Regional Comprehensive Economic Partnership (RCEP) FTA: Reducing Trade Cost through Removal of Non-Tariff Measures[*]

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The Regional Comprehensive Economic Partnership (RCEP) is an ASEAN-led proposal for a regional free trade area between 10 ASEAN countries and ASEAN's 6 other Free Trade Agreement (FTA) partners. The current international trade regime is now being governed by the non-tariff measures that raise the trade cost. The critical issue for market access, thus, would be as to how the reduction/elimination of non-tariff measures (NTMs) is addressed in RCEP negotiations. This paper first explores the background of RCEP, the trade and tariff profiles of RCEP members. The paper examines the overall trade cost using the ESCAP — World Bank database and then evaluates the impact of elimination of non-tariff related trade cost on intra-RCEP exports in a post FTA situation by using the gravity model. Lastly, this paper suggests some measures for effective RCEP negotiations, especially how to deal with the issues relating to non-tariff measures with a special focus on sanitary and phytosanitary, and technical barriers to trade.

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1. BACKGROUND

When General Agreement on Tariffs and Trade (GATT) was formulated in 1947, the regional trade agreements (RTAs) were looked into as an exception to the basic principle of Most Favored Nation (MFN).[1] The Asia and the Pacific is also not untouched with this global phenomenon and the number of RTAs in the region has seen an increase since early 1990s. Once considered as an example of the benefits of autonomous trade liberalization, Asia-Pacific economies have turned into major contributors to a global build-up of preferential trade agreements (PTAs). The Asia-Pacific economies lead in the global process of establishing new PTAs. Out of 262 PTAs in implementation worldwide, Asia-Pacific economies are party to 156. This means that each Asia-Pacific economy is implementing 7.1 PTAs, on average and has already created a complex web of 'noodle bowl'.[2]

Established in 1967, The Association of Southeast Asian Nations (ASEAN) was initiated by five nations: by Indonesia, Malaysia, the Philippines, Singapore and Thailand, and has expanded to include Brunei Darussalam, Cambodia, Lao PDR, Myanmar, and Vietnam. The ASEAN Free Trade Area (AFTA) was signed in 1992, and the Common Effective Preferential Tariff (CEPT) entered into force in 1993 as a scheme for the AFTA in order to promote development and growth of new production and trade. The CEPT was replaced by the ASEAN Trade in Goods Agreement (ATIGA) in 2010. The ATIGA targeted eliminating import duties on all products traded between the Member States by 2015, with flexibility for Cambodia, Lao PDR, Myanmar and Vietnam to do so by 2018. While the CEPT mostly focused on tariffs reduction, the ATIGA comprised broaden provisions on non-tariff measures (NTMs) such as Sanitary and

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[1] Under Article I of GATT 1994, WTO members are not supposed to discriminate one member with another in terms of their trade policies including import duties. However, RTAs are allowed as exceptions to MFN under Article XXIV of GATT 1994 subject to certain conditions. The plethora of RTAs now are thus challenging the principles of Article I since all the members of WTO are also parties to multiple RTAs.

[2] APTIAD Briefing Note 7 (February 2016), ESCAP (available at: http://www.unescap.org/sites/default/files/APTIAD%20brief.pdf).

Phytosanitary measures, rules of origins and other trade facilitation provisions (Bernabe, 2011). ASEAN has been also playing important role in developing FTAs with its Dialogue Partners. Five ASEAN+1 FTAs entered into force, the ASEAN-China FTA (ACFTA) in 2005, the ASEAN-Japan Comprehensive Economic Partnership (AJCEP) in 2008, the ASEAN-Australia-New Zealand FTA (AANZFTA) in 2010, the ASEAN-India FTA (AIFTA) in 2010, and the ASEAN-Republic of Korea FTA (AKFTA) in 2010.

2. RCEP

The Regional Comprehensive Economic Partnership (RCEP) is an ASEAN-led initiative for a regional free trade area between 10 ASEAN countries[3] and ASEAN's 6 other Free Trade Agreement (FTA) partners (figure 1). RCEP aims to be the largest regional FTA, with a combined market of over 3.4 billion people (49% of the world's population) with the combined GDP of over USD $21.2 trillion in 2014 (around 30% of world GDP). If negotiated successfully, RCEP would create one of the most extensive trading bloc in the world and would have significant implications as an ASEAN-centred regional free trade initiative. It might also be used as a tool to consolidate several other agreements that are signed or being negotiated by the RCEP members (figure 1), and thereby removing, to certain extent, the complexities involved with the 'noodle-bowl' phenomena of present RTAs.

The present MFN applied tariffs of most of the RCEP members are in the range of 5-7%, mostly due to their autonomous liberalization of tariffs on a multilateral basis   as well as due to their FTA commitments (AFTA, ATIGA and the ASEAN +1 FTAs). The critical issue for market access, thus, would be as to how the reduction/elimination of non-tariff measures (NTMs) are

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[3] ASEAN countries: Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam.

Figure 1   RCEP and Bilateral FTAs
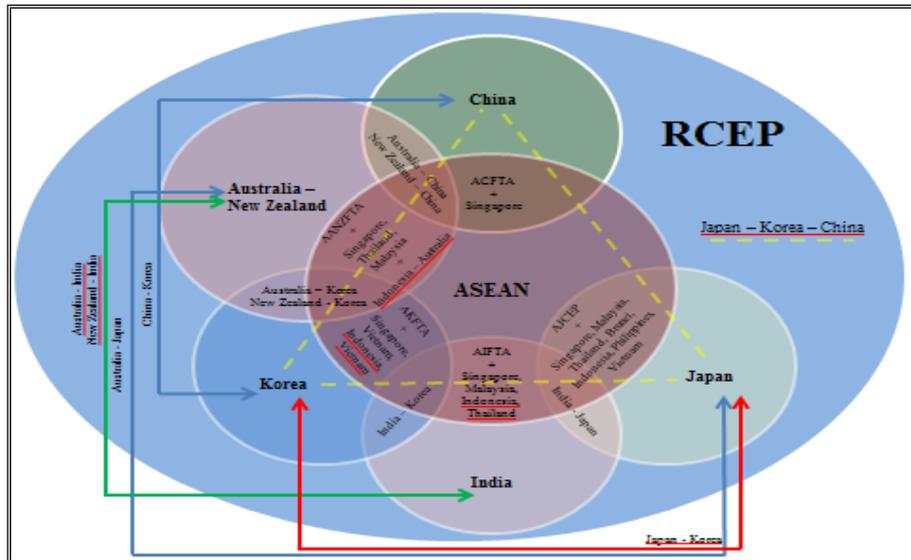
Source: ESCAP, Asia Pacific Trade and Investment Database.

addressed in RCEP negotiations. This paper first explores the background of RCEP, the trade and tariff profiles of RCEP members. The paper examines the overall trade cost using the ESCAP — World Bank database and then evaluates the impact of elimination of non-tariff related trade cost on intra-RCEP exports in a post FTA situation by using the gravity model. Lastly, this paper suggests some measures for effective RCEP negotiations, especially how to deal with the issues relating to non-tariff measures with a special focus on Sanitary and Phytosanitary, and Technical Barriers to Trade.

ASEAN has been a pivot in developing RTAs in the Asia-Pacific region attempting to create itself as a 'hub' for regionalism. Despite the significant achievement of developing RTAs in the region, economic liberalization has not fully accomplished due to different provisions applied among the RTAs. This situation creates a "noodle-bowl" effect, which further increases costs of trade within blocks and possibly decreases the opportunities for new trade and investment.

The ASEAN Economic Ministers Meeting (August 2012, Phnom Penh,

Cambodia) endorsed the Guiding Principles and Objectives for Negotiating the Regional Comprehensive Economic Partnership (RCEP). RCEP aims to achieve a comprehensive and mutually beneficial economic partnership. The RCEP agreement will include provisions to support economic and technical cooperation among partner members, to facilitate trade and investment, to enhance transparency in trade and investment, as well as to promote the participating countries' engagement in global and regional supply chains. Moreover, with consideration for the different levels of development of the member countries, RCEP will also include flexible provisions for special and different treatment, consistent with the existing ASEAN+1 FTAs, as applicable. The RCEP negotiations are still continuing and it is expected that negotiations will conclude by 2016.
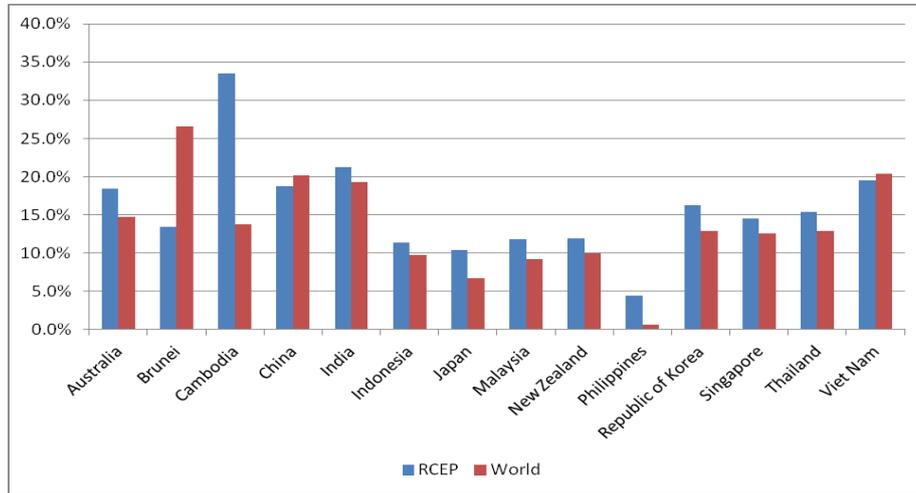

3. INTRA RCEP EXPORTS[4]

During 2004-2013, the intra-RCEP exports grew faster (approximately at a rate of 16.2%) compared with exports growth of 10.6% of world. More specifically, Cambodia's exports to RCEP countries shows the highest annual growth at 33.5% as against its global export growth of 13.7% only. Among 14 countries, 11 countries show higher exports growth rate to other RCEP members (Australia, India, Indonesia, Japan, Cambodia, Republic of Korea, Malaysia, New Zealand, Philippines, Singapore and Thailand) (figure 2). This high growth is mostly due to individual countries' exports to China. The intra-RCEP growth is either negative or lesser if their export to China is not accounted for.

Brunei Darussalam's share of exports in 2013 to RCEP members was highest (approximately 98% of its global exports) followed by Myanmar (93%), Lao PDR (85%), Australia (79%), Indonesia and Malaysia (both 66%). The economies having greater export share are likely to gain more due to RCEP FTA as duty free preferences will allow greater market access

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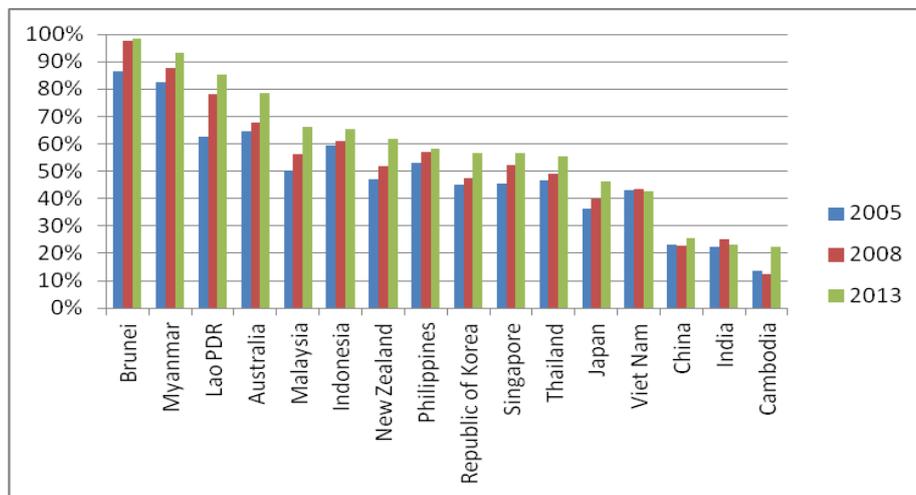[4] Lao PDR and Myanmar are not included due to lack of availability of data.

Figure 2   Exports Annual Average Growth Rate (2004-2013)

Source: Authors' calculation from WITS database.

Figure 3   Intra-RCEP Share of Exports

Source: Authors' calculation from WITS database.

(figure 3). Among RCEP export partners, while the LDC members have traded more with their neighbouring countries which are already their FTA

partners; Australia exported to China the most, followed by Japan and Republic of Korea. Australia's export to these three countries accounted for approximately 70% of all its exports to RCEP countries. Top three export partners of Indonesia were Japan, China and Singapore; they made up 54% of all exports to RCEP countries. Malaysia's biggest export partner among RCEP countries was Singapore, followed by China and Japan, they accounted for 60% (2013).

4. TARIFF PROFILES OF RCEP COUNTRIES

The current import duties (commoly known as MFN or applied rate of duties) are much lower than the bound rates agreed in the Uruguay Round (brought to the bound levels during 2000-2005) which is due to autonomous liberalisation by many countries.[5] The commitments to bring applied duties down to zero due to FTAs are also one of the reasons for autonomous liberalisation as countries realise the benefit of liberalisation and also confident that their industries can face the challenges and would become globally competitive. Due to this, in most of the items, there exist a large gap between the bound rates and MFN duties, especially in case of developing countries. The gap is likely to be narrowed after the conclusion of Doha round negotiations. The negotiations to tariff elimination in FTAs are held on the basis of the applied tariffs which are different than the apporach taken in GATT/ WTO which uses bound rates as benchmark.

Among RCEP countries, Myanmar has the highest average bound tariff rate (83.4%), followed by India (48.7%) and Indonesia (37.1%). In terms of applied tariff rate, India shows the highest rate (12.6%), followed by Republic of Korea (12.1%), Cambodia (10.9%) and Lao PDR (9.7%), while Singapore follows a duty free MFN tariff, even though has a bound rate of

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[5] Even in case of China and Lao PDR which acceded after Uruguay Round negotiations and have different time frame to bring their duties to bound level (after 2005) have liberalised tariffs autonomously.

Figure 4　Tariff Profile of RCEP Countries
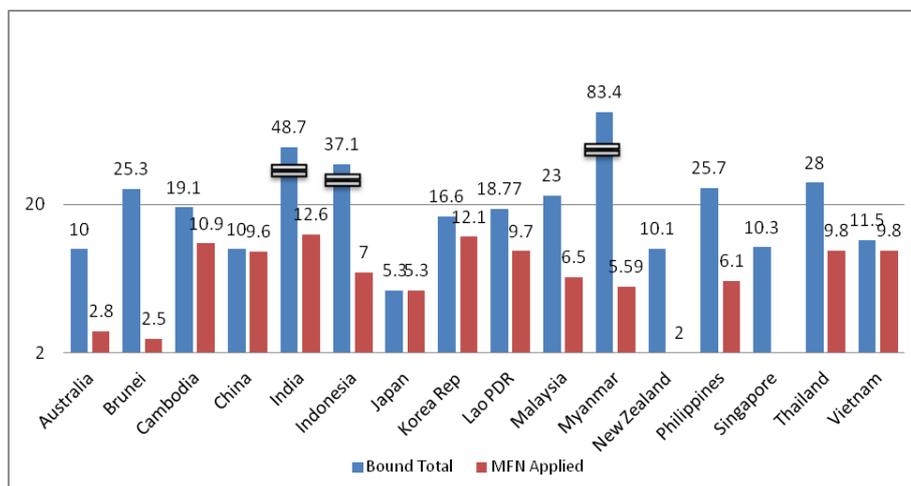
Source: WTO Tariff Profile (2014).

10% (figure 4). In case of RCEP the basis for tariff reductions will be the applied MFN tariff and thus the highest tariff cuts will be done by India, Republic of Korea, Cambodia and Lao PDR. However, these countries have already brought their duties to zero in ASEAN FTAs.

5. NON-TARIFF MEASURES (NTMs)

Non-tariff measures are not easy to define and are interchangeable with the term Non-tariff Barriers.[6] As the term suggest, NTMs are broadly defined as any policy measure other than customs tariffs that can have influence on

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[6] As per WTO glossary of trade terms, non-tariff barriers/measures refers to all barriers to trade that are not tariffs such as quotas, import licensing systems, sanitary regulations, prohibitions, etc. Some of these instruments, in particular technical regulations, minimum standards and certification systems regarding health and consumer safety do not ipso facto constitute barriers to trade, as they are generally employed to meet legitimate policy goals. However, there is a perception that, in some circumstances these sorts of policy instruments are being misused. On the other hand, in general the measures which are WTO compliant are treated as non-tariff measures and those which violate the WTO principles are termed as 'barriers'.

international trade flow, According to UNCTAD (2012), NTMs on import side can be categorized into two groups; technical measures and non-technical measures (Box 1).

Box 1   Import Related Non-Tariff Measures (NTMs)

Technical Measures:

Sanitary and Phytosanitary (SPS) Measures
SPS measures define as any measure applied to protect human or animal life from risks arising from additives, contaminations, toxins or disease causing organisms in their food, to protect human life from plant or animal carried diseases, to protect animal or plant life from pests, diseases or disease causing organisms and to prevent or limit other damage to a country from entry, establishment or spread of diseases.

Technical Barriers to Trade (TBTs)
TBT measures include technical regulations, standards and conformity assessment procedures (WTO, 2004). TBT measures typically deal with labelling of composition or quality of food, drink or drug, quality requirements for fresh food, volume, shape and appearance of packaging etc.

Non-technical Measures:

Quotas
Restriction of imports of specified products by setting a maximum quantity or value of goods authorized for import.

Non-automatic Licensing
Non-automatic licensing is usually the means for administering a quota or a conditional prohibition and in such cases is a condition for import.

Voluntary Export Restraints (VERs)
Voluntary export restraints (VERs) are usually informal export restraint arrangements (ERAs) between an exporter and an importer whereby the exporter agrees to limit the exports for a certain period of time.

Prohibitions
Unconditional interdiction to import. The so-called "prohibition with exceptions" is incorporated in the category of licensing which is relevant to the nature of the exception.

Antidumping Measures
Antidumping measures may be taken after an investigation by the investigating authority of the importing country has led to a determination of dumping and material injury resulting there from. It is considered that dumping takes place when a product is introduced into the commerce of an importing country at less than its normal value.

Countervailing Measures
Countervailing measures may be taken after an investigation by the investigating authority of the importing country has led to a determination that the imported goods are benefiting from subsidies, and that they result in injury. Countervailing measures may take the form of countervailing duties or undertakings by the exporting firms or by the authorities of the subsidizing country.

Government Procurement Procedures
Government procurement procedures typically involve a price preference for domestic goods. The price preference is computed to determine the outcome of public tenders for the supply of goods or services to government agencies.

Source: Authors' compilation from UNCTAD and WTO.

Certain types of NTMs have been dealt in the multilateral trading system. During the early GATT negotiating rounds, the members recognized that NTMs can distort the impact of significant tariff reduction and in the Kennedy Round (1964-1967), members agreed to deal with NTMs in the forthcoming negotiations. The Tokyo Round (1973-1979) created a special negotiating sub-committee on technical barriers, customs, subsidies and countervailing measures, and government procurement. In the Uruguay Rounds, comprehensive negotiations led to disciplining some NTMs like import licensing, quota, standards and technical regulations, rules of origin

etc. The agreements on Sanitary and Phytosanitary measures (SPS), Technical Barriers to Trade (TBT) and others came into force on 1 January 1995. The Doha Round is also discussing further disciplining some of the issues relating to NTMs and the Trade Facilitation Agreement agreed in Bali Ministerial meeting in December 2013 is one such decision. The GATT rules on NTMs, however, are 'generally consistent with a shallow integration approach' (WTO, 2012).

As discussed earlier, in view of the reduced tariffs mostly due to autonomous liberalization, the important barriers to trade now are the non-tariff ones at the border as well as behind the border. Though certain non-tariff measures (export and import quotas, import licenses, monopoly trade measures etc.) have been disciplined under WTO, still a significant amount of non-tariff measures remain. Despite having disciplines on SPS and TBT in WTO, their use is increasing day by day. Costs associated with complying these regulatory procedures are impacting trade. ESCAP (2011) has estimated the tariff and non-tariff trade costs and found that non-tariff trade costs are higher than the tariff trade cost. WTO (2012) observed that TBT/SPS measures distort trade in agricultural products. It would thus be important to look at non-tariff related trade cost of RCEP members and examine whether reduction of trade cost is possible through the instruments of harmonisation, mutual recognition, equivalence, conformity assess etc. of not as they reduce transaction cost.

Recent studies on RCEP have stressed the importance of addressing NTMs. They proposed that priority should be given to address NTMs from the beginning of negotiations and RCEP must develop standards to measure NTMs and provide common approaches and conformity assessments (Das, 2012). It has also been pointed out that RCEP should clarify the types of NTMs to avoid delay of elimination of it due to lack of clear definition and they should be removed as much as possible (Fukunaga and Isono, 2013). Since the text of negotiation is not available in the public domain, it is also not known if initiatives taken by ASEAN to address NTMs, mostly through the process of harmonisation is also being discussed in RCEP or not.

However, for a successful market access it is necessary that these additional costs associated with the NTMs are addressed in RCEP negotiations, importance of which is discussed in the following section.

The Overall Trade Restrictiveness Index (OTRI)[7] summarizes the trade policy stance of a country by calculating the uniform tariff rate (replacing current tariff schedule and NTMs) that will keep its overall imports at the current level. OTRI is a more sophisticated way to calculate the weighted average tariff of a given country. The weights indicate the composition of import volume and import demand elasticities of each imported product. The empirical methodology of the OTRI was first developed by Kee, Nicita, and Olarreaga (2008, 2009), based on the theoretical underpinning of Anderson and Neary (1994, 1996, 2003). NTMs considered in this calculation include price control measures, quantitative restrictions, monopolistic measures, technical regulations, and agriculture support. The tariff and non-tariff indices can be segregated from the OTRI. The analitical studies show that NTMs play significant role in trade restrictiveness. Kee *et al*. (2009) measured Overall Trade Restrictiveness Index (OTRI) and Tariff Trade Restrictiveness Index (TTRI) for 78 developed and developing countries by using the UNCTAD TRAINS NTB database and tariff data of 2003 and 2004 from WITS. He observed that NTBs increase the level of trade restrictiveness imposed by tariff (average 87%). The study also states that the effect of NTBs on OTRI is bigger than the effect of tariff in 34 countries (out of 78). Subtracting TTRI[8] from OTRI[9] gives the non-tariff component of the trade restrictiveness index (NTMRI).

In conventional FTAs countries often negotiate elimination of tariffs only and the provisions relating to removing the obstacles of NTMs thorugh a process of harmonisation, conformity assessments, mutual recognition

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[7] As defined by World Bank available at http://econ.worldbank.org/WBSITE/EXTERNAL /EXTDEC/EXTRESEARCH/0,contentMDK:22574446~pagePK:64214825~piPK:64214943 ~theSitePK:469382,00.html

[8] This indicator reflects the equivalent uniform tariff of a country tariff schedule that would maintain domestic import levels constant (World Bank).

[9] This indicator reflects the uniform equivalent tariff of a country's tariff schedule and non-tariff measures (NTMs) that would maintain domestic import levels (World Bank).

Figure 5   TTRI and NTMRI Profile of RCEP Countries (2009)[10]
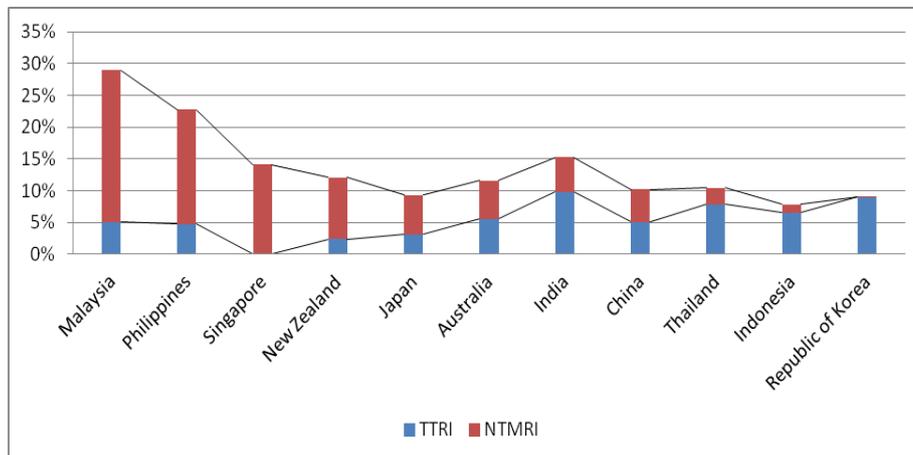
Source: World Bank.

agreements etc. especially relating to the SPS and TBT measures are either very weak or just reiterate their WTO rights and obligations. In order to understand what will be the implication if the NTMs are not addressed, a summary of RCEP members' TTRI (Tariff Trade Restictiveness Index) and NTMRI (Non-tariff measure Restictiveness Index) is shown in the figure 5.

It is evident that when one looks into the OTRI, Malaysia shows the highest OTRI level (27.4%), followed by Philipinnes (21.7%), India (14.9%) and Singapore. Indonesia shows the lowest OTRI (4.7%). It is also evident that in case of Malaysia, Philippines, Singapore New Zealand, Australia and Japan the major contribution is from NTMRI. In the case of Malaysia and Philippines the NTMRI is 4 times than the TTRI; Singapore has 100% and New Zealand's NTMRI is also around 4 times the TTRI. In all these cases, therefore, removing of non-tariff measures would be important for effective market access. Thus, when it comes to trade negotiations in RCEP, both the tariff and non-tariff measures need to be addressed in the FTA negotiations as tariff elimination alone will not be in a position to enhance trade as per the potential.

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[10] The latest data available is for year 2009 only.

6. QUANTIFYING NTMs

The analitical studies show that NTMs play significant role in trade restrictiveness. The fact that NTMs especially in terms of SPS and TBT standards vary greatly across countries makes harmonization of standards a policy priority. Basic economic theory explains that if standards are necessary (e.g., for food safety), then commonly agreed international standards should facilitate trade by harmonizing the production process for all countries. In practice, the harmonization should remove trade restrictions, as production processes do not need to be customized to meet requirements for each export market. SPS and TBT standards and regulations are double-edged sword. On one hand, SPS and TBT measures can promote economic development and trade. On the other hand, they may also be used as disguised protectionism and unnecessarily frustrate international trade. The risk of the use of these measures for protecting the domestic producers is particularly high in the agriculture sector, where lowering the level of protection provided by tariff, increases the importance of sanitary and phytosanitary measures as border protection instruments. The major difficulty in dealing with standards and regulations is to distinguish those measures which are justified by a legitimate cause from those which are applied for protectionists' purposes (Ratna, 2005).

The studies on harmonization generally compare country-specific standards to internationally set guidelines. Sithamaparam and Devadason (2011), for example, assess the impact of NTMs on Malaysian exports by examining the heterogeneity of various export markets (European Union, Japan and ASEAN-4[11]). They also find a positive effect of harmonization of standards. Their results suggest that, while exports to ASEAN-4 have increased because of the harmonization of regional standards, they have not increased to the European Union, which generally adopts different standards to other regions. Wilson, Otsuki, and Majumdsar (2003) examine the impact of antibiotic residue standards on trade in beef and analyses the trade effect

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[11] Cambodia, Lao PDR, Myanmar and Vietnam.

of setting harmonized international standards. They specifically look at the diverse standards applied in six importing countries or regions (Australia, New Zealand, United States, Canada, European Union and Japan) and how these affect exports from a number of countries (Australia, Argentina, Brazil, Canada, Chile, China, Hungary, Mexico, New Zealand, Nicaragua, South Africa, Switzerland, Thailand, Ukraine, Uruguay and United States). By using an econometric approach, the study finds that bovine meat imports are significantly lower for an importing country that has a more stringent standard on an antibiotic item. They also find that not all countries would benefit from such harmonization. While a universally adopted Codex standard[12] on beef would significantly increase bovine meat exports from the emerging developing countries, it would decrease exports from low-income countries. The reason is that many low-income countries can export only to countries applying relatively lax standards as they do not have production processes in line with the Codex standards, let alone with the more stringent standards of many high-income markets.

The diverse trade impact from standard harmonization based on country's development level is also found in the study by Cadot *et al*. (2010). The study shows that the existence of PTAs between developed and developing countries (North-South agreements) hurts trade between developing countries (South-South trade) and impedes developing countries' attempts to diversify into new markets if such harmonisation is on regional standards. Chen and Mattoo (2008) estimate a gravity model of bilateral trade of 28 OECD countries and 14 non-OECD countries at the three-digit SITC product level. They find that harmonization agreements can increase trade between participating countries but will not necessarily increase trade with other countries. In particular, they find that harmonization increases exports from developed countries outside the region, but it reduces exports from developing countries outside the region. MRAs tend to increase trade within the region. MRAs also increase trade with countries outside the region if they are not associated with rules of origin. However, when the MRAs

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[12] Codex standard is international standards for food, established by FAO and WTO in 1963.

contain rules of origin, trade with countries outside the region is negatively affected, especially exports from developing countries. Overall, the evidence suggests that regional integration of TBT/SPS measures has trade-diverting effects, especially to the detriment of developing countries. This finding is consistent with the evidence that deep preferential trade agreements in the area of TBT/SPS measures are more likely among countries with a higher and more similar level of income. This finding also highlights the risk that regional integration on TBT/SPS measures may lead to a multi-tiered world where certain developing countries are marginalized.

Furthermore, as stressed in World Trade Report 2011, there is a risk of a "lock-in" effect, whereby the regional harmonization of standards may reduce incentives for further trade opening. Regardless of their objectives, TBT/SPS measures may or may not reduce trade. Negative trade effects, when they exist, generate negative spill-overs across countries. This provides a rationale for international cooperation. Harmonization and mutual recognition help to reduce the undesired negative trade effects of legitimate public policy. However, both approaches highlight the need for capacity building to address regulatory challenges in developing countries. The costs related to compliance and conformity assessment impinge particularly on developing countries. This is because they lack the technical infrastructure necessary to effectively develop and design technical regulation, standards and conformity assessment procedures.

Given the increasing importance of NTMs, researchers have also used the gravity model to estimate the impact of NTMs on trade. The gravity model has been used to examine bilateral trade flows, particularly to estimate the impacts of trade-related policies on the trade flows.

The basic gravity model can be written as:

$$\log(\textit{Trade Flow}_{ij}) = b_0 + b_1 \log(GDP_i) + b_2 \log(GDP_j)$$
$$+ b_3 \log(\textit{Distance}_{ij}) + e_{ij}. \tag{1}$$

Gravity based techniques measure the trade impact of NTMs rather than their welfare effect and thus ignore some of the effects of regulations that correct market failures but restrict trade. It also captures the trade enhancing effects of regulations when they act as standards that facilitate trade (Beghnin and Bureau, 2001).

The effect of TBT on trade impact was studied for twelve western European nations from 1980-1995 and the study helped in estimating impact of 1% increase in the number of shared standards on bilateral trade flows (Moenius, 2004). Hoekman and Nicita (2008) did a study to analyse the impacts of trade policies on developing countries. The data set covers 104 importers and 115 exporters. The study used a traditional cross-section gravity model that deals with trade volume as dependent variable, and multilateral resistance terms (distance, language, landlocked, adjacency), trade policies (TTRI, NTM) and domestic trade costs as explanatory variables. The analysis in the paper suggests that tariff and NTMs are statistically significant determinants of trade flow, on average, 10% of TTRI reduction would increase trade volumes approximately 2%, while NTMs add another 1.8%. Furthermore, the study shows the importance of other trade cost such as transactions costs at and behind the border as well, especially for low-income countries.

Bellanawithana *et al*. (2009) examined the effect of NTM on agricultural exports using gravity model approach by using the value of agriculture trade flows as dependent variable and used the gravity model variables like GDP, distance, geographical proximity like common border, landlocked country and other variables like common language, colonial ties etc. The trade restrictiveness indices of TTRI and OTRI were used as constructed by Kee, Nicita, and Olarreage (2006). The regression analysis presented that NTM has significant negative effect on south-south and north-south trade, while NTM has insignificant effect on agricultural exports in south-north and north-north trade.

7. METHODOLOGY AND LIMITATIONS OF MODEL

This section aims to quantify the impacts of NTMs on overall market access, particularly for all products among RCEP member countries. This section evaluates if the elimination of tariffs among the RCEP members would be sufficient for enhanced market access or addressing the issues of the NTMs would be equally important, if not more. The biggest challenge for researchers to study impact of NTMs on trade is to find exclusive non-tariff measures as per WTO or UNCTAD classifications at product level and then to express them in tariff equivalent form so that it could be used in the model. Various databases that quantify NTM like TRAINS or ESCAP-World Bank trade cost data base are at aggregate level and not at the 6 or 8 digit product level (HS) classification, hence a sectoral (at 2 digit HS level) or product (6 or 8 digit HS level) based analysis is very difficult. In this study the trade restrictiveness indices have been used from ESCAP-World Bank trade cost database — bilateral tariff cost and non-tariff equivalent trade costs. The ESCAP-World Bank trade cost database is comprehensive as it includes all costs involved in international trade of goods.[13]

In order to derive the relationships between tariffs, NTMs and FTA on trade flows respectively, the gravity model has been used to examine the relationship between bilateral trade flows by using standard gravity variables and bilateral trade cost relating to NTMs. The factors known to have influence on trade and have also been used in this model are importing countries GDP, exporting countries GDP, distance, language, common border, landlocked geographical position and colonial legacy. The standard gravity model has been used as a first model (Model 1) to analyse this relationship for RCEP members. In the second model (Model 2) FTA variable has been added to test the assumption that FTA enhances the trade among FTA partner countries and thus export will have a positive and statistically significant relation with FTA. The Model 2 thus examines the relationship between exports and FTA. The third model (Model 3) is

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[13] It uses the trade cost components as discussed in Anderson and van Wincoop (2001).

improved version of Model 2 where two more factors, TTC (bilateral tariff trade cost) and NTTC (non-tariff trade cost) have been added. In the third model (Model 3) the impact of TTC and NTTC on the exports was examined first by having the FTA variable (Model 3a) and then by dropping the FTA variable (Model 3b). From these three models one tries to examine which factor is the most influential in affecting intra-RCEP exports — will trade increase if in the FTA only the tariff issues are addressed (by bringing them to zero) or there is a need to address the non-tariff issues simultaneously in the negotiations.

The gravity model can be represented by the following equations for the above mentioned three models:

Model 1:

$$
\begin{aligned}
\ln(\upsilon)_{ijt} = b_0 &+ b_1 \ln(GDP)_{it} + b_2 \ln(GDP)_{jt} + b_3 \ln(Dist)_{ij} + b_4 (lang)_{ij} \\
&+ b_5 (Conting)_{ij} + b_6 \log(Landlock)_j + b_7 \log(Colony)_{ij} + e_{ij}.
\end{aligned} \tag{2}
$$

Model 2:

$$
\begin{aligned}
\ln(\upsilon)_{ijt} = b_0 &+ b_1 \ln(GDP)_{it} + b_2 \ln(GDP)_{jt} + b_3 \ln(Dist)_{ij} + b_4 (lang)_{ij} \\
&+ b_5 (Conting)_{ij} + b_6 \log(Landlock)_j + b_7 \log(Colony)_{ij} \\
&+ b_8 (FTA)_{ijt} + e_{ij}.
\end{aligned} \tag{3}
$$

Model 3:

$$
\begin{aligned}
\ln(\upsilon)_{ijt} = b_0 &+ b_1 \ln(GDP)_{it} + b_2 \ln(GDP)_{jt} + b_3 \ln(Dist)_{ij} + b_4 (lang)_{ij} \\
&+ b_5 (Conting)_{ij} + b_6 \log(Landlock)_j + b_7 \log(Colony)_{ij} \\
&+ b_8 (FTA)_{ijt} + b_9 (TTC)_{ijt} + b_{10} (NTTC)_{ijt} + e_{ij}.
\end{aligned} \tag{4}
$$

Where "*b*" terms are coefficients, "*i*" is the importer and "*j*" is the

exporter. The explanation for each independent variable is given below:

υ_{ijt} : value of exports from country j to country i at year t.

Basic gravity variables

GDP_{it} : GDP in the ith importer at year t.

GDP_{jt} : GDP in the jth exporter at year t.

$Dist_{ij}$: geographical distance between capital cities in i and j.

Trade restrictiveness indices

TTC_{ijt} :[14] bilateral tariff trade cost imposed by importer i when exported by exporter j at year t.

$NTTC_{ijt}$: non-tariff trade cost component imposed by importer i when exported by exporter j at year t.

FTA_{ijt} : 1 if ith importer has free trade agreement in force with country j, dummy variable.

Cultural variables

$Lang_{ij}$: 1 if both countries share the same official language, dummy variable.

$Colony_{ij}$: 1 if ith importer has colony ties with jth exporter, dummy variable.

Geographical variables

$Conting_{ij}$: 1 if country i share a land border with country j, dummy variable.

$Landlock_{j}$: 1 if jth exporter is a landlocked country, dummy variable.

e_{ij} : error term.

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[14] This index summarizes the impact of each country's trade policies on its aggregate imports. This captures only the impact of tariff.

Table 1   Sources for Data

Variable	Source
υ_{ijt}	UNCOMTRADE
GDP_{it}	World Bank, IMF
GDP_{jt}	World Bank, IMF
$Dist_{ij}$	CEPII
TTC_{ij}	ESCAP - World Bank Trade Cost Database
$NTTC_{ij}$	ESCAP - World Bank Trade Cost Database
$Lang_{ij}$	CEPII
$Colony_{ij}$	CEPII
$Conting_{ij}$	CEPII
$Landlock_{j}$	CEPII
FTA_{ij}	APTIAD Database, UNESCAP

The data set covers 15 exporters and 15 importers (225 country pairs)[15] for the data years between 1995 and 2011. The data from 1995was taken as it captures the impact of effective tariff reduction by RCEP members due to Uruguay Round results (from 1995 to 2000, with flexibility to developing countries), autonomous tariff liberalisation taken during the period and the fact that the phenomena of FTAs in Asia and the Pacific started in a big way from 2002-2003. The latest trade cost database is available only up to 2011. The detailed information on the sources for data is shown in table 1.

The gravity model estimations were done using the statistical software package STATA/12.

8. RESULTS AND DISCUSSION

The econometric estimations of equations (2), (3) and (4) are based on OLS, Fixed Effect (FE) and Random Effects (RE) technique. The RE can be

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[15] Myanmar was dropped as the data from 1995 to 2011 was not available.

preferred over FE in this kind of panel data setup because of the presence of time invariant explanatory variables[16] like Language, Colony, FTA, Conting, Landlock in the model, however the FE is useful for addressing the endogeneity issue which often arises in gravity models when estimating the impact of trade policies, especially in RTAs. FE can help to overcome part of the endogeneity problem due to omitted variable bias, although time-varying omitted variables remain a problem. To get rid of the presence of heteroscedasticity, if any, the robust estimates were used in the models. Estimates for the gravity model were also attempted by using other popular regression methods like OLS, FE, Hausman-Taylor (HT) and Poisson Pseudo-Maximum Likelihood Estimator (PPML) to check the consistency of the results. It turned out that the results achieved from the OLS, FE and RE models are similar to other regression models. Here the regression result of OLS, FE and RE results are presented for model 3 above and the regression results are given in table 2.

The dependent variable is *ln* (natural logarithm) of actual exports and imports of fifteen RCEP member countries. The first column shows the description of independent variables and the remaining columns show the coefficients that were obtained from the regression results for Models 3a and 3b. The positive and statistically significant relation of exports with the GDPs of importing and exporting country is as per the assumptions. Landlocked countries tend to trade less; especially in terms of exports (Hoekman and Nicita, 2008), however, in this model it shows different results — positive and statistically significant effect at 1% and 10% level on export for OLS and RE respectively. One explanation for this could be high trade of Lao PDR with Thailand and China. Thus the constraint of landlocked countries to export to other countries with which it does not have common border may be true, but the same may not be true if the countries share common border and are larger economy than the landlocked country.

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[16] Fixed Effects are used only when one is interested in analyzing the impact of variables that vary over time. The rationale behind the RE model is that the variations across entities is assumed to be random and are uncorrelated with the independent variable of the model.

Table 2   Results for RCEP

	OLS		FE		RE	
	Model 3a	Model 3b	Model 3a	Model 3b	Model 3a	Model 3b
lngdp_importer	0.635*** (37.81)	0.630*** (36.55)	0.573*** (13.36)	0.584*** (13.69)	0.619*** (14.36)	0.627*** (14.53)
lngdp_exporter	0.627*** (38.27)	0.621*** (39.63)	0.687*** (15.62)	0.704*** (16.26)	0.618*** (14.79)	0.630*** (15.04)
ln_dist	–0.447*** (–12.56)	–0.473*** (–15.48)	0.000623 (0.02)	–0.00405 (–0.12)	–0.0550 (–1.02)	–0.0650 (–1.23)
Lang	0.276*** (4.95)	0.279*** (4.98)	0.191 (1.35)	0.190 (1.35)	0.202* (2.12)	0.203* (2.12)
Conting	–0.117 (–1.61)	–0.108 (–1.51)	0.0735 (0.22)	0.0732 (0.22)	0.124 (0.59)	0.144 (0.68)
Landlock	–1.332*** (–8.01)	–1.337*** (–8.10)	0 (.)	0 (.)	–1.725*** (–4.26)	–1.667*** (–4.13)
Colony	–0.0219 (–0.26)	–0.0408 (–0.49)	0.443 (1.69)	0.443 (1.69)	0.436** (2.76)	0.431** (2.76)
FTA	0.100 (1.64)		0.0825* (2.09)		0.0905 (1.43)	
TTC	–0.0378*** (–16.71)	–0.0390*** (–19.10)	–0.0144*** (–8.99)	–0.0145*** (–9.09)	–0.0168*** (–6.53)	–0.0173*** (–6.65)
NTTC	–0.0167*** (–20.53)	–0.0166*** (–20.94)	–0.0153*** (–28.25)	–0.0154*** (–28.44)	–0.0157*** (–7.95)	–0.0157*** (–7.95)
_cons	–4.462*** (–8.32)	–3.980*** (–8.32)	–8.734*** (–11.86)	–9.167*** (–12.97)	–7.637*** (–6.30)	–7.879*** (–6.46)
N	2,461	2,461	2,461	2,461	2,461	2,461
Level of Significance	* = 10%, ** = 5%, *** = 1%					

Note: *t* statistics is given in parentheses.

Distance is an important determinant of bilateral trade impacting the exports negatively, but results do not show it as statistically significant for RCEP. This possibly could be due to the fact that the members of RCEP are not located geographically too far, except Australia and New Zealand and most of the countries do trade with other RCEP members. Sharing common language is an important factor of bilateral trade as it facilitates trade due to better understanding of each others' documentations; procedures etc. However, RE model shows that it has statistically significant impact on export at 10% level. Sharing a common border variable is also an important

determinant of bilateral trade, but it has no statistically significant impact in this model. The model shows different results for FE (not significant) and RE (significant at 5% level) on having common colonial relations among the RCEP members.

The FE results show that between FTA and exports there is a positive and significant relationship at 10% but not significant for RE. There could be two possible explanations for such a behaviour. One explanation could be attributed to the fact that during the period 1995 to 2011 ASEAN FTA (zero duty regime) was in place thus impact of intra ASEAN FTA exports were not captured in this model. Secondly, most of the bilateral FTAs among the RCEP members (mostly ASEAN plus one) have started after 2008 and are still going through the transition period of tariff liberalisation, thus the trade is not duty free during the period. Another reason, which explains the insignificant relation, can be attributed to the decline in trade due to the global economic recession which also hampered their bilateral exports to other RCEP members. The correlations with other variables are on expected lines.

This model illustrates statistically significant (at 1% level) and negative relationship between exports and the tariff and non-tariff trade cost in all three cases of OLS, FE and RE. It also brings out the fact that the impact of reduction of NTMs is equally important as the reduction in tariffs and thus it is important that RCEP agreement handles the non-tariff trade costs issues in the negotiations. In this regard, using the Model 3b the impact assessment of NTTC was calculated by using the methodology adopted by ESCAP (2012). Using that methodology with RE coefficients, effort was made to predict the intra-RCEP export potential for the year 2011 (as the latest data is available only for 2011). In order to calculate the export potential a hypothetical scenario was assumed where there is no existence of non-tariff trade cost i.e., the entire non-tariff trade cost is eliminated. This was done by taking the variable NTTC as zero and tried to find the estimated intra-RCEP export by using all the statistically significant variables in Model 3 as follows:

$$V_{ijt} = -7.879 + 0.627*(GDP)_{it} + 0.630*(GDP)_{jt} + 0.203*(Lang)_{ij}$$
$$-1.667*(Landlock)_{j} + 0.431*(Colony)_{ij} - 0.0173*(TTC)_{ij}.$$

(5)

This estimated gravity equation is then used to get the predicted export value of the RCEP in 2011. The difference between the actual exports value and the predicted export value is considered as the "export potential" for the year 2011. A positive trade potential suggests that there is scope for an economy to increase its exports in RCEP with a particular trading partner during that period. It was found that if the NTTC is eliminated it will generate an additional intra-RCEP exports to the tune of $1,233 million which shows a growth of around 55% over the actual intra-RCEP export value of 2011 ($2,253 billion).

9. CONCLUSION

In this case, we examined the impact of tariff and non-tariff measures on intra-RCEP trade flows. The result of the analysis reveals some interesting points, even though there are certain limitations. The first being not very significant impact of FTA on trade expansion, which was found in this case. As pointed out, the lack of strong correlation could be due to ASEAN FTA which was in place during the period of analysis and ASEAN+1 agreements being in transition. The results, however, bring the greater importance of non-tariff measures on exports compared to the tariff barriers. Thus the issues of non-tariff measures need to be adequately addressed in the RCEP negotiation. Since the RCEP members are also members to WTO, they are governed by the disciplines on NTMs especially on issues relating to SPS and TBT measures. However, given the nature of disputes that emerged in WTO on these issues as well as specific trade concerns, which have been raised in the meetings of SPS and TBT Committees, it is important that these are addressed in a time bound manner. One such initiative which has been taken at a regional level is the process of harmonisation of standards by

ASEAN. Since ASEAN is in the hub of the RCEP, it is important to initiate the process on similar lines as being done in ASEAN through harmonisation of standards on priority areas.

A growing number of regional trade agreements are now including provisions relating to SPS and TBT measures. As per the WTO (2011), approximately 60 percent of the agreements include the provisions relating to mutual recognition of conformity assessments and harmonisation of technical regulations. However, it has also been observed that countries are neither willing to undertake binding provisions in RTAs for harmonization, conformity assessments etc. on SPS and TBT nor subjecting these issues to RTA disputes or consultation process. On these issues, most of the RTAs have a very weak provision on cooperation or prescribe for developing mechanisms on these issues, without a timeline, in subsequent negotiations after the FTA has entered into force. In most of the cases the provisions merely reiterate their obligations of WTO. In the RCEP negotiations, therefore it is essential that the provisions on SPS and TBT should be in the form of binding commitments and the agreement should also prescribe a binding work programme to harmonise the standards on important sectors. One way could be to adopt the AEC harmonisation of standards, which are already in place, and 10 out of 16 RCEP members are implementing them on the basis of international standards. At the same time, there should be provisions relating to technical assistance and capacity building especially for the LDC members of RCEP. In agriculture sector, given the common border among certain members, it is importance that the concept of regionalisation and equivalence are included in the agreement.

It would also be important for countries to identify priority sectors and negotiate the process of harmonisation, mutual recognition of conformity assessments etc. as a part of the RCEP text agreement, rather than keeping it for future negotiations. In this regard, it would be important that RCEP includes a commitment to a work programme and constitute a permanent Working Group to address SPS and TBT issues. Often the provisions relating to SPS and TBT are not subject to disciplines of dispute settlement

provisions within the FTA and countries often try to address them in the WTO. However, the dispute resolution in WTO is time consuming and costly. Thus in RCEP there should be a provision which brings the SPS and TBT provisions within the ambit of RCEP dispute settlement process or at least consultation process which will minimize the time and cost taken in dispute resolution.

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