

Studies in Trade and Investment No. 74

Facilitating Agricultural Trade in Asia and the Pacific



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Preface

Trade is considered 'the engine for growth'. Agricultural trade adds more value to this statement since livelihoods of millions of people are dependent on the agriculture supply chains. Hence trade facilitation for agricultural products is significant for socio-economic development of the Asia-Pacific region. It is tied with employment concerns, the development of small and medium enterprises and basic food security. In the context of depleting natural resources also, agricultural trade is a much discussed topic.

This study is an initial attempt to provide a comprehensive look at Trade Facilitation for agricultural products in the Asia-Pacific region. ESCAP had organized a High-level Consultation on 'Facilitating Agricultural Trade in Asia and the Pacific' at the beginning of this year. Discussions held at the consultation identified a few major constraints that guided the structure of this study. The paper provides the status of agricultural trade as well as constraints in facilitating trade and their remedies.

The first chapter introduces the agricultural products, compares Asia-Pacific agricultural trade with other major traders in the World and provides growth trend and drivers behind such growth. The second chapter discusses the constraints that limit agricultural trade. The defined bottlenecks of agro-trade include procedures, standards, logistics and finance issues. The third chapter specifies some measures to address the constraints and provides some examples of good practices. The fourth chapter concludes the study with an indication that better understanding on specific issues related to facilitating agricultural trade is required. The study used its own analysis to present a scenario of agricultural trade, using trade data from COMTRADE. It has made use of several cases to showcase the operational or functional problems related to Trade Facilitation, mostly from secondary sources.

This study is one of the work programme (2010-11) outputs of Trade and Investment Division (TID). Trade Facilitation in agriculture is a major focus of the TID's work programme for the next biennium. This study contains specific issues on Trade Facilitation in agriculture that may develop into topics of extensive work for the Trade and Investment Division in the near future.

CONTENTS

Acknowledgement.....	ii
Preface.....	iii
Abbreviations and Acronyms	viii
I. Overview of the Agricultural Trade in Asia and the Pacific Region	1
A. Introduction.....	1
B. What are Agricultural Products?	2
C. The Status and Drivers of Agricultural Trade in Asia and the Pacific	3
1. A Transitioning Asia-Pacific Region	3
2. Intra-regional Trade in the Asia-Pacific Region.....	12
3. A Closer Look at China and India.....	14
D. Market Potential for Agricultural Products.....	17
E. Why Facilitating Agricultural Trade is Crucial?	18
1. Impact on Poverty Reduction.....	18
2. Developing Agro-export Competitiveness	19
3. Less Tariff Barriers but no Corresponding Growth	20
II. Bottlenecks for Facilitating Agricultural Trade	22
A. Trade Procedures	22
1. Procedures are Worse for Agro-products.....	22
2. Accessing Information is Difficult.....	24
3. Too-much Paperwork Delays Transaction	25
4. Delays at the Border: An added Bottleneck.....	27
B. Product Standards	28
1. Compliance Concerns.....	30
2. Inadequate Quality Infrastructure	32
3. Multiplicity of Standards and Private Standards.....	34
C. Trade Logistics	35

1.	Poor Trade Related Infrastructure and Transportation System	36
2.	Spoilage during Post-harvest Handling	37
3.	Weak Market Linkages	37
D.	Trade Finance	38
1.	Stringent Terms.....	39
2.	Lenders' Lack of Understanding.....	39
3.	Knowledge Gap of SMEs	40
E.	Transformation of Production Practices	40
III.	Trade Facilitation Measures for Agricultural trade in Asia and the Pacific	41
A.	Potential Benefits of Trade Facilitation are Significant	41
B.	Towards a Paperless Trade Environment	42
1.	Single Window	42
2.	Single Export Document and EDI	44
3.	One Stop Shop.....	44
C.	Risk Management System	45
D.	Improving Access to Information	47
E.	Ensuring Product Standards	48
1.	Improving Quality Infrastructure	49
2.	Upgrading small producers	54
F.	Ensuring Trade Logistics and Finance.....	58
1.	Supply Chain Reliability	58
2.	Innovative Financing	60
IV.	Advancing Agro-trade Facilitation.....	64
	References	65

List of Boxes

Box 1: Regulation and Transparency at Lao People's Democratic Republic Borders.....	25
Box 2: The Perishable Food Exports of the United Kingdom.....	26
Box 3: Cambodia's Rice and Cashew Exports.....	27
Box 4: Elements of Quality Infrastructure.....	31
Box 5: Landlocked Developing Countries and Least Developed Countries in the Asia-Pacific Region.....	38
Box 6: India's Single Window for Perishable Exports.....	43
Box 7: Guatemala's Enhanced Single Window for Agricultural Exports.....	43
Box 8: Philippines' Automated Trade System for Agricultural Imports.....	44
Box 9: Jordan's Risk Management System for Food Imports.....	45
Box 10: Japan's Risk Management System for Agro-imports.....	46
Box 11: China's Authorized Traders Schemes.....	47
Box 12: Southern African Development Community Accreditation.....	50
Box 13: Elements of Traceability.....	51
Box 14: India's GrapeNet System.....	51
Box 15: Thailand's TraceShrimp System.....	52
Box 16: Bilateral Harmonization between Australia and New Zealand.....	53
Box 17: EurepGAP Certification for Viet Nam's Dragon Fruit Producers.....	57
Box 18: Australia's Logistics Management System for Perishable Exports.....	60
Box 19: Zambia's Warehouse Receipt Scheme.....	61

List of Tables

Table 1 – Tariff on Frozen Shrimp Exports (030613) for Selected Asia Pacific Countries.....	20
Table 2 – Typology of Standards.....	29
Table 3 – Estimated Value of World Agricultural and Food Trade Directly Affected by Import Border Rejections Based on Technical Standards, 2000 – 2001.....	30

Table 4 – Transport and Handling Cost as percentage of transaction cost in South Asia.....	36
Table 5 – Share of Transport Costs as percentage of transaction cost in Central Asia.....	36
Table 6 – GDP gains from 25 percent reduction in time to export/Import, GMS and China.....	42

List of Figures

Figure I – Contribution of Agriculture to GDP in Selected Asia-Pacific Countries.....	4
Figure II – Agricultural Population as Share of Total Population in Selected Asia-Pacific Countries.....	5
Figure III – Agricultural Import Indices for Selected Countries/Regions 2000-2008.....	6
Figure IV – Agricultural Export Indices for Selected Countries/Regions 2000-2008.....	8
Figure V – Per capita Agro-export and Agriculture GDP Share in Selected Asia-Pacific Countries 2006.....	9
Figure VI – Asia-Pacific Agro-export to the World by Product Categories 2000-2008.....	10
Figure VII – Top 5 Destinations for Asia-Pacific Major Agro-exports Categories 2000-2008...	11
Figure VIII – Asia-Pacific Agro-exports Share by Major Destinations 2008.....	12
Figure IX – Top 10 Asia-Pacific Agro-exporters to Asia-Pacific 2004-2008.....	12
Figure X – Top 10 Asia-Pacific Agro-importers from Asia-Pacific 2004-2008.....	13
Figure XI – China’s Top 10 Agro-importers from Asia-Pacific 2004-2008.....	15
Figure XII – China’s Top 10 Agro-import Categories from Asia-Pacific 2004-2008.....	15
Figure XIII – India’s Top 10 Agro-importers in the Asia-Pacific 2004-2008.....	16
Figure XIV – India’s Top 10 Agro-import Categories from the Asia-Pacific 2004-2008.....	17
Figure XV – Long Term impact of Agricultural Trade Facilitation for Poverty Reduction.....	18
Figure XVI – Agricultural and Manufacturing Non-Tariff Comprehensive Trade Costs of Selected ESCAP Countries with China.....	21
Figure XVII – A Generic Agricultural Product Supply Chain Structure.....	22
Figure XVIII – Time Procedure Chart: Export of Frozen Shrimp from Thailand.....	23

Abbreviations and Acronyms

AB	Accreditation Body
ADB	Asian Development Bank
AFTA	ASEAN Free Trade Area
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
AusAID	Australian Agency for International Development
BPA	Business Process Analysis
BRC	British Retail Consortium
BRIC	Brazil, Russia Federation, India and China
CAB	Conformity Assessment Body
CIDA	Canada International Development Association
CoC	Code of Conduct
COMTRADE	United Nations Commodity Trade Statistics Database
DEP	Department of Export Promotion
DoA	Department of Agriculture
EDI	electronic data interchange
e-SPS	electronic sanitary and phyto-sanitary
EIC	Export Inspection Council of India
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FAINS	Food Automated Network System
FTA	free trade agreement or free trade area
GATT	General Agreement on Tariffs and Trade
GAP	good agricultural practice
GDP	gross domestic product
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GMP	good manufacturing practice
GMS	Greater Mekong Subregion

GTLP	Global Trade Liquidity Programme
HACCP	Hazard Analysis and Critical Control Point
HS	highly sensitive
HS	Harmonized System
ICT	Information and communications technology
ICS	Internal Control System
IFC	International Finance Corporation
IPPC	International Plant Protection Convention
ISO	International Organization for Standardization
LPI	Logistics Performance Index
MAURITAS	Mauritius Accreditation Service
MCX	Multi Commodity Exchange
MD	Movement document
MoAC	Ministry of Agriculture and Cooperatives
MoC	Ministry of Commerce
MFN	most favoured nation
MNCs	multinational corporation
MRL	maximum residue limit
NGO	non-governmental organization
NTMs	non-tariff measures
NSB	national standards body
OECD	Organisation for Economic Co-operation and Development
OIE	World Organization for Animal Health
PAFO	Provincial Agriculture and Forestry Office
RMS	Risk Management System
Rs	rupees
SADCA	Southern African Development Community Accreditation
SADCAS	Southern African Development Community Accreditation Service
SANAS	South African National Accreditation System
SOFRI	Southern Food Research Institute

SMEs	small and medium enterprises
SITPRO	Simplification of International Trade Procedures Board
SEADEx	Electronic Service for the Authorization of Exports
SED	Single Export Document
SLAB	Sri Lanka Accreditation Board
SPS	sanitary and phyto-sanitary
STCF	Structured Trade and Commodity Financing
TB	tariff barriers
TBT	technical barriers to trade
TISTR	Thailand Institute of Science and Technology Research
UNCTAD	United Nations Conference on Trade and Development
USD	United States Dollar
US FDA	United States Food and Drug Administration
VUPE	Ventanilla Única para las Exportaciones
WHO	World Health Organization
WTO	World Trade Organization
ZACA	Zambian Agricultural Commodity Agency

I. Overview of the Agricultural Trade in Asia and the Pacific Region

A. Introduction

Over 900 million people in the Asia-Pacific region live on less than \$1.25 a day (ESCAP 2010), making the region home to more than two-thirds of the world's poor. Most of the region's poor, for whom agriculture is the primary source of livelihood (FAO 2009), live in rural areas (ADB). Agriculture accounts for a quarter of the gross domestic product (GDP) of Asia-Pacific's developing countries and employs about 60% of the region's working population (ESCAP 2008). ESCAP research (2008) shows that improving agricultural productivity could pull 218 million people out of poverty in this region. It can bring investment opportunities for the private sector, and be a driver for boosting agriculture-related industries. The World Bank (2007) estimates that GDP growth originating in agriculture is at least twice as effective in reducing poverty as GDP growth originating outside agriculture. These figures indisputably show the importance of agriculture in reducing poverty.

Export growth in agriculture contributes to the modernization of production practices, the expansion of food processing industries and boosts other value-added industries along the supply chain. In the process, it creates employment opportunities for farmers and other supply chain actors. Participation of Micro, Small and Medium Enterprises (MSMEs) in various supply chain functions is also positively influenced by export growth. Agro-imports are also complementing the food deficit in many developing countries in this region. Although contribution of agriculture to GDP in the Asia-Pacific countries is declining, the percentage of the population dependent on agriculture remains high, making agriculture all the more relevant for these nations. So facilitating agricultural trade can contribute significantly towards poverty reduction in the Asia-Pacific region. It is thus a matter of urgent attention.

While agricultural trade is expanding in the region – as a result of population growth, changing food habits and growing demand for processed foods – it only accounts for 20% of global agricultural trade (2008). This suggests potential for growth. However, challenges remain in terms of facilitating trade across borders, and disparities between sub-regions are evident. For example, the World Bank's Doing Business Report (2011) states that South Asian economies lag far behind the developed economies in terms of time and cost indicators for trading. On average, South Asian economies take 35 days to export one 20-foot container whereas East Asian and Pacific countries require 24 days to process the same. Central Asian landlocked countries also perform poorly in these indicators.

B. What are Agricultural Products?

Agricultural products¹ have been broadly defined in this study to include (i) Perishable Goods, (ii) Cereals and (iii) Other Products. Commodities such as rice and wheat, vegetables and fruits, meat, dairy products, high-value processed food and all other food items that are sensitive to temperature changes and spoilage are included in these categories. With a few exceptions such as cut flowers and seeds, which figure in the Perishable Goods and Other Products categories, most agricultural products are *agricultural food products*. Harmonized System (1996) product classification has been used to extract data from the United Nations COMTRADE database using the World Bank's WITS online software.

i. Perishable Goods – Perishable Goods are a significant part of total agricultural trade and draw special attention due to their high value and sensitivity to time and temperature changes. Perishable goods are mostly food items that are highly susceptible to spoilage (FAO/WHO 1993). FAO and WHO have gone one step further and defined Readily Perishable Food as “...perishable food that consists wholly or partly of milk, milk products, eggs, meat, poultry, fish or shellfish, or ingredients that are capable of supporting the progressive growth of microbiological organisms that can cause food poisoning and other food borne illness.” (FAO/WHO 1993)

For this paper, ‘Perishable Goods’ is defined as foods and non-food plants including flowers which can degrade over time and are sensitive to temperature changes (SITPRO 2009)². Fisheries and crustacean products (HS 03) have been included since they are important for Asia-Pacific trade. The following HS categories have been used to extract data from COMTRADE:

02: Meat and Edible Meat Offal;

03: Fish and Crustaceans, Molluscs and other Aquatic Invertebrates;

04: Dairy Produce; Birds’ Eggs; Natural Honey; Edible Products of Animal Origin;

06: Live Trees and other Plants; Bulbs, Roots and the like; Cut Flowers and Ornamental Foliage;

07: Edible Vegetables and certain Root Tubers;

08: Edible Fruit and Nuts; Peel of Citrus Fruits or Melons;

09: Coffee, Tea, Mate and Spices;

16: Preparations of Meat, Fish or Crustaceans, Molluscs or other Aquatic Invertebrates;

20: Preparations of Vegetables, Fruit, Nuts or other parts of Plants.

¹ The term Agricultural Product has been interchangeably used with Agricultural Goods in this paper. Agricultural exports refer to total exports value of the agricultural products. The term Agricultural Trade refers to import and export of Agricultural Products

² The UK trade facilitation body SITPRO used that definition but excluded ‘non-food plants including flowers’. SITPRO is now non-operational

ii. Cereals – This includes rice, maize, wheat, barley and other cereals. The HS code for cereals is 10. Cereals feed a large share of the global population including both the rich and the poor; as such, they are a highly important agricultural commodity.

iii. Other Products– This sub-category includes animal or vegetable fats, sugar, cocoa, preparations of cereals, beverages, seeds and other mostly food products. The following HS codes have been used to extract data for this category:

01: Live animals	17: Sugars and sugar confectionery
05: Products of animal origin, nes or included	18: Cocoa and cocoa preparations
11: Prod.mill.indus; malt; starches; inulin; wheat gluten	19: Prep.of cereal, flour, starch/milk; pastrycooks' product
12: Oil seed, oleagi fruits; miscell grain; seed fruit	21: Miscellaneous edible preparations
13: Lac; gums, resins & other vegetable saps and extracts	22: Beverages, spirits and vinegar
14: Vegetable plaiting materials; vegetable products nes	23: Residues & waste from the food indust; prepr ani fodder
15: Animal/veg fats & oils & their cleavage products, etc	24: Tobacco and manufactured tobacco substitutes

C. The Status and Drivers of Agricultural Trade in Asia and the Pacific

1. A Transitioning Asia-Pacific Region

The Asia-Pacific is a region of contrast. It is an important player in the world with a quarter of the world GDP and trade originating in the region. It consists of several economies of various types and structures. Two of the world's largest economies are in this region, namely China and Japan, and much smaller economies such as Lao People's Democratic Republic and Nepal. A handful of emerging economies, mostly from East and Southeast Asia, are growing faster in trade also. There are evermore investment destinations in the region. Agricultural mechanization, modern production methods and high-yield crop varieties are replacing traditional practices of agriculture.

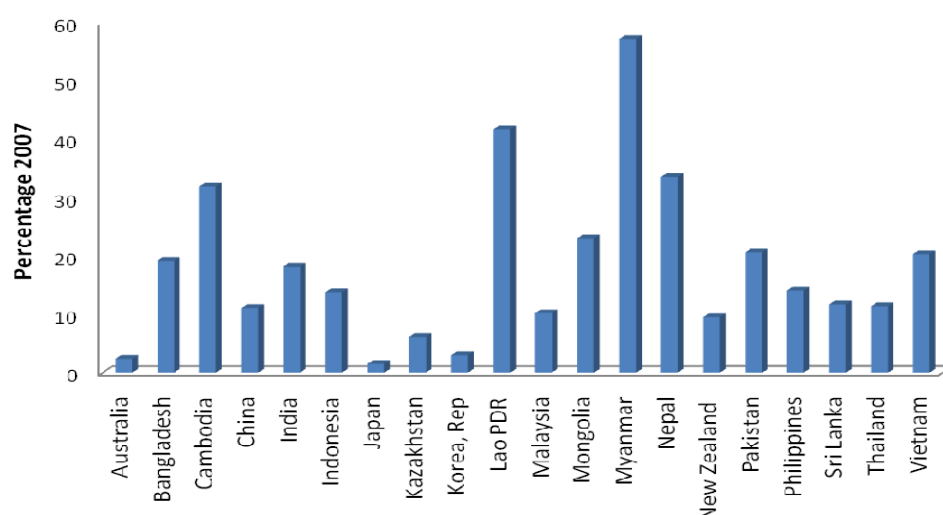
The heterogeneity of Asia Pacific countries is also reflected in the Doing Business Indicators which serve as one benchmark for the country's approach to trade facilitation. Singapore ranks first in overall ease of Doing Business and ease of Trading Across Borders indicators while Lao People's Democratic Republic ranks 165 out of 183 economies (World

Bank 2011). In Singapore, to trade one standardized container costs around \$450 whereas for the Lao People's Democratic Republic, the cost is around \$2,000. However, the diverse structure of the economies and the availability of resources provide plenty of opportunities for growth. Many economies in the region are transforming, getting more diversified and opening up to trade. This implies a smooth integration into the regional and world economies and demands a range of cross border flows of trade, investment and technology. Further steps are expected in trade facilitation which would ensure goods can move across borders more easily and would yield win-win outcomes.

Share of agriculture in national economy

The share of agriculture in the Asia-Pacific countries is not uniform (see Fig I). The poorer economies in this region have relatively higher share of agriculture in GDP in comparison with the rich economies. Data from FAO (2009) shows that the least developed countries³ in the region have on average 34% of their GDP coming from agriculture. Whereas, developed nations such as Australia and Japan have minimal share of 2.4% and 1.5% respectively. Many countries in the region have significant socio-economic implications for agricultural trade, as a high proportion of the population is dependent on the sector. The proportion of population dependent on agriculture sector is relatively high particularly in the Asia-Pacific⁴ compared to the rest of the world, Livelihoods of half to three quarters of the

Figure I - Contribution of Agriculture to GDP in Selected Asia-Pacific Countries



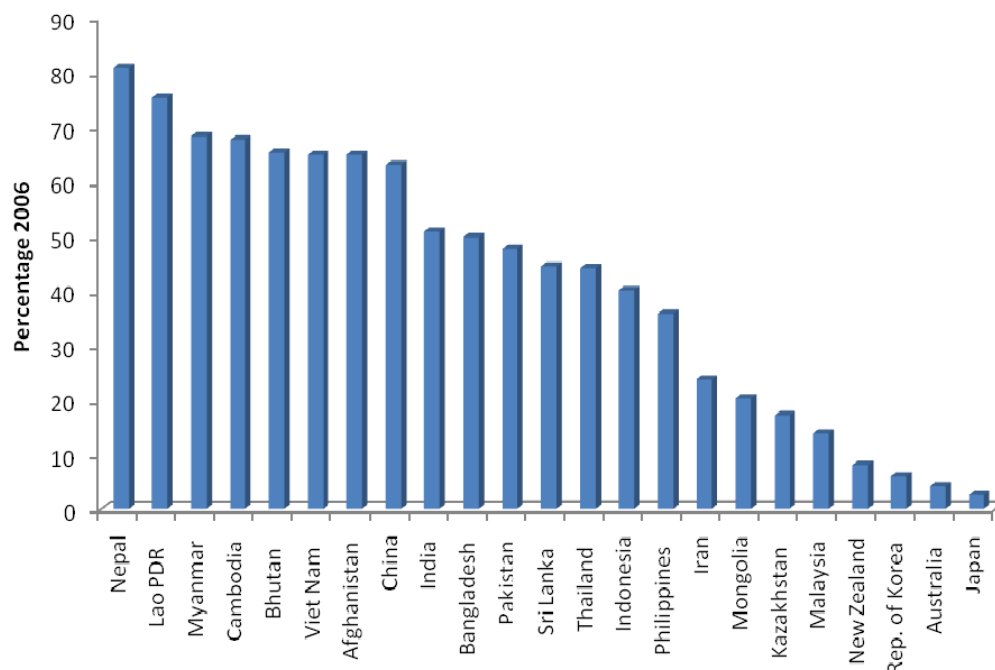
Source: FAO 2009

³ Except Maldives (no data) and Pacific island countries

⁴ This is based on FAO list of Asia-Pacific countries, which mostly excludes few Pacific island and Central Asian countries.

total population in developing countries including a number of LDCs such as Nepal, Lao People's Democratic Republic and Cambodia depend on agriculture (see Fig II). The two emerging countries, China and India are also part of this list. The chances of enhanced dividend of growth to the larger section of the population depend mostly on the developments in the agricultural sector.

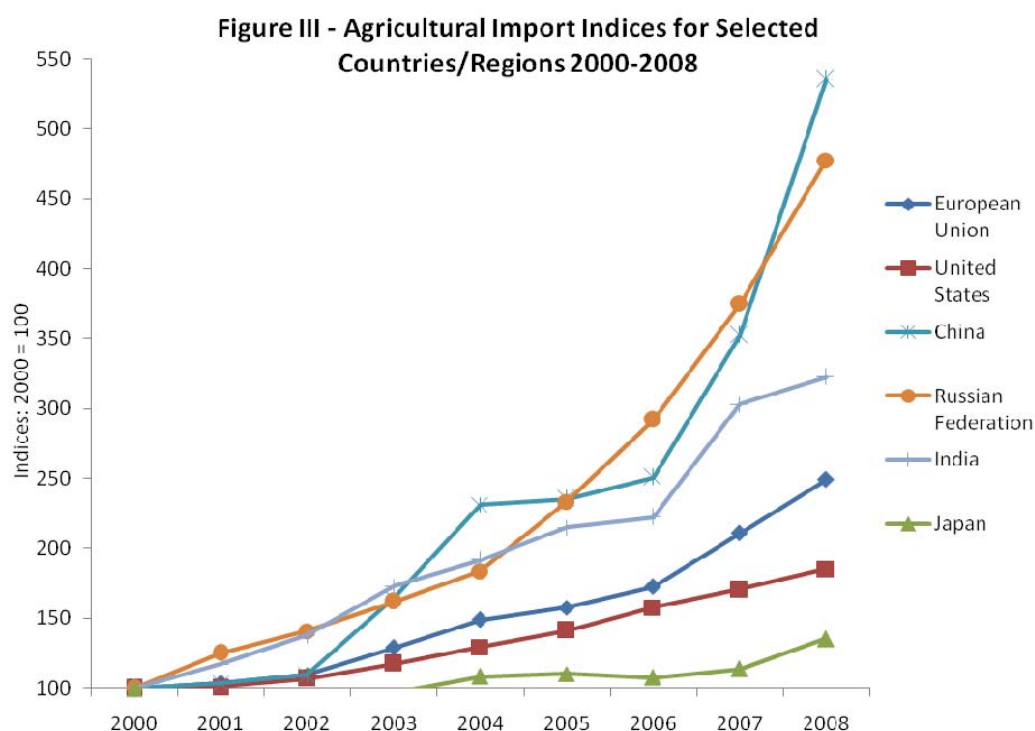
Figure II: Agricultural Population as Share of Total Population in Selected Asia-Pacific Countries



Source: FAO 2009

High import growth

Comparisons of total agro-trade value in real terms among Asia-Pacific, the European Union and the United States of America will only show the large gap among these regions. However, it does not show the acceleration of growth that is taking place in the Asia-Pacific region. The Asia-Pacific region has shown some great strides in accelerating its trade growth in the last decade, influenced by a number of factors. Population growth, change in dietary practices, increased disposable incomes and changing commodity prices in some emerging economies are a few factors that some suggest, have contributed to such growth. Although slower than before, population growth particularly in the least developed countries is quite high. As income increases, people tend to opt for high-value food items, often translating into a market for high-value processed food. In markets in the European Union and the United States, dietary change also means consumers are opting for healthier foods, such as organic products and food with traceable supply chain histories. In addition, food demand increases faster in poorer countries with increasing incomes since most of the income goes to purchasing food items.



Source: COMTRADE 2011

Agricultural imports have grown more rapidly in some Asia-Pacific countries than in others. For example, Japan and China ranked 4th and 13th in terms of average annual agricultural imports in the world during 2000-08. Based on the indices relative to the import value, imports of agricultural products in the top 10 Asia-Pacific countries⁵ grew at an average annual rate of 12% from 2000-2008; the corresponding figure for top 50 importers of the World⁶ is 13%. The main Asia-Pacific economies that influenced the most to this growth of course consist of China, followed by the Russian Federation, India, Malaysia, Thailand, the Republic of Korea and Japan among a few others. During 2000-08, import growth-trend of China, Russian Federation and India have surpassed the European Union and the United States. (see Fig III).

It is important to note the growth of the three fastest growing Asia-Pacific countries in terms of agricultural imports: China, Russian Federation and India. After accession to the World Trade Organization in 2001, China's agro-trade has grown steadily. Agro-imports have been increasing and have made China a trade-deficit country in agriculture since 2004. It rose more than five-fold during 2000-08. This shift is partly due to greater import of land-intensive products such as oilseeds and, greater demand and price hike of cereals. The Russian Federation has also experienced huge import growth during 2000-08 especially with large meat or meat-based products. With a continuous lack of support for the livestock

⁵ Top 10 Asia-Pacific (ESCAP members) importers by annual average 1998-2008

⁶ Top 50 importers of the world by annual average 1998-2008

industry (lack of feed availability), imports of meat and other agricultural products began to increase. This along with consumer exposure to global products made the Russian Federation a big importing country (Liefert 2009). India's agricultural policy had centred mostly around 'self-sufficiency' until the 1990s, when trade liberalization started to play a role in augmenting international trade including agriculture sector (EC 2007). Since 2000, India's agro-imports have grown steadily.

The import figures for other top importers in Asia and the Pacific increased sharply in the last decade also. During 2000-08 Indonesia, Malaysia, and Thailand saw an average growth between 13-14%, which places them among the 20 fastest growing import economies among the major agro-importers in the world. Developing and emerging economies of the Asia-Pacific region are turning out to be major importers of agro-products. Commodity trade is a large part of agricultural trade and thus a means for maintaining food security for many developing countries. Cereal imports have more than doubled in the last decade. Analysts suggest a variety of factors behind this sharp increase. Firstly, there has been a change in trade structure since the 90's, which forces countries to import more high-value products such as fish, fruits and vegetables. Secondly, emerging countries have been seeing a surge in per capita income, making high-value processed food available in these markets. FAO statistics point to a significant increase in the import volume of palm oil in East and Southeast Asian countries (2007). It is also argued that many developing countries are finding it hard to cope with increasing cereal demand: hence they import basic food commodities to fill the gap in their production. Some also point to trade liberalization during the last decade and price-hikes especially during the second half of 2000-10, that may have contributed to such a surge in imports.

Agro-product export in the Asia-Pacific is growing

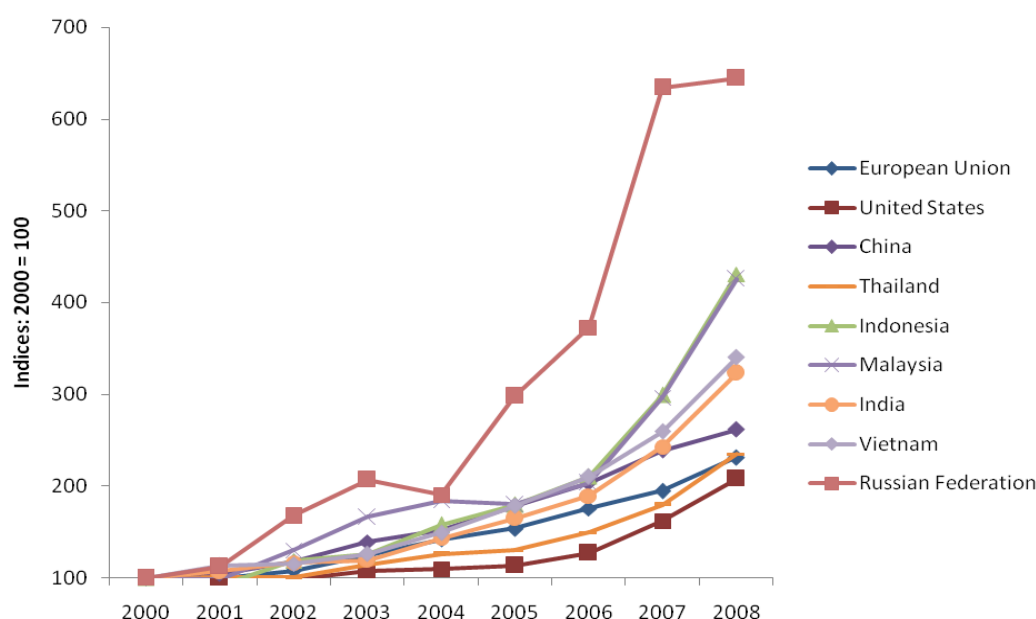
The agro-export scenario in this region is a mixed one also. Compared to 2000, agro-exports grew more than two and half times in 2008. In the same year, Asia-Pacific's agricultural export stood at about USD 227 billion, which was 45% of their agricultural trade (the rest being imports). Until 2008, export had been growing steadily. During the economic crisis (2009), Asia-Pacific's agro-export intra-regionally receded much slower than with the rest of the world (~6% compared to ~14%). While the reduction in export due to economic crisis demonstrates the integration of the Region's trade with rest of the world, the major exporters such as China, the Republic of Korea and the Russian Federation managed to accelerate their exports in this region. China supplied about 59% of its exports to Asia-Pacific countries in 2009. Three quarters of exports from the Republic of Korea were destined for this region also. Another emerging economy, India, managed to keep its exports on par both within and outside the region. Conversely, Southeast Asian exporters such as Indonesia, Malaysia and Thailand reduced their exports during the recession both within and beyond the Asia-Pacific region. Interestingly, Indonesia and Malaysia increased their intra-regional share, reaching up to two-thirds of their agro-exports in 2009. On the one hand, these

figures indicate that the Asia-Pacific region's exports are well exposed to global shocks. On the other hand, they indicate that some economies have successfully turned to their regional partners to avoid a complete fall-back. However, questions remain: How many Asia-Pacific countries are able to dent the regional export figures of agricultural products, in good or bad times? Who are the main players and what is Asia-Pacific's export basket? The following discussion endeavors to address some of these questions.

Few countries lead in exports

Only a handful of Asia-Pacific countries have been sharing most of the agro-exports originating in the region. In 2009, the top 10 countries shared 87% of total Asia-Pacific exports with China topping the list. Southeast Asian countries held a major share followed by Australia, New Zealand and East and Northeast Asian countries⁷.

Figure IV - Agricultural Export Indices for Selected Countries/Regions 2000-2008



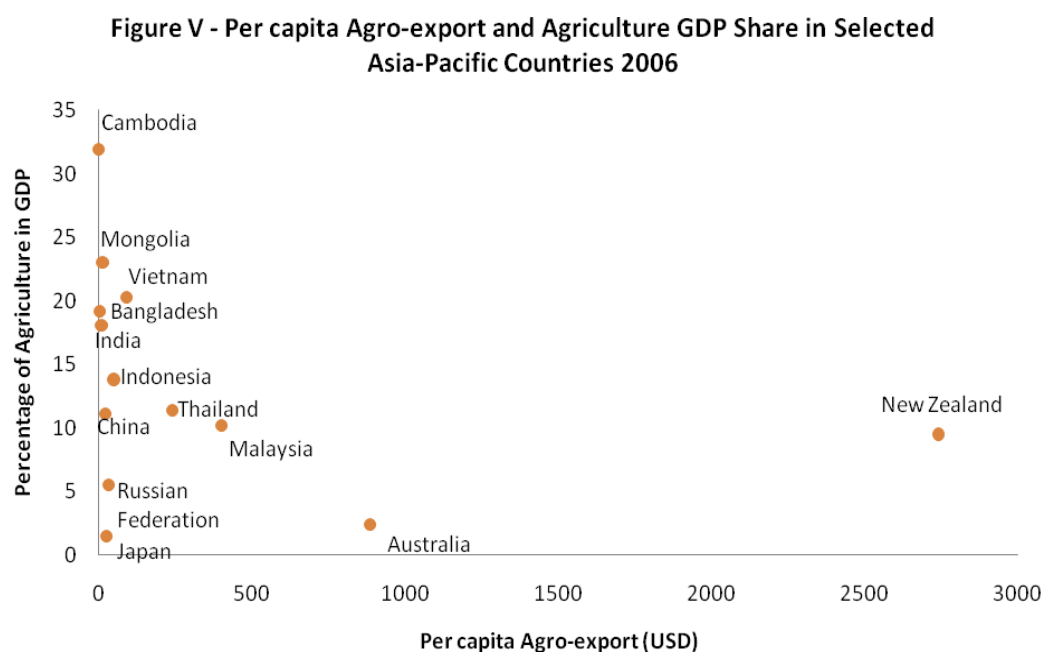
Source: COMTRADE 2011

Asia-Pacific agro-exports have kept up with World agro-exports in terms of growth trends. Based on indices, the top 50 world agro-exporters have grown at an average annual rate of 19% during 2000-2008, the corresponding figure for the top 10 Asia-Pacific countries is 18 per cent. India, Indonesia, Malaysia, Russian Federation, Thailand and Viet Nam are among the top 10 contributors to such strong export growth. China, the largest agro-

⁷ Data missing for most pacific island countries and Bangladesh, Brunei, Iran (the Islamic Republic of Iran), Nepal, Mongolia, Tajikistan and Turkmenistan. However, data from previous years of these countries do not change the basic composition of top exporting countries.

exporter of this region, ranks 10th among the 20 largest exporters to the world. Among the top 50 average exporters in the World, some Asia-Pacific countries grew their agro-exports significantly during 2000-08. The Russian Federation topped⁸ the list including India, Indonesia, Malaysia, and Viet Nam, as being one of the 10 fastest growing exporters in the world with a 15-23% growth rate (see Fig IV). In this period, agricultural production practices improved due to the emergence of large integrators that helped to improve production practices and export the produce. However, no Asia-Pacific least developed countries or landlocked developing countries were part of the top 50 average exporter list.

Asia-Pacific developing countries have low per Asia-Pacific agro-export when compared with their agricultural GDP with the exception of a few well performing Southeast Asian nations such as Thailand and Malaysia (see Fig V). Conversely, developed economies such as New Zealand and Australia have significantly higher per capita agro-export values. This only reinforces the fact that participation of developing nations including the least developed countries is low in agro-exports, with only a few players responsible for boosting the figures.



Source: FAO 2009 and COMTRADE 2011

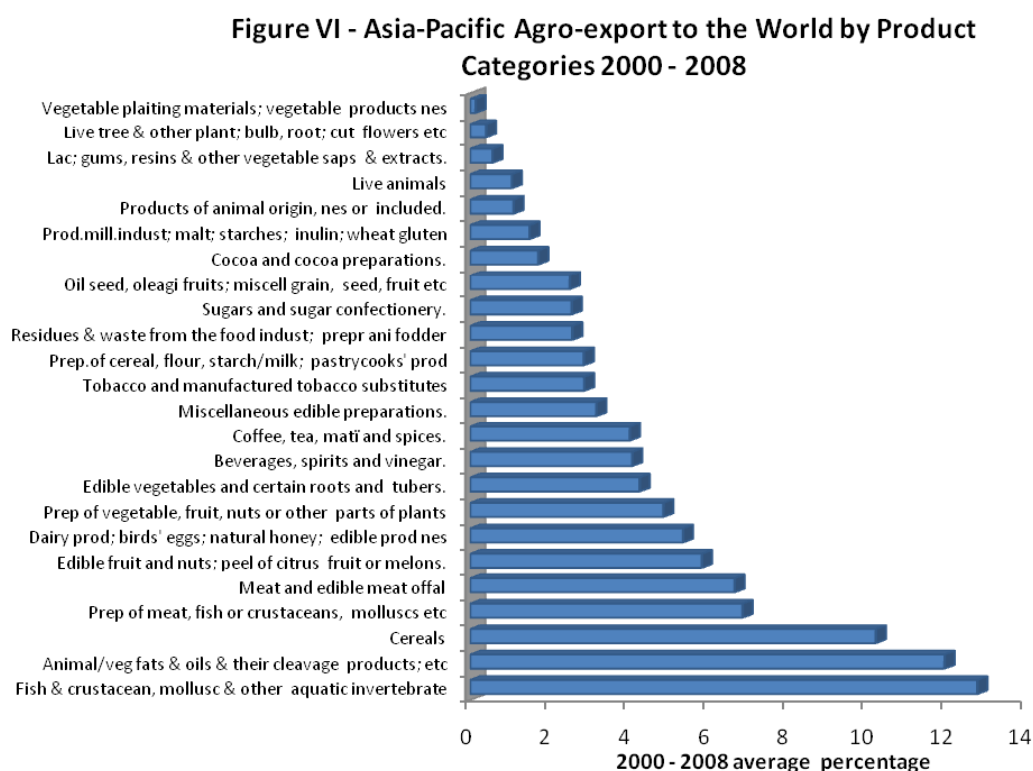
The Asia-Pacific region has risen significantly as an agricultural producer region with limited proportionate reflection on its exports. Data from the FAO suggests that, some countries (for example, the Lao PDR and Myanmar) have made phenomenal growth in agricultural production with no corresponding reflection in exports. It was also reported that

⁸ Russian Federation significantly increased its grains production during 2000-08. Liefert et. al (2009) suggests downfall of the local livestock sector and subsequent increase in grain production as a major factor.

least developed countries had the strongest production growth in the last decade, followed by the rest of the world and the BRIC⁹ countries. India is the second largest fresh vegetable (HS 7) producer in the World (FAO 2011). However, its share of global trade is just above 1 percent. Multiple factors including meeting domestic demand, poor productive capacities and overall, inadequate trade facilitation, are considered as causes for such a phenomenon.

The Export basket is dominated by few product categories

There has been no drastic change in the export basket in the region over the last decade. During 2000-08, few products dominated the export baskets of major exporting countries including fish and crustaceans (13%), oil and animal/vegetable fats (12%), cereals (10%) and meat and preparation of meat (7%) (Fig VI). About two-fifths of export items from Asia and the Pacific are high-protein products. Data shows a firm growth in the same product categories over the years. For example, the fish and crustaceans category increased at an average rate of 6% during 2000-08. Some categories had increased faster. The animal/vegetable fat category saw more than a five-fold export growth in 2008 compared to 2000, followed by Cereals, which was three times higher by 2008 compared to 2000.



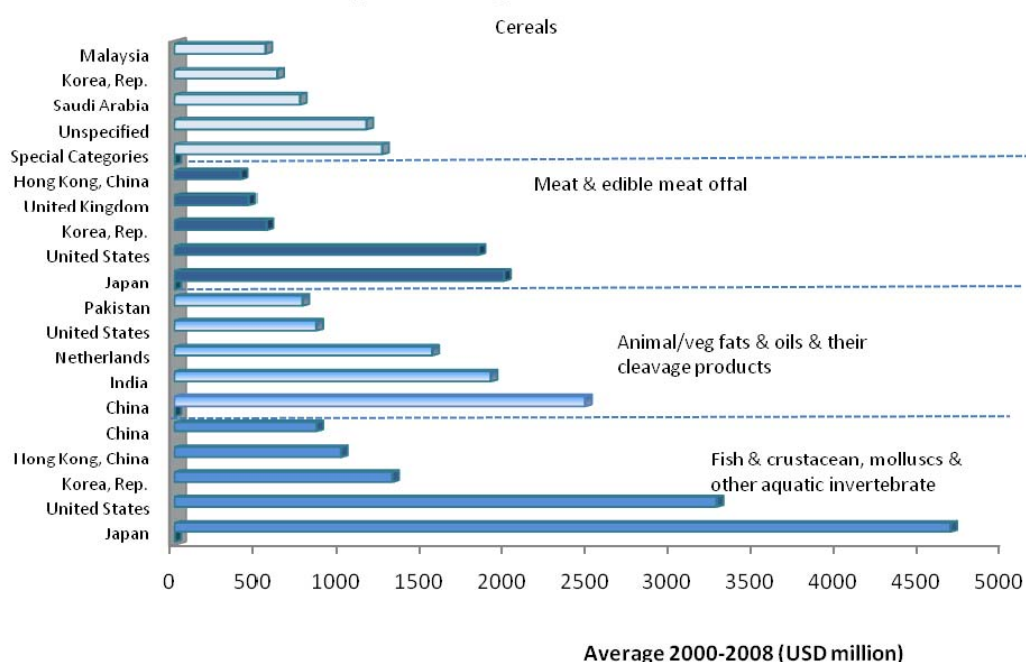
Source: COMTRADE 2011

⁹ Brazil, Russia, India, China

Export destinations are changing slowly

The export market for the Asia-Pacific region for the top five products are still dominated by the developed countries. Japan and the United States are common to major product categories (Fig VII). The major exception is the animal/vegetable fats category, where regional emerging economies such as China and India are major markets. The biggest market for the highest valued export product, Fish and Crustaceans, is Japan followed by the United States; the Republic of Korea; Hong Kong, China; and China. High per capita income of these developed countries induces demand for fish, seafood and fish/seafood based products. Consumer concerns regarding quality, fresh produce, all-year round availability and food safety concern put increased the price of fish and seafood products. Japan, for instance is well known for its demand for raw fish (De Silva 2011).

Figure VII - Top 5 Destinations for Asia-Pacific Major Agro-exports Categories 2000-2008

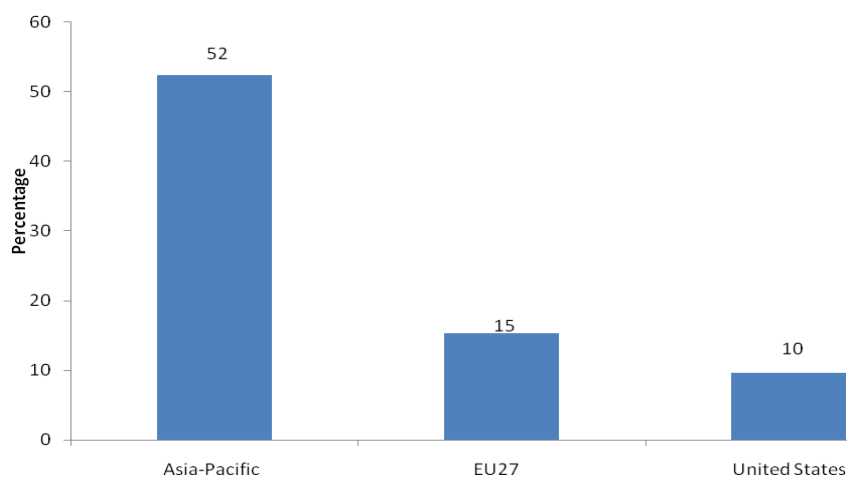


Source: COMTRADE 2011

Export destinations for Animal/Vegetable Fats and Oil are China, India, the Netherlands, Pakistan and the United States. The Preparation of Meat and Fish are sold mainly to Japan and the United States, followed by Hong Kong, China, the Republic of Korea and the United Kingdom of Great Britain and Northern Ireland. The major markets for Cereals are Malaysia, the Republic of Korea and Saudi Arabia apart from special category exports. The United Arab Emirates, Indonesia and Bangladesh are also among the top 10 destinations for Cereals. The trend suggests that processed foods are destined for developed economies whereas commodity products such as rice and wheat are consumed more by highly populated developing countries. Livestock producing countries also are destinations for commodities such as Animal/Vegetable Fats for the production of animal/livestock feed.

2. Intra-regional Trade in the Asia-Pacific Region

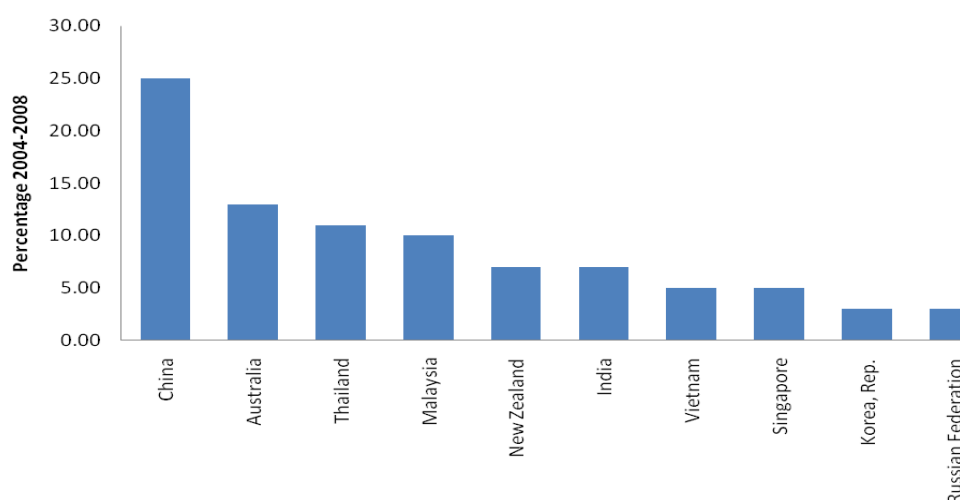
Figure VIII - Asia-Pacific Agro-exports Share by Major Destinations 2008



Source: COMTRADE 2011

Intra-regional agro-trade in Asia and the Pacific grew faster than trade with the rest of the world. In 2008, more than half of Asia-Pacific agro-products were exported within the region, followed by European Union (15%) and the United States of America (10%) (see Fig VIII). Asia-Pacific exports within the region increased from about \$66 billion in 2004 to \$118 billion in 2008 and accounted for about one-fifth of the world agro-exports. Intra-regionally also, Asia-Pacific agro-exports are led by a small number of countries. The top 5 countries share two-thirds of the total Asia-Pacific export (see Fig IX). China was responsible for a quarter of the Asia-Pacific's total agro-exports to the region during 2004-08. Nonetheless, the intra-regional demand plays a crucial role for accelerating the export growth.

Figure IX - Top 10 Asia-Pacific Agro-exporters to Asia-Pacific 2004-2008



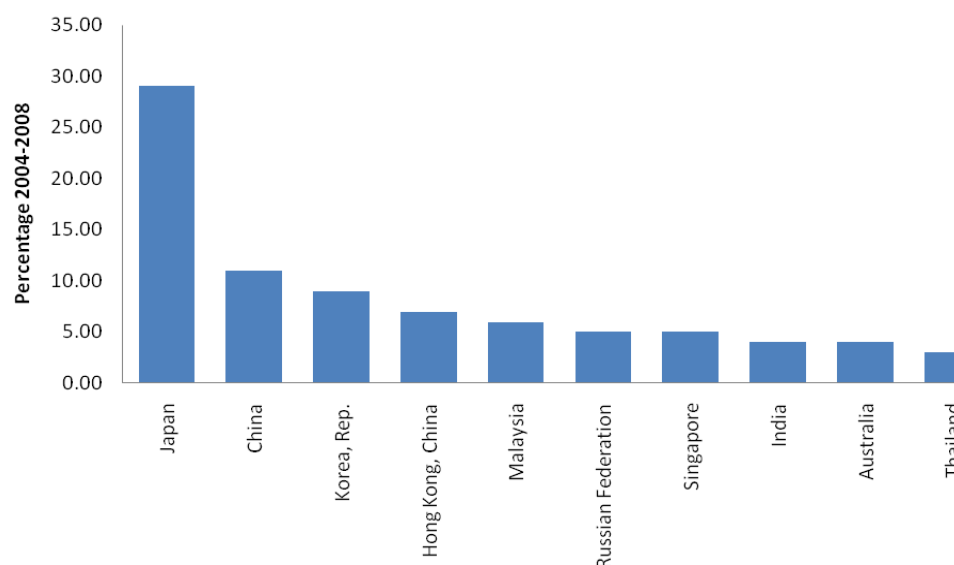
Source: COMTRADE 2011

Traditional markets are becoming tougher

The European Union is still the largest importer in the world followed by the United States of America. But further growth for agro-exports from Asia and the Pacific could come from demand in rapidly growing economies within the region in addition to the traditional markets of the European Union and the United States of America. The emergence of new and stricter standards for agricultural imports in European and North American economies makes Asia and the Pacific a more attractive export market. A recent example of this is the European Union decision to inspect 20% of the agro-product consignment exported from Bangladesh, which is up from the previous requirement of 10%¹⁰. Multiple private standards by big Multi-National Corporations (MNCs) and large retailers pose a continuous challenge to agro-exporters of the Asia-Pacific region. South-south trade or trade between developing countries could be strengthened to play important role in promoting agricultural trade as it has started doing so during the last decade (World Bank 2005). In addition, the global economic crisis has caused the agro-imports of the two largest and most established markets, the European Union and the United States of America, to fall by 18% and 10% respectively in 2009. This has made south-south trade even more necessary. The present trend of regional trade integration needs to be continued in order to supply to regional markets. The key to maintaining this growth trend is to tap potential opportunities intra-regionally.

Asia-Pacific competes for its own market

**Figure X - Top 10 Asia-Pacific Agro-importers from Asia-Pacific
2004-2008**



Source: COMTRADE 2011

¹⁰ Discussion from High-level Consultation on Facilitating Agricultural Trade in Asia and the Pacific, Bangkok, January 2011

Asia-Pacific countries are increasingly being integrated into the region's market. Developed economies such as Japan and rapidly growing economies such as China are major markets for agricultural products within the region. Data from 2004 to 2008 provide a picture of the agricultural imports intra-regionally (see Fig X). Japan and China together represent a market for about 40% of agro-products sourced in the region. The Republic of Korea and Malaysia, as well as Hong Kong, China are also among the top five importers from this region. Together they import about three quarters of the agricultural goods exported by Asia-Pacific countries. Another emerging economy, India, sources 4% of Asia-Pacific imports from the region. In 2008, Japan's agro-imports growth was moderately higher (14%) than in 2004 while China registered an astonishing growth rate of 91% during the same period. Although smaller in import-value compared to Japan, every emerging economy of Asia-Pacific's major importing countries experienced noteworthy growth. For instance, imports in Malaysia grew by 91% between 2004 and 2008 those of India grew by 67%. Thailand's agro-import value in 2008 was nearly double the figure of 2004.

3. A Closer Look at China and India

Both China and India are important trading partners in the Asia-Pacific region due to their sheer size and, rapid import and export growth. China is the second largest importer of agro-products, while India is ranked eighth. Additionally, China tops the agro-export list, where India is fifth. Both economies have large populations, are undergoing rapid urbanization and have an impressive GDP growth rate. These call for an in-depth look at their agro-trade performances.

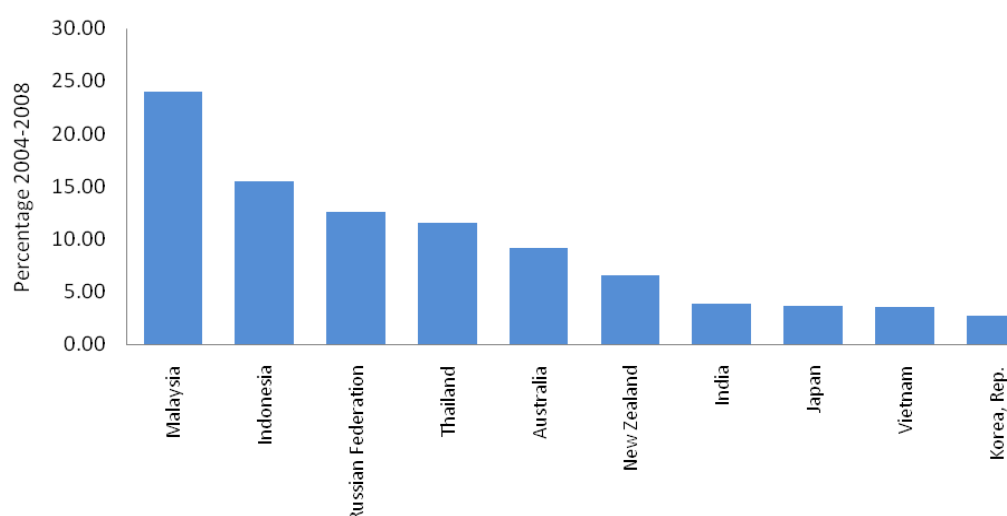
China's population for the past five years has been increasing at 0.5-0.6% annually and its food production¹¹ has been rising by 4.17% annually since 2001 (World Bank 2010). Since 2004, China has become a net agricultural importing country and the deficit has been widening ever since. After accession to the WTO in 2001, a more liberalized trade regime has helped to increase China's agricultural trade. China bases its exports on labor intensive products, going into more processed and value-added products rather than land-intensive products. This is explained by scarcity of farming land, and movement of workers to processing industries. Per capita arable land is only about 43% of the World average in China. More than half of its workforce is involved in agriculture. Even during the economic recession, China's agro-import from the European Union has grown (EC 2010). The major export products match with Asia and the Pacific's major consuming products including fish (15%); prep. of meat & fish (15%); prep. of vegetables and fruits (12%); vegetables (11%); and cereals (6%).

¹¹ World Bank defines food as something which is edible and has a nutrient value. For instance, coffee and tea are excluded because although edible, they have no nutrient value.

The biggest market for Chinese agro-products is Japan followed by Hong Kong, China; the Republic of Korea, Russian Federation and Malaysia. These countries account for 70% of the Chinese agro-export market with Japan alone buying 41% of the goods.

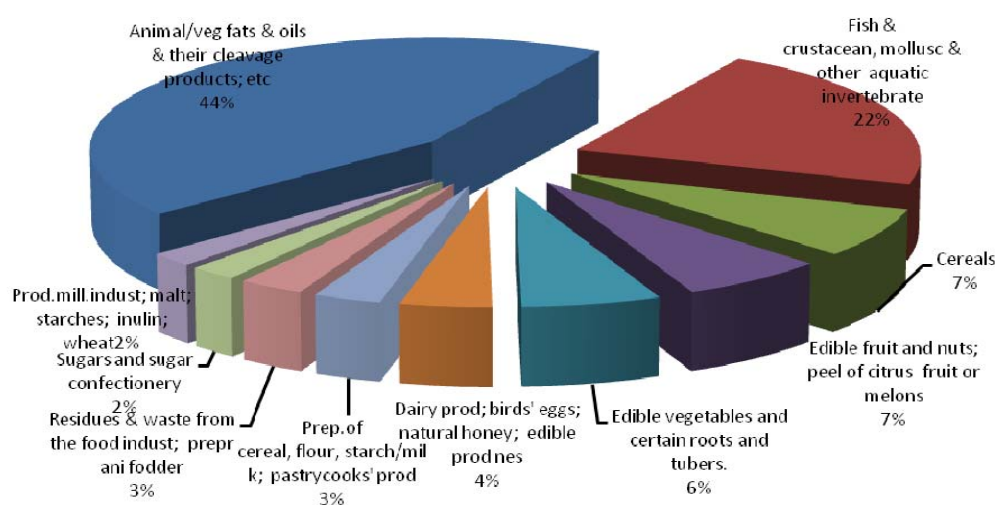
More than half of China's agro-import in the Asia-Pacific region is sourced from Southeast and East Asian countries (2004-2008) (see Fig XI). Australia, India, New Zealand and the Russian Federation together share about one-third of agro-imports.

Figure XI - China's Top 10 Agro-importers from Asia-Pacific 2004-2008



Source: COMTRADE 2011

Figure XII - China's Top 10 Agro-import Categories from Asia-Pacific 2004-2008



Source: COMTRADE 2011

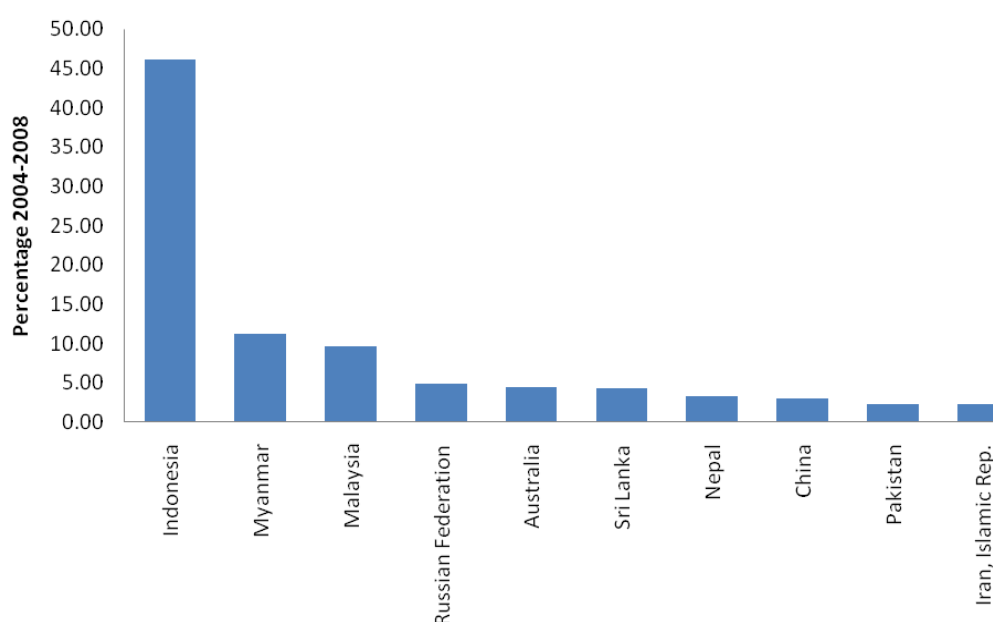
China's agricultural imports are mainly driven by increasing per capita income, which has brought changes into food consumption patterns. This has resulted in more imports of vegetable oils and fish or fish products and other high-value products. About 44% of China's agro-import is categorized under animal/veg fat and oils, followed by fish & crustaceans, which accounts for 22% of agro-import (see Fig XII).

India, the other emerging nation, has a population which has been rising by 1.3-1.4% annually and food production which has been increasing by 3.17% annually. India has more than doubled (136%) the proportion of its agro-exports sold to regional partners from 2004 to 2008. Bangladesh is the biggest market for Indian agro products with 15% share followed by Japan (12%), Malaysia (9%), Viet Nam (9%) and China (7%).

The major products range from Residues, food waste & fodder, followed by Cereals; Fish & Crustaceans; Coffee, Tea, Spices and Sugar & Sugar confectionary. A quarter of the export products consist of Residues and food waste & fodder, which are mainly purchased by Viet Nam followed by Japan (13%) for livestock industries. More than half of the Cereals exported by India go to Bangladesh followed by Malaysia (17%).

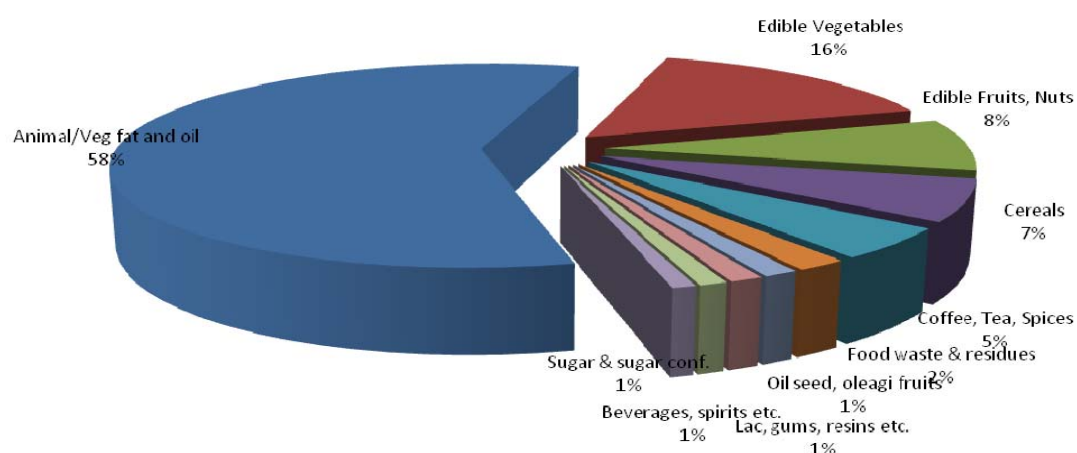
On the other hand, India's agro-import experienced 67% growth from 2004-2008. Indonesia supplies the largest share, 46%, of these imports. Myanmar is the second largest supplier (11%) by a wide margin and is followed by Malaysia (10%), the Russian Federation and Australia (~5% each) (see Fig XIII).

Figure XIII - India's Top 10 Agro-importers in the Asia-Pacific 2004-2008



Source: COMTRADE 2011

Figure XIV- India's Top 10 Agro-import Categories from the Asia-Pacific 2004-2008



Source: COMTRADE 2011

More than half of India's agro-imports fall in the Animal & Vegetable Fat and Oil category (see Fig XIV). This reflects the vast demand for cooking oil (Palm oil in this case) necessary to prepare food products in India.

D. Market Potential for Agricultural Products

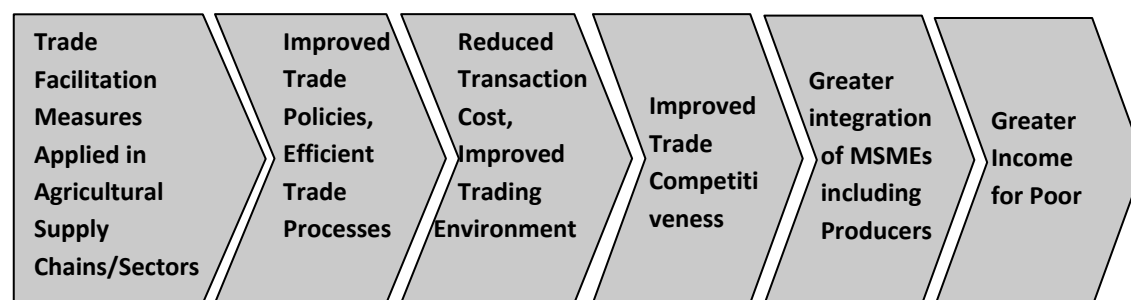
Agricultural trade remains as a major area of focus for policy makers for multiple reasons. The first is the rising global population. It is expected to lead the food demand increase more than proportionately by 2050. Secondly, the concern of food security for the poor remains very real due to the global price volatility for agricultural commodities. The global price rise in 2008 followed by a drop in 2009 due to the economic crisis is the most recent example of this phenomenon. Many of the least developed countries in this region strongly depend on food commodity imports and price dynamics affect consumers. Agricultural trade often suffers from agricultural subsidy and export restrictions by some countries. Thirdly, changing dietary habits also contributes to the significance of the matter. Due to increase in income, a growing number of people consume meat and other sources of protein, vegetables and high-value food products. Rapid urbanization plays a vital role in increasing demand for processed food, and fruits and vegetables by reducing time available for cooking or maintaining a healthy diet. The Asia-Pacific region is host to all these factors given the presence of developed economies such as Japan and Australia; fast-growing emerging economies such as China and India with big urban populations, and highly

populated least developed countries such as Bangladesh, Cambodia and Nepal. All these factors provide an opportunity to accelerate intra-regional trade.

E. Why Facilitating Agricultural Trade is Crucial?

Trade Facilitation is defined as the set of measures that reduce barriers to the movement of goods between buyers and sellers throughout the international supply chains (ESCAP 2010). A broader definition includes consideration of the environment in which trade transactions take place, including the transparency of regulatory environments, harmonization of standards, and conformance to international or regional regulations. Facilitating agricultural trade could result in multiple long term and short term gains for an economy.

Figure XV - Long Term Impact of Agricultural Trade Facilitation For Poverty Reduction



Source: Author's own illustration

The immediate purpose of Trade Facilitation is to reduce inefficiencies during the movement of goods from factory gate to the port. Efficient processes should result in reduced transaction costs for the trader. Improved processes and reduced transaction cost should lead to enhanced trade competitiveness. This allows more participation of firms in agro-supply chains creating more employment for the poor and ultimately contributing to poverty reduction in the country.

1. Impact on Poverty Reduction

Facilitating agricultural trade contributes significantly to poverty reduction in an agricultural supply chain since millions of farmers, petty traders and other small and medium enterprises are part of the chain. *The Agricultural Supply Chain* can be broadly defined as the activities related to the movement of agricultural products by road, sea and air, starting at production and ending at consumer level.

Producers of agricultural goods are at the bottom of the supply chains. They supply the export products or main ingredients for export products. Almost 70% of rural poor depend on agriculture for their livelihood. They numbers in the millions in the region, are mostly poor and vulnerable to economic shocks. A large number of intermediaries such as wholesalers who handle large volumes of products are next in the chain. Most of them could be considered as Small and Medium Enterprises (SMEs). Many are producers also. SMEs are growing in number in this region. Exporters are the key players in the chain as they perform international trading. They employ a large number of people and relay market demands to the wholesalers and finally to the producers. Many exporters have integrated supply chain operations including storage facilities close to factories and own transportation. In some cases, they maintain suppliers' contract with wholesalers or contract farming with the producers. The potential impact for poverty reduction through promotion of agricultural exports and thus, production and related supply chain activities is significant.

2. Developing Agro-export Competitiveness

Trade facilitation for agricultural products can tremendously develop export competitiveness of Asia-Pacific countries, which are looking to expand their exports. The gains are realized both at the micro and macro levels for an economy. At the micro level, enterprises gain by saving on transaction costs. Among agricultural products, the perishable supply chain is considered the most complex and hazardous, in terms of spoilage and goods movement. (SITPRO 2009). Predictability of time and procedures for perishable goods is highly desirable due to the limited shelf-life of the items and associated financial loss. SMEs are major sources of rural (and non-rural) employment. They are more prone to economic shocks. A study focusing on Asia-Pacific Economic Cooperation (APEC) economies shows that cutting the days to clear exports by half could enable a small to medium-size enterprise to increase its share of exports in total sales from 1.6% to 4.5% (WB Doing Business 2011). Ensuring efficient and predictable trade procedures would allow SMEs to avoid unnecessary risks and associated costs. It encourages SME participation in international trade, especially in agricultural sector where there is great intra-regional export potential.

At the macro perspective, if each South Asian country equaled the performance of the region's top performer in terms of trading costs and delays (Pakistan has the lowest costs and India the best Logistics Performance Index), that would reduce trade costs by over 17% and improve in LPIs by 0.72, resulting in an increase in the value of agricultural trade of 18% and 27% respectively (Weerahewa 2009). Experiences in Singapore indicate significant reduction in processing time and costs by introducing 'single window' environment. It is reported that Singapore importers and exporters have gained 1% of GDP through the use of e-documentation (SITPRO 2009). Studies show that each additional day that a product is delayed prior to being shipped reduces trade by at least one percent and delays have an even greater impact on developing country imports and exports of perishable agricultural products (Weerahewa 2009).

3. Less Tariff Barriers but no Corresponding Growth

While the Tariff Barriers (TB) for agricultural goods have been reduced, for some, they are still considered high. TBs from European Union countries pose significant challenges to Asia-Pacific countries, especially least developed countries for exports to European Union. For example, MFN Applied Tariff on apples imported from China is around 10% depending on the FTA they have with others countries.

Table 1 - Tariff on Frozen Shrimp Exports (030613) for Selected Asia-Pacific Countries							
Countries	Australia	China	India	Indonesia	Thailand	Viet Nam	Bangladesh
European Union	13	5.92	13	5.92	5.92	5.92	0
Japan	1	1	1	0	0	0	0
Korea, Rep.	20	20	20	20	20	20	20
Norway		0	0	0	0	0	0
Singapore	0	0	0	0	0	0	0
United States	0	0	0	0	0	0	0
<i>Average Tariff</i>	<i>6.8</i>	<i>4.5</i>	<i>5.7</i>	<i>4.3</i>	<i>4.3</i>	<i>4.3</i>	<i>3.3</i>

Source: TRAINS 2010

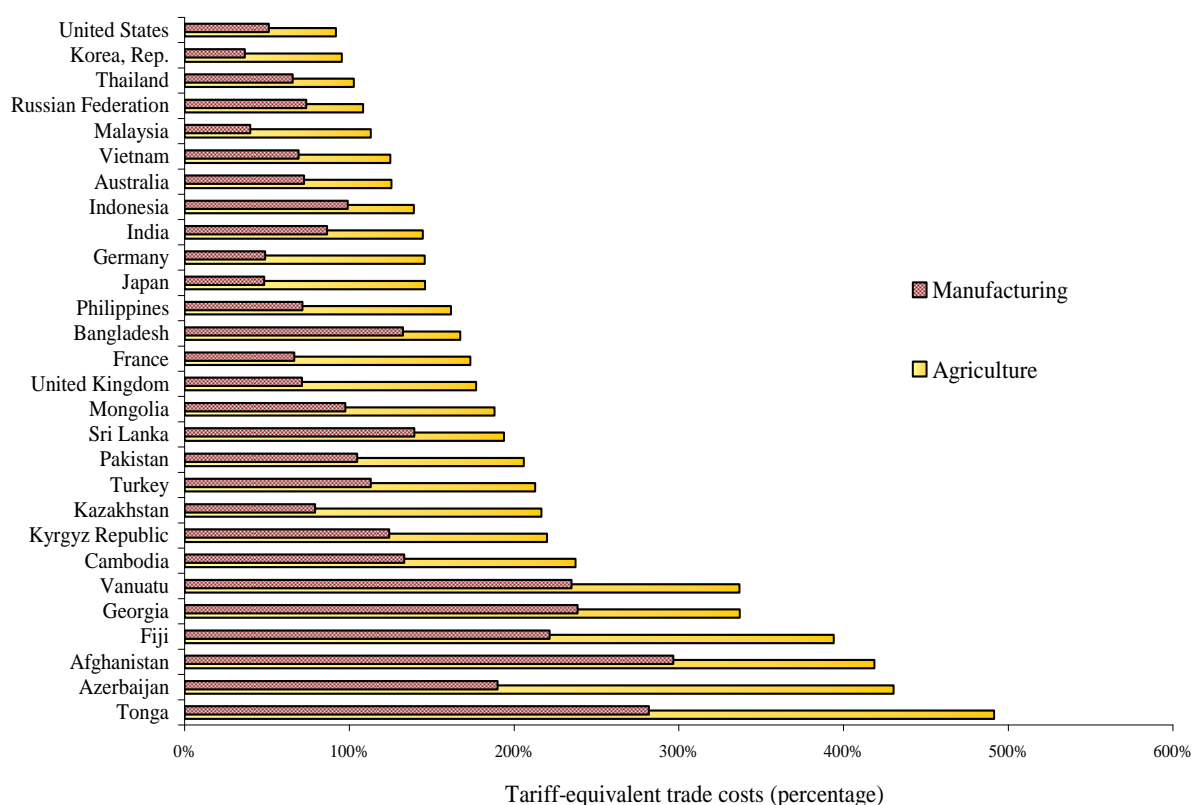
In most parts of the world, tariff on Chinese Apples fell from 80% in 1992 to 10% in 2008. Tariffs on Chinese frozen and non-frozen shrimp decreased respectively by 54% and 24% during this same period, reaching quotas of 6.2% and 9%. However, tariffs continue to curb trade. Despite reduction of tariffs for some agricultural products, market access for developing countries has not improved significantly.

A major reason for not improving market access is high trade costs for agricultural products. ESCAP internal calculation shows that non-tariff trade costs are higher for agricultural products in this region (Fig XVI). Most emerging Southeast Asian nations such as Malaysia, Thailand and Viet Nam have between 100 to 150 percent tariff equivalent trade costs. South Asian countries such as Bangladesh, Pakistan and Sri Lanka; Southeast Asian countries like Cambodia and Central Asian landlocked countries such as Kazakhstan and the Kyrgyz Republic have close to 200 percent or more tariff equivalent trade costs.

The need for trade facilitation is mostly reflected in supply capacity constraints of the developing countries in the region. Inter-regional and intra-regional trade suffers from these constraints. Diverse technical regulations and sanitary and phyto-sanitary (SPS) measures imposed by governments form a major constraint. Moreover, many 'behind the border' issues restrain the developing countries of The Asia-Pacific region from taking advantage of tariff reductions. These include complex trade procedures, lack of technical capacity for meeting standards, lack of coordination between agencies for authorization or certification

and so on. The impact of delays and additional cost to export can be very significant corresponding to the size of the sector. For example, Sri Lanka's Tea contributes to about 16% of total export earnings. So the potential savings from these sectors would also be significant. Removing these barriers can contribute to export growth. And export led growth is highly important in employment generation and poverty reduction. Chapter II discusses these factors in detail.

Figure XVI - Agriculture and Manufacturing Non-Tariff Comprehensive Trade Costs of Selected ESCAP Countries with China



Source: ESCAP Trade Cost Database 2011

II. Bottlenecks for Facilitating Agricultural Trade

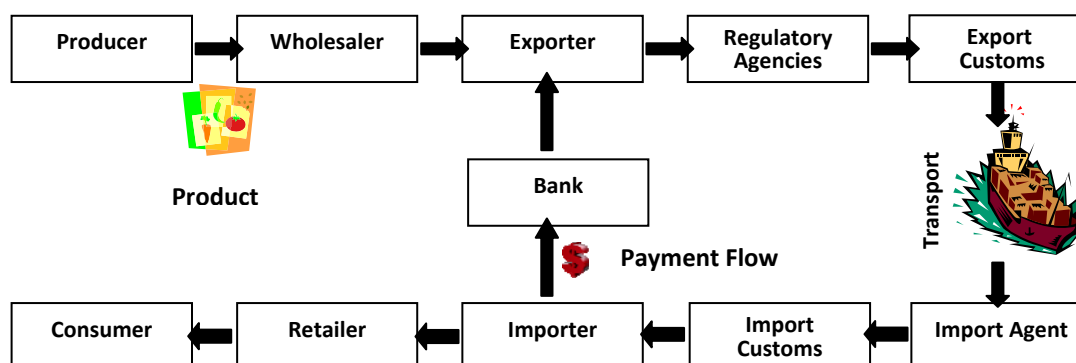
Agricultural supply chain is generally considered the most complex in terms of movement of goods and services especially due to their time and temperature sensitive nature. Significance of import quotas and export subsidies has lowered over the last decade, while the agricultural products are reported to have largest number of non-tariff measures (NTM) complaints compared to that of other sectors (Tongeren and Disdier 2010). Agro-trade suffers from a range of constraints causing time delays and incurring additional cost leading to increased transaction cost for traders. These include cumbersome custom procedures, poor capacity of meeting product standards and regularly varying standards, unavailability of proper trade logistics services, lack of trade finance and infrastructure issues such as poor border facilities. And the list goes on. These constraints can be divided into four main categories: *Trade Procedures*, *Product Standards*, *Trade Logistics* and *Trade Finance*. These are significant challenges to Trade Facilitation in agriculture which eventually impact trade competitiveness.

A. Trade Procedures

1. Procedures are Worse for Agro-products

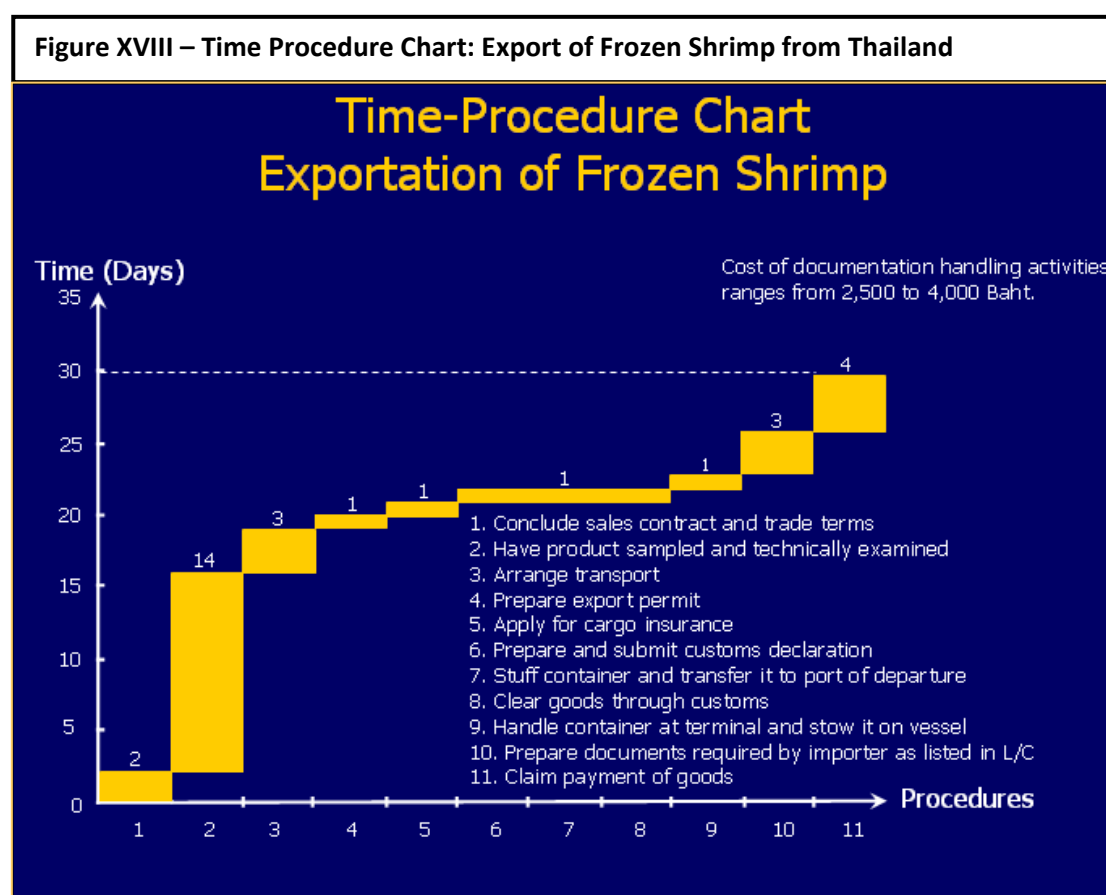
As a general rule, a trader must adhere to the national trade procedures and satisfy importing country's trade procedures when applicable. Each trade procedure requires the trader to complete a set of activities related to commercial, transport, regulatory and financial aspects. For example, an exporter requires producing a Purchase Agreement or a Sales Invoice to receive importer's payment; bill of lading; multiple filled forms for export licenses or quota; multiple receipts etc.

Figure XVII - A Generic Agricultural Product Supply Chain Structure



Source: Sirimanne 2011

Figure XVII shows a generic supply agricultural supply chain for an exporter. For agricultural products, the processes are more complex and require additional documents due to requirements for SPS certificates, fumigation certificates, export quota clearance and so on. These requirements often mean obtaining various authorizations, submitting additional paperwork and following tedious custom procedures and result in duplication of information entry and visiting additional agencies. This makes the trade transaction all the more complicated and delayed even before the shipment of the product. ESCAP Business Process Analysis (BPA) Studies have shown that in South Asia it may take more than 47 days¹² to export agro-products within the Asia-Pacific region. They need to prepare up to 26 documents and visit up to 14 different agencies for single trade transaction. Another BPA study on Thailand's Frozen Shrimp export, carried out in 2007 showed that this transaction involved 15 stakeholders and 30 documents, containing 788 data elements (Fig 23). It was also revealed that while general cargos required 23 days, for frozen shrimp it needed 30 days to complete the export process. Most of the time out of the 30 days was spent on preparing customs documentation, product testing and obtaining sanitary certificates.



Source: Keretho 2009, data from 2006

¹² For exporting vegetable ghee through road transport to India, (Rajkarnikar 2010)

2. Accessing Information is Difficult

Article X of GATT 1994 highlights transparency as the “central element” of publishing trade related regulation. Besides, lack of publicly available information creates a ground for irregular payments for export and import transactions. Transaction cost can increase with lack of predictability and clarity of the trade rules and procedures. The unclarity of information causes more problems for SMEs than large exporters due to their inability to ‘speed-up’ processes through unfair means. Art X.1 requires that all WTO members “publish promptly” all their trade regulations of general application “in such a manner as to enable governments and traders to become acquainted with them” (UNCTAD 2011). The recent Technical Notes on Trade Facilitation Measures, published by UNCTAD also, stipulate “Timely, accurate and easily accessible information on trade legislation, applicable fees and tariffs, and related adjudicatory mechanisms is essential for the transparency, predictability and efficiency of international commercial transactions.”

Inaccessibility, unavailability of organized information and transparency are central to trade-related information constraints. Access to accurate information on trade laws, regulations, and procedures in many Asia-Pacific economies is not readily available. Exporters need endless array of information on export markets, consumers, competitors, custom procedures, licensing rules, access to finance and so on. This creates a major problem for the traders as they cannot prepare for compliance with the regulations. This is particularly challenging for agro-products since the compliance requirements for product standards change regularly and the updated information is critical for the exporters to ensure compliance.

Traders need information on operational procedures, office opening hours, border control schedule and procedures, port procedures, tariffs and fees, new or additional changes in product standards requirements, financial regulations and other trade-transaction related information. This information is usually published through official gazette or notices from relevant agencies or published in newspaper. However, often these announcements are published in a delayed manner through these channels and often not easily accessible by public. Studies on The Lao People’s Democratic Republic show that the existing laws and rules on compliance to SPS standards are not adequately published (World Bank 2010) (see Box 1).

Very simply, basic information on step by step procedures to receive certification/authorization or any other task is often not posted publicly. Relevant agencies (for example, ministry of agriculture, Customs control, plant quarantine agencies) could post this information on a notice board.

Information and communication technology (ICT) use is a powerful communication channel to reach out to maximum number of traders. For traders, internet could provide 24/7 access to information and help them prepare for the trade transaction on trade

procedures, rules, documentation and other relevant procedures. While many Asia-Pacific economies now have official websites and upload some forms or official documents, these are often not complete. Often, various portals link the official websites with old data or even worse the web link does not work. Besides, traders need to print the online forms and visit the authorities to submit them. Particularly in Central and South Asia, insufficient use of ICT and low penetration of internet are potential hindrance to easy access of trade related information.

Redundant information sometimes creates more confusion than having no information. Agro-trade processes require better coordination since it usually involves more agencies and is subject to strict adherence to standards. Government bodies, especially agencies involved for informing import product standards and conformity standards often do not feel the urgency of updating such information. Many agencies mention about their lack of capacity to do so as well. This is also caused by a lack of coordination between agencies. Many governments do upload similar information but often delayed and not updated. In a particular trade transaction, many public and private agencies are involved. Each of them may need to publicly disseminate information. But for the exporters, it is extremely difficult to access such information unless it is published or disseminated in a coordinated manner. Establishing a single point of contact is important, but, not prevalent in Asia-Pacific countries.

Box 1: Regulation and Transparency at the Borders of the Lao People's Democratic Republic

A report by the World Bank states that there is no published fee-schedule for services rendered by border control agencies at the border of China and the Lao People's Democratic Republic. It also mentions that fees are levied arbitrarily without providing a basis both at different locations on the border and on the roads inside the country. It also points out that the decentralization of authority is a barrier for cross-border trade. The SPS responsibilities including issuance of phyto-sanitary and veterinary certificates, conducting inspections, collecting fees are under Provincial Agriculture and Forestry Office (PAFO). However, the laws allow the provincial governors to adopt own regulations. This works as hindrance to uniformity of SPS measures.

(World Bank 2009)

3. Too-much Paperwork Delays Transaction

Trade procedures require exchange of data between the trader, custom authorities, other relevant ministries/agencies, border authorities and service providers such as freight forwarders. A significant amount of paperwork is required to perform the exchange of

information. Paperwork is usually time-consuming and can result in delays and duplication of information.

Procedures are linked with each other. So, almost every step forward in the supply chain depends on the completion of the previous step. For instance, an exporter needs to prepare a packing list before applying for a SPS certificate. Each function in this process takes time and incurs cost. Very often, all the processes add up to many days. Since the process for agricultural products is more complex than other products, number of days taken for these products is naturally higher. All these contribute to time delays and influence the quality of the agricultural products and thus the value. It affects the ability of the exporters to meet the 'just-in-time' needs of the foreign customers. It can also result in total loss of the entire consignment due to spoilage. Studies carried out in the UK show that single transaction from producers to retailers can take up to 150 documents with duplicate information entered many times (see Box 2). ESCAP studies show that Sri Lankan tea exporters require preparing 24 documents and visiting 9 agencies for exporting to Japan. Bangladeshi shrimp exporters also need to submit the same number of documents and visit 14 agencies for exporting their products to Japan. It takes about 8 days and up to 31 days to complete single transaction for tea and shrimp exports respectively in Sri Lanka and Bangladesh. Cambodia's rice and cashew exporters are also required to submit 21-24 documents whereas much less are necessary (see Box 3).

Box 2: The Perishable Food Exports of the United Kingdom

Evidence from the perishable foods in the UK shows that a single transaction from grower to retailer can consist of 150 documents resulting in duplicate elements of information being entered up-to 42 times. For imports, the total cost related to paper documents in the perishable food supply chain is at least GBP 1 billion or 10.6% of the annual import value. About 35% of this is spent on man hours only (including importers, freight forwarders and authorities)

(SITPRO 2009)

Automation is a widely accepted solution to address this problem. However, there is varied level of automation achieved by countries in this region. While some developed and emerging economies fully automated trade transaction procedures including e-SPS (Sanitary and Phyto-sanitary) certificates, most developing economies have gained inadequate or no automation processes to reduce paperwork. Even though sporadic, some of the initiatives taken by Asia-Pacific countries could provide good examples for others to follow and will be highlighted as good practices in the next chapter. Poor achievement in electronic data exchange can be firstly attributed to absence of legal framework for electronic commerce and exchange of trade data. Like many countries, the Central Asian country, Kazakhstan requires its traders to submit paper documents to obtain export permit since the law does not support electronic signature. This is a costly matter particularly for the traders who are

not based in Astana (the capital and location of relevant ministry) and need to travel for many hours from long distances. Studies show that countries with cumbersome procedures accrue less benefit from automation and e-commerce (ESCAP 2009). For example, Nepal's vegetable ghee exporters require three recommendation letters to receive the export quota. Automating this process without reducing the number of processes, will have limited impact on simplifying the. Therefore, it is important to harmonize national procedures, operations and practices that could benefit from automation or e-exchange of data.

Box 3: Cambodia's Rice and Cashew Exports

Rice is considered the most important agro-export product in the country. Rice exports amount to about \$500 million according to formal statistics while the informal trading accounts for a major part of the trade. However, the time and cost related to rice exports are quite high making the transaction cost higher for the Cambodian traders. The Business Process Analysis (BPA) carried out for Cambodian rice export to Europe by UNNExT expert shows that exporters require to physically visit 6 agencies and prepare 24 documents for one export transaction. It requires \$1,029 to export one 20-foot container. The process for obtaining the export related documents and licenses is cumbersome and expensive. In fact, only 8 documents are required for export while 11 of them are supporting document to obtain the export documents. On average, 16.5 days are required to complete one export transaction.

Cambodia is the 10th largest cashew producer in the world. India is one of the export destinations for Cambodia's cashew. A recent BPA study by UNNExT shows that it requires 21 documents and about 14 days on average to export to India. The cost of transporting a 20 foot container is \$839 of which 38% is official administrative cost to traders including application for export permit, customs clearance and container check.

(Siphana, S. 2011)

4. Delays at the Border: An added Bottleneck

Delays at borders are a major bottleneck in clearing agro-products. Border delays often diminish the quality of agro-products, which ultimately reduces the value of the agro-products. This is the key motivation behind expediting the border controls. Land-locked countries face special challenges of inefficient border controls. Excessive physical inspection, lack of coordination among domestic border agencies and between neighbouring countries, lengthy custom clearance at both sides of the borders and limited working hours at border stations are some of the major procedure related factors. Non-transparency, complexity of procedures and frequent changes of procedures at the border controls also act as deterrent to improving border controls. For instance, Nepal's exporters of vegetable ghee go through a cumbersome process at the border for customs clearance. After submitting 10 required documents to Customs control, all cargoes are inspected, quantity and value of goods are recorded, clearance order is issued and export clearance is signed by Customs before dispatching cargo to destination (Rajkarnikar 2010).

Among the issues at the border, lack of inter-agency collaboration is a major concern. Traditionally, Customs agency has been the lead coordinating agency at borders with support from other bodies such as Veterinary and Health agencies, Banks, Immigration agency and so on (Alburo 2008). All these agencies need same information from the traders in various forms, provide separate receipts and follow separate information protocols. So, clearly there is a need to align the functions and services of these agencies, which will follow the same information protocols and harmonize their processes. For land-locked countries, lack of integrated border control forces traders to go through another round of border control when entering into the importing country. Non-harmonization of trade data element between countries adds another level of problem at the border crossing of the importing countries. The trader needs to submit the trade data in a different format according to the needs of the agencies of the importing countries. This leads to various procedures and standards requirements. Therefore, before establishing integrated border control, trading countries need to harmonize trade data elements. Study findings estimate that time delays for fruits and vegetables exports from Thailand to Greater Mekong sub-region is about 26 percent tariff equivalent figure. For China, the tariff equivalent for the import time delay was close to 28 percent for the same product groups. The Lao People's Democratic Republic was reported for high import time delays regarding processed food products estimated at 22 percent tariff equivalent. (Hufbauer and Wong 2011)

B. Product Standards

According to the ISO (2004), a standard is: "A document established by consensus and approved by a recognized body that provides for common and repeated use, rules, guidelines, or characteristics for activities or their results, aimed at the achievements of the optimum degree of order in a given context." It also notes that: "Standards should be based on the consolidated results of science, technology and experience, and aimed at the promotion of optimum community benefits." (FAO 2011)

Ensuring product standards for international trade of agricultural products is a complex topic. It encompasses institutions, infrastructure, logistics and administrative issues. In international trade, Standards "are generally established by consensus in technical committees of experts; compliance is not mandatory". A similar term, Technical Regulation is defined as "a document which lays down product characteristics or their related processes and production methods, including the applicable administrative provisions with which compliance is mandated by law. Unlike voluntary standards, technical regulations are set out by governments and are obligatory". The Sanitary and Phyto-sanitary (SPS) agreements and Technical Barriers to Trade (TBT) measures are technical regulations governed by the World Trade Organization (WTO).

Standards can be categorized into two types: (i.) Public Standards and (ii.) Private Standards. Public mandatory standards are legally binding and can be termed as regulations. Public standards can be voluntary and not legally binding, for example ‘Label Rouge’ developed by France (Henson and Humphrey 2009). Private standards are often interchangeably used with voluntary standards. These are standards developed by private bodies ranging from a large retailer to private sector coalitions such as British Retailers Consortium (BRC) to a non-governmental initiative such as Fairtrade. While the notion that public standards are mandatory and private standards are not, may not hold the whole truth. The table below could give a simpler view of the types of standards. On the contrary, private standards, if adopted by the government can become legally binding and mandatory. Some private standards, although not compulsory, are now so widely followed that they can be comparable with public mandatory standards. A good example for this type would be GlobalGAP. Section 3 discusses private standards in detail.

Table 2: Typology of Standards		
	Public	Private
Mandatory	Regulations	Legally-mandated Private Standards
Voluntary	Public Voluntary Standards	Private Voluntary Standards

Source: Henson and Humphrey, 2009

The SPS and TBT agreements are mandatory public regulations set out by WTO. SPS agreement allows countries to set their own standards. It stipulates certain rules to maintain food safety and animal/plant health to avoid protectionist measures by individual countries. It also mentions that regulations must be supported by scientific findings and not arbitrary. It requires exporters to follow certain principles: (i.) products sourced from areas free of pests & diseases, (ii.) Fruits/vegetables - minimum pesticide residue standard, (iii.) Meats/fish - minimum antibiotic residue requirement and (iv.) standards of hygiene applied in manufacturing (HACCP/ISO 22000) (UNIDO 2011). The TBT agreement is established to ensure that standards, certification procedures and related regulations do not create hindrances for trade. The basic motivations to set these standards and technical regulations are to ensure food safety and protecting human and animal health, facilitating market access and reduced transaction cost. However, in several cases, developing countries have faced restrictions because of their inability to meet food safety or agricultural health requirements (World Bank 2005). In addition to the public or the compulsory standards, numerous private and voluntary standards have evolved. Some of these standards are widely promoted for compliance and act like mandatory standards. Private standards may go beyond the product standards and include principles on processes. Part of the motivation behind establishing these standards are product-differentiation strategies of private firms to attract increasingly health-conscious consumers. More often than not they act as additional hurdles for developing country exporters.

1. Compliance Concerns

Emergence of new and stricter standards in agro-products poses a serious challenge for the Asia-Pacific developing countries. Since the establishment of the WTO 12,975 TBT and 11,622 SPS notifications were submitted by WTO member countries during 1995 and 2010¹³. One study showed that imported goods to the European Union faced increasing number of rejections for Bangladeshi exports of fish and crustaceans, meat, fruit and vegetables, from only 230 in 1998 to 1,520 in 2003 (Ferrer 2005 in Deb 2007). Significant portion of these notifications relate to agriculture products and were submitted by major agriculture importing countries and emerging economies. Most European countries and emerging Asian economy such as China require agro-exporters to strictly conform to these standards to enable products into their countries. China alone submitted 184 and 199 SPS notifications in 2008 and 2009 respectively. Based on 2000-01 data, World Bank (2005) estimated the value of rejected agro-products at borders (see Table 5). For developing countries the amount is \$1.8 billion, which is 47% of the global value of rejected agro-products.

Table 3 - Estimated Value of World Agricultural and Food Trade Directly Affected by Import Border Rejections Based on Technical Standards, 2000–2001 (million of United States dollars)

Product Group	Estimated Proportion of Trade	High Income Countries	Middle Income Countries	Low Income Countries	China	Total Trade Affected
Meat and dairy products	1.25	811	142	8	21	982
Fish and fishery products	1.00–2.00	232	417	145	90	884
Fruit and vegetables	0.75–1.50	367	439	44	61	911
Grains	0.50	160	40	6	8	214
Animal feed	0.50	65	39	4	2	110
Tropical beverages	0.25	25	18	16	0	59
Nuts and spices	0.75–1.50	16	33	30	1	80
Other processed food	1.00–2.00	122	53	3	6	184
All other categories	0.25	199	112	19	6	307
Total		1,997	1,332	275	195	3,799
Proportion of trade affected		0.70	1.10	0.93	1.25	0.84

Source: The World Bank 2005

¹³ WTO Document G/TBT/29, 8 March 2011 and G/SPS/GEN/804/Rev.3, 7 October 2010

Standards compliance involves high cost for non-compliance. If rejected, the exporter needs to take back the product or have the entire consignment destroyed. There is concern of reputation if a country faces multiple rejection record in the past. Experts have identified a number of major factors behind the inability of developing countries to meet these standards. First of all, a comprehensive Quality Infrastructure is largely lacking in the developing Asia-Pacific region. Four elements (see Box 4) are considered to constitute a quality infrastructure: (i) Metrology, (ii) Standardization, (iii) Conformity assessment, and (iv) Accreditation (see Box 4). Secondly, multiplicity of standards including compliance to private standards is an ever-growing challenge to exporters with limited technical capacities. Frequent changes in product specifications in grading, size, labelling and corresponding conformity assessment procedures for agricultural products call for greater technical and physical capacity to address these changes and thus require more time and cost to export both at national and firm level. For traders, it is increasingly challenging to keep up with the new technologies and knowledge that come with the evolving standards. Thus, inadequate technical skills and the need for continuous investment in testing equipment and machinery are a problem (ITC 2009). Thirdly, limited awareness and information of the traders on the evolving public, private and voluntary standards requirements play a major role.

Box 4 – Elements of Quality Infrastructure

Metrology is the technology or science of measurement and the service is required to ensure internationally recognized traceability of measurements and calibration of measuring instruments. Metrology can be subdivided into: Scientific metrology, Legal metrology, Industrial metrology

Standardization is the development and publication of a formal document by a recognized body, generally by consensus, containing the requirements that a product, process or service should comply with. Standards can be the basis of technical regulation, contractual obligations or market expectations. Standards are developed on a number of levels, namely International standards Regional standards National standards Private standards

Conformity assessment is the collective term for services necessary to provide evidence that a supplier, product or service meets requirements such as provided for in a standard or technical regulation. The following are generally considered to be conformity assessment services: Inspection, Testing, System certification, Product certification

Accreditation, including peer assessment, is the activity providing independent attestation as to the competency of individuals or organizations providing conformity assessment services, thereby facilitating international recognition of claims of conformity.

(Source: ITC-ISO 2010)

In 2002, the European Union made traceability¹⁴ (information on where the products were sourced from and input usage and other production details) mandatory for all food and feed businesses (European Commission 2007). Other international standards such as ISO22000 also made it a requirement for certification. Naturally food exporters from Asia-Pacific region are required to adopt traceability to be able to tap markets. However, exporters do not know the requirements for traceability or the exact method to follow and as a result do not develop any systems to record e.g. fertilizer schedule. Given the complexity of requirements, unclarity of information deter exporters to trade.

2. Inadequate Quality Infrastructure

A comprehensive Quality Infrastructure is a source of confidence for the agro-traders. It contributes to the competitiveness of an economy by providing a platform for ensuring product quality and improved standards conformance. For agricultural exports, product conformity is highly relevant to access the European Union and other developed markets. It is becoming increasingly important to access the Asian emerging markets also as countries such as China has begun to put more emphasis on such issues for their importing partners. Development of standards could be set aside for a separate discussion since developing countries are still facing the challenge of meeting international standards. The primary issue is the disparity in all other elements of Quality Infrastructure (Metrology, Conformity Assessment and Accreditation) in the Asia-Pacific region. On one hand, there are significant technological advancements of few economies such as the Republic of Korea. On the other hand, some countries do not have operational national accreditation bodies or accredited laboratories. So, the capacities and services of the National Standards Body (NSB), Accreditation Body (AB) and Conformity Assessment Body (CAB) in these economies do not match. There are many countries in the region where no accreditation body exist. As a result, CABs (e.g. testing laboratories, inspection agencies) in these countries are not accredited to carry out testing and certify products. Often laboratory results from these countries are not accepted by importing countries. This tends to raise costs for exporters in developing countries as conformity assessments carried out by foreign institutions are generally highly expensive. The second issue is that even if accreditation body exists, it may lack capacity in terms of human resources and facilities to accreditate laboratories. A third reality for some countries is that the existing testing laboratories or inspection agencies may lack skilled human resources and physical facilities and are not in a position to produce reliable results. Studies carried out in India show that despite presence of accreditation

¹⁴ Under EU law, “traceability” means the ability to track any food, feed, food-producing animal or substance that will be used for consumption, through all stages of production, processing and distribution (EC 2007) Agricultural traceability simply refers to the collection, documentation, maintenance and application of information related to all processes in the supply chain in a manner that provides guarantee to the consumer and other stakeholders on the origin, location and life history of a product as well as assisting in crises management in the event of a safety and quality breach (APEC 2009)

bodies and tremendous upgrades of laboratories, some laboratories could not perform all the tests for residues and contaminants especially for the European markets (World Bank 2004). Even within the Asia-Pacific region, the capacity of the Lao People's Democratic Republic was found to be inadequate to obtain first –time import permits from China for agro-exports. This permit is based on risk assessment, which requires surveillance data and other criteria (World Bank 2010).

The United States FDA reported that during 2007-08, food imports from China were rejected mostly for unsafe additives, veterinary drug residues, pesticide residues and unhygienic food problems (USDA 2009). A UN study indicated that the Central and Western regions of China had limited resources for inspection and compliance assessment services (United Nations 2008). This is a major bottleneck for effective control and inspection for food safety given eighty percent of the food producers and processors are small and medium enterprises.

The evolving and stricter standards lead to changing conformity assessment procedures and technologies. While some countries can cope with this change by investing in capacity development or establishing advanced physical infrastructure, others cannot. Asia-Pacific countries practice various forms of conformity assessment procedures, which vary among the countries. The Government of India had mainly harmonized its regulations on hygiene for fishery products as early as 1995. However, EC banned Indian fish products in 1997 caused by lack of efficacy of hygiene controls (World Bank 2004)

In the Asia and Pacific region, the existing legislations of some countries permit accredited testing laboratory reports or certifications from exporting countries. A few countries require the product to be tested inside the importing countries. For example, in Japan imported food may be exempted from inspection upon importation into Japan if a cargo is inspected by an official inspection organization in the exporting country and bears the result of the inspection. On the other hand, while in case of some industrial products India allows foreign manufacturing units to take license from the India Standard Institute and export to India; in case of food item it requires testing of imported ones in India upon importation and does not accept certificates of exporting country laboratories. Mongolia also suffers from the same problem as there is no mutual recognition of certificates from inspection agencies with importing countries.

Questions may arise, why is it that exporters in the developing countries have to accept the standards requirements of partner countries? In international trade, developing countries have always been 'standards taker' rather than 'standards maker'. It has not been possible for the developing countries to project the equivalence of conformity assessment practices in their own countries. They have had to face export rejections.

3. Multiplicity of Standards and Private Standards

The growth in global agro-trade has been coupled with an increase of product standards. The standards regime is going to be more stringent due to progressively higher demand of processed and high-value food products. As mentioned earlier, the basic categorization of standards is based on who forms it, either a public body or a private body. Public standards are government-established whereas private standards are established by non-governmental sources. National standards based market requirements vary and it is a major topic of discussion among WTO member countries. For example, there is no official standard for Cassava imports into China. But importers traditionally require 67% starch content in Thai Cassava. The Government of the Republic of Korea does not require any for certification but specifies 55% starch content, which is lower than the Chinese and European Union requirements (Kaplinsky et al. 2010).

'Private standards' is interchangeably used as 'voluntary standards'. In reality, private standards could be mandatory also, subject to the government endorsement. Following WTO classification, Henson and Humphrey (2009) categorized private standards into three groups based on who forms it: **i. individual firm standards ii. collective national standards and iii. collective international standards**. They explained that the individual firm standards were typically established by large private food retailers and spread across the supply chains. Individual private firm standards such as Tesco (Nature's Choice) and Carrefour (Filières Qualite) have introduced their own standards in addition to the mandatory standards of the respective countries. Collective national standards are set by collective bodies (e.g. industry associations). While they are set nationally, they could be adopted internationally across the supply chains. The collective international standards are set by a coalition of organizations based in various countries or association with international members. For instance, Global GAP or EurepGAP, Safe Quality Food (SQF) are widely complied by exporters. International Organization for Standardization (ISO) is a unique example of standards setting organization, which includes members from both public and private sectors. ISO standards certification is often considered voluntary standards in some countries with a few exceptions.

A WTO survey of their member countries indicated that many developing country producers consider multiplicity of private standards and absence of harmonization among them to be constraints to access export markets (WTO 2009). Generally, private standards require all applicable national standards to be met. However, individual firm standards include more stringent provisions than the national regulations. The Codex Alimentarius Commission reported that many retail firms require a more restrictive maximum residue limit (MRL) of pesticide, a key numerical standards for maintaining food safety, at times 25-80% of national (FAO:WHO 2010). In general, large retail firms include both product and process standards and provide Standard Operating Procedures (SOP) to their suppliers. These include size, dimension, packaging and labeling guidelines, condition at delivery, safety and quality management processes during production, and traceability. Many of them

have their own inspection procedures. Often these are applied in addition to the collective national standards. For instance, for seafood, most large British retailers require the suppliers to follow British Retail Consortium (BRC) certification (FAO 2011). Some large retailers do depend on private certification schemes by third party such as SGS.

The scope for complying with multiple standards is quite large starting from the sourcing of raw materials upto reaching consumers. The European 'Farm to Fork' policy requires suppliers to follow track and trace the entire supply chain of the ingredients of food products or in other words 'traceability'. It is also mandatory to obtain HACCP (Hazard Analysis Critical Control Point) and GMP (Good Manufacturing Practice) certification for food imports to the European Union. A related matter is the cost of compliance to private standards. A WTO (2009) survey showed that cost of compliance to private standards is high and additional to official standards. It involves infrastructure, foreign consulting fees, annual auditor fee, personnel training fee and so on. Average annual certification fee was reported to be ranging from \$2,000 to 8,000. As private standards are opting to track supply chain information, it is becoming more costly to the exporters to maintain such standards.

C. Trade Logistics

The competitiveness of the product depend significantly on reliable, fast and efficient supply chains systems. Trade transaction on such a supply chain depends on efficient logistics systems and robust infrastructure. In a fiercely competitive export market, the global economic crisis and reduced demand have forced exporters to further increase productivity and reduce costs. For agro-products, it is particularly critical due to its perishability, sensitivity to temperature and time. Agro products or ingredients for processed goods contain vitamins, minerals and other nutrients and need to retain their nutritional value until they reach the consumer. Hence, it is important to follow certain practices or adopt particular measures, which are critical to maintaining international standards. Generally, logistics performances have been described to be contingent upon: infrastructure and transportation, services and border procedures (World Bank 2007). Trade related infrastructure facilitates both movement of goods and exchange of trade information. It consists of mainly multimodal (road, air, water) transportation network, suitable vehicles, air/sea/land port facilities, warehouse facilities, and information technology and telecommunication facilities. Logistics services can be provided by both public and private entities. Private logistics service providers often provide entire service from transporting goods from factory gate to customers. There are other service providers such as clearing and forwarding agents, port management authorities and so on. Border procedures include many agencies including Customs, veterinary, plant quarantine and health agencies. Coordination of these agencies is a major bottleneck for movement of goods across borders. This implies that many components of trade logistics are beyond the control of the trader

such as conditions of transport networks or goods handling time at port. Naturally, keeping logistics costs to a minimum is a major challenge.

1. Poor Trade Related Infrastructure and Transportation System

Transport and logistics cost are a major part of the transaction costs. Within ASEAN, the logistics costs for exporting some products were as high as 25 percent (Hufbauer and Wong 2011). The national logistics costs for Thailand and Viet Nam were measured as 20 percent of GDP.

According to a report on ASEAN logistics, transporting products across the Lao People's Democratic Republic and Thailand border costs four times higher than the norm (Nathan Associates 2007). At sector level, ESCAP Business Process Analysis (BPA) studies for a few countries in South Asia showed that only inland transport and handling cost range in between 22% to 80% of transaction cost (Table 4). For some Central Asian countries, the estimated (2006) share of transport costs in total cost of exports and imports is 8% to 14% (Table 5). Distance from production centres (farms or distant locations where the products are produced) is considered an influencing factor for maintaining food value or freshness of the product, especially where transport networks are poor.

Table 4: Transport and Handling Cost as percentage of transaction cost in South Asia

Agro-products	Export From	Export To	Transport & Handling Cost (% of transaction cost)
Frozen Shrimp	Bangladesh	Japan	29
Cotton Yarn	India	Bangladesh	31
Hydrogenated Veg. Oil	Nepal	India	80
Tea	Sri Lanka	Japan	22

Source: Business Process Analysis Studies ESCAP 2010-11

Table 5: Share of Transport Costs as percentage of transaction cost in Central Asia

	Export	Import
Kazakhstan	10%	8%
Kyrgyzstan	13%	10%
Tajikistan	14%	10%
Uzbekistan	12%	8%

Source: ADB 2006

2. Spoilage during Post-harvest Handling

Logistics infrastructure and services including storage facilities, local market or collection facilities, and even relevant government regulation play a crucial role for agricultural supply chain reliability (ESCAP 2009).

Apart from the production, post-harvest handling is a key stage of the agricultural supply chain. A whole range of issues come into play during these stages. Absence of warehousing facility, inappropriate goods vehicles or trucks, long distance from nearby railways or inland waterways stations and so on.

An estimate by FAO (1994) suggests the total loss of agro-products during storage and transport could be as high as 16%. A much worse estimate from a study by the World Bank in India shows that the lack of adequate storage and marketing infrastructure can be as high as 20-40 percent of the total production (ESCAP 2009). IFC estimated the wastage caused by poor transportation and logistics system at \$13 billion per year there (2010). According to an estimate of Thai fresh produce exports of fruits and vegetables, producers and exporters lose 2.92 billion baht (about \$96.4 million) a year due to spoilage and poor storage. These are some of the startling figures available. Lack of cold chain maintenance until it reaches the consumer is one of the factors for this spoilage. It is especially important to keep the initial post-harvest quality of the product. Use of traditional vehicles, distance to nearest local markets or collection centres, method of packing during transportation could reduce the quality of the goods.

3. Weak Market Linkages

Rural logistics and agro supply chain are affected by the market structure including business relationships and terms of trade (in many cases informal) of various actors in the chain and access to market information. The lack of linkage between the producers and the processors or exporters up in the value chain creates a set of issues. Small producers often do not have the capacity to organize modern transport and appropriate logistics services. They depend on intermediaries to take care of such services. Therefore, it becomes costly for them when there is unnecessary delay by the intermediaries because the price of the product drops. Market information on price and demand are often subject to the business-ethics of these intermediaries. Lack of price information could also be a reason for inefficiency for diffusion of price signals. Even though consumer prices are high, producers may not receive any additional incentive due to the misinformation and hence may not bargain a good deal. The issues of spoilage, transportation and relevant logistics services thus do not only arise from inadequate rural infrastructure but also from weak market linkages. Landlocked developing countries and Least developed countries perform poorly on logistical performance index (LPI) developed by the World Bank and need greater attention to deal with such issues (see Box 5).

Box 5: Least developed and landlocked developing countries in the Asia-Pacific Region

The quality and performances of logistics services vary across the Asia-Pacific region. The World Bank Logistics Performance Index (LPI) provides an overview of the logistics performances. The case of Central Asian Land locked countries is quite appalling. The landlocked countries depend on transit through their neighbours for trade and it involves additional procedures and steps. LPI competence for Central Asian landlocked countries indicates a poor performance (2.18 on a scale of 5.0). Studies show that these performances are often not caused by poor infrastructure but by poor and an 'extended chain' of operations in the supply chain. They include delays for loading and unloading at borders, duplication of controls at each border, more lead time to load on a different mode of transport, multiple checkpoints en route, traffic congestion in corridors. The resulting logistics cost therefore include i. compulsory fees ii. facilitating the transit processes and iii. agent fees, often based on complexity of transit cases (Arvis et al 2011). A study conducted in Uzbekistan by IFC showed that agro-exports suffered from extortions by border, customs or police officers (ADB 2008). In Kazakhstan, there are multiple check points on the road for import products (including agro products). A recent ESCAP finding has revealed that Mongolian wool and cashmere exports are only permitted to be transported by truck while in transit in China on grounds of sanitary control. This creates unnecessary congestion and delays at the border due to loading, unloading, low numbers of vehicle availability. Prevalent agro-exports in Central Asia such as wheat, vegetable, fruits and meat are more vulnerable to lengthy processes and costs related to additional procedures in the supply chains.

According to the LPI, South Asian landlocked developing countries have even a poorer score (1.84) in logistics competence. South Asian landlocked developing countries are Afghanistan, Bhutan and Nepal. These countries score 2.09, 2.24 and 2.07 respectively on a scale of 5.0. Bhutan, Afghanistan and Nepal rank 128, 143 and 147 in the overall LPI index out of 155 countries. Nepal and Bhutan are dependent on road transit through India for using ports in India. Long delays due to loading and unloading of cargos at borders, custom inspection and limited office opening hours at borders are major hurdles for these countries.

D. Trade Finance

In simple words, Trade Finance is defined as “financing of imports and exports” (ESCAP and ITC 2005). Trade finance can be better understood in the context of Trade Development Strategy. It is a major element of Trade Facilitation and often overlooked as only a ‘support service’. It is however more than a ‘support service’. However, the scope of trade finance is not as simple as it sounds. The scope for financing consists of financing at production, or import of raw materials for producing the export product. Failure to obtain financing at any

stage of agricultural supply chain may hinder a trade transaction. A prerequisite of a robust Trade Finance system is to establish a trade finance infrastructure. This means the development of relevant laws and institutions to support international trade. It requires developing (i) provision of capital to firms that are engaging in international trade transactions, (ii) provision of support services to manage the risk involved in these transactions, and (iii) provision of international payment mechanisms (ESCAP 2005). While it supports trade growth, a narrow look at financing trade or maintaining the traditional financing scheme is not the best strategy for the improving national competitiveness. It is reported that trade finance has been growing at about 11 percent annually over the last two decades (ESCAP 2005). However, agro-trade financing has not responded to the growing demand of perishable food products.

Trade finance is often found as the most difficult bottleneck to overcome for agricultural trade. The inherent disadvantage of agro-product is it is perishable and sensitive to time and temperature. It is particularly difficult to obtain financing for agro-products given the risk of spoilage due to poor post-harvest handling, poor storage facilities and thus reduction of value of the products. The global credit crunch impacted many importing countries with volatile prices and made financing even more challenging. Weather conditions, seasonality of production, varied quality of products work as major risk factors for lenders. While these factors can be dealt by integrated agro-exporters, SMEs are particularly vulnerable to these conditions.

1. Stringent Terms

The most commonly perceived logic for the lenders not to lend to producers is the inability of producers to meet the big collateral guarantees. Even if the banks provide loans, they usually come with high premiums putting pressure on the transaction cost. Only the large farmers or agro-exporters may be able to access in exchange of higher premiums. Small producers or traders suffer mostly from such situations. In agricultural commodity financing, only large producers or exporters are the main target market for banks (UNCTAD 2004). The 'terms of trade' for the loan is another major issue for the producers. For agro-exporters, it is particularly difficult to trade with stricter terms since it is a disincentive for the buyers.

2. Lenders' Lack of Understanding

Lending institutions consider providing financing for agro-exports generally riskier than for manufactured or other products. This stems from the lack of understanding of the agriculture sector as a whole. Traditionally banks have considered the price volatility, weather proneness and seasonality as reasons for not increasing their lending in this sector. Experts point to a lack of knowledge of lenders on value of agricultural commodities. A

UNCTAD (2004) report noted that agriculture financing mechanisms were mostly non-commercial, subsidized by governments or donor organizations in 1990s. This has made private sector discouraged and less innovative in developing new financial products. At a later stage, the non-agro portfolio would have been more than sufficient to ignore the agro-sector as a viable lending opportunity. As a result agro-trade remained as a non-lucrative sector for a long time. In addition, most developing country private banks were centred in and around cities only. Lack of insurance for agricultural crops was another reason for financiers not taking interest in agricultural products (UNCTAD 2005). What the banks did not realize was that the very reasons for not targeting agro-sector could be the opportunities to design new financial products. While there are some innovative examples of financing agricultural trade in the world nowadays, it is simply not sufficient to continue supporting agricultural trade.

3. Knowledge Gap of SMEs

SMEs in many Asia-Pacific countries are the major engines of trade growth and employment generation. However, in terms of business knowledge and planning, individual SMEs are behind large companies. Considerable knowledge on how to access credits gap remains a big obstacle for SMEs, especially for least developed countries¹⁵. ITC points out poor financial management, lack of understanding on risk mitigation strategies, alternative method of financing, budgeting and forecasting as some of the weak links for SMEs which are equally applicable for agricultural SMEs (ITC 2009). In Bangladesh, for instance, even after the introduction of SME-friendly products, knowledge gap to access such products was identified as a key bottleneck (The Financial Express 2011).

E. Transformation of Production Practices

Accessing export markets require producers to maintain suitable quality in an efficient manner, preferably with economies of scale. However, in many Asia-Pacific countries, agricultural production practices are still traditional. Traditional practices may lead to reduction of soil fertility and low production yield. Per capita land holding is reducing also. These issues are certainly not conducive to access export markets. To address such issues, modernization of production practices is taking place to a certain extent. However, appropriate production practices attuned with the export market is still lacking. While there are technological developments in fertilizer and seed production, educating the huge agricultural population on efficient production practices needs to continue as a major undertaking.

¹⁵ A total of 90 percent of the total clients of freight forwarder and shipping agents are SMEs in Bangladesh

III. Trade Facilitation Measures for Agricultural trade in Asia and the Pacific

While there are numerous challenges to trade in agro-products, there are number of good initiatives in facilitating agro trade in the Asia-Pacific region. Referring to these and other global initiatives, this chapter will highlight the measures that could be adopted for greater agro trade. The discussion is organized into four sections corresponding to the basic classification of constraints: procedures, standards, finance and logistics.

A. Potential Benefits of Trade Facilitation are Significant

The potential benefits of trade facilitation in agriculture are large. In 2006, a study by SITPRO on the perishable food supply chain in the United Kingdom determined that 1 billion paper documents are generated every year; redundant data is keyed in at least 189 million times a year, which means about 30% of all data keyed in is redundant. The study showed that if documents were not present promptly at critical points during import, the cost (from the consequent waiting time, extra transportation, holding shifts at packhouse or warehouse) could be 200-400% of the original cost of the consignment. For imports, the cost of paper administration in the perishable supply chain in the UK is approximately GBP 1 billion per annum. SITPRO estimates that e-documentation could save approximately 70% of these costs. A UNCTAD (2001) study indicates that one percent reduction in the cost of maritime and air transport could increase Asian GDP by \$3.3 billion. According to Djankov et al. (2006) export delays of time sensitive agro-products reduces a country's relative exports of such products by 7 percent on average.

A simulation in Table 7 done by the Strutt, Stone and Minor (2008) signifies the GDP gains from only 25 percent reduction in time to export or import in the GMS sub-region and China. It clearly shows that both large and small economies will gain by reducing export or import time. While China and Thailand will gain by \$336 billion and \$174 billion for export time reduction the much smaller economy such as the Lao People's Democratic Republic would gain by \$15 million and 32 million for export and import time-reduction respectively.

Table 6 - GDP gains from 25 percent reduction in time to export/Import, GMS and China

Country	GDP gain from export time reduction		GDP gain from import time reduction	
	\$ Million	Percent	\$ Million	Percent
Cambodia	28	0.6	44	0.9
Lao People's Democratic Republic	15	0.6	32	1.3
Myanmar	40	0.5	79	1.0
Thailand	174	0.1	166	0.1
Viet Nam	208	0.5	316	0.7
China	336	0.0	371	0.0

Source: Strutt, Stone, and Minor (2008) simulations

B. Towards a Paperless Trade Environment

The agricultural supply chain is highly complicated because of the diversity of actors involved and the numerous standards, protocols and procedures to which agricultural goods are subject. These procedures are generally administered by several different public agencies – such as department of public health, agriculture, customs, border agencies and so forth. This generates a large volume of documentation, and requires agro-exporters to shuffle back and forth between many different agencies to clear goods for export, which has obvious time costs. Thus, trade facilitation measures should aim to make it easier for agro-exporters to meet regulatory or other requirements by cutting the red-tape, and eliminating paper documentation and the redundancies contained therein. Three specific measures to achieve this are discussed below – single window, one-stop shop, and single export document and e-documentation. Establishing a single window would be the most comprehensive solution. If not possible to achieve, the latter two options could be pursued. These measures not only simplify processes but reduce opportunities for corruption.

1. Single Window

A Single Window is defined as “a facility that allows parties involved in trade and transport to lodge standardized information and documents with a single entry point to fulfill all import, export, and transit-related regulatory requirements.” (UNCEFACT Recommendation No. 33). It aims to simplify exchange of information between the traders, public and private agencies involved in cross-border trade thereby reducing the complexity, time and costs involved in international trade. Government agencies benefit from improved

coordination at border controls, enhanced trade security, more efficient internal operations, increased revenues in some cases, increased transparency and better trade statistics. Traders benefit from less paperwork; shorter time to obtain permits, certificates and licenses; improved transparency; and simpler and faster customs clearance; and increased predictability of trade procedures.

UNCEFACT (2005) identified three basic categories of Single Window. Firstly, a single authority receives information either on paper or electronically and then broadcast to all relevant government agencies. It acts as the coordinator of the system. The second category is a single automated system for collection and dissemination of information. It may be run by a public or a private entity. The third category is an automated information transaction system through which traders can submit only applications to various authorities concerned in a single application. All of these categories cover agricultural trade since these are models for general trade transactions. In reality, Single Window can be customized based on country needs and priorities. Most recently (2011), India has taken initiative to develop Single Window only for perishable goods, led by APEDA (see Box 6). In Guatemala, the National Single Window is operated by an exporters association, specializing in agricultural goods (see Box 7).

Box 6: India's Single Window for Perishable Exports

While India is a leading producer of fruits and vegetables, it contributes very little to global exports of these goods, in large part because of poor trade facilitation. In 2009, the Directorate General of Foreign Trade announced a 5-year plan to streamline agricultural trade procedures. As stated in Foreign Trade Policy 2009-2014, the plan is to set up multi-functional nodal agencies to operate a Single Window system for export clearance, establish a single point payment system for all duties and levies, introduce a web-based Electronic Data Interchange (EDI) system and highly responsible redressal system. It is envisioned that the nodal agency will come from the private sector.

(APEDA 2011)

Box 7: Guatemala's Enhanced Single Window for Agricultural Exports

In 1986, a single window was set up in Guatemala which reduced the average time to complete export procedures from 10-12 days to 6-8 days. This did not satisfy many private firms, and particularly those trading in perishable goods, who wanted the process to be further streamlined and an e-documentation system to be introduced (e-documentation will be discussed at greater length later in this Chapter). Thus, AGEXPORT, an association of Guatemalan exporters specializing in "non-traditional" and agricultural goods, gained control of VUPE (Ventanilla Unica para las Exportaciones), the Single Window for Export and further reduced the time to complete export procedures from 6-8 days to 2-3 days. It did this by establishing an electronic data interchange system called Electronic Service for the Authorization of Exports (SEADDEX), and setting up a dual system whereby exporters had the choice of presenting documents to VUPE in paper-form or electronically.

(www.export.com.gt)

2. Single Export Document and EDI

Generally, multiple documents must be submitted in order to export a single consignment. If these multiple documents were condensed into a Single Export Document (SED), that would reduce redundancy and significantly streamline trade procedures. In India, the government has adopted an SED specifically for perishable goods which has reduced the number of documents necessary for export from twelve to five. The customs authorities can use the SED to quickly review sanitary and phyto-sanitary certification, results of pesticide review tests and the shipping bill and commercial invoice.

Documentary requirements could be further eased by setting up an electronic data interchange system, as suggested above. This would make it easier to fill out and submit trade documents, and would further reduce redundancies since data is stored in a central electronic location accessible by the relevant authorities. However, in order to maximize the benefits of EDI, it should be implemented after procedures and documents are rationalized. Otherwise, the electronic system would absorb the inefficiencies of the paper-based administration. The Philippines' automated system uses EDI for agricultural imports into the country (see Box 8).

Box 8: Philippines' Automated Trade System for Agricultural Imports

In the Philippines, an automated "trade system" installed at office of Department of Agriculture has reduced processing time for import permits from 2-3 days to 2-3 hours. The DA director logs in to this system to approve or disapprove permits. Quarantine officers at the port receive import clearance through the system prior to arrival of goods. A database of accredited importers and importable products is maintained which improves risk management in the agro-trade. Additionally, the system enables auto debit of fees and payments (through advance deposits with authorized banks). Previously, import permit applications were processed manually, payments were made in cash and receipts issued manually, and the import permit was submitted to quarantine officers upon the arrival of goods.

(Alburo 2010)

3. One Stop Shop

Through a one-stop shop, the various agencies that must clear agro-exports may render their services to traders at a single point. This would reduce the time necessary for exporters to complete formalities. Additionally, if data collected by these agencies is accessible through a central database, the frequency with which requests for redundant data is made would be reduced. Such a facility has been set up at Cambodia's largest

seaport, the Port of Sihanoukville - which mainly services the garment and agro-trade – and is part of a larger initiative to turn the country as a major rice exporter. In India and Guatemala, one-stop shops for perishable goods, in particular, have long been in the works. Their experiences demonstrate the importance of collaboration between stakeholders and the crucial role of the private sector.

C. Risk Management System

Customs administration is responsible for public safety and security and also revenue collection. But in dispensing these responsibilities, the Customs often unnecessarily impedes international trade. As a result, long queues and delays at customs are a common occurrence. This is problematic for agricultural trade because agricultural goods are especially vulnerable to spoilage. A modern administration system, then, should strike a balance between its regulatory responsibilities and consideration for trade facilitation. As such, a Risk Management System (RMS) should underlay all modern customs administrations.

Traditionally, Customs administration inspects most if not all consignments they receive. However, this is very expensive and leads to long delays. An RMS involves categorizing consignments by risk level and inspecting only those deemed highest risk. This focuses attention toward risky consignments, and speeds up clearance of low-risk consignments. Thus, RMS requires a change in focus from punishing violations to encouraging compliance, and accordingly implies a significant restructuring of the traditional customs administration. As the cases below demonstrate, the potential benefits are significant (see Box 9 and 10).

Box 9: Jordan's Risk Management System for Food Imports

Jordan has implemented, with USAID support, a widely-acclaimed Risk Management System (RMS) for food imports. The system was launched in 2002 at the port of Aqaba, where about 80% of the country's food imports enter the country. Low risk consignments now receive clearance in less than a day and there has been an 80% drop in the number of inspections and 30% drop in the cost of inspections – all without compromising food safety.

(Whitehead 2000)

Box 10: Japan's Risk Management System for Agro-imports

Prior to 1995, inspections were carried out by the state. Since then, inspections are carried out by the importing firms at their own expense, and the government has begun to play a more risk management or assessment role. As a result of this, inspection ratio has decreased from 18.1% in 1989 to 10.2% in 2003. Furthermore, a RMS mindset underlies many procedural innovations, which allow agro-importers to expedite clearance. Generally, to import these goods, the importer must submit an Import Notification form – either electronically via the Food Automated Network System (FAINS) or in paper form - at the appropriate quarantine station at port. On the basis of the form, the inspector decides if an inspection of the goods is necessary. If not, inspection is waived, and a Certification of Notification is issued. Importers may expedite this process in a number of ways.

- 1. A notification may be submitted up to 7 days before estimated date of cargo's arrival. A "certification of notification" is issued immediately unless an inspection is deemed necessary. This reduces waiting time at customs.*
- 2. If the importer is importing the same good repeatedly, he or she may attach prior inspection results to the notification form. If the results are cleared during document inspection, physical inspection is waived for a stated period of time.*
- 3. If an imported good passes inspection, it and the manufacturer are registered in a system. Further imports of this good, or imports from this manufacturer, are waived inspection requirements at the border for a certain period of time.*
- 4. If a good is to be imported repeatedly for a period of time, importers may submit a one year or three year import plan. If the imported good passes the inspection, inspection is waived for the specified period of time.*

(Jonker et al. 2005)

As stated previously, the purpose of RMS is not to punish violations of customs regulations – though this is doubtless necessary – but to enforce compliance. In some cases, enforcing compliance may mean waiving particular requirements where the risk of violation is low. An authorized traders' scheme, for instance, relaxes requirements for traders with good records of compliance. In a post-clearance audit scheme, consignments deemed low risk are inspected at the importer's premises rather than at the border, which reduces delays at the border. While such schemes can have significant benefits in terms of trade facilitation, there are also important risks, since they – and RMS more generally – require a highly-developed risk assessment capacity. Yet, it may be unrealistic to expect developing countries new to the concept to develop such a capacity. Thus, it is important that reforms be phased-in and sequenced appropriately. China's experience demonstrates these risks (see Box 11).

Another way to avoid time-consuming inspections at the border is to have the goods inspected in the exporting country, under the supervision of the relevant authorities in the importing country. As this requires close cooperation between two countries, pre-clearance

Box 11: China's Authorised Traders Schemes

China has instituted a similar scheme with respect to food safety which reflect both its unique benefits and potential pitfalls. China emphasizes the creation of closed-supply chains which are limited to farms and exporters which have met high safety standards. This tends to screen out the bad apples, so to speak, before they reach customs. Exporters with good records are exempted from inspection. Yet, the system has two major problems. First, while pre-screening exporters makes sense from custom's point of view, it is also very expensive, as it requires that the government monitor tens of thousands of organizations. Secondly, exempting traders with good records risks letting through unsafe foods. Indeed, in 2008 the program was abandoned after it was discovered that milk produced by a trader exempted from inspection contained dangerous chemicals. It is important to note, however, that this does not condemn authorized traders' schemes in their entirety since the mistake may represent a local and not systematic flaw.

(USDA 2009)

is generally carried out as part of a bilateral agreement. South Africa and the United States of America for instance, have agreed to the pre-clearance of South African exports of citrus fruits, which are then waived certain requirements at the United States port of entry. Yet, pre-clearance is expensive, as it requires the exporting country and firm to bear the full expense of inspections and, as such, is unaffordable for most developing countries. Indeed, South Africa is one of only a few countries in Africa to sign such an agreement with the United States of America despite its claimed virtues.

One more alternative to speed up clearance is to allow traders to submit clearance data and documents prior to the arrival of the consignment. Customs authorities could then complete processing the documents just as the consignment arrives, which would reduce wait-times at the border. Bangladesh has implemented such a measure to great success as all perishable goods are subject to pre-arrival processing. As noted above, Japan has also instituted such a scheme. Similarly, in Rwanda, all perishable goods, drugs and agricultural inputs are eligible for pre-arrival clearance and post-clearance audit. To apply for this facility, traders must fill out and submit a one-page form and pre-clearance must be done at most 14 days prior to the arrival of the shipment.

D. Improving Access to Information

Timely, user-friendly, accurate and easily accessible information on trade procedures, regulations, fees, documentary requirements and trade transaction processes are key to transparency and predictability of trade transactions. And the main target for such accessibility should be traders and their representatives. As explained in earlier chapter, it is

particularly relevant for the SMEs since they are vulnerable to unpredictability or unclarity of trade procedures. UNCTAD (2011) specifies four elements that need to be considered for trade related information management: governance, delivery, data/information and storage. These elements include addressing issues such as establishing legal framework for use of information, quality control, communication channels, information collection and storing methods (e.g. digital or paper based). These elements could be taken up in a phased approach. Firstly, it needs to be decided which organization will take the lead in information management and who will provide which information. If needed, the information may be rearranged. Secondly, the laws and regulations for ensuring validity of the information should be developed and passed nationally. Finally, the most user-friendly channels and a maintenance framework need to be decided upon.

As a very basic step, posting information on a notice board clearly in government offices is a minimum effort that can agencies provide. Each public agency related to a trade transaction holds some information about procedures and requirements for export or import. This should be updated and relevant contacts should be provided for clarification and questions. Distorted information should be avoided at offices distant from cities or at borders. Information should be relayed to all relevant branches so that exporters do not need to travel long distance only to gather trade related information.

The Internet is a popular choice for disseminating trade related information. It can offer 24/7 access throughout the year. It saves cost for the trader to visit the relevant agency to obtain the information. If the legal framework is in place, electronic information available in the authorized internet sites are extremely helpful for traders. Websites with email or online contact points work as additional support to clarify confusions or questions. There are not too many centralized websites on agro-export or import. In this respect, India's APEDA website (www.apeda.gov.in) is worth mentioning. This site includes regulations, certification requirements, traceability information and financial assistance schemes among other topics on agro and processed food exports. Although only for plant quarantine, the website (www.npgs.go.kr) by the Korean plant quarantine authority for export or import of plants is a noteworthy example.

E. Ensuring Product Standards

Globalization has brought in its wake growing concerns about the quality and safety of food and agricultural goods. This has led to a proliferation of public and private standards. The standards have also evolved to apply across the supply chain, that is, from 'farm to fork'. As stated in Chapter 2, developing countries have struggled to keep up with these standards, to the detriment of their export position, for multiple reasons including: lack of quality infrastructure/resources, regulatory incoherence, and the multiplicity of product standards. Below, examples of specific measures that address these constraints are discussed.

1. Improving Quality Infrastructure

Role of national and regional institutions are important

Ensuring a robust Quality Infrastructure requires fully functional national accreditation body, national standards body, testing laboratories, national metrology institute, and inspection agencies. Maintaining these facilities not only requires initial investments; it requires continuous investments on research and development to keep up with new standards and conformity requirements also. Continuous training of personnel is crucial also. The primary role of national accreditation body is to endorse testing laboratories or certification/inspection agencies of their activities. Accredited laboratories or inspection agencies can then issue certificates. As such facilities are expensive; developing countries generally need international assistance to set up them. In 2005, Sri Lanka established the Sri Lanka Accreditation Board (SLAB), the national accreditation authority, with the help of the Swedish International Development Cooperation Agency, and it has accredited agriculture certification bodies for tea (Tea Quality Assurance Laboratory) and food (Food Safety and Quality Assurance Laboratory) (OECD-WTO 2011).

Certificates issued by laboratories accredited by national accreditation body may not be accepted in the importing country. This is where specialist regional bodies (SRB) play a major role. There are multiple regional bodies engaged in promotion of mutual recognition of product and conformity standards. In Asia-Pacific region, both APLAC (Asia Pacific Laboratory Accreditation Cooperation) and PAC (Pacific Accreditation Cooperation) have mutual recognition programmes. Members of these bodies are various accreditation organizations. For instance, the Sri Lanka Accreditation Board has gained membership of APLAC and PAC. This means, Sri Lankan tea and certain food products certified by the laboratories (accredited by the Board) may gain access to export markets on relaxed terms. One of the main objectives of these bodies is promoting the slogan 'tested/inspected once, accepted everywhere'. However, scope of mutual recognition vary for each country depending which national body is signatory. Not all governments or regulatory authorities have the capacity to develop an accreditation mechanism nationally. In such context, regional accreditation mechanisms are promoted. For example in Southern Africa, SADC (Southern African Development Community) has initiated a regional accreditation mechanism (see Box 12). Experts suggest that these SRBs need to strengthen its existing capacity development programmes for member countries¹⁶. In addition, they need to expand their outreach to governments.

¹⁶ Discussion from 'High-level Consultation on Facilitating Agricultural Trade in Asia and the Pacific', Bangkok, January 2011

Box 12: Southern African Development Community Accreditation

The Southern African Development Community Accreditation (SADCA) was established in 1996 with a mandate to facilitate the creation of a regional accreditation system, SADCAS (Southern African Development Community Accreditation Service). The main purpose was to provide Member States with accreditation as a tool for the removal of technical barriers to trade (TBTs) in both the voluntary and regulatory areas. SADCAS is now fully operational, having accredited a few organisations. SADCAS will now provide accreditation services to the Member States on request of the NAEP in the countries without a national accreditation body (NAB). SADCA requires membership of at least three operational accreditation bodies to pursue international recognition, as well as to become a fully functional Regional Cooperation. There are now three accreditation bodies in SADC, namely, SANAS (South African National Accreditation System), MAURITAS (Mauritius Accreditation Service) and SADCAS (Southern African Development Community Accreditation Service).

(SADC 2010-11)

Traceability is key for accessing export market

To increase the credibility of the national certification regime, there should be a reliable way to verify that the exporter receiving certification is genuinely qualified. One way to do this is to track the market eligibility of the concerned product from production until the time of export. A traceability system (see Box 13) also enables governments to quickly identify and respond to outbreaks of disease or contamination. New Zealand has installed such a traceability system called E-cert which operates for trade between Australia and New Zealand. There are separate e-certs for animal, dairy and – of particular interest here – plant products. In this system, product movements at each stage of the supply chain are logged into a central database, and which are ultimately used to judge whether export certification should be issued in a given case. As e-cert is electronic, there is a gain in efficiency in addition to credibility. Indeed, it has resulted in savings to government agencies and the trading community of approximately \$100 per transaction (www.foodsafety.govt.nz). Similarly, India (see Box 14), China and Thailand (see Box 15) have developed electronic traceability systems.

Box 13: Elements of Traceability

Product, Party and Location Identification: Fundamental to tracking and tracing a product for full chain traceability is that every food component harvested from farm or sea and through every stage of its transformation/packaging to a finished consumer product must be uniquely identified at each stage of transformation or possession – and that these identifiers be linked.

Recording of Information: Effective traceability requires standardizing the information that needs to be recorded through each step of the food production and distribution chain.

Linking of Information: To ensure the continuity of the flow of traceability information, each partner must pass on information about the identified lot or product group to the next partner in the production chain, or alternatively, to a central data base or registry where information can be retrieved when necessary.

(APEC 2010)

Box 14: India's GrapeNet System

*A traceability system for fresh grape export (**GrapeNet**) from India to European Union was developed by the Agricultural and Processed Food Products Export Development Authority (APEDA). At the first phase of implementation, the Government of India passed regulation to maintain minimum pesticide standards and made it compulsory for the exporters to register to this system. At the second stage, a centralized web enabled system was created incorporating all the stakeholders in the supply chain of grapes exported from India. This internet based traceability software allows monitoring of pesticide residue, facilitate tracing back from retail shelves to the farm of the Indian grower, through the various stages of sampling, testing, certification and packing, and, issue electronic phyto-sanitary certificate. All necessary certificates in the entire supply chain up to the customs are issued through the **GrapeNet**. APEDA reported that due to this system, more than 40,000 grape producers and 115 exporters have been benefited with producers gaining more than 40% value of the product and the system is running successfully for last four years. The **GrapeNet** system has got two accolades also, one is National award for E- Governance in the year 2008 and E- Asia award in 2009.*

(APEDA 2011)

Box 15: Thailand's TraceShrimp System

A pilot project for facilitating shrimp exports was implemented during 2005-06 to establish a computerized traceability system called "TraceShrimp" under a joint initiative of Thailand and the European Union. Exporters are required to apply for membership of this system at the Department of Fisheries. If approved, they are registered in the system and receive login details. The following information are entered into the system:

Hatchery information: Brood stock is given a code and information from hatchery is transferred to the nursery. Feeds used in rearing shrimp from zoea to post-larvae (PL) stages are recorded. PL are transferred to farms with a fry movement document (FMD) which will be transferred to the TraceShrimp system.

Shrimp farm information: After receiving PL from the nursery, farmers record data on type of feed (company name, batch) and CoC (Code of Conduct) practice information. After harvesting, the movement document (MD) must be prepared. All data are sent to the TraceShrimp system.

Processing plant information: Data of raw materials, process (production data, size) and finished products transferred to domestic or export traders are collected and sent to TraceShrimp via direct electronic data interchange (EDI).

Feed production information: Data on incoming and processing which has been examined and certified by the Department of Fisheries and transportation of the feeds to hatcheries and farms are recorded and sent to TraceShrimp via EDI.

(APEC 2010)

Establishment of legal framework

A food safety system generally, and a traceability system in particular, requires appropriate legal framework and institutional support, in addition to financial support. This kind of support has not been always been forthcoming in Viet Nam. A report (Quynh Van 2004) on Viet Nam Fisheries indicated that the regulations on traceability of fisheries in Viet Nam was not clearly defined and scattered in provisions. The regulations that do exist point to important legal prerequisites of a traceability system, such as an affirmation of a consumer's right to timely and accurate information about the food being consumed, and a seller's obligation to ensure the safety of that food.

Additionally, in the Philippines, where agriculture has been touted as a "pillar" of the economy, a concerted effort to ramp up the food safety regime and modernize agricultural systems generally have been impeded by the scattershot distribution of food-safety and agriculture related responsibilities across government agencies. For instance, the departments of Agriculture, Health, Trade and Industry, Science and Technology, and Interior and Local Government are all involved in food safety with no clear-cut demarcation of responsibilities (P. Catelo 2003)

Thus, the necessary laws should be drafted and institutions established and, equally importantly, should be consolidated and coherent. In 2009, China drafted a new food safety

law to correct for the poor safety record of food consumed locally and exported. Among other things, the law consolidated diverse regulations and standards, centralized the administration of these regulations into a Food Safety Commission, introduced mandatory internal inspection and record keeping, increased penalties for non-compliance, and extended coverage to agricultural production and processing (Ho 2009). Thailand, also, has made important progress on this front. In response to concerns that the food safety system was convoluted, the government channeled most responsibilities to just two agencies, the Ministry of Public Health and the Ministry of Agriculture and Cooperatives (MoAC), with the former responsible for agro-imports and the latter responsible for agro-exports. In addition, in 2002, MoAC set up a National Bureau of Agriculture Commodity and Food Standards to act as the focal point for maintaining food standards and certifying agro-exports.

Harmonizing Standards

Harmonizing food standards, to the greatest extent possible without endangering public health, deepens regional and international integration and expands trade. In Thailand, ACFS established standards for jasmine rice that applied across the supply chain – covering farmers, millers, traders, packaging factories and exporters – and which themselves were in line with regional and international norms such as Codex, IPPC, OIE. Indeed, Thailand has adopted a policy of maintaining single standards for both exports and domestic products. In the Philippines, another major agro-exporter, 54% of national standards are aligned with international standards, as a result of a concerted push toward standardization. However, as international standards are generally stringent, harmonization with them requires that countries have adequate infrastructure.

There are also regional standards to which countries in the region could aspire. In 2006, ASEAN adopted the ASEAN Good Agricultural Practices for Fresh Fruit and Vegetables. In addition, ASEAN has established 775 harmonized Maximum Residue Limits for 61 pesticides, and common standards for mango, pineapple, durian, papaya, pomelo and rambuttan (ASEAN 2011). Harmonization can also be done on a bilateral basis. A case in point is an agreement between Australia and New Zealand (see Box 16).

Box 16: Bilateral Harmonization between Australia and New Zealand

From 1980-2000, Australia and New Zealand sought to harmonize their food and agricultural safety regimes. In the 90's, the two governments established a bi-national regime to develop common food standards. The treaty which established the regime had as one of its goals the reduction of unnecessary barriers to trade. It covers all standards except for those addressing maximum residue levels, hygiene requirements, primary food and processing requirements. Also in the mid-90's, the Australia New Zealand Food Standards Code was established. The Code was the outcome of a process of review to streamline food standards, remove unnecessary costs, and further harmonize regulations between the two countries and with accepted international norms.

(www.foodstandards.gov.au)

Short of harmonization, many countries also choose to recognize their varying standards as equivalent. Under WTO law, if an exporting country demonstrates to an importing country that their standards achieve similar levels of SPS protection, then the latter must recognize the exporting country's standards as equivalent. An agreement between India-Sri Lanka, for instance, establishes equivalence for 86 items including agricultural goods and vegetable oils (Sareen 2003). In addition to recognizing equivalence, this and other agreements India has struck with trading partners, contain a commitment to exchange information on specifications, inspections and tests, methods of sampling provisions, and retest, appeal or return in case of rejection. These agreements serve to reducing the frequency of inspection and rejection of exported products.

Harmonization and equivalence, by focusing on standards, leaves out the question of which institutions may carry out the relevant conformity assessment. Even if an exporting country's standards are recognized as equivalent, for instance, the importing country may only accept conformity assessments conducted by its own institutions. This is often the case where the exporting country's physical infrastructure, such as laboratories, does not meet international norms of quality. If an importing country accredited institutions in an exporting country to conduct conformity assessment, then that would be beneficial for exporters and also the importing country, since it expands the supply of conformity assessment services. In Japan, conformity assessment bodies in countries that Japanese authorities have determined contain an equivalent regulatory system, may apply for accreditation to carry out tests on exports to Japan, for a fee. Export Inspection Council of India (EIC) is recognized as competent certification body by the European Union for black pepper, the United States of America for basmati rice, and Singapore for egg.

Yet, in schemes such as Japan's, one authority reserves the right to accredit a conformity assessment authority. More ambitious would be an agreement between countries to recognize one another's accreditation authorities. In such an arrangement, any laboratory accredited by one country would have to be accredited by all parties to the agreement.

2. Upgrading small producers

Certification and branding

Small farmers are particularly hard-pressed to meet global standards because they generally lack wherewithal. Some governments have tried to make it easier for small farmers to meet these standards and obtain the relevant certifications through direct support. Certification is useful because it tends to increase the demand and price of the certified product. The government of Sri Lanka is piloting such a program for tea exports called the Sri Lanka Export Development Board Assistance Scheme. The scheme grants exporters up to Sri Lankan Rs 300,000 to obtain domestic certification from the Sri Lanka Standards institute and up to Rs 500,000 to obtain international certification. For instance, Lipton has sought to obtain certification that its tea was not produced in a manner endangering rainforests; this

certification is in high demand in industrialized countries and commands a high premium (EDB 2011).

An Internal Control System (ICS) may also help to reduce the cost to obtain certification for small farmers. In an ICS, an external certification body delegates inspections of individual farms in a group to an identified body. This means the third-party body only has to perform a few inspections to ensure that the system is working effectively. Helvetas-Nepal, an NGO, organized an ICS in a community of coffee farmers in Gulmi, Nepal (www.helvetasnepal.org.np). Most coffee in Nepal is produced by small farmers, and while the climate is ideal for this crop, certification is rare and production is low as it was only recently introduced to the country. Thanks to the ICS, coffee producers have been able to obtain organic certification from the National Association for Sustainable Agriculture and the Japanese Standards Authority.

Beyond direct support, the public sector can assist small-farmers by way of market incentive. If the government fosters a market for a particular agricultural good or develops an attractive brand, farmers specializing in that crop may see greater revenues, which would make certification or improved agricultural practices more affordable. In Thailand, the government has been active in developing an 'Organic Thailand' brand. A UNCTAD/WTO report (2006) explains that in 1999, as a step towards international recognition, the Thailand Institute of Science and Technology Research (TISTR), Department of Export Promotion (DEP) and Ministry of Commerce (MoC) developed national standards for the production of organic products. In 2002, the Department of Agriculture (DOA) established the country's certification agency for organic produce and formally announced an "Organic Thailand" brand. As of 2004, there were 440 DOA-certified farms.

Integration into value chain

A lack of awareness is also a major problem. Small farmers generally lack awareness both of the benefits of certification and good agricultural practices, which makes meeting global standards highly unlikely. Partnership among public/private entities and producers is a common practice found in many developing countries in this region. In India, Contract Farming India and GIZ teamed up to provide small farmers with practical agricultural training to enable them to meet global standards and become better decision makers. The approach is to provide general skills that are applicable to many crops, including cash crops such as sugar-cane, papaya and citrus, and skills targeted to select crops. The Partnership Farming India is a joint initiative between Contract Farming India (Owner of Desai Fruits and Vegetables) and German Technical Cooperation, GIZ aimed at improving the competitiveness of small farmers' agricultural production. It provides practical agricultural education to fruits producers including Banana. It builds the capacities of farmers to adopt modern agricultural practices. Banana farmers undergo a course on basic farm management and Good Agricultural Practices (GAP) including field training. Upon completion of the training, farmers receive certificates, which allow them to establish a contract with CFI. Due to this initiative, farmers are better linked with the international markets, meeting the international standards for Banana exports. (GIZ 2011)

Likewise, in China, a project jointly operated by the Chinese government and Canada International Development Association (CIDA) established demonstration villages across the country in which small farmers were taught the supply chain approach to quality assurance, which emphasizes quality along the entire supply chain. This “farm-to-table” approach is the predominant approach to food safety today, and increasingly necessary to qualify for export and import certifications. As part of this project, a demonstration village was set up for potato farming in Wuchan with the aim of boosting the province’s fledgling potato trade. As a result, the Wuchuan potato has developed a unique brand in the international market and was selected as a “special green food” during the Olympics in Beijing. In Viet Nam also, The Fruit Association called Vinafruit works as a ‘bridge’ between the exporters and importers. It supports the exporters through research and development, information and technical support on production (APCAEM 2007).

The undesirability of market-related risks also motivates a practice called ‘Contract Farming’, whereby contracted farmers produce crops based on fixed terms. Contract farming lies between two extremes. Companies may produce crops on their own farms, which gives them greater control over production methods but reduces flexibility to respond to market changes, or purchase these crops on the spot market, which ensures maximum flexibility but at the cost of control over production methods. Alternatively, these companies may hire farmers to produce the crops on their own farms but on a contractual basis. This provides the company with a measure both of control and flexibility, and the farmer with a sustained revenue stream. The companies may also assist contract farmers to meet standards by, for instance, providing pesticides on credit which are certified for use in target export markets. Additionally, the companies can collaborate with importers in target markets to maintain a kind of traceability system. In Shandong, China, contracted farmers who produce crops primarily for export tend to earn more than un-contracted peers growing the same crops, while controlling for such factors as labor availability, education, farm size and share of irrigated land (IFPRI 2007).

But there is no cookie-cutter approach to writing contracts for use in such arrangements. While norms exist, much depends on contextual particularities. The first Chinese company to export organic vegetables to China, for instance, signed contracts not with individual farmers but cooperatives, and the contract is outlined during village conferences (Kledal and Sulitang 2007). Village leaders are key to ensuring that all or most members of the cooperative are on board. In this particular case, the company also established farmer schools on organic crop cultivation, as the concept was new at the time, and provided two Japanese experts to monitor and provide training. Yet, part of the trouble with contract farming is that because it can be so free-flowing there are generally few institutional mechanisms to enforce compliance and arbitrate disputes. Thus, contracted farmers are known to “sell on the side”, in breach of contract, to make extra money. In such cases, Industry Associations may be useful. Industry Associations bring together members of the supply chain for a particular product. It provides a venue for sharing of views and information. As such, they are well placed to resolve contract-related disputes and to establish industry-wide norms regarding contract compliance.

For upgrading small producers to a level meeting export markets, however, it is important to have multi-pronged approach utilizing the many tools discussed above, based on country context. Viet Nam's effort to secure international certification, EurepGAP, for its dragon fruit exports illustrates just such an approach (see Box 17). Additionally, its successes and failures illuminate the need for close collaboration between stakeholders.

Box 17: EurepGAP Certification for Viet Nam's Dragon Fruit Producers

Most dragon fruit in Viet Nam is produced by small farmers. The traditional export markets have been other countries in the region such as China and, Malaysia, as well as Hong Kong, China, and Taiwan Province of China, and also countries in the West such as Germany and the Netherlands. However, Vietnam has been unable to export dragon fruit on a large scale to Europe and the United States of America,, where they would command a high price, because the small farmers would grow the crop lack the resources and knowledge to adopt agricultural practices that are consistent with international norms. In 1999, the government began a campaign to boost exports of 11 crops. Several donors, including USAID, AUSAID and SOFRI, teamed up with the Ministry of Agriculture and Rural Development and supply chain stakeholders to improve access to Europe and United States markets by helping small farmers to obtain EUREPGAP certification. In order to achieve this, many initiatives were launched. These included supporting a pilot group of small farmers (cooperative) to achieve EUREPGAP certification on an expedited basis by 2006, developing GAP (Good Agricultural Practice) training manuals, conducting market research for the EU and markets in the United States of America, linking small farmers, exporters and retail chains, developing a branding strategy and contributing to the development of a national dragon fruit standard. The major result was that the cooperative achieved EUREPGAP certification in 2006 and an additional 80 ha of farms qualified for GlobalGAP certification. Farmers and cooperatives that obtained certification had improved farming practices in many ways, including by installing toilet facilities for workers and basic upgrades in waste treatment and disposal, training in hygiene and safety requirements, banning use of fresh manure, using pesticides more safely.

Yet, problems remain. Vietnamese farmers still lag behind their counterparts in countries with more developed fruit sectors, such as Thailand, in terms of international certification, quality of fruit products, and linkage with retail chains and export markets. Additionally, there was little coordination between the many stakeholders and donors involved in the project. For instance, the farmers group tried and failed to achieve EurepGAP certification from 2000-2003.

(Thao et al. 2006)

Making information accessible

Small farmers operate fragmented holdings and generally lack market information that would facilitate market access. As a result, they lack market power and have little incentive to produce high-quality goods or respond to shifting consumer trends, leading ultimately to a stunted business. One way to get around this is for farmers to join cooperatives of Rural Producers' Groups or Producer Organizations (PO). Producer

Organizations have cropped up around the world and provide a support group through which farmers may obtain the necessary finance and access to post-harvest technologies to access global markets, and also information about market prices and what consumers want. It also helps to increase their bargaining power in the market and thus raises farm gate prices.

Market Information Systems address information asymmetries in particular and often employ ICT for this purpose. In India, a private firm, ITC Ltd. set up an MIS called e-Choupal in order to address the challenges referenced earlier (www.echoupal.com). India's agricultural sector is characterized by highly fragmented farms, a large number of intermediaries, and weak infrastructure; these challenges have caused a vicious cycle: returns are low, which discourages risk-taking behavior necessary to tap global markets, which in turn has reduced investment and depressed returns. E-Choupal seeks to short this cycle by communicating to farmers, through 6500 computer kiosks scattered in 10 states, real-time information about market prices, weather patterns, scientific farm practices, risk management and serving as a marketing channel. As a result, e-Choupal has reduced the number of intermediaries and increased farm-gate prices.

F. Ensuring Trade Logistics and Finance

In addition to procedural and product standards concerns, exporters and small producers have trouble reaching global markets because of poor logistics services and infrastructure (e.g. cold chain) and inability to secure finance. This section discusses measures addressing these constraints.

1. Supply Chain Reliability

Above all, in order to reach global markets, small farmers should integrate into supply chains with global reach. A supply chain is an institutional arrangement that links producers, processors, marketers and distributors, and which generates value as products are passed from one member to the next. Unlike spot markets, supply chain requires farmers to establish long-term relationships with partners and maintain a reliable supply stream. Four key benefits are that they enable producers to learn about consumer tastes and preferences, transfer technology and know-how downstream, allow risk-sharing among partners and give farmer access to more sources of finance. These benefits are key because they address the challenges highlighted above.

The public sector, including the government, international organizations and NGOs, can facilitate supply chain development for the purpose of export promotion by linking

farmers with buyers and exporters. There are a number of measures that can be adopted at the regulatory/policy level. As noted above, cold chain logistics are vital for market access. Cold chain logistics include pre-cooling facilities, cold storage, refrigerated carriers, packaging, warehouse and information systems and traceability. This infrastructure is generally imported so import duties should be waived. In addition, as developing countries generally lack the expertise to develop cold chains, they should encourage foreign participation in cold chain development projects. In India, for instance, foreign participants of cold chain projects may have up to 51% foreign equity stake (Vishwanadham 2005). The point can be made more generally. Foreign third party logistics firms could greatly enhance the supply of storage and transportation services, yet are often hampered by regulations. In China, for instance, such firms must apply for multiple licenses from multiple bureaus and ministries, and face state mandated capital requirements that exceed what is necessary to operate “non-asset based services”. Additionally, transparent cold chain industry wide standards are important to ensure consistency of quality and to serve as a spur for further development. China has worked closely with private sector partners, such as the Shanghai Refrigerated Storage Association, to establish industry safety standards (Accenture 2006). It has also received support from the United States, which as a major importer of Chinese agro-goods, has a direct stake in the quality of Chinese cold chains. Public Private Partnerships (PPP) have also played an important role in strengthening the cold chain framework in Australia. Australia’s perishable exports have benefited from this voluntary logistics system (see Box 17)

Producers’ Organizations (PO) can also be instrumental in providing farmers with access to necessary infrastructure and correcting information asymmetries. POs play a variety of social, economic and political roles, but increasingly are perceived as a means to tap larger markets, perhaps regional or global in scale. The function of these POs, in other words, is “to organize relations with the external world.” The Union Cuatro Pinos in Guatemala, for instance, is a cooperative of small farmers and has a central collection centre and a plant for post-harvest operations such as pre-freezing, grading, cleaning and storage (Shepherd 2007). Its main export crops include green beans, zucchini squash and artichokes, with most vegetable exports going to the the United States of America and the United Kingdom. Yet, while some POs have good results, they are not always financially sustainable; many rely extensively on outside contributions.

Such efforts at regulatory reform and infrastructure development would encourage private sector entities to contract farmers to produce goods for export or domestic sales. As explained above, such an arrangement enables them to access export markets by providing farmers with the technical skills, market information and resources. AusAID, for instance, played a key role in linking smallholder cocoa farmers in Indonesia with lead firms, which helped to organize farmers into groups – thereby reducing the market imperfections alluded to earlier – and developing buying centers, which provided farmers with crop storage facilities (OECD-WTO 2011). The project helped to streamline the supply chain, improve product quality, reduced waste, culminating in a 6% increase in farm gate prices.

Box 18: Australia's Logistics Management System for Perishable Exports

Australia export perishables to several Asian countries and thus depends upon a quality cold chain network. An airfreight shipment of broccoli to Singapore, for instance, involves 39 steps, 23 partners and 21 cold chain breaks. Yet, a study in 1999 determined that there were 81 different codes of practice, none of which were through chain, and this confused customers. In response, the government partnered with private industry to pilot a national, farm-to-fork cold-chain framework. There were 17 pilot participants who exported 12 perishable products by air and sea to four Asian markets. Central to the initiative was the development of quality management service agreements between exporters and their supply chain partners. The pilot has since evolved into a nationally voluntary and nationally accredited logistics management system that is open to all Australian exporters.

(Accenture 2006)

Many private firms are able to take the initiative alone. Namdhari Seeds is a market leader in the Indian vegetable seed industry and in 2000 set up a unit called Namdhari Fresh to produce and distribute vegetables for export and domestic sales (Mittal 2007). It has entered verbal agreements with farmers to produce the vegetables and provides them with operational inputs such as seeds, fertilizers, pesticides and wholesale prices, free extension services and also loans at nominal interests during crop failures. Post-harvest, the company transports the vegetables from the field to pre-cooling chambers at its own pack house, where they are graded, packed, and transported via [cold chamber stores] to the airport and ultimately to markets in the United Kingdom and the Middle East. Thus, through Namdhari Fresh, farmers were able to meet the global standards and access global markets.

2. Innovative Financing

Trade finance carries multiple benefits. ESCAP-ITC (2005) indicates three major benefits. Firstly, it makes capital available to traders at the time of need and supports their management of cash flow. Secondly, it helps manage risks associated with trade transactions and provide solutions for non-payment, exchange rate fluctuations, changes in financial regulations and political unrest. Better terms of payment can act as a tool for better negotiation and increased competitiveness.

Structured Trade and Commodity Financing

Structured Trade and Commodity Financing (STCF) is a financing method where potential risks are mitigated or channeled to actors that can bear them through provision of reimbursement from transaction assets (ESCAP and ITC 2005).

One type of STCF is *export-receivables-backed financing*. This type of financing is typically a pre-export loan or advance with the repayment coming from the proceeds of the sale or export upon receipt of payment from importer. A second option is a *warehouse receipt* scheme. In this scheme, agricultural commodities that are stored in a secure location may be used as collateral to get a loan. This would enable sales through year instead of just during harvests, reduce risks in markets, and increase market-power of small farmers. A Warehouse Receipt scheme backs the grain trade in Kazakhstan and cotton in Uzbekistan (ADB 2008). Warehouse receipts require a strong legal system to ensure compliance and encourage participation, a good storage system so that the stored commodities do not spoil, a reliable grading system and a good marketing system to ensure prices reflect “real” value. It can offset the price risk faced by small farmers during peak production seasons, as in the case of Zambia (see Box 19). A third type of STCF is *pre-payment financing*. It entails importer purchasing products with advance payment to exporter using a loan. By making the payment, the importer obtains title to the commodities and transfer rights to the bank. The loan can be a partial amount of the total contract.

Box 19: Zambia’s Warehouse Receipt Scheme

In 2003-4, a Warehouse Receipt System was established to support small-scale maize farmers to address price and cash flow risks. Small-scale maize farmers usually sell their produce immediately after harvest at a low price, when the market is full of supply, to satisfy immediate cash needs. This means, traders are able to purchase maize at comparatively low prices. Through this system, the farmers could sell their produces later at higher prices, when prices go up. Moreover, they could receive loans on deposited crops to meet the immediate cash needs.

The Zambian Agricultural Commodity Agency (ZACA) inspects warehouses and certifies them as suitable to hold crops on deposit. Now there are four certified operators. When a crop is deposited, the operators issue receipts against the commodity, mentioning its weight and grade, and store it until the depositor wishes to collect it. Since the crop is guaranteed by ZACA, the depositor can also secure a loan from any financial institution using the grain as collateral. The warehouses also provide a market place, where traders can purchase in bulk. While most maize deposits in these warehouses have been made by traders and commercial farmers, initiatives have been taken by one warehouse operator to encourage groups of small farmers to use the facility. Such groups must deposit a minimum of 30 tonnes, equivalent to one truckload, in a certified warehouse operated by the trader, who guarantees to purchase the maize at the will of the group, at the prevailing market price. By 2004, four banks participated in the scheme.

(www.ruralfinance.org)

Value chain financing for production

Upstream entities may also provide downstream entities with finance. In Viet Nam, a joint venture between a state-owned company and international consortium operates a sugar factory that largely employs subsistence farmers who lacked the resources necessary

to plant the sugar crop (Boseli and Van de Kop 2005). This was particularly worrisome as the time between planting and harvest of the first sugar crop is 14 months. In response, the project distributed small loans to the farmers through two joint-liability groups of which they were members. In order to increase likelihood of repayment, savings were made mandatory. Credit covered expenses for roughly 2000 ha of farms. Understandably, not all private entities are willing to make such an investment, and the success of the Viet Nameese joint-venture may in part be attributed to the involvement of the state. Yet, there are ways to reduce the risk of non-payment. In India, for instance, a retailing chain called FoodWorld, which contracted 100 small farmers, entered into an arrangement with a bank whereby the bank would finance inputs supplied to farmers – and which, until then, FoodWorld had sponsored – with the latter repaying the banks out of farmers' earnings.

Other measures

Another option is an *agricultural commodity exchange*. Such an exchange would allow futures trading and other kinds of financial transactions which would help farmers to cope with market and business risk. In India, the Multi Commodity Exchange (MCX) goes an extra step by educating small farmers about the benefits of futures trading and provides them with the latest commodity prices with the hope that this will help them to make correct business decisions (CSRWire 2010). About 60,000 farmers are estimated to be benefited from 60 rural service centres consisting MCX platform.

Some developing countries are practicing partnerships among banks to facilitate trade financing including the agricultural trade. Lines of credit have been opened between Exim Bank of India and the Eastern and Southern African Trade and Development Bank; and between the East African Development Bank and China Development Bank (UNCTAD 2009).

In 2006, a global initiative, called Global Network of Exim Banks and Development Finance Institutions (G-NEXID) in support of south-south cooperation was launched under the auspices of UNCTAD. It is a platform for exchange of best practices and knowledge on trade finance, especially for SMEs. It also builds capacity of members through training, sponsored research and development on innovative financing products. (www.gnexid.org)

In general, there is a consensus that commercial banks need to develop innovative financing products. To address the seasonality and weather issues of agro-products, banks should strive to understand the risks and carefully design short, medium or long term products. Local markets can be penetrated through intermediaries. For large corporations, investment services including long term equity, partial credit guarantees, risk sharing facilities and syndications are some of the existing options. In addition to understanding the sector, banks are now resorting to 'value-add' advisory services for their clients. Partnership with international financial institutions is one way of providing such services. International Finance Corporation (IFC) through its commercial bank partners supports development of agro-financing by offering credit line and risk participation. Advisory services on enterprises'

operations are often attached with such financing products. Recently, IFC launched a global initiative called Global Trade Liquidity Programme (GTLP) that brings together governments, international financial institutions, and develops financing agencies to infuse liquidity especially for agricultural trade.

IV. Advancing Agro-trade Facilitation

The analysis has attempted to provide an overview of the agricultural trade facilitation, its status, concerns and remedies in the Asia-Pacific region. The first part of the paper mainly argued that agricultural trade is highly significant for economic growth and there is further potential for Asia-Pacific to gain from this trade. It analyses the growth trend of agricultural trade and compares with leading trading countries globally. Although not beyond manufacturing, a definitive growth-trend of agricultural trade for the Asia-Pacific region is observed. It also looks at the value of trade in comparison with top trading countries in the World. The contribution of Asia-Pacific countries in intra-regional trade was analysed. The analysis mainly recognized the excellent growth trend for agro-trade and significant contribution of few Asia-Pacific countries to such growth. The traded product categories reflected the higher incomes of Asia-Pacific economies. The chapter ended by highlighting why facilitating agricultural trade is important for the Asia-Pacific region.

The growth-trend is of-course coupled with facilitation concerns. The second chapter has identified a number of major constraints and factors behind such constraints across the Asia-Pacific region, supported by examples or cases from various sources. It has attempted to categorize diverse range of issues and defined each of them. Issues related to trade procedures and product standards stood out as two most significant challenges for the developing Asia-Pacific countries, especially for the least developed countries. Logistics (for example for land-locked countries) and finance issues were significant also. This part of the paper used a number of examples from sub-regions of the Asia-Pacific and additional costs related to the constraints for various agricultural products.

The third chapter has broadly identified strategies and specific measures to address the issues mentioned in previous chapter. However, there is no 'one size fit all' solution. Partly, because economic priorities are different, levels of infrastructure development are not same and national agro-trade structure is dissimilar also. It has started by providing some figures that could be saved by adopting such measures. It then described ways of addressing the constraints according to the four categories mentioned in earlier chapter. Many examples were cited as good practices from within and outside the region to elaborate on specific steps to adopt trade facilitation measures.

The field of agricultural trade facilitation needs to be researched extensively. There is very little useful information related to agro-trade finance, for instance. Not surprisingly, the scope of agricultural trade facilitation is quite broad. But each topic needs to be carefully researched and analysed for effective facilitation of agricultural trade in the Asia-Pacific region, especially for developing countries.

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