

Fostering Economic Benefits through Smart Border Management: Bangladesh Perspective

Md. Amzad Hossain*
Md. Shamimul Islam**

Abstract

There is a dilemma in managing a country's border, first of all keeping the border open for legal transaction and movement of people and goods; secondly to clog up criminals. Due to diverse landscapes, Illegal immigration and infiltration of insurgents turned the border as an area of crime. Day by day it has become essential to manage our border smartly, so that we can provide safe and secure atmosphere for regional cooperation as well as economic integration. The aim of the study is to find out the way of smart border management that fosters economic benefits. Both primary and secondary data have been used to conduct the study. Primary data has been collected via Focus Group Discussion (FGD) and face to face interview. Secondary data has been collected from different publications of Border Guard Bangladesh (BGB) and published reports from various national and international dailies. Descriptive analysis has been used to present the data. The study found that, due to less cooperation among inter-agency, the overall security system in Bangladesh is vulnerable. Due to the Lack of automatic system in Land ports, it requires huge time to import and export of different goods, which causes heavy traffic congestion at the port area. Moreover, there have permission to transport certain items of goods within the land ports, that's why people have to carry those goods with a long way to pass it with a legal way. So they adopt an illegal way to pass those goods. Due to absence of roads along the border, BGB (Border Guard Bangladesh) can't move easily from one place to another place for patrolling. It is also found that, if the border is managed with a smart way, then huge revenue could be earned every year. So, it is recommended that, the Government should manage the border smartly by using automatic technologies and constructing roads & floodlights along the borders.

Keywords: Smart Border, Economic benefit, Bangladesh.

* Post Graduate Student, Department of Economics, Comilla University, Cumilla. E-mail: hossainaz333@gmail.com

** Associate Professor, Department of Economics, Comilla University, Cumilla. E-mail: mimul81@yahoo.com

Introduction

Bangladesh is one of the South Asian developing countries with high population density. Its area is 148,460 square kilometers¹. The country shares its land borders with India and Myanmar (Burma). The total length of land border of Bangladesh is 4413 kilometers. Whereas Bangladesh and India land border is about 4,142 kilometers. Bangladesh has 32 border districts alongside with Five Border States of India.

On the other hand, the border area between Bangladesh and Myanmar is 6.14% of the total land boundary of Bangladesh (4,413km), which is 271 kilometers. The border area consists of a short land boundary, low-lying land and river (about 193 km)². In Bangladesh side there is Cox's Bazaar, and in Myanmar side there is the North Rakhine State, on which approximately 209 kilometers area is protected by fencing. Though there are different things related with those neighboring countries, but now a day's border issue has come in the front line.

The border area is mix of diverse natural landscapes. The variant topographical features make perforated border. This perforated border is responsible for multitude problems like bilateral tensions, smuggling, kidnapping, and trafficking in arms, goods, drugs and humans. Due to faraway from the city, the people of border area are still deprived of some basic needs like: Education facility and health convenience.

Moreover, illegal migration like infiltration of insurgents is also liable for creating chaos in our country. Furthermore, disputes in demarcation of trans-border area, greater distance among inter BOP (Border Observation Post) and lack of infrastructure like: floodlights, surveillance camera and motorable roads; transformed the border area as a hub of criminal activities.

Justification of the study

The variant topographical features in the border area makes the border as porous, which is responsible for informal trade and multitude problems like bilateral tensions, smuggling, kidnapping, and trafficking in arms, goods, drugs and humans. By protecting Informal trade a large amount of tariff can be earned through transactions of different goods in a legal way. Though border is very important component of an economy, in the context of protecting national security and economic well being as well; but, there is comparatively little concentration on the study of border management in perspective of Bangladesh, that's why the work is related with the study of economic benefit through smart border management in Bangladesh.

¹ https://www.cia.gov/library/publications/the-world-factbook/geos/print_bg.html

² <http://www.daily-sun.com/printversion/details/256728/2017/09/24/Complicated-History-of-MyanmarBangladesh-Border>

Objectives

The general objective of the study is to find out the way of smart border management that fosters economic benefits. However, the specific objectives are to

- Portray the present border management scenario;
- Find out the factors that challenges in smart border management;
- Find out the way to smart border management; and
- Identify the economic benefits that can be earned by smart border management.

Literature Review

Literature review plays crucial role in finding out literature gap. Smart border management is a new concept which is using by the developed world for their security concern as well as economic well being. Bangladesh is lagging behind in managing its border effectively.

Border management is becoming more critical day by day. Different national and international organizations related with border management as aim of reducing the costs of moving goods across borders. One stop border post has been introduced as a mechanism to improve the movement of goods across shared borders. These arrangements have both economic and enforcement benefits (Kieck, E., 2010)

Kenk, V. S., et al., (2013) refers the word SMART as Scalable Measures for Automated Recognition Technologies. The use of SMART surveillance technologies in border considerably increases the reliability and efficiency of the border control measures, as these technologies enable pro-active automatic responses to security incidents and threats as they happen. The main border control measures are border checks, border surveillance and risk analysis. These measures facilitate cross-border traffic, fight against crime and migration management.

Whereas Timothy, D. J. (1999) expressed cross-border partnership as an example. The US-Canada border based on sustainable tourism. A model of standard cross-border partnerships is developed include; strong management, infrastructure development, human resources, conservation international- and local-level level border concessions, all of which play a crucial role in sustainable management of US-Canada trans-frontier tourism resources.

The Smart Border Action Plan and the FAST program, with its bi-national components, represent significant steps towards reducing border crossing delays for commercial carriers.

The most critical factor to the achievement of Smart Border Plan and the FAST program will be the combination of technology, and active

collaboration between representatives of the affected industries and those governmental agencies charged with administering the programs (Parks, J. L., 2004)

Sert, D. (2013) argues that 3 stages Integrated Border Management (IBM) theory was established in EU to merge border control mechanisms and tools. First, it consists of coordination and coherence between all border agencies of the EU member states so that they follow the same standards for border surveillance, border checks, and risk analysis. On a second level, IBM is also about inter-agency cooperation, particularly in order to better combat all forms of Cross-border crimes and irregular migration as well as to accelerate the movement of trade and transportation. On a third level, it entails international cooperation, which according to the “four-tier access control model,” entails cooperation with both neighboring and third countries.

Prokkola, (2013) argues that new technological innovations combined with new legislation and institutional procedures steering the governance of the border. Border management is not just in terms of territorial sovereignty but also of international cooperation and economic profitability.

Wilson, C and Lee, E., (2012) states that The United States and Mexico got economic success due to smart management of their border. US and Mexico do not just exchange goods and services with them; rather actually work together to manufacture final goods, through a process known as production sharing, materials and parts often cross back and forth between factories on each side of the border as a final product is made and assembled.

The study documented the experiences of travelers who crossed the Beitbridge border Post during the December 2017 festive season peak period, which indicate that border agents at Beitbridge failed to effectively manage human and vehicular traffic thus leading to congestion and long waiting periods. Moreover, it also found that; the Governments of South Africa and Zimbabwe were both unable and unwilling to convert Beitbridge into a One Stop Border Post (OSBP). The Beitbridge border management system requires complete reengineering and redesigning benchmarked with international standards, integrating Information and Communications Technology (ICT) systems to eradicate illicit operations.

The potential for economic development in South Asia is largely depending upon adequate level of infrastructure on inter boundary, basically the strong transportation network. Various transportation projects in the South Asian Sub regional Economic Cooperation

(SASEC) region, connecting Nepal, eastern India, Bangladesh, and Bhutan. Gilbert, J., & Banik, N. (2010) uses computable general equilibrium (CGE) methods to address how these infrastructure developments might improve the broader economy in SASEC, particularly impact on income distribution, poverty and modifications to household structure. It is found that due to SASEC, largest gains accruing to India in absolute terms; but the largest relative gains to Nepal, followed by Bangladesh and Sri Lanka.

Collantes-Celador, G., & Juncos, A. E. (2012) evaluates the European Union (EU)'s border strategy for the Western Balkans. It identifies an increasing tension between, on the one hand, the Union's use of its border strategy to foster the long-term stabilization of the countries of the Western Balkans and their future integration into the EU and, on the other hand, the use of border management as an instrument to ensure its own internal security.

Hoffman. et al., (2013, September) quantifies the size of the cross-border problem and estimates the potential economic benefits that will be created by improved cross-border operations. It then proposes a combined GPS/RFID system that can provide the required level of visibility to support improved operational management, resulting in a simultaneous increase in the security and efficiency of cross-border freight operations. A brief cost-benefits analysis is performed to show that the expected benefits from such a system will by far exceed the costs of implementation.

Das, P., (2008) state that, though Bangladesh-India border is very large in its length; but there is no greater attention paid on it. She also described the BD-India Border as a 'problem area of tomorrow'. She suggested government should adopt a pragmatic and people sensitive approach to improve border management.

Uzzaman & Yusuf (2011) found that traders in Bangladesh face delays due to too many official formalities, inefficiencies and arbitrary discretion in conducting their trade. These problems mostly occur in Customs and the Port Authority. Other factors such as inaccurate Clean Report of Findings (CRF) certificates issued by Pre-shipment Inspection (PSI) agencies, lack of testing facilities, cases filed by traders and false declarations by the trading community are also found to be responsible for such delays and inefficiencies in import and export clearance. The study suggests that the efforts of a single Customs or Port administration are not sufficient to facilitate trade; rather an integrated approach is imperative to this end

Methodology

1.1. *Study area:* All over the Bangladesh was considered as the study area, but due to time & budget limitations; it was not possible to cover all border area of Bangladesh. Considering time and budget constraint the study consider the border area adjacent to Cumilla district for primary data collection. Basically, Bangladesh – India border is considered for our study. But in case of collecting secondary data the study tries to cover whole border area.

1.2. *Sample size and selection procedure:*

- The study Followed multi stage sampling method & Arranged 10 Focus Group Discussion (FGD) form ten Bangladesh-India border adjacent villages. At first, Bangladesh-India border adjacent Upazilas in Cumilla was selected, then select Unions Parishod from every Upazila and finally select two villages from each Border adjacent Union porishad.
- FGD cover different group of people, such as BGB member, business men and Local peoples who were involved with various trans-border transactions
- BGB men were selected from different Border Observation Posts (BOPs). Local people were selected from the nearby villages of the border covering all possible occupations, age and sex. On the other hand business men were selected from the land port area considering diversified businesses purposively.

1.3. *The data:* Data was collected from both primary and secondary sources. A check list was prepared for Focus Group Discussion (FGD). Secondary data was collected from various publications of BGB and other agencies.

1.4. *Analytical methods:* The collected information was presented by descriptive analysis.

Findings and Discussion: (Profile of the Border)

Bangladesh shares its land borders with India and Myanmar, whereas Bangladesh border is mostly with India. The country is bordered by India in west, north and east which are the fifth largest international border in the world. In Bangladesh west, north and east side, Indians States are West Bengal, Assam, Meghalaya and Tripura respectively and in the south side there is the Bay of Bengal.

The entire border can be broadly categorized as — flat/plain land (4184 km), hilly land (440 km), jungle area (193 km) and riverside (243 km); in total 5060 km, but the total length of land border of Bangladesh is

4413 kilometers. This is due to diverse natural landscapes. Border pillars separating two countries. But, in riverside area; it is difficult to demarcation of border area, due to absence of permanent Border Outposts (BOPs), due to swelling of the Brahmaputra and other rivers that Increase the depth of the river by about 30 feet

- a. *Guarding*: The Border Security Force (BSF) of India and Border Guard Bangladesh (BGB) formerly had known as the Bangladesh Rifles, guard the respective sides of the border which is carried out from BOPs. The main responsibility of BGB includes Patrolling and securing the border, investigating cross border crimes, Anti-smuggling Operations, Counter Terrorism and Domestic law enforcement during national emergencies. Normally the BOPs (On average comprising 20-25 persons) are constructed all along the border to promote security amongst the border.
- b. *Roads*: 40% of the border area have roads for surveillance of BGB from one BOP to another BOP.
- c. *Fence*: All in Bangladesh-India border side were protected by fence. Basically Tarkata bera and concrete wall was constructed to protect the border from outsiders.
- d. *Floodlight*: Basically most of the floodlights were established by India. The difference between two floodlights was 52 meter.
- e. *BOP*: BOP is made of concrete building. On average 20-25 BGB personnel's are in each BOP. Total number of BOPs existed in Bangladesh border is 693. Among these 56 BOPs are in Cumilla side. The average difference between two BOPs was 5 Kilo meters.
- f. *Integrated Check Post (ICP)*: Integrated Check Post (ICP) is a trade centre for facilitation of bilateral trade between two border countries as well as for movement of passengers across the border. The major items of trade are Coal, Cement, Lime Stone, Boulder Stone, Fruits, Packaged Food and Plastic Furniture etc. There are 20 ICPs in Bangladesh-India border.
- g. *Technology*: Indian Government is so much serious about management of its border smartly, that's why its border gourd personnel's are equipped with ultra-modern technology as example night vision camera, and night vision binocular etc. but Bangladesh has not improved those initiatives as like as India.
- h. *Land Port*: A land port is a way of Entry that provides legal entry into or departure from Bangladesh for persons and materials. Approximately 184 land port are authorized and

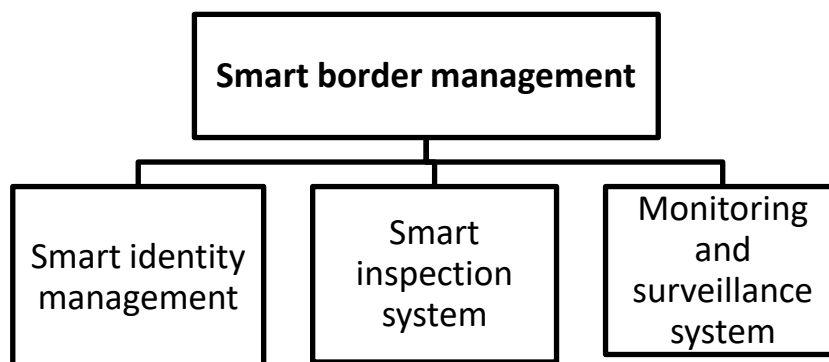
declared, but a small number of them are in progress. It is evident that the more the land ports the more the legal transactions. Most of the land ports are providing manual services. Whereas two land ports at Benapole and Banglabandha in the country are fully automated, that's why transaction of goods and service are more quickly than ever before in those land ports.

Findings and Discussion Way to smart border management

Smart border management aims to modernize our country's existing border management by improving the border crossing process. Its aim is to help travelers in border crossing and ensure security in the border area. The core objective of smart border management is to ensure border from terrorism, drug trading, smuggling and other serious crimes.

Border management is not only to maintain security, but also to improve economic development by cooperation and coordination between border countries. Smart management into a border, will create equilibrium between legal and illegal migration, struggle with transnational criminal and other national security threats, and improve the Economic viability. Thus, smart border management is a more efficient and effective resolution towards border management that lays importance on improved border security, smarter information systems for intelligence gathering, and avoiding risks in a more planned and sophisticated manner by using latest available technologies.

Smart border management is combination of different layers of technological infrastructure. Those are:



a. Smart identity management

Border management agencies have to proactively identify and search out any potential crack of security that might pose a security threat. It can be managed by using biometrics (Fingerprint, Photo, face, DNA forensic test and iris test) for identification. These biometric identification reduced processing time and hassle. Moreover, it also provides criminal record, that's why those are convenient nowadays.

b. Smart inspection system:

Smart inspection system that ensures that only legitimate people are allowed to cross border and these people should not be carrying any items that are not permissible according to the restrictions of the land ports for instance, weapons and drugs. The most advanced scanning technologies need to be installed at every land ports point; moreover, these devices should be quick and accurate.

Modern inspection technologies such as x-ray imaging, full-body scanners, metal detectors and handheld material detectors can be used for the detection of concealed weapons, drugs and illicit Material, etc.

c. Modern surveillance system:

Modern surveillance systems act as force multipliers to the border enforcing personnel who have been deployed at our border areas to guard against any threats. These systems enable twenty-four-hour services. These systems typically comprise a sensor layer, which is arranged strategically to allow a layered defense mechanism by using ultra-modern equipment so that all decision makers and stakeholders can monitor and take initiatives in a quick.

Findings and Discussion (Challenges of smart border management)

The border area covers different geographical landscapes such as open area, plain, a river and jungles. Smuggling of different things like clothing, soaps and cosmetics, cattle and other essential items make it intolerable place. Another major challenge with the Indian border is the smuggling of arms, ammunition and drugs, which has increased the number of anti-national elements. Though the porous border is responsible for those illegal transactions' but the government initiatives to control is not satisfactory. To protect the border from infiltration of smugglers and any trans-border terrorism more efforts are needed and improvements of inter- agency border enforcing agency is necessary as well.

Land ports are not automated so it is required huge time to import and exports of logistics. This causes heavy traffic congestion at the port area. Moreover, there have permission to transport only fixed goods with a land port, that's why people had to go a long way to transport it with a legal way, which causes smuggling. So, it is necessary to permit all types of products within a land port. Bangladesh Land Port Authority (Bangladesh Sthala Bandar Kartripaksha-BSBK) came into being under Bangladesh Sthala Bandar Kartripaksha Act, 2001 (Act 20 of 2001) to make Import and Export between Bangladesh and neighboring countries easier and better. Since beginning Bangladesh Land port Authority started functioning under the control of Ministry of Shipping. That's why,

twenty Land Customs Stations have been declared as Land Port. Of the declared land ports, fourteen land ports are under the management of BSBK and the rest six land ports have been placed to the private port operators under BOT.

Due to absence of roads along the India-Bangladesh border, BGB (Border Guard Bangladesh) can't move easily for patrolling, but India is able to built roads along its border. Flood-lighting along the India-Bangladesh border is not satisfactory. Due to greater inter flood-lights gap, smuggling can't be reduced to a satisfactory level. So, Construction of flood-lighting along the border is necessary to maintain border area as safe and secure; though India able to establish enough Border Outposts (BOPs), but in Bangladesh number of BOPs is still small in numbers and number of personnel in a BOP is very low relative to India. Other security initiatives with high-tech surveillance equipment is not Installed that's why it's become difficult to manage the border.

Furthermore, it is necessary to train our border personnel's in a regular basis. To cope up with new challenges and difficulties, it is essential to train them with ultra modern technologies. Inter agency, intra agency relationship is not up to mark to control border management challenges.

Economic benefits that can be earned by smart border management

The porous border is responsible for India and Bangladesh informal trade which may be approximately as large as the formal bilateral trade between the two countries. Informal trade in this region typically involves illegal transactions with the participation of local residents and enforcement agencies, either through small-scale smuggling or larger smuggling syndicates.

There are three main reasons behind the robustness of informal trade on the Indian-Bangladesh border

1. Official machinery is manual and outdated, thereby creating delays and escalating costs
2. Bribes and other demands via government officials add to the transaction expenses
3. An inadequate transport infrastructure, leading to high transit expenditure,
4. Fixed product permission to transit through a land port.

All the year-round Border Guard Bangladesh (BGB) conducted many operations to protect smuggling, where they arrested many smugglers, and seized huge amount of Indian goods. The smuggling goods include cloths, onion, spices, machineries, cosmetics, shops, gold and fruits. In BGB there are four regions (Jashore, Rangpur, Sarail, Chattogram) and one ad hoc region (Ramu) to continue their operations.

Table: 01 Smuggling scenario seized by BGB

Year	Jashore Region (Taka worth)	Rangpur Region (Taka worth)	Sarail region (Taka worth)	Chattogram region (Taka worth)	Ramu: ad hoc region (Taka worth)	All regions (Taka worth)
2015	3,198,661,146.00	980,239,089.00	1,725,187,302.00	2,087,703,350.00	-	7,991,790,887.00
2016	4,381,534,611.00	1,067,377,517.00	2,063,985,648.00	2,551,516,016.00	-	10,064,413,792.00
2017	2,026,760,276.00	1,015,884,900.00	3,320,546,556.00	8,486,435,888.00	-	14,849,627,620.00
2018	2,004,416,446.00	907,160,020.00	1,435,923,862.00	291,329,480.00	3,377,027,676.00	8,015,857,484.00

Source: The table is prepared by the authors, by compiling the collecting information from different BGB publications.

From the table it seen that, every year BGB seized huge number of seized items and arrested many smugglers. If our border is smartly handled then on average 120 corers to 220 corers revenue can be earned every year. So, it can easily say that if the border is smartly handled, then it is not possible pass those goods in illegal way rather the government can earn huge amount of revenue and boost up its economy. It is said that, to improve bilateral trade there should be integrated check posts, land custom stations and also border haats (temporary markets) to serve border communities.

Recommendations

Based on the earlier smart border management challenges and prospects, it is imperative to adopt the following measures to ensure efficient border management.

- More BGB personnel should be deployed at sensitive border area.
- BGB personnel should be equipped ultra-modern equipment's and machineries.
- Local people should be engaged in policy implementation and smart border management can be ensured by adopting developmental plans along the border
- Strong punishment would prevent the BGB personnel from dishonesty.
- Construction of roads and fencing should made along the India-Bangladesh border.
- No human habitation or cultivation should be permitted within the area between the border.
- Trading in essential goods should be legalized to avoid smuggling.
- Bangladesh-India governments should open duty-free markets or Border haats near the border.

- To avoid clash, a friendly relationship should be established between the BGB and BSF personnel.
- Greater cooperation and coordination should be among all the agency related to the border management.

Conclusion

It can conclude that border management is very taught task. The management of Bangladesh-India border is quite a great challenge. To manage border from smuggling, drugs and human trafficking; there should be coordination and cooperation among Border Guard Bangladesh (BGB) and Border Security Force (BSF) of India.

Infrastructure like: road along the border, floodlights & fencing on the border area, Border Observation Post (BOP) is not satisfactory. That's why smuggling can't be controlled, though there is enough endeavors taken by the BGB.

Moreover, due to high import tariff, importers find the alternative way to get more profit, so import duty on daily necessary goods should be as low as possible to decrease smuggling and support general people in fulfilling their basic need with a low cost. Furthermore, border management should be digitalized to ensure safe and secure atmosphere in the border area.

References

- Collantes-Celador, G., & Juncos, A. E. (2012). The EU and border management in the Western Balkans: preparing for European integration or safeguarding EU external borders?. *Southeast European and Black Sea Studies*, 12(2), 201-220.
- Collantes-Celador, G., & Juncos, A. E. (2012). The EU and border management in the Western Balkans: preparing for European integration or safeguarding EU external borders?. *Southeast European and Black Sea Studies*, 12(2), 201-220.
- Gilbert, J., & Banik, N. (2010). Socioeconomic impacts of cross-border transport infrastructure development in South Asia.
- Gilbert, J., & Banik, N. (2010). Socioeconomic impacts of cross-border transport infrastructure development in South Asia.
- Hoffman, A. J., Lusanga, K., & Bhero, E. (2013, September). A combined GPS/RFID system for improved cross-border management of freight consignments. In *2013 Africon* (pp. 1-8). IEEE.

- Hoffman, A. J., Lusanga, K., & Bhero, E. (2013, September). A combined GPS/RFID system for improved cross-border management of freight consignments. In 2013 Africon (pp. 1-8). IEEE.
- [http://bsbk.portal.gov.bd/sites/default/files/files/bsbk.portal.gov.bd/page/1da6d5ad_5287_4dc7_8146_0326260b1894/overview%20\(Nov%20717\).pdf](http://bsbk.portal.gov.bd/sites/default/files/files/bsbk.portal.gov.bd/page/1da6d5ad_5287_4dc7_8146_0326260b1894/overview%20(Nov%20717).pdf)
- <http://siteresources.worldbank.org/SOUTHASIAEXT/Resources/223546-1168296540386/ch8.pdf>
- <https://qz.com/india/226458/the-smuggling-business-between-india-and-bangladesh-is-worth-as-much-as-their-official-trade/>
- Kieck, E. (2010). Coordinated border management: unlocking trade opportunities through one stop border posts. *World Customs Journal*, 4(1), 3-13.
- Kieck, E. (2010). Coordinated border management: unlocking trade opportunities through one stop border posts. *World Customs Journal*, 4(1), 3-13.
- Parks, J. L. (2004). The United States-Canada Smart Border Action Plan: Life in the FAST Lane. *Law & Bus. Rev. Am.*, 10, 395.
- Parks, J. L. (2004). The United States-Canada Smart Border Action Plan: Life in the FAST Lane. *Law & Bus. Rev. Am.*, 10, 395.
- Prokkola, E. K. (2013). Technologies of border management: Performances and calculation of Finnish/Schengen border security. *Geopolitics*, 18(1), 77-94.
- Prokkola, E. K. (2013). Technologies of border management: Performances and calculation of Finnish/Schengen border security. *Geopolitics*, 18(1), 77-94.
- Sarkar, K., Bal, B., Mukherjee, R., Chakraborty, S., Saha, S., Ghosh, A., & Parsons, S. (2008). Sex-trafficking, violence, negotiating skill, and HIV infection in brothel-based sex workers of eastern India, adjoining Nepal, Bhutan, and Bangladesh. *Journal of health, population, and nutrition*, 26(2), 223.
- Sarkar, K., Bal, B., Mukherjee, R., Chakraborty, S., Saha, S., Ghosh, A., & Parsons, S. (2008). Sex-trafficking, violence, negotiating skill, and HIV infection in brothel-based sex workers of eastern India, adjoining Nepal, Bhutan, and Bangladesh. *Journal of health, population, and nutrition*, 26(2), 223.
- Sood, A., & Mathukumalli, B. K. P. (2011). Managing international river basins: reviewing India–Bangladesh transboundary water issues. *Intl. J. River Basin Management*, 9(1), 43-52.

- Sood, A., & Mathukumalli, B. K. P. (2011). Managing international river basins: reviewing India–Bangladesh transboundary water issues. *Intl. J. River Basin Management*, 9(1), 43-52.
- Timothy, D. J. (1999). Cross-border partnership in tourism resource management: International parks along the US-Canada border. *Journal of Sustainable Tourism*, 7(3-4), 182-205.
- Timothy, D. J. (1999). Cross-border partnership in tourism resource management: International parks along the US-Canada border. *Journal of Sustainable Tourism*, 7(3-4), 182-205.
- Uzzaman, M. A., & Yusuf, M. A. (2011). The role of Customs and other agencies in trade facilitation in Bangladesh: hindrances and ways forward. *World Customs Journal*, 5(1), 29-42.
- Uzzaman, M. A., & Yusuf, M. A. (2011). The role of Customs and other agencies in trade facilitation in Bangladesh: hindrances and ways forward. *World Customs Journal*, 5(1), 29-4

Appendix: 01 (Check list for data collection)Fostering economic benefits through smart border management:
Bangladesh Perspective

List of questions to be asked

1. Total border length of Bangladesh (km)
 - a) Plain land
 - b) Hilly land
 - c) Jungle
 - d) Water
2. Total border length of Comilla (km)
3. Road adjacent to border 1. Yes 2. No
4. Total road length (km)
 - a) Pacca road
 - b) Semi pacca road
 - c) Kacha road
5. Fence in the border 1. Yes 2. No
6. Total border area protected by fence (km)
 - a) Concrete wall (length and height)
 - b) Tarkata'r bera
7. Presence of floodlight 1. Yes 2. No
8. Distance between two floodlight posts (meter/km)
9. Floodlight run by 1. Electricity 2. Solar 3. Others (specify)
10. Existence of security camera/night vision camera
11. Do BGB use radar in border management?
12. Existence of border observation post 1. Yes 2. No
13. Total no of BOPs existed in Bangladesh border
14. Total no of BOPs existed in Comilla border
15. BOPs are made of ...
16. Average distance between two BOPs (meter/km)
17. The strength of BGB in a BOP
18. Training facilities for BGB personnel to use modern technologies
19. Arms available in a BOPs
20. List of other equipment available in a BOPs

Fostering Economic Benefits through Smart Border Management

21. Vehicles available in a BOPs/BGB camp
22. Existence of Integrated check posts 1. Yes 2. No
23. Total numbers of ICPs in Bangladesh and its location
24. Do you get support from other armed forces of the country to manage border crisis 1. Yes 2. No
25. Which agency support most during border crisis management?
26. Does intelligence provide information in border management?
27. Does local people cooperate in border management?
28. Does BSF cooperate in border management?
29. Is Global positioning system tools used in border management?
30. Types and volume of smuggling: Weapon/ drugs/ commodities/ cattle/ human trafficking/ gold.
31. Why smuggling takes place?
32. Time required to get clearance from land port?
33. Time required to cross the border by the travelers?
34. Approximates cost per hour, for time delay in Land port?
35. Average export volume per month
36. Average import volume per month
37. Is there any biometric/electric gate in the border?
38. Is X-ray image scanner used in the border?
39. Is our land port follow automated customs clearance system/ single-window concept/ electronic exchange of information/ and electronic delivery of services?