly important for the regional connectivity.

## **B. RATIONALE AND OBJECTIVES OF THE STUDY**

Through this study, the South Asia Network on Economic Modeling (SANEM) conducted an economic analysis to predict the impact of a more effective express courier service provision system, in terms of lower cost and increased efficiency in time management, on the Indian and Bangladeshi economies. More specifically, this study analyzes the impact on the demand side of the expanding express courier services to the Benapole-Petrapole land port. In addition, this study reviews the existing situation and practices of express courier service provisions and e-commerce in India and Bangladesh and critically diagnoses the economic gains, probabilities, opportunities and existing challenges of the short-run Express Courier Dual Trial Run project.

The objective of this study is to use primary and secondary data sources to develop a model for estimating the impact of running a trial run on express courier services between Bangladesh and India via truck using the Benapole and Petrapole land ports. The impact includes, but is not limited to, the projected growth of general and e-commerce trade between Bangladesh and India, and with other countries; and of private and public investment, employment, and revenues resulting from, or required to enable, this increased trade. This study also focuses on the economic gain from the express courier services as a crucial component that complements other trade related issues between Bangladesh and India. The opportunity cost of time, cargo trucks as a medium of courier service, and use of land ports are analyzed critically in this report to address the key constraints for a trial run pilot project.

### **STUDY OBJECTIVES**

As per the rationale of this study, there are four objectives of this study. The outline of this report is linked to the following objectives:

- i) To assess the status quo in sending and receiving documents through express courier services from Dhaka to Kolkata and from Kolkata to Dhaka.
- ii) To examine the potential benefits of the express courier service by trucking between Dhaka and Kolkata
- iii) To identify the existing constraints and areas to mitigate in facilitating the Dual Trial Run express courier service provisions through cargos.
- iv) To recommend policy suggestions for the improvement of the existing situation and frontiers of this Dual Trial Run express courier services through cargos.

## **C. THIS STUDY VIS-À-VIS THE DEMONSTRATION PILOT**

The Express Courier Dual Trial Run project aims to examine, fine-tune, and assist in finalizing the draft protocols of the BBIN MVA, as they support the effective and efficient express courier shipments between Bangladesh and India using land ports. The final purpose of this project is to accelerate the regularization of daily express courier

consignments by trucks between Bangladesh and India via land ports of Benapole and Petrapole under the BBIN MVA. Express courier delivery by trucks is not allowed currently between Bangladesh and India, which is an impediment in cross border trade between Bangladesh and India. This practice works as a NTB among these countries, inflating express courier shipping costs by approximately 30-40 percent, according to interviews with DHL. This has a massive cost implication of small and medium entrepreneurs seeking to rapidly growing e-commerce markets. The BBIN MVA issues a structure for extended express courier trade between these countries by allowing a single truck to drive from Dhaka to Kolkata and vice-versa. Proper implementation of this system will reduce the cost of trade for the majority of the relevant parties, reduce the price for final consumers, and accelerate the rapidly growing e-commerce trade between Bangladesh and India. However, the concept of the Dual Trial Run Project on express courier services through cargos is completely new and the proper justification, constraints, probability, cost benefit analysis may appear only after a pilot implementation of this project.

#### **D. METHODOLOGY**

The methodology of this study includes the following components.

1. **Desk research:** Review of the BBIN MVA and relevant policies, laws, regulations, and other studies and assessment of the reports of express courier service providers and other secondary sources of information.
2. **Data collection:** Collection of data from the relevant stakeholders. Annex A shows the list of relevant stakeholders.
3. **Site visits:** One of the tools of this study was visiting important sites in both India and Bangladesh. For instance, the research team visited the Benapole custom house, Petrapole custom house, Dhaka airport, courier service providers, officials from Bangladesh and Indian Governments, and relevant private sector experts to observe the current situation firsthand. Annex A shows the list of major visits.
4. **Interviews of stakeholders:** The research team interviewed stakeholders in Bangladesh and India using a questionnaire designed before the study. The study reflects consultations with representatives from Amazon India, eBay India, DHL India, DHL Bangladesh, FedEx Bangladesh, and Sundarban Courier Services, among the stakeholders.
5. **Application of the economic models:** The economic analysis has been done through the Partial and General Equilibrium Models using Global Trade Analysis Project (GTAP) simulation.

## SECTION 2

# EXISTING SYSTEM AND PRACTICE

### A. EXPRESS COURIER

The ultimate goal of this study is to analyze accelerated regularization of daily express courier shipments by trucks between Bangladesh and India via Benapole-Petrapole, which is currently prohibited. This de facto prohibition is an NTB to trade between these key South Asia trading partners.

**Figure 1: Current Situation: Courier Airport-to-Airport Only**



Source: SANEM Survey, 2017

Figure 1 demonstrates the process of existing courier shipments services between Bangladesh and India. In both of the countries, the process is the same. Customers provide the courier parcels to the express courier service providers, and the express courier service providers package the parcels and send the shipments to the airport through cargos. From the cargos, the shipments are transferred to air cargos, who fly to the destination (Dhaka to Kolkata and Kolkata to Dhaka). The shipments then go to the courier service providers of the respective countries and finally the courier service providers send the parcels to the receivers.

### B. E-COMMERCE

Electronic commerce (e-commerce) is emerging fast in as the world becomes increasingly globalized. The rapid expansion of e-commerce is a major break for local and international trade expansion of Least Developed Countries (LDCs), including Bangladesh. The buyers or importers clearly benefit through online access to new markets, by which they can access or sell products in other countries. At present, there is no direct e-commerce between Bangladesh and other countries. However, products from e-commerce platforms from other countries come to Bangladesh through courier shipments, which have extra costs incurred by the customers for each shipment. The e-commerce sector is expected to fare particularly well in a developing country such as Bangladesh. Given the unprecedented increase in internet use, Bangladesh will record 72

percent growth per year in e-commerce transactions<sup>7</sup>. As detailed below, e-commerce presents many advantages:

- Lower cost of operations by avoiding expenses on logistics, such as physical spaces, smaller work force, and occasionally, lower inventory levels
- Greater international and global market reach
- Ability to increase product variety with a scope for product differentiation
- Increased ability to penetrate international barriers

However, in the case of Bangladesh and India trade relations, e-commerce is still operating in a limited way, primarily through business to business (B2B) transactions. The Bangladesh Garment Manufacturers and Exporters Association (BGMEA) is operating through this B2B method by sending and receiving samples to India for RMG products, but are unable to send samples via the Benapole-Petrapole border.

*Recent reforms to promote e-commerce growth.* There are a lot of steps to allowing seamless e-commerce trade between Bangladesh and India, some of which have already been made. In 2009, the central bank of Bangladesh approved online payments, and in 2013 the Bangladesh Bank approved the use of debit and credit cards for online payment. According to the E-commerce Association of Bangladesh<sup>8</sup>, there are 8,000 e-commerce pages on Facebook alone. The growth of the industry has been inhibited by low usage of credit and debit cards, and the lack of other digital peer-to-peer payment options (such as PayPal in the United States or Paytm in India), although PayPal announced its arrival in Bangladesh in March 2017. In 2016, the Bangladesh government opened e-commerce sites for every district in the country and the Federation of Bangladesh Chambers of Commerce and Industry (FBCCI) recommended the removal of tax on e-commerce. In the context of Bangladesh, although some e-commerce businesses have risen to prominence, the sector is still considered to be at an embryonic stage, and its contribution to economic growth is expected to increase exponentially. To win the next wave of online shoppers, e-commerce platforms in Bangladesh must ensure high-quality products, on-time delivery, and better after-sales services.

## **CURRENT E-COMMERCE SITUATION BETWEEN BANGLADESH AND INDIA**

At the moment, if a consumer from Bangladesh orders something via Amazon or eBay in India, there is no formal way of sending the product directly to Bangladesh. The only option available to the consumer is to find a third-party — either an individual coming from India or a courier company — and arrange the logistics themselves (see text box on next page). The possible use of e-commerce by Bangladeshi consumers and businesses with foreign firms is much brighter and can play an important role in boosting the country's export and import. If the express courier service by trucking between

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<sup>7</sup> The Daily Star. “Bangladesh to see 72pc growth in e-commerce sales”. November 17, 2016. <http://www.thedailystar.net/business/bangladesh-see-72pc-growth-e-commerce-sales-1315810>

<sup>8</sup> Chowdhury, M.H. (2017). “Online shopping adding flair to the market”. The Independent. 13 July 2017. <http://www.theindependentbd.com/post/103792>



Dhaka and Kolkata is in place, there are high hopes that increased shipping options and reduced express courier costs would help accelerate rapidly growing e-commerce trade between Bangladesh and India.

#### E-COMMERCE SHIPMENTS BETWEEN INDIA AND BANGLADESH

Today, if a Bangladeshi consumer orders something through Amazon or eBay from India, there is no formal system to transport those products from Indian online markets/platforms directly to Bangladesh. The person ordering from Bangladesh must identify a third party to transport the product ordered on Amazon or eBay to Bangladesh. For example, a Bangladesh consumer will have an order shipped to someone in India who receives the product from Amazon or eBay on behalf of the consumer and then finds another method of transporting the consignment to Bangladesh. E-commerce shipments often arrive in Bangladesh with the help of travel agencies through the Dhaka airport; yet that system has to be managed entirely by the consumer. The online business platform in India is not liable or accountable to organize, manage, and monitor this informal system. As a result of these challenges, consumers face unpredictable and uncertain timing of delivery. Given the lack of accountability, many times shipments fail to even reach the buyer in Bangladesh.

*Informal e-commerce trade between Bangladesh and India.* There exist informal methods of delivering and receiving products which have been ordered in other countries, from Bangladesh. The most common and popular method is: customers order products through an e-commerce platform and communicate with a person from that country who is traveling to the customers' country and bringing the products. For instance, Backpack is an U.S.-based e-commerce platform that brings products for Bangladeshi people ordered on Amazon.com through people traveling to Bangladesh from America. The process is the same for other countries to send products there.

The increased use of e-commerce by Bangladeshi producers to export their products and/or import inputs depends on internet access, as well as that of the buyers of final products and the sellers of intermediate goods and services. There are three categories of e-commerce: B2C, B2B, and Business-to-Government (B2G). As mentioned above, B2C is almost non-existent in Bangladesh, while a very limited level of B2B and Business-to-Government (B2G) dealings exists. The possible use of e-commerce by Bangladeshi consumers and businesses with foreign firms is much brighter and can play an important role in boosting the country's export and import. A significant volume of B2G is also possible, as the government remains the biggest spender.

In the case of B2B operations, business is centered on selling goods and services to other organizations. BGMEA has utilized B2B e-commerce to receive orders for garments from clients outside Bangladesh. Four other popular sites are Addressbazaar, Bangladesh, BusinessGuide, and Bizbangladesh. Sindabad is considered as the first B2B e-commerce platform in Bangladesh.

However, it is important that these two countries access the B2C e-commerce features, as well, in order to increase the business opportunities and open up markets for SMEs. This segment grew through the growth of home-delivery of food companies such as HungryNaki and FoodPanda, which operate inside Bangladesh and India. There are other companies based on Facebook which allow people in Bangladesh to buy products from USA, UK, and India. For example, Daraz.com has also become a very popular platform

for online shopping. The majority of the transactions are carried out through cash on delivery. In contrast, there are no such cross-border B2C methods currently in India or Bangladesh which facilitate trade between businesses and consumers.

*Keys to e-commerce integration.* As described above, integrated order tracking systems result in higher customer satisfaction and better business management. Cost effective GPS technologies can be easily integrated that allows both the business and the customer to track orders and thereby manage the time better. Product quality and product delivery on specified time are the most important matter in e-commerce from both sides. Therefore, in cross-border e-commerce, where the products will be transferred from Bangladesh to India or India to Bangladesh, the customs procedures should be smooth, technological barriers and cross-border constraints must be removed, and transportation facilities need to be improved as early as possible.

## SECTION 3

# PROPOSED SYSTEM

Both outbound and inbound express courier trucks will carry consignments of one or more of the following World Customs Organization defined types:

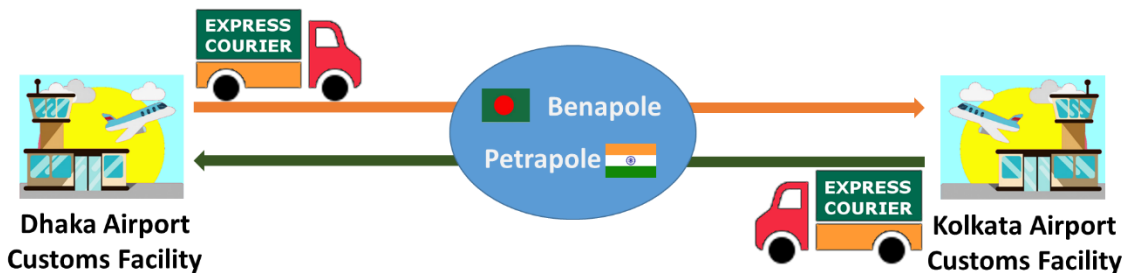
- correspondence and documents
- low-value non-dutiable items, and
- low-value dutiable items

### A. PROPOSED SYSTEM OF EXPRESS COURIER SERVICE BETWEEN DHAKA AND KOLKATA

**Outbound Consignments (Bangladesh to India):** The outbound express courier truck will contain items of Bangladeshi origin or third-country origin, and will be consigned to either Indian consignees or for onward shipment to consignees in third countries.

**Inbound Consignments (India to Bangladesh):** The inbound express courier truck will contain items of Indian origin or third-country origin, and will be consigned to either Bangladeshi consignees or for onward shipment to consignees in third countries.

Figure 1: Proposed System: Courier by Truck



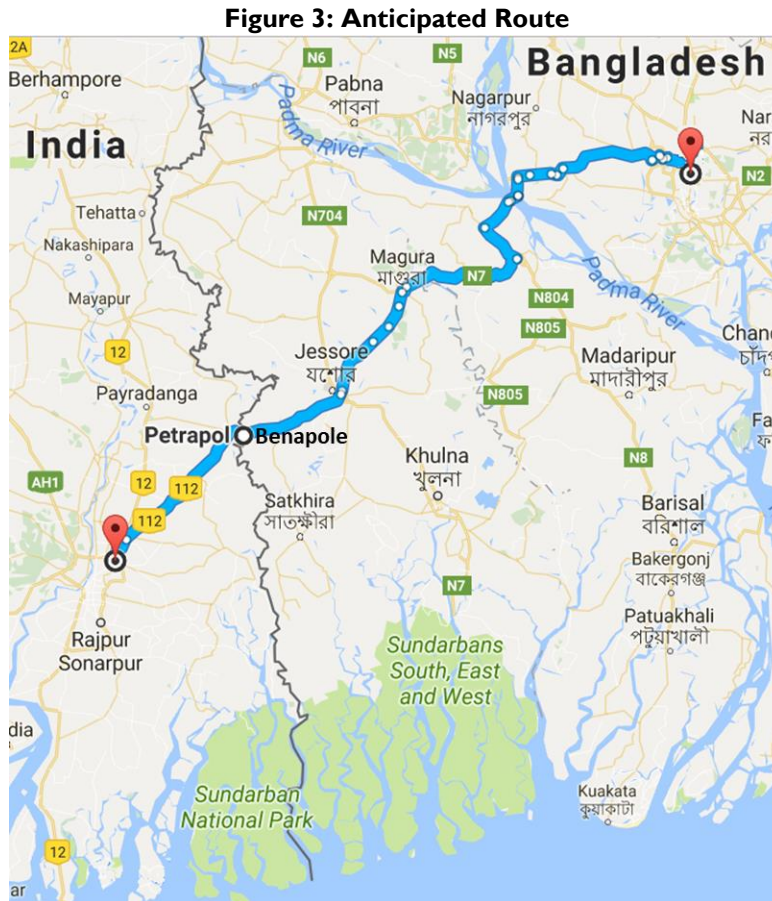
Source: AMEG Project

Figure 2 shows the proposed system of express courier service by trucks through Benapole-Petrapole land port where the consignments will transfer directly from Dhaka to Kolkata via land-port in preference to air.

### B. ANTICIPATED ROUTES

The anticipated outbound consignment routes are from Bangladesh Customs, Dhaka Airport along Bangladesh Highways N5, N7, N702, and N706 to the Bangladesh Customs, Benapole. And then, from India Customs, Petrapole along India Highway 112 to the India Customs at Kolkata Airport.

The anticipated inbound consignment routes from India Customs, Kolkata Airport along India Highway 112 to the India Customs, Petrapole. And then, from Bangladesh Customs, Benapole along Bangladesh Highways N706, N702, N7 and N5 to Bangladesh Customs, Dhaka Airport. Figure 3 shows the defined routes.



Source: Google Maps, 2017

## C. SHIPMENT SECURITY

### C1. RADIO FREQUENCY IDENTIFICATION (RFID) SEALS

Inbound and outbound trucks will be secured by Radio Frequency Identification (RFID) seals to the access door of each truck for entire journey in both directions. RFID seals emit an alert signal to authorities if access door is tampered with or illegally opened. This seal will help to make the shipment faster, as the checking procedure by the Benapole customs and Petrapole customs will be easier and time efficient.

### C2. GLOBAL POSITIONING SYSTEM (GPS) TRACKING

Inbound and outbound trucks can be tracked using India's Electronic Cargo Tracking System (ECTS) to which Bangladesh authorities will have access to detect route diversions. Figure 4 shows the proposed credible shipment security by using RFID seals and GPS tracking.

**Figure 4: RFID Seals and GPS Tracking**



Source: SANEM, 2017

### **C3. BONDS, GUARANTEES AND INSURANCE**

A designated international courier operator will obtain any bonds, bank guarantees, and insurance as may be required to cover the consignments, the truck, the driver, and any third-party risks. DHL Express is interested in being the designated operator. After outbound consignments have been loaded into the truck at Dhaka, the truck's cargo section would be sealed with a RFID seal applied by Bangladesh customs. Then, using the domestic transit module in ASYCUDA, the truck would be cleared for domestic transit to Benapole. The sealed truck will then proceed via the above-specified outbound route to the Bangladesh customs facility at the Benapole border crossing. On arrival at the Benapole customs facility, the sealed truck would be expedited across the border as if an express traffic lane existed at Benapole. In this process, Bangladesh Customs will only verify that the truck's RFID seals had not been broken. The truck would cross to India customs at Petrapole which would verify that the RFID seal was unbroken, and use their domestic transit module to clear the trucks for transit to Kolkata Airport to which the trucks would then proceed for final consignment processing. The above processes would be repeated in reverse order for the truck to return carrying consignments from Kolkata to Dhaka.

## SECTION 4

# ANALYSIS OF THE POTENTIAL GAIN FROM THE PROPOSED SYSTEM

### A. POTENTIAL PARTIAL EQUILIBRIUM EFFECT OF EXPRESS COURIER BY TRUCKING

As detailed in Table I, data provided by DHL indicate that total Bangladesh-India trade being handled by express courier is around USD 16 million annually. We consider a scenario of 40 percent reduction of the price, based on estimates provided by DHL of the reduction of shipping costs. Considering express mail's price elasticity of demand equal to -1.6, the estimated rise in the trade would be from current USD 16 million to USD 26.24 million — a rise of 64 percent. This is an estimate of the partial equilibrium effect. The general equilibrium effects would be much larger.

Table I: Annual Express Courier Trade Figures

SERVICE DIRECTION	NUMBER OF PARCELS PER MONTH	AVERAGE VALUATION PER PARCEL (USD)	AVG MONTHLY TRADE FIGURES (AVG PARCEL VALUE*AVG NO OF PARCELS PER MONTH) (USD)	ANNUAL TRADE FIGURES (USD)
INDIA TO BANGLADESH (INDIAN EXPORT)	6,000	\$150	\$900,000	\$10,800,000
BANGLADESH TO INDIA	4,000	\$120	\$480,000	\$5,760,000

Source: DHL

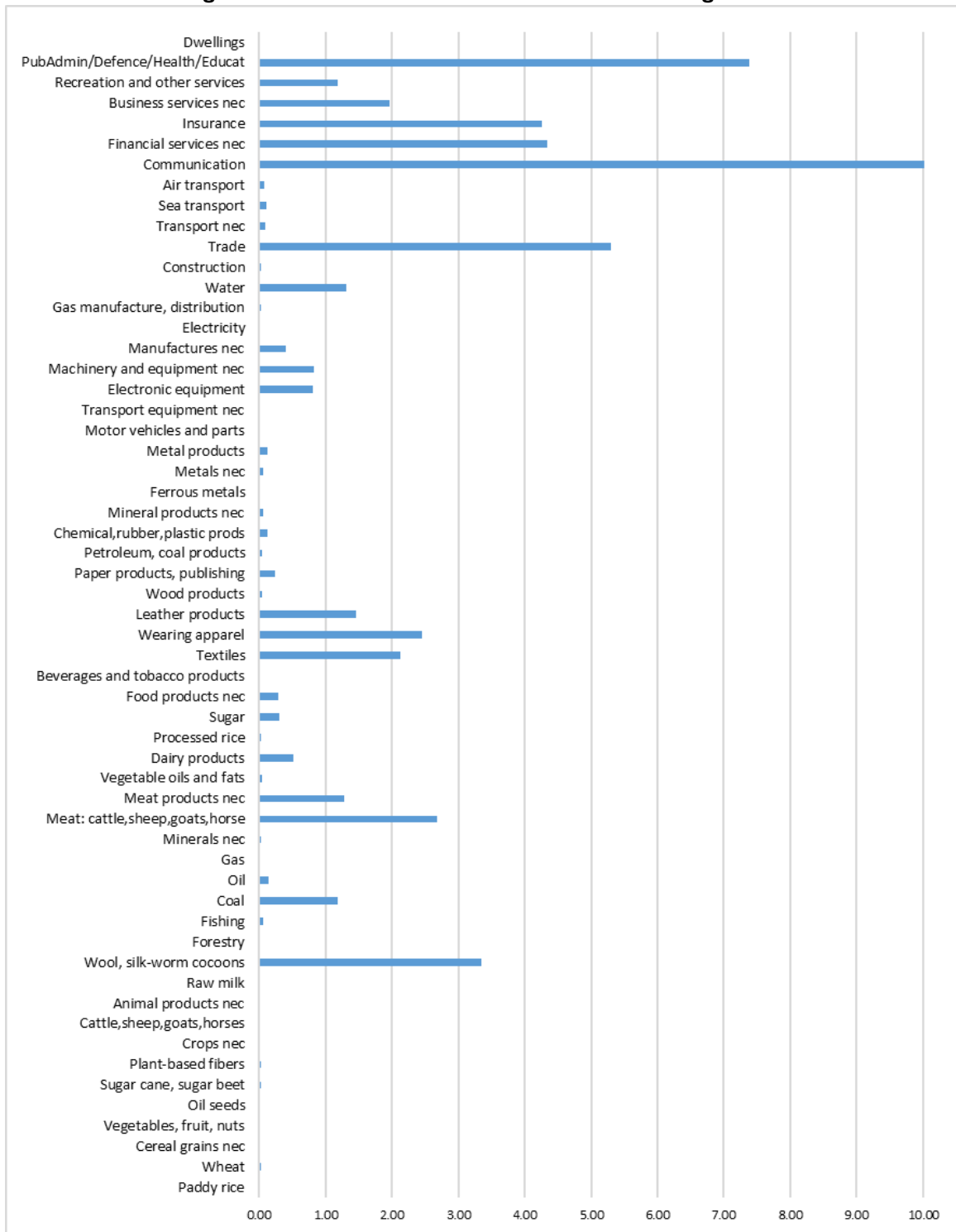
### B. POTENTIAL GENERAL EQUILIBRIUM EFFECTS OF EXPRESS COURIER BY TRUCKING

The GTAP model is a global CGE modeling framework of the GTAP<sup>9</sup> and is a useful tool for the ex-ante analysis of the economic and trade consequences of multilateral or bilateral trade agreements. The GTAP model is a comparative static model, based on neoclassical theories. In the GTAP database, there are 57 sectors and 140 countries. Annex 2 presents the summary of the GTAP model. From the Input-Output table of Bangladesh the study estimates that, in the communication intensive sectors, mostly the

<sup>9</sup> For full documentation of the GTAP model and the database, see Hertel, T.W., ed. (1997), "Global Trade Analysis: Modelling and Applications." Cambridge University Press.

export-oriented sectors as well as services sectors, between 2% and 45% of the total cost of production are spent on communication (Figure 5).

**Figure 2: Communication Intensive Sectors in Bangladesh**



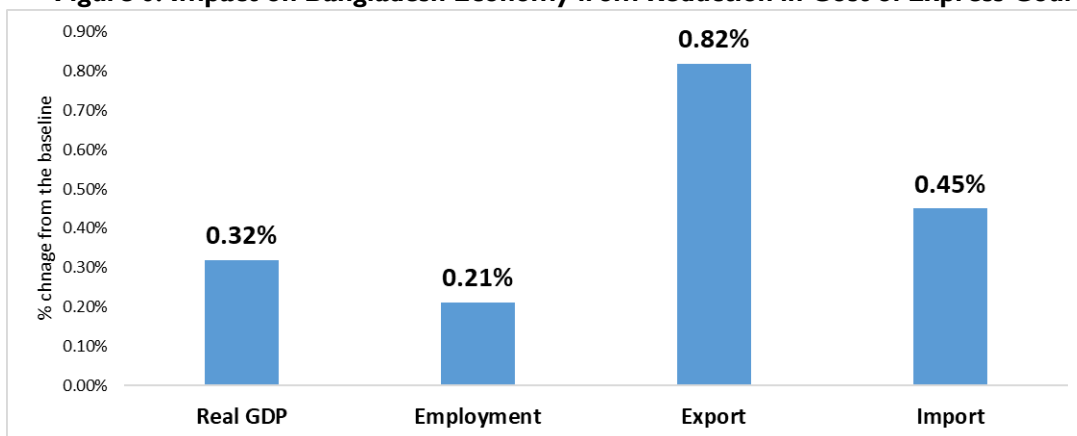
Source: GTAP database

Note: The 'communication' sector has a share of 45%, but in the graph the maximum figure is set at 10% to have a better resolution of figures for the other sectors.

The research team was unable to obtain exact information about the share of express courier in the total cost of communication. In discussions with stakeholders, a range between 20% and 30% is estimated. We assumed an average share of 25%. Therefore, the cost of the express courier in the total cost of production becomes in the range between 0.5% and 11.25% for different sectors.

Reduction in the price of express courier for Bangladesh would lead to a reduction in the cost of express courier for the ‘express-courier’ intensive sectors, and those sectors will become productive. In the GTAP model, the study introduces this as a productivity shock in the ‘express-courier’ intensive sectors. The productivity shock is between 0.2 percent and 4.5 percent for different sectors. Figure 6 shows the results from GTAP simulations and the impacts captured from it on Bangladesh economy from the reduction in the cost of express courier services between Bangladesh and India. These results show that the reduction in the cost of express courier services results in a potential increase in real GDP by 0.32 percent, rise in employment by 0.21 percent, rise in exports by 0.82 percent and rise in imports by 0.45 percent.

**Figure 6: Impact on Bangladesh Economy from Reduction in Cost of Express Courier**



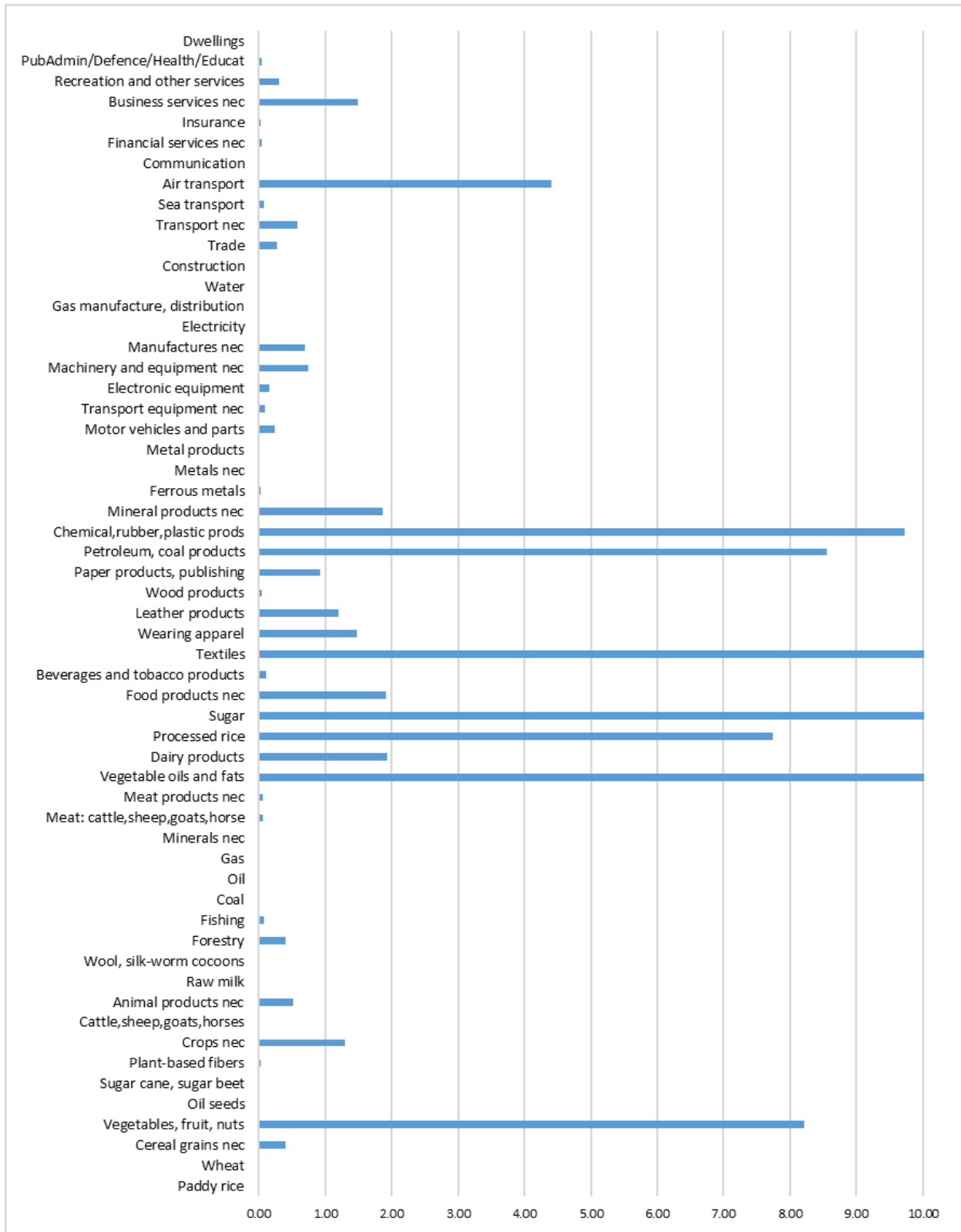
Source: GTAP Simulations

### **C. POTENTIAL GENERAL EQUILIBRIUM EFFECT OF E-COMMERCE TRADE BETWEEN BANGLADESH AND INDIA**

From the Input-Output tables of Bangladesh and India the study estimates that (see Figures 7 and 8), there are a number of sectors which are highly consumer-demand intensive (as represented by the share of consumer demand in the total availability of commodities in the sector). These consumer-demand intensive sectors are more likely to generate demand for e-commerce.

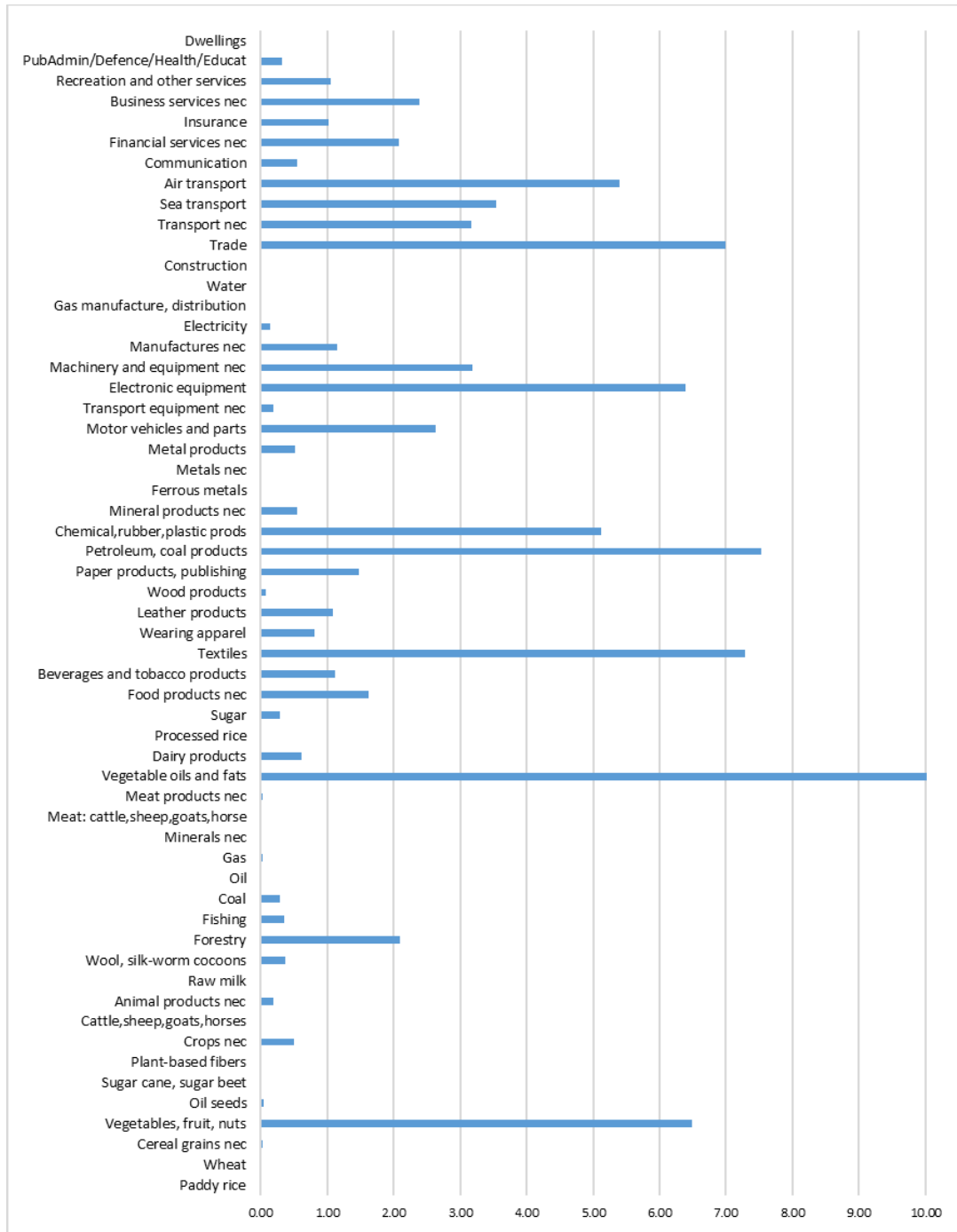


**Figure 7. Consumer-Demand Intensive Sectors in Bangladesh**



Source: GTAP database

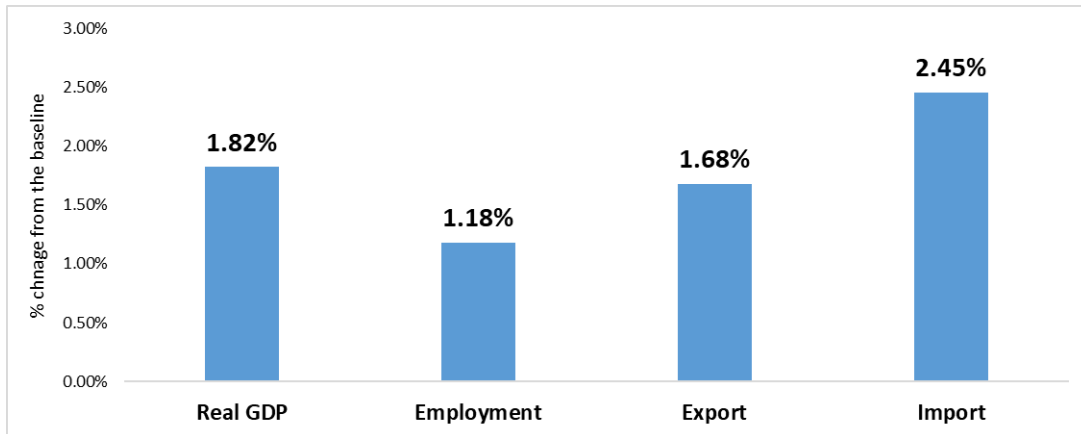
**Figure 8. Consumer-Demand Intensive Sectors in India**



Source: GTAP database

In the GTAP model, we simulate for a scenario of a rise in e-commerce trade between India and Bangladesh by shocking on the parameter 'ams' (which represents bilateral transaction cost in trade) by 10 percent for the sectors which are consumer-demand intensive.

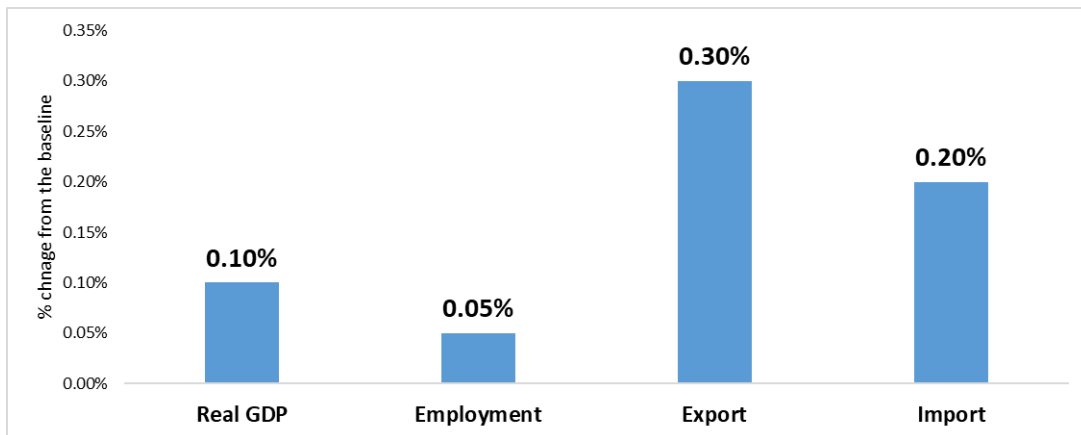
**Figure 9: Impact on Bangladesh Economy from the E-commerce Trade between Bangladesh and India**



Source: GTAP simulations

Figure 9 shows the results from GTAP simulations and the impacts captured regarding the Bangladesh economy from the rise in e-commerce trade between Bangladesh and India. These results show that for Bangladesh, the potential increase in real GDP would be by 1.82 percent, employment would rise by 1.18 percent, and exports and imports would rise by 1.68 percent and 2.45 percent respectively.

**Figure 10: Impact on Indian Economy from the E-commerce Trade between Bangladesh and India**



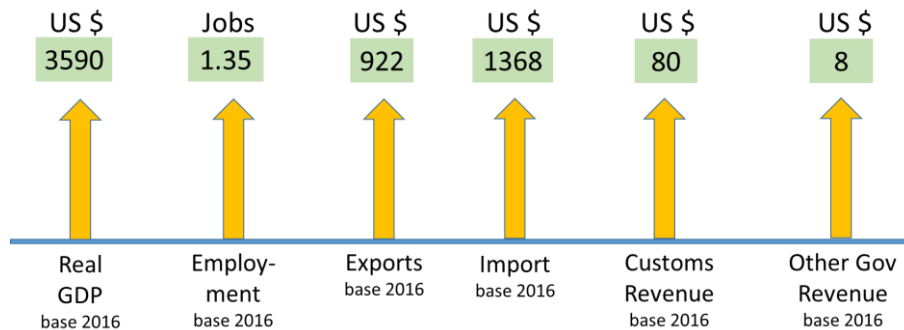
Source: GTAP simulations

Figure 10 shows the results from GTAP simulations and the impacts captured from it on Indian economy from the e-commerce trade between Bangladesh and India. These results shows that due to e-commerce trade between Bangladesh and India the expected increase in real GDP is 0.10 percent, potential increase in employment is 0.05 percent, exports rise accounts for 0.30 percent increase and rise in imports is 0.2 percent. The magnitude of the numbers for the Indian economy is smaller in real value than Bangladesh economy as Indian economy is larger than Bangladesh in its sheer size, so the effects of e-commerce trade between the two countries are much smaller for the larger economy.

## D. ESTIMATED NET INCREASE IN ECONOMIC IMPACT IN BANGLADESH AND INDIA

In Figure 11, GTAP simulations and application of relevant elasticities show the estimated net increase in economic impact for Bangladesh. These simulation results show that the outcome of the express courier services and rise in e-commerce trade between Bangladesh and India will result in an increase of real GDP by USD 3590 million, a rise in employment by 1.35 million, increase in exports by USD 922 million, rise in imports by USD 1368 million, and increase in customs revenue by USD 80 million. In addition, other government revenue would have risen by USD 8 million. For these calculations, the year 2016 was taken as a base year.

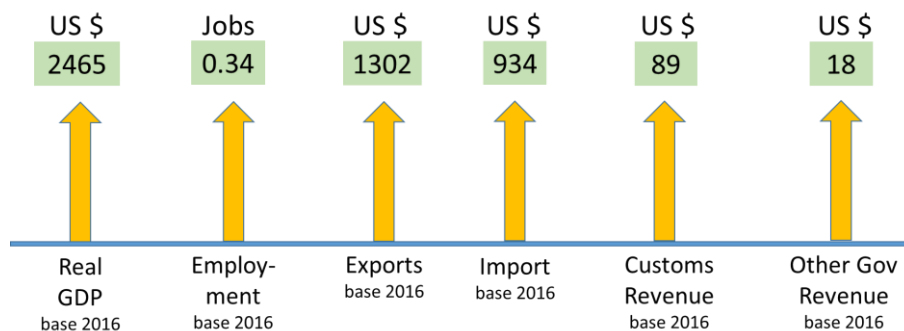
**Figure 3. Estimated Net Increases in Economic Impact in Bangladesh (million, rounded)**



Source: Calculated from the GTAP simulations

In Figure 11, GTAP simulations and application of relevant elasticities show the estimated net increase in economic impact for India. These simulation results show that the outcome of the rise in e-commerce trade between Bangladesh and India will result in an increase of real GDP by USD 2465 million, a rise in employment by 0.34 million, increase in exports by USD 1302 million, rise in imports by USD 934 million, increase in customs revenue by USD 89 million and increase in other government revenue by USD 18 million. For these calculations, the year 2016 was taken as a base year.

**Figure 4: Estimated Net Increases in Economic Impact in India (million, rounded)**



Source: Calculated from the GTAP simulations

## SECTION 5

# MAJOR CONSTRAINTS IN IMPLEMENTING THE PROPOSED SYSTEM

There are many NTBs which hamper trade between Bangladesh and India, some of which will reduce the economic impact of the proposed express courier dual trial run through the Benapole-Petrapole land port. A study from 2008 by ADB and UNCTAD<sup>10</sup> revealed that sanitary and phytosanitary standards (SPS), technical barriers to trade, and related measures have been found to account for 86.3 percent of all barriers across South Asia. The difference in the effective business hours, the condition of roads and transports, and legislative, regulatory and institutional gaps are the most concerning challenges in express courier service through the Benapole and Petrapole land port.

### A. DIFFERENCES IN BUSINESS OPERATION HOURS

Officially the Petrapole land port has 24/7 service provision facilities whereas the Benapole land port is yet to convert themselves into a 24/7 service provision facility land port. Friday is a weekend and off day at Benapole, and thus Petrapole also remains closed on that day. Moreover, there is a difference in business operating hours on the working days too. Trucks are rarely cleared if they arrive in the afternoon session at both of the land ports. This mismatch in working hours and operational hours is one of the major constraints to implement the dual trial run project successfully.

In practice, work at the border starts from 10 am in the morning, and, after 2 pm, no trucks or consignments get unloaded or released at the Benapole land port. So, the actual or effective working hour in practice is from 10 am to 2 pm. However, few official tasks related to documentation take place after 2 pm. It can be interpreted that the actual working hour stands for not more than 4 hours per day, which is a major constraint in facilitating trade between the two countries through this land port. However, the Benapole land port is supposed to be operational for 24/7 beginning August 1, 2017, so it is possible that the situation will improve before implementation of the pilot.

### B. CROSS-BORDER CONSTRAINTS AND TRANSPORTATION ISSUES

Many cross-border constraints and issues regarding the transportation facilities of courier services exist. SANEM's interviews of stakeholders at both the Benapole and Petrapole land ports reveal that approximately 400 trucks enter into Bangladesh every

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<sup>10</sup> ADB and UNCTAD (2008), Qualification of Benefits from Economic Co-operation in South Asia., Asian Development Bank and United Nations Conference on Trade and Development, Macmillan India Ltd, New Delhi

day while 50-60 trucks enter into India from Bangladesh. Furthermore, there are approximately 1400 trucks at CWC-land port and 2500 trucks at Bongaon waiting to enter everyday whereas only 400 trucks can enter to Bangladesh. Traffic congestion occurs mainly due to inadequate unloading space at the Indian side, resulting in delays in clearance of goods. Sometimes, congestion is intentionally created by drivers or laborers to increase delays and force trucks to incur demurrage costs, which average 2000 Taka per day if goods are not unloaded. The approach roads to the unloading zone — or “no man's land” — are narrow. Trucks have to return through the same road after unloading in no man's land which creates congestion and additional delays, although this would change with the full implementation of the BBIN MVA. There are 43 warehouses at the Benapole Land Port in the unloading zone for Indian trucks, and all of the work is completed manually. Additionally of note, there are no air conditioned storage facilities for pharmaceutical products. Lack of warehouse facilities at Petrapole also adds to exporter losses mainly for perishable goods. Sheds have been placed on both sides of the road which add to the existing traffic congestion.

### **C. ROAD CONDITION, TIME, BREAK DOWNS, AND SEASONAL ISSUES**

Although the projected time from Dhaka International Airport to Kolkata Airport is 9 hours 50 minutes, the actual travel time is approximately 11 to 12 hours due to poor road conditions. There are many issues at the Benapole and Petrapole port which impede the trade between Bangladesh and India via land ports. In 2010, SANEM's research found traffic movement between the Benapole-Petrapole border to be very slow and time consuming. It was also found a lack of an effective communication system and testing centers were located far away from the ports. Furthermore, the seasonal weather changes also hinder transportation during the rainy season. Often, the ferry of Padma River arrives late due to unpredictable weather. The Implementation, Monitoring and Evaluation Division of Bangladesh is expecting to complete the Padma Bridge by 2019, which can mitigate the risks associated with transportation and reduce the time of shipment.

### **D. LEGISLATIVE, REGULATORY ISSUES AND INSTITUTIONAL GAPS**

Despite some collaboration between Benapole and Petrapole land customs stations (LCSs), there exist legislative and regulatory issues along with some institutional gaps. The Benapole LCS is operated by the Bangladesh Land Port Authority (BLPA) which is under the Ministry of Shipping, whereas all the land ports of India are under the jurisdiction of the Ministry of Home Affairs. It was also reported during the survey that there exists no monitoring cell to monitor the work completed by the land port authority. The traders and Clearing and Forwarding Agent (C&F) agents reported that the land port authority in Bangladesh cannot capitalize its full potential due to lack of institutional capacity.

To minimize the risk of using courier services, technology investments should be prioritized. A GPS-based tracking system can be introduced, and a digital seal can be provided from the starting point (e.g. Dhaka airport) so that if that seal is compromised, then the authenticity of the product will be in question. This procedure will help

substantially reduce time while crossing the border, as there will no longer be a need for checking the consignment at border checkpoint. The need for surveillance of the consignment should also be addressed properly, and computerized systems should be used to track the GPS device. Relevant authorities from both sides of the border should have access to the automated system so that, with the use of an encrypted key, anyone can log in to the system to find out about the whereabouts of the courier consignments at any point in time. Virtual security should be ensured during the entire procedure. If at any point the system is hacked or compromised, the whole trading scenario will be in jeopardy.

## **E. SOCIAL AND LOCAL CONDITIONS**

There exist major social and local obstacles at the Benapole and Petrapole land ports which are responsible for delays and inefficient business operations. These constraints are associated with the vested interest of local political personnel and businesses.

At the Benapole Port, it is in the interest of private warehouse businesses to keep trucks waiting and consignments stored in the warehouses for as long as possible. The longer the consignments are kept in the warehouses, the greater profits the local businesses. Moreover, large Bangladeshi traders/importers of motor vehicles deliberately keep their consignments in the Benapole land port's warehouses for long periods of time — in order to avoid the higher rent costs in Dhaka or their business destination — until they find buyers for their products. They take their consignments to the business destination whenever they get orders from buyers. In essence, it is a commission-based business practice where everybody earns their own share by delaying the delivery process.

Likewise, there are similar challenges at Petrapole. There are many locally-owned, private warehouses at Bongaon, only a few kilometers from the ICP. With support from local politicians, the owners of these warehouses take advantage of the congestion at ICP and Bongaon, often making it compulsory to park consignments at their warehouses. Even when shipments are capable of going straight to ICP, often they are forced to be placed at Bongaon warehouses for days. Otherwise, they are not allowed to go to the ICP directly without parking the trucks in those parking stops. There are also public warehouses that are mandatory in such municipalities as Kalitala. These examples illustrate how the congestion is benefiting vested interests at Petrapole.

## SECTION 6

# CONCLUSION AND KEY RECOMMENDATIONS

### A. GENERAL CONCLUSIONS

This study clearly demonstrates the potential benefits of expanding express courier services to trucks carrying cargo between Bangladesh and India. The study shows that the cost of express courier services in the total cost of production ranges from 0.5% to 11.25% for different sectors of the Bangladeshi and Indian economies. Reduction in the price of express courier shipping for Bangladesh would lead to a reduction in the cost of production for the 'express-courier' intensive sectors. Those sectors will become more productive, allowing them to access new markets needed to increase sales and jobs.

There exist constraints and challenges at the Benapole-Petrapole border, however, which must be addressed to fully realize the economic impact of the proposed system. More specifically, investments and reforms are needed to improve infrastructure, roads and highways, technological facilities, security systems, transportation, and digitization of border procedures (see Section 5).

Yet, to put it simply, the economic outcome of implementing the proposed Dual Trial Run is expected to be higher than the required cost. Furthermore, the increased flow of information, faster communication, and enhanced knowledge sharing will contribute to the other components of trade and regional connectivity between the two countries. This will encourage increased trade between the two nations and set standards for the other countries under the BBIN MVA.

### B. KEY RECOMMENDATIONS

In addition to the research team's predicted economic impact of the Dual Trial Run, the team identified additional policy recommendations for maximizing the impact of the trial run and further integrating the Bangladeshi and Indian economies.

- Successful implementation of BBIN MVA under which trucks can directly enter one country from another to deliver the courier consignments could play a crucial role towards trade, transport, and transit facilitation in South Asia. Moreover, it will improve the communication system and flow of information among the traders and individuals.
- Besides transport facilitation, transit protocols need to be in place to bolster the procedure of express courier services between Bangladesh and India. Both countries are keen to improve their regional connectivity for greater economic and diplomatic collaboration. Hence, the provision of express courier service through land ports can be an instrumental tool to develop a faster and low-cost communication system and information flow. There needs to be a multi-modal approach for transport



connectivity, which will eventually help in transit and trade between India and Bangladesh. Therefore, dialogues and deliberations between the relevant stakeholders, such as customs houses, land port authorities, finance ministries, commerce ministries, express courier service providers, transport service providers and traders of these two countries should take place on a regular basis.

- One of the most crucial recommendations is the introduction and execution of advanced digitalized system in the cargo and truck services. To facilitate the express courier services directly from Dhaka to Kolkata, and vice versa, it is important that the trucks carrying courier consignments are sealed and cleared from Dhaka or Kolkata with a digital tracking system tagged with it. As per our proposed system, if the inbound and outbound trucks/cargos are sealed with the Radio Frequency Identification (RFID) seals and tracked with GPS tracking, it will be easier to assess and monitor the security issues of those courier consignments.
- It is highly recommended to learn from the best practices around the world. For instance, cross-border cargo services are allowed between Seattle, USA, and Vancouver, Canada. If the best practices can be replicated through this Dual Trial Run project, then the outcomes would be greater.
- Investment in the development of infrastructure, roads, and highways is essential to make the express courier services through cargos effective and beneficial with respect to cost and time.
- A comprehensive and integrated risk management system (RMS) should be in place which to test and examine the whole process and address security concerns.
- Having an insurance policy in place by the express courier service providers is important to reduce the cost to consumers, in case of late delivery of the couriers.
- It is highly recommended that both the countries take proper initiatives and interventions for raising awareness among the stakeholders, beneficiary groups, and apex institutions in promoting the importance of express courier services through land ports. This promotion will include the cost benefit analysis and the effectiveness of the designated services through this dual trial run project.
- In the future, express courier service providers and market leaders such as DHL and FedEx can build private facilities near the land ports and assist in issues related to security and tracking and can also coordinate with the customs authorities to expedite cross border transit.
- It is crucial to establish a proper and secure system for the cargos and trucks, as well as their drivers who will be crossing the borders with the courier shipments with the same vehicle through the land ports. The cargos and the drivers must be registered members in the both of the custom houses. Both of the custom houses

should have the National ID no. and passport details of the registered drivers and cargos used under this Dual Trial Run Express Courier project.

- Visa related issues of the drivers should be monitored and supervised properly by the respective embassies.
- To facilitate e-commerce, it is extremely important to digitize the transaction facilities through banks. The concept of the digital wallet must be implemented to support expanded B2C e-commerce trade between Bangladesh and India.
- Border agency cooperation needs to be encouraged by establishing institutional arrangements and platforms for interaction and coordination at the working level to discuss and sort out micro issues. Likewise, regular trade facilitation meetings with all relevant stakeholders at ports would help iron out unforeseen challenges. This will help minimize the information asymmetry across borders and within borders across agencies.
- More investment is required to improve the technological facilities of the custom houses of both countries. Of importance is not only the introduction of advanced types of machinery and computerized systems, but also the capacity to utilize these new technologies.
- Trade corridors need to be developed in a manner that they become corridors for people to-people connectivity, as well as corridors for trade and cargo movement. To this end it is important to establish an easy, flexible, and uniform visa regime for the region.

# ANNEX A. STAKEHOLDER MEETINGS

MAJOR VISITS	INSTITUTIONS OF THE RESPONDENTS
Dhaka Airport, Bangladesh	Dhaka Custom House
Dhaka Airport, Bangladesh	Officials from Bangladesh Government
Dhaka, Bangladesh	Courier service providers such as DHL, FedEx, Sundarban Courier Services and few other local express courier companies in Dhaka
Benapole, Bangladesh	Bangladesh Land Port Authority
Benapole, Bangladesh	Benapole Custom House
Benapole, Bangladesh	Representatives from Clearing and Forwarding Agencies
New Delhi, India	Central Board of Excise and Customs, Ministry of Finance
New Delhi, India	Transport Ministry
New Delhi, India	Confederation of Indian Industry
New Delhi, India	Federation of Indian Chambers of Commerce and Industry
New Delhi, India	Officials from Indian Government
Petrapole, India	Clearing and Forwarding Agents
Kolkata, India	Confederation of Indian Industry
Kolkata, India	CUTS International
Kolkata, India	Amazon.com
Petrapole, India	Bongaon Parking
Petrapole, India	Integrated Check Post (ICP)
Petrapole, India	Custom House in Petrapole

# ANNEX B. THE GLOBAL TRADE ANALYSIS PROJECT (GTAP) MODEL

The GTAP model is a linearized, static, and computable general equilibrium (CGE) model.<sup>11</sup> The model assumes perfect competition in all markets, constant returns to scale in all production and trade activities, profit maximizing behaviour by firms, and utility maximizing behaviour by households.

In the GTAP model, each region has a single representative household, known as the regional household. The income of the regional household is generated through factor payments and tax revenues net of subsidies. The regional household allocates expenditure to private household expenditure, government expenditure, and savings according to a Cobb–Douglas per capita utility function. Each component of final demand maintains a constant share of total regional income.

The private household buys commodity bundles to maximize utility, subject to its expenditure constraint. In the GTAP model the constrained optimizing behaviour of the private household is represented by a constant difference of elasticity expenditure function. The private household spends its income on consumption of both domestic and imported commodities and pays taxes. The consumption bundles are constant elasticity of substitution (CES) aggregates of domestic and imported goods, where the imported goods are also CES aggregates of imports from different regions. Taxes paid by the private household include commodity taxes for domestically produced and imported goods and income tax net of subsidies.

The government spends its income on domestic and imported commodities, and it collects taxes. Taxes consist of commodity taxes on domestically produced and imported commodities. Like the private household's, government consumption is a CES composite of domestically produced and imported goods.

The GTAP model considers the demand for investment in a particular region as savings. In a multi-country setting, the model is closed by assuming that regional savings are homogenous and contribute to a global pool of savings. This global savings is then allocated among regions for investment in response to changes in the expected rates of return in different regions. If all other markets in the multi-regional model are in equilibrium, if all firms earn zero profits, and if all households are on their budget constraint, such a treatment of savings and investment will lead to a situation in which global investment must equal global savings.

In the GTAP model producers receive payments for selling consumption goods and intermediate inputs both in the domestic market and to the rest of the world. Under

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<sup>11</sup> For full documentation of the GTAP model and the database, see Hertel, T.W., ed. (1997), "Global Trade Analysis: Modelling and Applications." Cambridge University Press.

the zero profit assumption employed in the model, these revenues must be precisely exhausted by spending on domestic intermediate inputs, imported intermediate inputs, factor income, and taxes paid to the regional household.

The GTAP model postulates a nested production technology, with the assumption that every industry produces a single output, and constant returns to scale prevail in all markets. Industries have a Leontief production technology to produce their outputs. Industries maximize profits by choosing two broad categories of inputs – namely, a composite of factors (value added) and a composite of intermediate inputs. The factor composite is a CES function of labour, capital, land, and natural resources. The intermediate composite is a Leontief function of material inputs, which are in turn a CES composite of domestically produced goods and imports. Imports come from all regions.

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