

Data Collection Survey on ASEAN 2025

Final Report

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**Japan International Cooperation Agency
(JICA)**

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Abbreviation List

Abbreviated Words	Official Name
AANZFTA	ASEAN-Australia-New Zealand Free Trade Area
ACFTA	ASEAN-China Free Trade Agreement
ACIA	ASEAN Comprehensive Investment Agreement
ADB	Asian Development Bank
ADBI	Asian Development Bank Institute
AEC	ASEAN Economic Community
AEGC	ASEAN Experts Group on Competition
AEM	ASEAN Economic Ministers
AFAFGIT	ASEAN Framework Agreement on Facilitation of Goods in Transit
AFAFIST	ASEAN Framework Agreement on the Facilitation of Inter-State Transport
AFAMT	ASEAN Framework Agreement on Multimodal Transport
AFAS	ASEAN Framework Agreement on Services
AFSIS	ASEAN Food Security Information System
AFTA	ASEAN Free Trade Area
AH	Asian Highway
AHEEERR	ASEAN Harmonized Electrical & Electronic Equipment Regulatory Regime
AHN	ASEAN Highway Network
AHTN	ASEAN Harmonized Tariff Nomenclature
AIA	ASEAN Investment Area
AICO	ASEAN Industrial Cooperation Scheme
AIF	ASEAN Infrastructure Fund
AIFM	ASEAN Infrastructure Financing Mechanism
AIFTA	ASEAN-India Free Trade Agreement
AIGA	ASEAN Investment Guarantee Agreement
AJCEP	ASEAN-Japan Comprehensive Economic Partnership
AKFTA	ASEAN-Korea Free Trade Agreement
AMBDC	ASEAN Mekong Basin Development Cooperation
AMNP	ASEAN Agreement on Movement of Natural Persons
APAEC	ASEAN Plan of Action on Energy Cooperation
APG	ASEAN Power Grid
APTERR	ASEAN Plus Three Emergency Rice Reserve
ASA	ASEAN Swap Arrangement

ASAM	ASEAN Single Aviation Market
ASEAN	Association of Southeast Asian Nations
ASSM	ASEAN Single Shipping Market
ASW	ASEAN Single Window
ATIGA	ASEAN Trade in Goods Agreement
BIMP-EAGA	Brunei, Indonesia, Malaysia, Philippines - East ASEAN Growth Area
BPO	Business Process Outsourcing
BRT	Bus Rapid Transit
CBTA	Cross Border Transportation Agreement
CDM	Clean Development Mechanism
CEPT	Common Effective Preferential Tariff
CEPT-AFTA	Common Effective Preferential Tariff Scheme for the ASEAN Free Trade Area
CIQ	Customs Immigration Quarantine
CTC	Change in Tariff Classification
EPA	Economic Partnership Agreement
ERIA	Economic Research Institute for ASEAN and East Asia
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FDI	Foreign Direct Investment
FJCCIA	Federation of Japanese Chambers of Commerce and Industry in ASEAN
FOB	Free-On-Board
FTA	Free Trade Agreement
FTAAP	Free Trade Area of the Asia-Pacific
GATS	General Agreement on Trade in Services
GDP	Gross Domestic Product
GLC	Government-Linked Companies
GMS	Greater Mekong Subregion
GRDP	Gross Regional Domestic Product
GSM	Geographical Simulation Model
GSP	General System of Preference
HAPUA	Heads of ASEAN Power Utilities/ Authorities
HS code	Harmonized Commodity Description and Coding System
IAI	Initiative for ASEAN Integration
IDE-JETRO	Institute of Developing Economies, Japan External Trade Organization

IEEJ	Institute of Electrical Engineers of Japan
IFC	International Finance Corporation
IIASA	International Institute for Applied Systems Analysis
ILO	International Labor Organization
IMF	International Monetary Fund
IMO	International Maritime Organization
IPR	Intellectual Property Rights
IPRI	International Property Rights Index
ISEAS	Institute of Southeast Asian Studies
ITI	Institute For International Trade And Investment
ITS	Intelligent Transport System
JAIF	Japan-ASEAN Integration Fund
JBIC	Japan Bank for International Cooperation
JETRO	Japan External Trade Organization
JICA	Japan International Cooperation Agency
JOGMEC	Japan Oil, Gas and Metals National Corporation
LCC	Low Cost Carrier
LRT	Ligt Rail Transit
MAAS	Multilateral Agreement on Air Services
MNP	Movement of Natural Persons
MPAC	Master Plan on ASEAN Connectivity
MRT	Mass Rapid Transit
NACCS	Nippon Automated Cargo and Port Consolidated System
NAFTA	North American Free Trade Agreement
NIEs	Newly Industrializing Economies
NSW	National Single Window
NTB	Non-Tariff Barriers
NTM	Non-Tariff Measures
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
OPEC	Organization of the Petroleum Exporting Countries
PISA	Programme for International Student Assessment
PPP	Public PrivatePartnership
R&D	Research and Development
RCEP	Regional Comprehensive Economic Partnership
Ro-Ro	Roll-On/Roll-Off
RVC	Regional Value Content

SEZ	Special Economic Zone
SKRL	Singapore-Kunming Rail Link
SPS	Sanitary and Phytosanitary Measures
TAGP	Trans ASEAN Gas Pipeline
TBT	Technical Barriers to Trade
TFP	Total Factor Productivity
TPP	Trans-Pacific Partnership
TRIPS	Trade-Related Aspects of Intellectual Property Rights
UN ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNCTAD	United Nations Conference on Trade and Development
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
WB	World Bank Group
WCO	World Customs Organization
WTO	World Trade Organization

Chapter 1 Overview of this Research

1. Objectives of this Research

The Association of South-East Asian Nations (ASEAN) has achieved strong economic growth amid the worldwide climate of economic stagnation. ASEAN's total GDP, which was US\$2 trillion 305.5 billion in 2012 (IMF statistics), is forecast to double to US\$4 trillion 628.2 billion by 2025 (study team prediction).

On another front, ASEAN is faced by structural challenges. The challenges common to all ASEAN countries include improving the trade and investment environment, transforming industrial structures, improving productivity, raising education standards, securing energy and food, addressing declining birth rates and the aging populations, and correcting disparities. For ASEAN to achieve sustainable prosperity in the rapidly changing global economy, it needs to become more competitive as an integrated market.

Based on this awareness, the end of 2015 will see the formation of the ASEAN Community, itself composed of three communities – economic, political and security, and sociocultural. One of these, the ASEAN Economic Community (AEC), is a planned comprehensive economic community that will have a large impact in and beyond the region, including a free trade area created by removing intra-regional tariffs, the free flow of services, people, investment, and capital, regional collaboration in the transport and energy fields, and the resolution of disparities.

The 24th ASEAN Summit held on May 11, 2014 at Naypyidaw, capital city of Myanmar, adopted the Naypyidaw Declaration, which emphasizes the importance of realizing the ASEAN Community by 2015 and establishing a strategic approach from 2015 onward.

Against the above background, this report sets the following two points as its objectives.

Figure 1-1: Objectives of this research

- 1. Present an overall picture of the AEC as of 2015 in order to analyze changes concerning the future of ASEAN and predict the status of the region in 2025.**
- 2. Identify the challenges that are likely to arise between the establishment of the AEC and 2025 and present proposed measures that ASEAN should take in order to overcome them.**

In detail, to achieve the above objectives we aim to find answers to the following questions.

- What impact will the establishment of the AEC have on countries in and around ASEAN and the rest of the world in terms of their economies, industrial structures, trade and investment, employment, etc.? What are the challenges in the fields of human resource development and training, infrastructure and investment, and so on? What kinds of measures are needed to overcome these challenges?
- How will the economic disparities within the ASEAN region and within ASEAN nations change with the establishment of the AEC? What kind of measures should ASEAN nations take to reduce these economic disparities?
- How will things such as demographics and economic growth in the ASEAN region and the world be affected, and how will the supply-demand balance of food and energy change? What kinds of measures are

needed for the stable supply of food and energy?

- How will the positive and negative factors from the establishment of the AEC impact the ASEAN region?
- How will ASEAN's position in the world change?

2. Members of the Study Team

Figure 1-2: Members of the study team

	Role in charge	Name	Organization/Title
1	Team Head / Macroeconomics	Akifumi KUCHIKI	Nihon University, College of Bioresource Sciences / Professor
2	Industrial Structure / Trade and Investment / ASEAN Economic Integration	Koichi ISHIKAWA	Asia University, Professor
3	ASEAN Economic Integration	Norio NAKAJIMA	PricewaterhouseCoopers Co., Ltd. Director
4	Resources (Food and Energy) / Transport and Transit	Megumi GOTO	PricewaterhouseCoopers Co., Ltd. Manager
5	Demographics / Administrative Coordination	Chieko SEKIGUCHI	PricewaterhouseCoopers Co., Ltd. Senior Associate
6	Labour Environment	Junichi SUGIHARA	PricewaterhouseCoopers Co., Ltd. Senior Associate

3. Scope of Research

The scope of this research is broadly composed of the following three parts.

Figure 1-3: Scope of this research

1. AEC progress report (relevant to Chapter 2)
<ul style="list-style-type: none"> Report on the progress of AEC strategic targets based on various documentation
2. Scenario analysis by sector for 2025 (relevant to Chapter 3)
<ul style="list-style-type: none"> Create “Realistic”, “Optimistic” and “Pessimistic” scenarios by sector for 2025 based on quantitative analysis, documentation research, and expert hearings
3. Challenges and proposed measures based on the most realistic future picture (relevant to Chapter 4)
<ul style="list-style-type: none"> Combine the scenarios to predict the most realistic future picture for each country Identify the major common challenges and consider the direction of proposed measures the study team thinks about Consider the challenges for ASEAN as an economic community and the direction of proposed measures the study team thinks about

4. Region of Research

This research covers the economic community of the entire ASEAN region and its ten member countries.

Figure 1-4: Region covered by this research

Region	Countries
ASEAN	10 ASEAN member countries (Brunei, Cambodia, Philippines, Indonesia, Lao PDR, Malaysia, Myanmar, Singapore, Thailand, Viet Nam)

It also refers to trends in Japan and other major countries in the Asian region, China and India, trends in the United States which is aggressively promoting a dialog with ASEAN, and reference taken from the experience of the EU as a comparable model of economic integration.

5. Research Items

1 AEC progress report (relevant to Chapter 2)

1.1 Organize the AEC structure and agreements to get an overall picture of ASEAN economic integration.

We understand the overall picture of the AEC by listing up and arranging the concluded agreements related to the structure (policy plans) prescribed along with the four strategic goals set out in the ASEAN Economic Community Blueprint (AEC Blueprint) adopted in 2007 as a vision of the AEC.

1.2 Check the AEC progress rate from the assessment results of the AEC Scorecard published by ASEAN.

We check the progress rate of the AEC from the results of the ASEAN Economic Community Scorecard (AEC Scorecard), a collection of self-assessments from ASEAN member states published by ASEAN.

1.3 Check the AEC progress status from documentation other than the AEC scorecard.

We check the progress of each policy plan of the AEC Blueprint from documents other than the AEC Scorecard in order to diversify and increase the accuracy of information.

1.4 Conduct hearings with experts about the latest information on the AEC or local information that is difficult to obtain.

In addition to documentation research, we conduct hearings with experts from different fields in order to gather the latest local information or local information that cannot easily be obtained from documents.

1.5 Clarify the achievements and remaining issues with policy plans. If there is any delay, find the cause.

From documentation research and hearings with experts, we clarify what has been achieved and what issues remain regarding policy plans set out in the AEC Blueprint, the later Master Plan on ASEAN Connectivity (MPAC) established in 2010, and other major documents.

If any issues remain, we find out the reason wherever possible.

2 Scenario analysis by sector for 2025 (relevant to Chapter 3)

2.1 Build three scenarios, “Realistic”, “Optimistic”, and “Pessimistic”, for each main sector in ASEAN in 2025.

Based on the progress of the AEC set out in Chapter 2, we build three scenarios, “realistic”, “optimistic”, and “pessimistic”, for each main sector in ASEAN in 2025, a decade after the establishment of the AEC.

The scenarios are constructed from the quantitative data (performance figures and predicted figures) and qualitative data of various international organizations and research organizations and the plans and policies of governments. For “macroeconomics” in the economic sector, we conduct fresh quantitative analysis.

When building the three scenarios, we first build a standard realistic scenario, to which we then introduce plus factors and minus factors to build optimistic and pessimistic scenarios, respectively.

The following table shows the points at issue in each sector and an outline of how its standard realistic scenario is built.

Figure 1-5: Research items and realistic scenario building methods by sector

Sector		Research items	Realistic scenario building method
1.	Economics Macroeconomics	<ul style="list-style-type: none"> Economic predictions (Total GDP, GDP per capita) 	<ul style="list-style-type: none"> The total GDP and GDP per capita of the 10 ASEAN member states in 2025 are forecast by the study team in collaboration with econometrics expert Jin’ ichi Uemura of IDE–JETRO using the “monetarist” macroeconomic model¹, on the basis of the effects of AEC establishment (Study Team–Uemura model). A realistic prediction is produced by a comparison of a total of four forecasts, one using the Study Team–Uemura model, one done by overseas macroeconomists, and two done by the Asian Development Bank Institute (ADBI). The GDP prediction from this model is only used as a macroeconomics scenario and is not linked to other sector scenarios.

¹ Model in which GDP consists of exports, government expenditures, and money supply.

		<p>Industrial Structures</p>	<ul style="list-style-type: none"> • Working population by industry • GDP composition by industry • Wages • Industry accumulation 	<ul style="list-style-type: none"> • Past trends in the working population and GDP composition of each industry are analyzed for each country along with their government policies, in order to predict what the main industries will be in 2025. • The strengths or issues faced by the main industries of each country or each country group are analyzed in terms of labour productivity, wages, industry accumulation, etc. • The above are integrated to construct a realistic scenario.
		<p>Trade and Investment</p>	<ul style="list-style-type: none"> • Trade expansion inside and outside region • Trade with markets in the west • Inward foreign direct investment (FDI) • RCEP, TPP, FTAAP² • Domestic and intra-regional disparities 	<ul style="list-style-type: none"> • The status of trade expansion within the region and beyond the region (in the Asian region centered around China, as well as markets further west such as India, the Middle East, and North Africa) is analyzed. • Future growth of investment in the manufacturing and service industries is analyzed from past trends in inward foreign direct investment (FDI) and progress of the AEC. • The trade creation effect and trade diversion effect of RCEP, TPP and FTAAP, as a broader system of economic relations, are analyzed based on the forecasts of external research institutes. • The status of intra-regional disparity reduction and of domestic disparity between the cities and regions of each country is analyzed.

² Free Trade Area of the Asia-Pacific

2	Demographic Trend	<ul style="list-style-type: none"> • Population size • Productive-age population • Declining birth rate and aging population • Social security system • Demographic bonus • Urbanization • Middle-income tier • Consumer market 	<ul style="list-style-type: none"> • The status of declining birth rate and aging population in each country, estimated from forecasts of their population sizes and productive-age populations, and the challenges for their social security systems are analyzed. • Issues with urban transportation and function are analyzed using urban population forecasts. • The future image of the consumer market, which expands as the middle-income tier grows, is forecast.
3	Labour Environment	<ul style="list-style-type: none"> • Labour supply and demand • Free movement of people • Wage level • Education level • Educational disparity • R&D investment • Intellectual property rights 	<ul style="list-style-type: none"> • The status of future supply and demand of workers depending on fluctuations in the productive-age population is forecast for each country. • The need for free movement of people according to demand for skilled and unskilled workers in the region is analyzed. • The status of wage level fluctuations due to factors such as policies, demographics, etc. is analyzed. • The human resource development needs facing each country are predicted from the gap between desired industrial human resources and education level and quality. • The need for R&D investment and intellectual property rights protection, necessary factors in economic growth, is analyzed.
4	Transport and Traffic	<ul style="list-style-type: none"> • Physical infrastructure development • Systemic infrastructure development • Fund procurement • PPP schemes 	<ul style="list-style-type: none"> • The development status of physical infrastructures (ports, roads, railways, etc.) in 2025 is predicted from each country's needs, fund procurement, etc. • The development status of systemic infrastructure in 2025 is predicted from

		<ul style="list-style-type: none"> • ASEAN Highway Network (AHN) • Singapore–Kunming Rail Link (SKRL) • Maritime transport network • Urban transit 	<p>each country’s ratification status of transport facilitation agreements and cross-border transport agreements and its single window development.</p> <ul style="list-style-type: none"> • Progress with the AHN and SKRL strategy projects of the ASEAN connectivity master plan is estimated, and progress with port expansion and strengthening of the Ro–Ro shipping network is analyzed. • The risk of traffic congestion is analyzed from ongoing urbanization and motorization.
5.	Energy	<ul style="list-style-type: none"> • Energy supply and demand • Energy prices • Energy subsidies • Power supply and demand • ASEAN Power Grid (APG) • Trans–ASEAN Gas Pipeline (TAGP) 	<ul style="list-style-type: none"> • Amid the expected rise in energy prices, the status of ASEAN energy procurement costs, imports and exports within the region, and the status of energy subsidies paid out by each country’s government, are analyzed. • The progress of intra–regional energy agreements such as APG and TAGP is analyzed.
6	Food	<ul style="list-style-type: none"> • Global food supply and demand • ASEAN food supply and demand • Changes in food tastes and demand • Agricultural productivity • Agricultural capital (stocks) 	<ul style="list-style-type: none"> • Changes in the supply and demand of food on the international market and in ASEAN are predicted. • Changes in people’s aspirations regarding food and its diversification as their earnings rise are predicted. • The productivity of rice, a major crop in ASEAN, is analyzed.

Chapter 2 AEC Progress Report

1. Overall Progress

This chapter reviews the progress towards establishing the ASEAN Economic Community (AEC), whose deadline is set at the end of 2015 based on the information available as of May 15, 2014.

AEC economic integration has been moving forward based on a plan called the AEC Blueprint, which was adopted in November 2007. This economic integration plan puts forth four strategic targets, subdivided into 17 core elements and 77 detailed measures (policy plans). The ASEAN monitors its own progress using the AEC Scorecard, which lists the completion rate for each measure that must be implemented in order to achieve the AEC Blueprint strategic targets as well as key actions that have and have not been carried out (accomplishments and challenges). It also clearly lists the actions required to address outstanding issues. The AEC Scorecard has been published twice so far, once for Phase I (2008–2009) and once for Phase II (2010–2011). Phase III (2012–2013) evaluation results had not been published at the time of this writing (May 15, 2014); the figure below indicates that the combined completion rate for the four strategic targets was 67.5% for phases I and II (2008–2011).

Figure 2-1: AEC Scorecard

	Phase I	Phase II	Phases I & II
Single market and production base	93.8%	49.1%	65.9%
Competitive economic region	68.7%	67.4%	67.9%
Equitable economic development	100.0%	55.5%	66.7%
Integration into the global economy	100.0%	77.8%	85.7%
Total for all measures	86.7%	55.8%	67.5%

(Source: ASEAN (2012). "ASEAN Economic Community Scorecard: Charting Progress Towards Regional Economic Integration, Phase I (2008-2009) and Phase II (2010-2011)")

The latest published completion rate for the AEC Scorecard is 79.4% (calculated at the end of July 2013), as announced at the 45th ASEAN Economic Ministers Meeting held in August 2013 in Brunei.

Looking at the AEC Scorecard values, it would seem that economic integration is proceeding quite well on the while towards the 2015 target date; however, there are several issues that prevent this document from offering a definitive picture of AEC progress. For this reason, we must consult multiple information sources in order to gain a fuller understanding of AEC development as a whole.

Figure 2-2: Issues with the AEC Scorecard

- 1) Because the AEC Scorecard represents self-evaluations by ASEAN member states, it does not include third-party assessments.
- 2) Self-reported evaluations submitted by individual countries simply indicate whether plans have been implemented, and do not necessarily reflect the extent to which each strategic target has actually been achieved.
- 3) Although progress is indicated for each strategic target, the scorecard does not give a clear picture of the degree of overall progress towards ASEAN economic integration as a whole.
- 4) The values published by the ASEAN Secretariat are progress totals for all ten ASEAN member states, and do not provide details on progress rates in individual countries.

In light of the above, this report seeks to provide a more realistic grasp of AEC progress by increasing the variety and accuracy of information sources consulted. In addition to reviewing the AEC Scorecard itself, we consulted various forms of documentation published domestically and internationally, conducted interviews with experts, and confirmed the completion rates given for each for the four AEC strategic targets. This allowed us to predict more realistic progress for each of the strategic targets by 2015, clearly indicating the areas in which targets will be met and those where completion will be delayed. A list of our primary sources is given below.

Figure 2-3: Primary sources used to track AEC progress

Publisher and date	Title
Economic Research Institute for ASEAN and East Asia (ERIA) October 2012	ASEAN Economic Community Blueprint Mid-Term Review of the Implementation of AEC Blueprint: Executive Summary (Revised Version)
Institute of Southeast Asian Studies (ISEAS) 2013	ASEAN Economic Community Scorecard: Performance and Perception
Asian Development Bank (ADB)/ Institute of Southeast Asian Studies (ISEAS) 2013	The ASEAN Economic Community – A Work in Progress
ASEAN Secretariat August 2013	Written agreements from the 45th ASEAN Economic Ministers Meeting
ASEAN Secretariat May 2014	Written agreements from the 24th ASEAN Summit

AEC Blueprint strategic targets can be divided into four major categories: (1) creating a single market and production base (2) becoming a competitive economic region, (3) achieving equitable economic development, and (4) successfully integrating into the global economy. Specific policy plans are then given under these four targets. This chapter opens by listing written agreements, committee frameworks, and other documents associated with each of the four targets. We then seek to identify the level of overall progress towards the AEC by looking at enactment status, relevant documentation, and insights collected from expert interviews; this is followed by a detailed progress evaluation for each individual strategic target (assessments are current as of May 15, 2014).

Figure 2-4: List of items described for each AEC strategic target

<ol style="list-style-type: none"> 1) Goal 2) Expected progress by the end of 2015 3) Evaluation standards 4) Planned vs. actual progress <ul style="list-style-type: none"> • Plans • Key achievements and remaining issues 5) Remarks 6) Excerpts from related documents 	<p>Clarifies goals that must be achieved for each plan. Based primarily on the AEC Blueprint with supplementary and updated information from the Master Plan on ASEAN Connectivity, the Brunei Action Plan, the ASEAN Plan of Action for Energy Cooperation, and similar plans.</p> <p>Indicates whether member states are expected to achieve the strategic target before the official establishment of the AEC at the end of 2015, or whether achievement will be in progress by that point.</p> <p>Evaluation standards used to make the determinations in (2) above.</p> <p>Action plans designed to achieve the targets described in the AEC Blueprint (note that this reflects the most recent action plans when those plans or their schedules have been updated since the AEC Blueprint was published)</p> <p>The Mid-Term Review of the Implementation of AEC Blueprint: Executive Summary (Revised Version) and other relevant documents have been consulted in order to produce an evaluation of strategic target progress based not only on the Scorecard but on multiple other information sources as well. Assessments cover two categories: key achievements and remaining issues.</p> <p>Any other important considerations or other information related to the strategic target.</p> <p>Excerpts related to strategic target progress from documents other than those used to identify the key achievements and remaining issues above.</p>
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2. Progress on individual AEC strategic targets (list)

Having outlined the action plans for the AEC strategic targets as well as key achievements and remaining issues for each, we can identify some areas (mainly the elimination of regional tariffs—particularly in FTA sectors—and rules of origin) where we expect full achievement by the end of 2015. At the same time, we expect that progress towards many of the other strategic targets will still be underway at that point.

The establishment of the AEC has been derided as sluggish with limited progress, but some Blueprint goals are being solidly achieved despite expected delays in the schedule. This is because the association has stuck with the ASEAN Way principle of obtaining full consensus before issuing approvals.

Individual ASEAN member states are at vastly different stages of economic development compared to those in the European Union and other economic communities, making regional integration extremely difficult. When seen in this light, the region deserves some recognition for its efforts towards establishing the AEC—particularly its solid progress towards integrating the region not only across FTA sectors, but also in a wide variety of other areas spanning from infrastructure development to the narrowing of development gaps.

Strategic target	Policy plan (scheme)		Status of written agreements		Expected progress by the end of 2015	
			Agreement or protocol	Status		
(1) Single market and production base	1. Free flow of goods	a. Elimination of intra-ASEAN tariffs	• ASEAN Trade in Goods Agreement (ATIGA)	Concluded	Signed: Feb 2009 Enacted: Aug 2010	Achieved (CLMV by 2018)
			• Common Effective Preferential Tariff (CEPT) agreement for the ASEAN Free Trade Area (AFTA)	Concluded	Signed: Jan 1992 Enacted: 1993	
			• Protocol on the Special Arrangement for Sensitive (SL) and Highly Sensitive (HSL) Products	Concluded	Signed: Sept 1999 Enacted: In stages	
			• ASEAN Industrial Cooperation (AICO) Scheme	Concluded	Signed: Apr 1996 Enacted: Nov 1996	
	b. Elimination of non-tariff barriers	• ASEAN Trade in Goods Agreement (ATIGA)	Concluded	Signed: Feb 2009 Enacted: Aug 2010	In progress	
		• Common Effective Preferential Tariff (CEPT) agreement for the ASEAN Free Trade Area (AFTA)	Concluded	Signed: Jan 1992 Enacted: 1993		

		<ul style="list-style-type: none"> • ASEAN Framework Agreement for the Integration of Priority Sectors (PIS) 	Concluded	Signed: Nov 2004 Enacted: 2004	Achieved
	c. Rules of Origin	<ul style="list-style-type: none"> • ASEAN Trade in Goods Agreement (ATIGA) 	Concluded	Signed: Feb 2009 Enacted: Aug 2010	
		<ul style="list-style-type: none"> • ASEAN-China Free Trade Area (ACFTA) 	Concluded	Signed: Nov 2004 Enacted: : 2005.7	
		<ul style="list-style-type: none"> • ASEAN-Korea Free Trade Area (AKFTA) 	Concluded	Signed: Aug 2006 Enacted: Jun 2007	
		<ul style="list-style-type: none"> • ASEAN-Japan Comprehensive Economic Partnership (AJCEP) 	Concluded	Signed: : 2008.4 Enacted: : 2008.8	
		<ul style="list-style-type: none"> • ASEAN-Australia-New Zealand Free Trade Area (AANZFTA) 	Concluded	Signed: Feb 2009 Enacted: Jan 2010	
		<ul style="list-style-type: none"> • ASEAN- India Free Trade Area (AIFTA) 	Concluded	Signed: Aug 2009 Enacted: Jan 2010	
	d. Trade facilitation and ASEAN single window	<ul style="list-style-type: none"> • Agreement to Establish and Implement the ASEAN Single Window 	Concluded	Signed: Dec 2005 Enacted: Dec 2006	In progress
	e. Standardization and mutual recognition	<ul style="list-style-type: none"> • ASEAN Mutual Recognition Arrangement (MRA) Framework 	Concluded	Signed: Dec 1998 Enacted: In stages	
	2. Free flow of services	<ul style="list-style-type: none"> • ASEAN Framework Agreement on Services (AFAS) 	Concluded	Signed: Dec 1995 Enacted: Dec 1995	In progress
3. Free flow of investment	<ul style="list-style-type: none"> • ASEAN Free Trade Area (AFTA) Agreement 	Concluded	Signed: Jan 1992 Enacted: Jan 1992	In progress	
	<ul style="list-style-type: none"> • ASEAN Trade in Goods Agreement (ATIGA) 	Concluded	Signed: Dec 1987 Enacted: 1998		

	· ASEAN Comprehensive Investment Agreement (ACIA)	Concluded	Signed: Feb 2009 Enacted: Mar 2012	
4. Freer flow of capital (freer financial services)	· ASEAN Swap Arrangement (ASA)	Concluded	Signed: Dec 2009 Enacted: Mar 2010	In progress
5. Free flow of skilled labour	· Mutual Recognition Agreement (MRA) on Engineering Services	Concluded	Signed: Dec 2005 Enacted: Pending	In progress
	· Mutual Recognition Agreement (MRA) on Nursing Services	Concluded	Signed: Dec 2006 Enacted: Pending	
	· Mutual Recognition Agreement (MRA) on Architectural Services	Concluded	Signed: Nov 2007 Enacted: Pending	
	· Mutual Recognition Agreement (MRA) on Surveying Services	Concluded	Signed: Nov 2007 Enacted: Pending	
	· Mutual Recognition Framework Agreement (MRA) on Accountancy Services	Concluded	Signed: Feb 2009 Enacted: Pending	
	· Mutual Recognition Agreement (MRA) on Medical Services	Concluded	Signed: Feb 2009 Enacted: Pending	
	· Mutual Recognition Agreement (MRA) on Dental Services	Concluded	Signed: Feb 2009 Enacted: Pending	
	· Mutual Recognition Agreement (MRA) on Tourism Professionals	Concluded	Signed: Nov 2012 Enacted: Pending	
	· ASEAN Agreement on the Movement of Natural Persons (AMNP)	Concluded	Signed: Nov 2012 Enacted: Pending	
6. Priority integration sectors	· Framework Agreement for the Integration of Priority Sectors	Concluded	Signed: Nov 2004 Enacted: In stages	In progress

	7. Food, agriculture, and forestry		• ASEAN Food Security Information System (AFSIS)	Concluded	Signed: Enacted: 2003	In progress
			• ASEAN Plus Three Emergency Rice Reserve (APTERR)	Concluded	Signed: Nov 2011 Enacted: Jul 2012	
(2) Competitive economic region	1. Competition policy		• ASEAN Experts Group on Competition (AEGC)	Established	Established: Aug 2007 Enactment in progress	In progress
	2. Consumer protection		• ASEAN Coordinating Committee on Consumer Protection (ACCP)	Established	Established: Aug 2007 Enactment in progress	In progress
	3. Intellectual property rights		• ASEAN Framework Agreement on Intellectual Property Cooperation	Concluded	Signed: Dec 1995 Enacted: In stages	In progress
	4. Infrastructure development	a. Transport and logistics	• ASEAN Framework Agreement on the Facilitation of Goods in Transit (AFAFGIT)	Concluded	Signed: Dec 1998 Enacted: Oct 2000 (partially)	In progress
			• ASEAN Framework Agreement on Multimodal Transport (AFAMT)	Concluded	Signed: Nov 2005 Enacted: Aug 2008 (partially)	
			• ASEAN Framework Agreement on the Facilitation of Inter-state Transport (AFAFIST)	Concluded	Signed: Dec 2009 Enacted: Pending	
		b. Land transport	• Cross-border Transportation Agreement CBTA)	Concluded	Signed: 2004 Enacted: 2007	In progress
		c. Maritime transport	• Roadmap towards an Integrated and Competitive Maritime Transport in ASEAN (RICMTA)	Formulated	Formulated: Oct 2010 Introduction in progress	In progress
		d. Air transport	• ASEAN Multilateral Agreement on the Full Liberalisation of Passenger Air Services (MAFLPAS)	Concluded	Signed: Nov 2010 Enacted: In stages (5 member states)	In progress

		• Multilateral Agreement on the Full Liberalisation of Air Freight Services (MAFLAFS)	Concluded	Signed: May 2009 Enacted: In stages (9 member states)	
		• Multilateral Agreement on Air Services (MAAS)	Concluded	Signed: May 2009 Enacted: In stages (9 member states)	
	e. Energy	• Memorandum of Understanding on the ASEAN Power Grid (APG)	Concluded	Signed: Aug 2007 Enacted: Dec 2008	In progress
		• Trans-ASEAN Gas Pipeline (TAGP)	Concluded	Signed: Jul 2002 Enacted: Jul 2002	
	f. Information and communication Technology (ICT)	• ASEAN Technical Architecture Framework for e-Commerce Interoperability	Formulated	Formulated: Nov 2000 Inquiries complete	In progress
	5. Taxation	-	-	-	In progress
6. E-Commerce	• ASEAN Technical Architecture Framework for e-Commerce Interoperability	Formulated	Formulated: Nov 2000 Inquiries complete	In progress	
(3) Equitable economic development	1. SME development	• ASEAN Strategic Action Plan for SEM Development	Formulated	Formulated: Mar 2009 Enactment in progress	In progress
		• ASEAN SME Advisory Council	Established	Established: Jun 2011 Enactment in progress	
	2. Initiative for Asian Integration (IAI)	• ASEAN Framework for Equitable Economic Development (AFEED)	Formulated	Formulated: Nov 2011 Enactment in progress	In progress
(4) Integration into the global economy	1. External economic relations	• ASEAN-China Free Trade Area (ACFTA)	Concluded	Signed: Nov 2004 Enacted: Jul 2005	Achieved
		• ASEAN-Korea Free Trade Area (AKFTA)	Concluded	Signed: Aug 2006 Enacted: Jun 2007	
		• ASEAN-Japan Comprehensive Economic Partnership (AJCEP)	Concluded	Signed: Apr 2008 Enacted: Aug 2008	

		· ASEAN-Australia-New Zealand Free Trade Area (AANZFTA)	Concluded	Signed: Feb 2009 Enacted: Jan 2010	
		· ASEAN- India Free Trade Area (AIFTA)	Concluded	Signed: Aug 2009 Enacted: Jan 2010	

3. Progress on individual AEC strategic targets (details)

Strategic target #1: Single market and production base

1. Free flow of goods (a) Elimination of tariffs	
Goal	Tariffs on all intra-ASEAN goods eliminated in accordance with the target items and schedules set out in the ASEAN Trade in Goods Agreement (ATIGA)
Expected progress by the end of 2015	Achieved (CLMV delayed until 2018)
Evaluation standards	Member states are expected to eliminate regional tariffs on goods by the 2015 deadline as initially planned. As of August 2013, 87.7% of goods had been successfully liberalized (tariffs eliminated) throughout ASEAN as a whole, with 97.5% of items having either no tariff or a tariff of 5% or less. Trade liberalization is essentially complete in the ASEAN-6 nations, which have a tariff elimination rate of over 99%. The CLMV countries are expected to eliminate all intra-ASEAN tariffs by 2015, with the exception of some goods slated for 2018 elimination.

◆Planned vs. actual progress

Plan	ASEAN Economic Community Blueprint (2007) <ul style="list-style-type: none"> Eliminate intra-ASEAN tariffs in ASEAN-6 countries (Brunei, Indonesia, Malaysia, the Philippines, Singapore, and Thailand) on all Inclusion List (IL) products scheduled for tariff reduction or elimination by 2010, except for those on the Sensitive List (SL) and Highly Sensitive List (HSL) Eliminate intra-ASEAN tariffs in CLMV (Cambodia, Lao PDR, Malaysia, and Viet Nam) on all IL items by 2015 Eliminate import duties in the Priority Integration Sectors by 2007 for ASEAN-6 and 2012 for CLMV Complete the phasing-in of Inclusion List products on the Sensitive List (SL) and Highly Sensitive List (HSL) by 2013 for Viet Nam, 2015 for Lao PDR and Myanmar, and 2017 for Cambodia 	
	Achievements	Remaining issues
	<ul style="list-style-type: none"> Tariffs are a success story of political commitment for the ASEAN member states, with Common Effective Preferential Tariff (CEPT) rates virtually zero in ASEAN-6 and an average of only 2.6% for the CLMV countries in 2010. (Source: ERIA (2012). <i>Mid-Term Review of the Implementation of AEC Blueprint: Executive Summary (Revised Version)</i>) As of May 2012, ASEAN-6 countries had applied zero tariffs on 99.11% of Inclusion List (IL) goods, while the CLMV countries had eliminated tariffs on 67.58% of goods. (Source: Sanchita Basu Das (2013). <i>ASEAN Economic Community Scorecard: Performance and Perception. ISEAS.</i>) 	<ul style="list-style-type: none"> Although early tariff reduction and elimination for Inclusion List (IL) items is on track according to the CEPT schedule, items on the Sensitive List (primarily agricultural products) and those on the Highly Sensitive List (primarily rice) are being given a longer timeframe. (Source: Sanchita Basu Das (2013). <i>ASEAN Economic Community Scorecard: Performance and Perception. ISEAS.</i>)

◆Remarks

1. The ASEAN Free Trade Area Agreement (AFTA) has a reciprocal tariff clause, which allows countries that have eliminated tariffs to exempt imported items from tariff elimination if a partner country refuses to reduce its customs duties. As one example, exports from Thailand to Viet Nam incur a customs duty of 60%, meaning that bikes exported from Viet Nam to Thailand are also hit with a tariff. If Viet Nam eliminates its tariffs, customs duties will be eliminated from its exports to Thailand as well.
2. Considering that Japan has a tariff liberalisation of around 85%-89% through free trade agreements with ASEAN as a whole, individual ASEAN states, as well as Switzerland, India, and Chile, the ASEAN nations can be said to have made significant progress towards liberalisation at this time.

◆Excerpts from related documents

- As of 2013, the ASEAN-6 nations had essentially reached a tariff elimination rate of 100%, covering 99.2% of all IL products scheduled for tariff reduction or elimination (with the exception of SL and HSL items).
- As of 2013, the CLMV countries had achieved a tariff elimination rate of 87.7% with the exception of SL and HSL items, with duties reduced to 5% or less on the remaining 11.0% of items.
- Although tariffs remain on some agricultural products (including rice, sugar-related items, fruit, and cut flowers) in the ASEAN-6 countries, customs duties have been eliminated on nearly all manufactured goods.
- The CLMV countries are aiming to eliminate IL tariffs by 2015; however, governments are taking flexible measures that allow them to delay tariff elimination on 7% or fewer of the total number of items until 2018.
(Source: Koichi Ishikawa, Kazushi Shimizu, and Seiya Sukekawa (2013). *Japan and the ASEAN Economic Community: Birth of a Massive Integrated Market*. Bushindo Publishing.)

Strategic target #1: Single market and production base

1. Free flow of goods (b) Elimination of non-tariff barriers	
Goal	ASEAN has achieved significant progress in tariff liberalisation. The main focus of ASEAN towards 2015 will be placed on the full elimination of non-tariff barriers (NTBs).
Expected progress by the end of 2015	In progress
Evaluation standards	Delayed progress in reducing NTBs is expected to result in incomplete elimination by the end of 2015. The schedule set forth in the original plan has been pushed back due to the difficulty of actually specifying non-tariff barriers.

◆Planned vs. actual progress

Plan	<p>ASEAN Economic Community Blueprint (2007)</p> <ul style="list-style-type: none"> Remove all NTBs by 2010 for the ASEAN-5 countries (Brunei, Indonesia, Malaysia, Singapore, Thailand), by 2012 for the Philippines, and by 2015 for the CLMV countries (while allowing extensions through 2018 for CLMV) <p>Master Plan on ASEAN Connectivity (2010)</p> <p>Note: All ASEAN countries have revised their plans to eliminate non-tariff barriers and minimize the trade barrier effect of allowable non-tariff measures by 2015</p> <ul style="list-style-type: none"> Prepare a complete inventory of non-tariff measures (NTM) using the most updated international classifications by 2015 Expedite the operationalisation of the ASEAN Trade Repository by 2015 Develop a set of guidelines for import licensing procedures, prohibitions, and quantitative restrictions by 2014 Strengthen the capability of the ASEAN Secretariat to monitor the above measures 	
	Achievements	Remaining issues
	<ul style="list-style-type: none"> The CCA (AFTA Council Meeting) has taken the lead in agreeing to move forward with the definition of non-tariff barriers in three sectors: textiles, automobiles, and electric/electronic items. (<i>Source: 25th AFTA Council Meeting</i>) Efforts to define specific NTBs have begun in the process of creating an ASEAN database of non-tariff barriers (NTBs). Work on an updated database using the latest international classifications is underway. (<i>Source: ASEAN Secretariat (2010). Master Plan on ASEAN Connectivity.</i>) Member states are addressing the status of non-tariff measures (NTMs) by raising their concerns regarding NTM issues in other countries at committee meetings, then working to resolve them through bilateral or multilateral cooperation. (<i>Source: ASEAN Secretariat (2013). 45th ASEAN Economic Ministers Meeting</i>) 	<ul style="list-style-type: none"> Unlike the elimination of tariffs, not one of the ten ASEAN member states has succeeded in eliminating non-tariff barriers (NTBs). One reason is that each country lists its NTBs according to its own definitions, making it difficult to specify exactly what the category includes. Typical non-tariff measures (NTMs) include restrictive quantitative, technical, monopolistic, and financial controls. (<i>Source: ASEAN Secretariat/World Bank (2013). ASEAN Integration Monitoring Report</i>)

<ul style="list-style-type: none"> The ASEAN Coordinating Committee on the Implementation of the ASEAN Trade in Goods Agreement (ATIGA) has posted the Matrix of Actual Cases on NTMs/Trade Barriers, currently being implemented, on the ASEAN Secretariat website. <i>(Source: ASEAN Secretariat (2013). 45th ASEAN Economic Ministers Meeting)</i> 	
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◆Remarks

<ol style="list-style-type: none"> Red, yellow, and green flags are used in the database to indicate specific policies corresponding to a total of more than 5,000 non-tariff barriers. The Matrix of Actual Cases on NTM/Trade Barriers (a chart of specific instances where improvements are requested regarding cross-national non-tariff barriers and measures) has been published on the ASEAN Secretariat website. Indonesian import restrictions are a recent example of a non-tariff measure. National policies to protect domestic industry in Indonesia have resulted in a ban on the export of unprocessed nickel and other resources.
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◆Excerpts from related documents

<ul style="list-style-type: none"> In terms of self-reporting non-tariff barriers, the ASEAN Trade in Goods Agreement (ATIGA) requires that every member state report all measures that may negatively affect other member states. In practice, however, this reporting is voluntary and has not been carried out unless other member states specifically point it out. <i>(Source: Sanchita Basu Das (2013). ASEAN Economic Community Scorecard: Performance and Perception. ISEAS.)</i> When the reduction and elimination of non-tariff measures and barriers were discussed at the August 2013 ASEAN Economic Ministers Meeting in Brunei, there were shared concerns over the delays in implementing these goals... and it was decided that these thirteen ATIGA items must be reported to the ASEAN Secretariat: (a) tariffs, (b) quotas, (c) surcharges, (d) quantitative restrictions, (e) other non-tariff measures, (f) customs valuation, (g) Rules of Origin, (h) Standards, Technical Regulations, and Conformity Assessment procedures, (i) Sanitary and Phytosanitary (SPS) measures, (j) export taxes, (k) licensing procedures (import and export), (l) foreign exchange controls related to imports and exports, and (m) application of the ASEAN Harmonised Tariff Nomenclature beyond the 8-digit level for tariff purposes. Still, this did not put an end to countries introducing these measures without notifying ASEAN, and the AFTA Council subsequently reconfirmed the need for strict enforcement of this clause. <i>(Source: Koichi Ishikawa, Kazushi Shimizu, and Seiya Sukekawa (2013). Japan and the ASEAN Economic Community: Birth of a Massive Integrated Market. Bushindo Publishing.)</i>

Strategic target #1: Single market and production base

1. Free flow of goods (c) Rules of Origin	
Goal	By 2015, put in place rules of origin (ROO) that are responsive to production process changes within international division of labour systems so as to facilitate trade and investment among ASEAN member countries.
Expected progress by the end of 2015	Achieved
Evaluation standards	The ASEAN member states are expected to have put ROO in fully place by 2015. Elimination of the FOB value indicated on Certificate of Origin Form D, moving forward with the introduction of a self-certification system, and other initiatives to improve ROO are slated for completion by 2015.

◆Planned vs. actual progress

Plan	<p>ASEAN Economic Community Blueprint (2007)</p> <ul style="list-style-type: none"> Continuously reform and enhance ROO to respond to changes in regional production processes Simplify the issuance procedures for Certificates of Origin (such as electronic processing of certificates and the harmonisation or alignment of national procedures) Review all the ROO implemented by ASEAN member countries <p>Master Plan on ASEAN Connectivity (2010)</p> <p>Note: Specifies action plan (2) from the Blueprint</p> <ul style="list-style-type: none"> Introduce facilitative processes such as the electronic processing of certificate of origin by 2012 Harmonise or align national issuance procedures by 2015 	
	Achievements	Remaining issues
	<ul style="list-style-type: none"> The following progress items were confirmed at the 45th ASEAN Economic Ministers Meeting. <ul style="list-style-type: none"> ➤ <u>Self-Certification System</u>: A Self-Certification Pilot Project has been implemented to facilitate rules of origin. Phase I one of the project began in 2010 in Brunei, Malaysia, Singapore, and Thailand, while Phase II began in 2013 with the joining of Indonesia, Lao PDR, and the Philippines. Myanmar and Viet Nam are currently considering participation as well. ➤ <u>FOB values removed from Certificate of Origin Form D</u>: Removal of Free-On-Board (FOB) values from Certificate of Origin Form D by January 2014 has been approved as long as Wholly Obtained (WO), Change in Tariff Classification (CTC), and Specific Process (SP) criteria are met. <u>User-friendly ROOs put in place</u>: In consideration of the certificates of origin issued under FTAs concluded between ASEAN member states and non-ASEAN countries, a system has been adopted 	<ul style="list-style-type: none"> The Rules of Origin differ for each ASEAN Plus One FTA. The ASEAN-China Free Trade Agreement (ACFTA), for example, is the only one that uses a 40% Regional Value Content (RVC) rule. The Rules of Origin in the India Free Trade Agreement (AIFTA) stipulate that goods must have an RVC of 35% while also meeting two CTC standards. The ASEAN-Japan Free Trade Agreement (AJCEP) includes separate standards for each manufacturing process for textile products. (Source: ASEAN Secretariat website http://www.asean.org/communities/asean-economic-community/category/asean-trade-in-goods-agreement)

<p>for a significant number of commodities that allows selection of one of the standards for determining the country of origin of the product. These relaxed criteria are considered to be more user-friendly certificate of origin standards. (Source: ASEAN Secretariat (2013). 45th ASEAN Economic Ministers Meeting)</p>	
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◆Remarks

1. At the 45th ASEAN Economic Ministers Meeting (AEM) in August 2013, it was stressed that a self-certification system covering the entire region would be complete by 2015.

◆Excerpts from related documents

- Since 2008, even Rules of Origin that require the application of preferential tariffs have introduced flexible parameters that in principle allow traders to select either Regional Value Content (RVC) or Change in Tariff Classification (CTC) rules. As a result, the AFTA has made more progress than any other FTA in Asia from both a user and systems perspective. (Source: Koichi Ishikawa, Kazushi Shimizu, and Seiya Sukekawa (2013). *Japan and the ASEAN Economic Community: Birth of a Massive Integrated Market*. Bushindo Publishing.)
- When trade was conducted through a trading firm or other intermediary, the importer could find out the intermediary's margin by comparing the FOB values given on Form D and the invoice issued by the intermediary firm. This caused many businesses to avoid using AFTA. (Source: JETRO (2013). *Trade Report*.)
- Rules of Origin are costly for businesses due to their complexity, which leads to an investment of time and labour. In recent years, handbooks and other materials aimed at the private sector have been published to help address this issue. (Source: CIMB ASEAN Research Institute (2013). *The ASEAN Economic Community: The Status of Implementation, Challenges and Bottlenecks*.)

Strategic target #1: Single market and production base

1. Free flow of goods (d) Trade facilitation (ASEAN Single Window)	
Goal	Simple, harmonised and standardised trade and customs, processes, procedures and related information flows are expected to reduce transaction costs in ASEAN, which will enhance export competitiveness and facilitate the integration of ASEAN into a single market for goods, services and investments and a single production base.
Expected progress by the end of 2015	In progress
Evaluation standards	Although progress is being made in setting up National Single Windows in individual member states, some countries are lagging behind. Since establishing an ASEAN Single Window requires that the NSWs first be completed, this goal will likely be achieved sometime after 2015.

◆Planned vs. actual progress

Plan	<p>ASEAN Economic Community Blueprint (2007)</p> <ul style="list-style-type: none"> • Set up ASEAN-6 (Brunei, Indonesia, Malaysia, Singapore, Thailand) National Single Windows by 2008 • Set up CLMV National Single Windows by 2012 <p>Master Plan on ASEAN Connectivity (2009)</p> <ul style="list-style-type: none"> • Accelerate the full implementation of the National Single Windows (NSWs) for ASEAN-6 as soon as possible, noting that the deadline for the establishment of NSWs in ASEAN-6 was 2008, and for CLMV in 2012 (Note: Original deadlines pushed back) • Activate and operate the ASEAN Single Window in selected ports as early as possible for Member States who are ready to implement it, and for all ASEAN Member States, by 2015 • Simplify customs procedures, formalities and practices with the target of reducing costs by 20% by 2013 and 50% by 2015 • Develop a regulatory framework on customs procedures and border management operations by 2014. • Promote partnership with businesses and industries • Develop the human resources necessary to complement the above actions by 2013
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Achievements	Remaining issues
<ul style="list-style-type: none"> • Among the ASEAN-6 nations, Indonesia, Malaysia, the Philippines, Singapore, and Thailand have NSW implementation rates of over 70% and have nearly completed their systems. (Source: ERIA (2012). <i>Mid-Term Review of the Implementation of AEC Blueprint: Executive Summary (Revised Version)</i>) • Seven countries (ASEAN-6 and Viet Nam) have implemented a scaled-down version of the ASEAN Single Window in a pilot project, whereby information can be exchanged through the ASW using ATIGA Form D and the ASEAN Customs Declaration Document (ACDD). (Source: ASEAN Secretariat (2013). <i>45th ASEAN Economic Ministers Meeting</i>) 	<ul style="list-style-type: none"> • Cambodia, Lao PDR and Myanmar were still in the early stages of NSW introduction as of 2011, with implementation rates of 20% or below. (Source: ERIA (2012). <i>Mid-Term Review of the Implementation of AEC Blueprint: Executive Summary (Revised Version)</i>) • ASEAN member states need to complete development of the legal frameworks that would govern cross-border data exchange among member states in the live implementation of the ASEAN Single Window. The Ministers urged the member states to quickly complete work on the protocols required for ASW implementation, while also urging the remaining member states to expedite the introduction of their respective NSWs required to implement the ASW. (Source: ASEAN Secretariat (2013). <i>45th ASEAN Economic Ministers Meeting</i>)

◆ **Excerpts from related documents**

<ul style="list-style-type: none"> • The NSWs must be completed before the ASW can be set up, but at present no country (with the exception of Singapore) has made any progress in digitizing its customs procedures. In addition, every country is finding it difficult to coordinate the ministries with the authority to grant permits and approvals. Digitization also requires the development of technical systems, and many countries lack technical experts who are familiar with the process. The need for technical as well as financial support is particularly pronounced in less-developed countries like Cambodia, Lao PDR, and Myanmar. USAID is currently offering some technical support to address this issue. (Source: JETRO (2011). <i>India-ASEAN Logistics Network Survey</i>.) • Viet Nam is working on a trial introduction of Japan’s NACCS system, with the goal of having it up and running by the first half of 2014. The plan to introduce nationwide tariffs is likely to be a major step towards the country going paperless and setting up a National Single Window. However, some problems stand in the way of making the system fully operational, including limited expertise in the actual introduction and operation of such a system and the need to establish operational rules. (Source: JETRO (2013). <i>Latest Logistics and Customs Information from the ASEAN–Mekong Region</i>)
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Strategic target #1: Single market and production base

1. Free flow of goods (e) Standardization and mutual recognition	
Goal	Create the systems of standards, quality assurance, accreditation, and measurement needed to promote greater efficiency and enhance cost effectiveness of production of ASEAN imports and exports.
Expected progress by the end of 2015	In progress
Evaluation standards	Although progress is being made in the signing of Mutual Recognition Arrangements (MRAs) and the creation of harmonised standards in cosmetics and other sectors, a lack of domestic inspection capacity and delays in setting up internal laws and regulations make it unlikely that the region will be able to set up practical frameworks by the end of 2015.

◆Planned vs. actual progress

Plan	<p>ASEAN Economic Community Blueprint (2007)</p> <ul style="list-style-type: none"> Introduce harmonized standards, technical regulations, and conformity assessment procedures Develop and implement sectoral Mutual Recognition Arrangements for specific sectors identified in the ASEAN Framework Agreement on Mutual Recognition Arrangements <p>Master Plan on ASEAN Connectivity</p> <ul style="list-style-type: none"> Establish common rules for conformity assessment procedures (2015) Introduce the ASEAN Conformity Mark (2015) Harmonise national and international standards and establish ASEAN standards (2015) Push forward with the implementation of MRAs for prioritised and selected industries 	
	Achievements	Remaining issues
	<ul style="list-style-type: none"> Mutual Recognition Agreements (MRAs) or common directives have been established in the following areas in preparation for the formulation of sectoral MRAs. <ul style="list-style-type: none"> MRA formulated for Good Manufacturing Practice (GMP) Inspection of Manufacturers for Medicinal Products MRA formulated for Electrical & Electronic Equipment (ASEAN EE MRA) ASEAN Cosmetic Directive has been enacted, creating a legal regulatory scheme for the industry (see note) <p>(Source: ASEAN (2012). ASEAN Economic Community Scorecard.)</p> <p><i>Note: There are two ways of harmonizing standards ; mutual recognition arrangement (MRA) and harmonized standard. The Cosmetic Directive creates harmonized standards throughout the ASEAN region and then has individual countries update their national legal frameworks in line with the standards. However, although the ASEAN Cosmetic Directive</i></p>	<ul style="list-style-type: none"> The following MRAs items have not yet been achieved. <ul style="list-style-type: none"> MRAs for processed foods and automobiles Finalising an ASEAN Medical Device Directive Agreement Endorsing the ASEAN Regulatory Framework on Traditional Medicines and Health Supplements and transposing it into national legislation Harmonising the ASEAN Harmonized Electricity and Electronic Equipment Regulatory Regime (AHEEERR) to the listed standard and completing agreed conformity assessment procedures for regulated EEE <p>(Source: ASEAN (2012). ASEAN Economic Community Scorecard.)</p> <ul style="list-style-type: none"> The ASEAN Economic Ministers urged member states to expedite the harmonisation of the standards needed for national governments to make the agreed-upon items part of their

<p><i>has been enacted upon signing of the ten member states, it is not legally enforceable and has actually been in force only in 6 member states except for CLMV.</i></p>	<p>legislative and regulatory systems. They also called for the reduction of country-specific technical requirements and regulations to achieve greater harmonisation of standards and technical requirements in the region. <i>(Source: ASEAN Secretariat (2013). 45th ASEAN Economic Ministers Meeting)</i></p>
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◆Excerpts from related documents

- Standards and regulations have been introduced in terms of mutual recognition in the electric and electronic devices sector as well as shared technical documentation and individual regulations for cosmetics, medicinal products, and medical devices. Still, doubts remain as to the degree to which those standards and regulations are actually being implemented due to a lack of inspection/testing agencies capable of performing conformity assessments. *(Source: Koichi Ishikawa, Kazushi Shimizu, and Seiya Sukekawa (2009). The ASEAN Economic Community: The Key to East Asian Integration? JETRO.)*
- At present, the ASEAN Consultative Committee on Standards and Quality (ACCSQ) is working to eliminate Technical Barriers to Trade (TBT) in the region. Specifically, they have made progress in harmonising standards and technical requirements, formulating Mutual Recognition Agreements (MRAs), and coordinating regulatory and management frameworks. During the 45th ASEAN Economic Ministers Meeting, the Ministers urged the ACCSQ to meet the agreed deliverables in 2015 in the area of standards and conformance. *(Source: JETRO (2013). Trade Report.)*

Strategic target #1: Single market and production base

2. Free flow of services	
Goal	Carry out liberalisation of all service sectors within the ASEAN region by 2015 based on the ASEAN Framework Agreement on Services (AFAS).
Expected progress by the end of 2015	In progress
Evaluation standards	Although liberalisation of Mode 1 (cross-border services) and Mode 2 (consumption abroad) is possible by 2015, 70% of investment limitations on Mode 3 (foreign investment ratio) are expected to still be in place by then, with only limited Mode 4 (movement of service providers) liberalisation completed.

◆Planned vs. actual progress

Plan	<p>ASEAN Economic Community Blueprint (2007)</p> <p>◇Service liberalisation in individual sub-sectors</p> <ul style="list-style-type: none"> Remove substantially all restrictions on trade in services for 4 priority services sectors (air transport, e-ASEAN, healthcare and tourism) by 2010 and the fifth priority services sector, logistics services, by 2013. Undertake liberalisation for consecutive rounds of every two years until 2015 (i.e. 2008, 2010, 2012, 2014, and 2015). Liberalise a total of 27 sub-sectors based on GATS W/120 universe of classification. Target to schedule minimum numbers of new sub-sectors for each round: 10 sub-sectors in 2008, 15 in 2010, 20 for 2012, 20 for 2014, and 7 for 2015. The Blueprint includes a 15% exemption (overall flexibility) that can be applied to the liberalisation of services; this figure will be reviewed upon the completion of the inventory of limitations. <p>◇Liberalise services in each mode</p> <ul style="list-style-type: none"> Eliminate all Mode 1 (cross-border services) and Mode 2 (consumption abroad) restrictions with some exceptions Ease Mode 3 (foreign investment ratio) restrictions, gradually removing market access restrictions so that the foreign investment ratio reaches 70% by 2015. Achieve extremely limited liberalisation in Mode 4 (movement of service providers).
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Achievements	Remaining issues
<p>ASEAN member states undertook six rounds of negotiations through August 2012, and agreed to eight packages of services commitments. (Source: ERIA (2012). <i>Mid-Term Review of the Implementation of AEC Blueprint: Executive Summary (Revised Version)</i>)</p> <ul style="list-style-type: none"> At present, negotiations are taking place on the ninth package. The ASEAN Economic Ministers have requested that member states begin the actual implementation of the ninth package, scheduled to reach consensus sometime in 2013. Negotiations on AFAS enhancements are due to begin in the fourth quarter of 2013. (Source: ASEAN Secretariat (2013). <i>45th ASEAN Economic Ministers Meeting</i>) 	<ul style="list-style-type: none"> Because Mode 3 (foreign investment ratio) involves service sector investment, coordinating liberalisation with domestic regulations, including constitutional law, are hindering progress along with resistance from domestic industry. Mode 4 (movement of service providers) involves the movement of skilled workers, and has shown the least progress in terms of liberalisation (Source: ASEAN Secretariat (2010). <i>Master Plan on ASEAN Connectivity.</i>) A commitment has been made to cap the foreign investment ratio at 70% in Mode 3 priority integration sectors—logistics by 2013 and other sectors by 2015. Details on liberalisation in Mode 4 have not yet been made clear. (Source: Sanchita Basu Das (2013). <i>ASEAN Economic Community Scorecard: Performance and Perception.</i> ISEAS.)

◆Remarks

- Negotiations are currently underway on a ninth package, which is expected to bring liberalisation commitments to a total of 104 sectors.
- Revisions to the ASEAN Framework Agreement on Services (AFAS) are scheduled to begin in the fourth quarter of 2013 with the aim of reinforcing the particulars of service liberalization.

◆Excerpts from related documents

- The liberalisation schedule revised in 2012 has already been delayed. Initially, the member states were negotiating getting the ninth package signed at the ASEAN Economic Ministers meeting in August 2013, but this did not happen. The ninth package calls for liberalisation in the logistics sector with equity participation of ASEAN capital at 70% or more. The other fourteen sectors now allow an ASEAN capital majority (51%). Some of the member states are resisting the process by which liberalisation sectors were selected. (Source: Koichi Ishikawa, Kazushi Shimizu, and Seiya Sukekawa (2013). *Japan and the ASEAN Economic Community: Birth of a Massive Integrated Market.* Bushindo Publishing.)

Strategic target #1: Single market and production base

3. Free flow of investment	
Goal	Implement a free and open investment regime with minimal restrictions to enhance ASEAN's competitiveness in attracting foreign direct investment (FDI) as well as intra-ASEAN investment.
Expected progress by the end of 2015	In progress
Evaluation standards	The ACIA was signed according to plan in 2009 and put into effect in 2012. Various documents and websites indicate that policies to encourage foreign and domestic investment have been implemented. However, some domestic legal reforms in individual states are behind schedule. Because minimum regulations have been allowed to remain, complete liberalisation is expected to take place after 2015.

◆Planned vs. actual progress

Plan	<p>ASEAN Economic Community Blueprint (2007)</p> <ul style="list-style-type: none"> • ASEAN investment cooperation is being implemented through the Framework Agreement on the ASEAN Investment Area (AIA), while investment protection is accorded under the ASEAN Investment Guarantee Agreement (AIGA) and the Comprehensive Investment Agreement (ACIA) • Under the ACIA, a modality is created to reduce and eliminate investment restrictions and barriers in three stages, the first to be completed by 2010, and the second to be initiated in 2010 (2011 in Lao PDR and Myanmar). • All industries (in the manufacturing, agriculture, fishery, forestry and mining and quarrying sectors and services incidental to these five sectors) shall be open to intra-ASEAN investment, with national treatment granted to investors both at the pre-establishment and post-establishment stages. • Temporary Exclusion Lists (TEL) listing temporary exclusions to liberalisation are to be phased out based on agreed timelines. Although the Sensitive Lists (SL) do not have a timeline for phasing out, they will be reviewed periodically. 	
	Achievements	Remaining issues
	<ul style="list-style-type: none"> • Progress has been confirmed in the following areas. <ul style="list-style-type: none"> ➢ The ACIA was signed at the Economic Ministers Meeting in February 2009 and put into effect in March 2012. ➢ Individual countries are making strides in setting up domestic legal frameworks to achieve ACIA targets. ➢ Finalization of the ACIA schedule (Reservations List) that indicates sectors in which liberalisation is not taking place. <p>(Source: ASEAN (2012). ASEAN Economic Community Scorecard.)</p> • Agreements were reached on the following during the 45th ASEAN Economic Ministers Meeting. <ul style="list-style-type: none"> ➢ Publication of the ACIA Investment Report 	<ul style="list-style-type: none"> • The following issues must be recognized as a way to promote investment in the ASEAN member states. <ul style="list-style-type: none"> ➢ Create guidelines for minimum investment restrictions (Reservations List) ➢ Provide third-party technical monitoring and resources ➢ Improve the investment environment in a way that supports the intentions of the private sector ➢ Promote investment through collaboration between central and local governments ➢ Strengthen investment promotion agencies ➢ Reinforce linkages between investors and government agencies <p>(Source: ERIA (2012). Mid-Term Review of the Implementation of AEC Blueprint: Executive</p>

<p>2012, ACIA Guidebook for Businesses and Investors), and ACIA Handbook for Investment Promotion Officials).</p> <ul style="list-style-type: none"> ➤ ASEAN Investment Website scheduled for launch as a platform and gateway for investment information. ➤ Agreement on procedures to amend the ASEAN Comprehensive Investment Agreement Reservation List. <p>(Source: ASEAN Secretariat (2013). 45th ASEAN Economic Ministers Meeting)</p> <ul style="list-style-type: none"> • The following was emphasized during the 24th ASEAN Summit. <ul style="list-style-type: none"> ➤ Complete the ASEAN investment website to serve as an investment platform and information portal for the region. <p>(Source: ASEAN (2014). 24th ASEAN Summit.)</p>	<p><i>Summary (Revised Version)</i></p>
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◆ **Excerpts from related documents**

<ul style="list-style-type: none"> • While the free flow of goods is steadily improving in the region (particularly in the area of tariff reduction), little progress has been seen in terms of the liberalisation of intra-ASEAN investment... A variety of industries are protected through the Sensitive List (SL), and there are clearly cases where restrictions have been placed on equal national treatment. In the future, it will be necessary for the ASEAN community to use the free flow of investment to boost the international competitiveness of its service industries (particularly those related to manufacturing) if it is to survive what will likely be fierce competition during the FTA era. Becoming internationally competitive in manufacturing depends heavily on the quality and quantity of related service sectors. Going forward, we are likely to see an uptick in regional investment in those service sectors tied to manufacturing, particularly in Singapore. As ASEAN looks to build a solid economic community, steady progress in liberalising these sectors will be the key to creating international competitiveness in the individual member states. <p>(Source: Koichi Ishikawa, Kazushi Shimizu, and Seiya Sukekawa (2013). Japan and the ASEAN Economic Community: Birth of a Massive Integrated Market. Bushindo Publishing.)</p>

Strategic target #1: Single market and production base

4. Free flow of capital (Freer financial services)	
Goal	Strengthen development and integration of the ASEAN capital market to allow greater capital mobility.
Expected progress by the end of 2015	In progress
Evaluation standards	ASEAN+3 nations and others are making progress in terms of building frameworks to cope with the Asian Financial Crisis, but the factors contributing to delayed liberalisation are complex—with no clear resolution in sight.

◆Planned vs. actual progress

Plan	<p>ASEAN Economic Community Blueprint (2007)</p> <p>◇Strengthening ASEAN capital market integration and development</p> <ul style="list-style-type: none"> • Harmonise capital market standards in the areas of offering rules for debt securities, disclosure requirements, and distribution rules. • Establish mutual recognition of qualifications for marketing professionals • Achieve greater flexibility in language and governing law requirements for securities issuance • Enhance withholding tax structure to promote a broader investor base in debt issuance • Facilitate market-driven efforts to establish stock and bond market linkages <p>◇Promoting greater capital mobility</p> <ul style="list-style-type: none"> • Remove or relax restrictions, where appropriate and possible, to facilitate the flows of payments and foreign account transactions. • Remove or relax restrictions on capital flows, where appropriate and possible, to support foreign direct investment and initiatives to promote capital market development. <p>◇Liberalisation of capital market</p> <ul style="list-style-type: none"> • ASEAN applies its “ASEAN-X” way to the liberalization of capital market • Subsectors or modes stipulated by member states would be gradually deregulated by the end of 2015 • Other remaining subsectors or modes not stipulated would be deregulated by 2020 under a pre-determined flexibility
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Achievements	Remaining issues
<ul style="list-style-type: none"> • Progress in the following areas was confirmed at the 45th ASEAN Economic Ministers Meeting. <ul style="list-style-type: none"> ➢ Marketing campaign launched for the ASEAN Exchange Initiative (May 2011). ➢ ASEAN Bond Market Development Scorecard developed ➢ Credit Guarantee and Investment Facility (CGIF) established (October 2011) to develop local currency bond markets, leading to the signing of an agreement for a 485-million-dollar ASEAN Infrastructure Fund (AIF). <p><i>(Source: ASEAN Secretariat (2013). 45th ASEAN Economic Ministers Meeting)</i></p> • The establishment of the Chiang Mai Initiative and the ASEAN+3 Macro Economic Research Office (AMRO) resulted in the building of ASEAN+3 cooperative currency and financial frameworks following the Asian Financial Crisis <i>(Source: ERIA (2012). Mid-Term Review of the Implementation of AEC Blueprint: Executive Summary (Revised Version))</i> • The following was emphasized during the 24th ASEAN Summit. <ul style="list-style-type: none"> ➢ Malaysia, Singapore and Thailand signed a Memorandum of Understanding for the ASEAN Capital Market Forum (ACMF), which establishes an ASEAN Collective Investment Scheme (CIS) <p><i>(Source: ASEAN (2014). 24th ASEAN Summit.)</i></p> 	<ul style="list-style-type: none"> • The free flow of capital is making little progress via the liberalisation of financial services. One of the factors hindering integration of capital markets is the great disparity among member states in terms of regulatory systems and standards, infrastructure development, monitoring systems, and so on. <i>(Source: ERIA (2012). Mid-Term Review of the Implementation of AEC Blueprint: Executive Summary (Revised Version))</i> • The region was urged to quickly move forward with the following at the 24th ASEAN Summit. <ul style="list-style-type: none"> ➢ Signing of the Protocol to Implement the Sixth Package of Financial Services Commitments under the ASEAN Framework Agreement on Services (AFAS) <p><i>(Source: ASEAN (2014). 24th ASEAN Summit.)</i></p>

◆ **Excerpts from related documents**

<ul style="list-style-type: none"> • The ERIA Mid-Term Review cites the Chiang Mai Initiative, the ASEAN Macroeconomic Research Office (AMRO) and similar efforts as examples of significant ASEAN+3 cooperation. However, differences among the ten member states in terms of economic development stage, regulations, and infrastructure have made progress slow in relevant sectors. There is also the problematic conflict between the benefits of taking on inter-regional risks of integration and the increased risk of widespread damage should a financial crisis occur. For this reason, we can conclude that financial integration in the region requires a more cautious approach. At the same time, the member states should move forward in building a regional capital market in those areas where collaboration and integration are possible. <i>(Source: Koichi Ishikawa, Kazushi Shimizu, and Seiya Sukekawa (2013). Japan and the ASEAN Economic Community: Birth of a Massive Integrated Market. Bushindo Publishing.)</i>

Strategic target #1: Single market and production base

5. Free flow of skilled labour	
Goal	Facilitate the issuance of visas and employment passes for ASEAN professionals and skilled labour engaged in trade and investment activities.
Expected progress by the end of 2015	In progress
Evaluation standards	Although the temporary movement of some business personnel has been liberalized, the facilitation of visas and work permits that would represent visible progress in this area is expected to take place beyond 2015. Documents like the ASEAN Agreement on Movement of Natural Persons and Mutual Recognition Agreements (MRAs) have been signed as planned, but the coordination of the legal frameworks needed for actual implementation is expected to occur after 2015.

◆Planned vs. actual progress

Plan	<p>ASEAN Economic Community Blueprint (2007)</p> <ul style="list-style-type: none"> Set up visas and employment passes for professionals and skilled labour who are engaged in trade and investment (Complete MRAs for architectural services, accountancy services, surveying qualifications, and medical practitioners by 2008, and dental practitioners by 2009). Use cooperative ASEAN University Network projects to promote cooperation among both students and university staff within the region. Develop core competencies and qualifications required in the priority service sectors (by 2009), and in other service sectors (from 2010 to 2015). Strengthen the research capabilities of each ASEAN member country in terms of promoting skills, job placements, and developing labour information networks among countries. 	
	Achievements	Remaining issues
	<ul style="list-style-type: none"> Mutual Recognition Agreements (MRAs) have been signed as planned, and successfully approved in the following eight sectors. <ol style="list-style-type: none"> Engineering services Nursing services Architectural services Surveying services Accounting services Medical services Dental services Tourism services <p>(Source: ASEAN (2012). ASEAN Economic Community Scorecard.)</p> 	<ul style="list-style-type: none"> There has been relative progress in the establishment of MRAs for architecture and engineering services due to collaboration between professional groups in individual countries and the ASEAN Architecture Council (AAC) and the ASEAN Chartered Professional Engineer Coordinating Committee (ACPECC). At the same time, powerful opinions among domestic professional groups in nursing, medical, and dental services have hindered progress markedly in these fields.

<ul style="list-style-type: none"> The ASEAN Movement of Natural Persons Agreement (MNP), which establishes regulations for the movement of people within ASEAN, was concluded in November 2011. (Source: ASEAN (2012). ASEAN Economic Community Scorecard.) 	<p>The free flow of natural persons is limited to the temporary movement of skilled labourers, experts, and business professionals, and does not recognize the movement of unskilled labour. (Source: ERIA (2012). Mid-Term Review of the Implementation of AEC Blueprint: Executive Summary (Revised Version))</p> <ul style="list-style-type: none"> The region was urged to quickly move forward with the following at the 24th ASEAN Summit. <ul style="list-style-type: none"> ➤ Stronger professional resources in Indonesia's tourism services sector. (Source: ASEAN (2014). 24th ASEAN Summit.)
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◆Remarks

1. Although countries at similar levels of economic development (such as Australia and New Zealand) have mutual recognition of medical licenses and similar initiatives, reports indicate a number of difficulties associated with liberalising the movement of highly skilled labour in the ASEAN member states due to wide gaps in development status and skill levels.
2. European MRAs for professionals are moving forward for physicians, nurses, dentists, veterinarians, pharmacists, and other specialists. Mutual recognition in these professions covers not only professional qualifications, but academic degrees as well. The key different with the AEC is the free flow of labour in the European Union, which allows these professionals to freely travel to, reside in, and be employed in other member states as well as remain there after they retire (discrimination on the basis of nationality is prohibited). They also have the right to open businesses (establish a fixed facility and carry out economic activities after moving to another country) and freely provide services. The MRA is the document that protects these freedoms and rights. (Source: Takao Suami (1997). European Economic Law (Shinseisha Publishers) and other research papers on European law.)

◆Excerpts from related documents

- Mutual recognition agreements on professional qualifications have been signed for eight sectors, but these have been set up as voluntary participation (ASEAN Minus X/Plus X) schemes, delaying implementation throughout the region as a whole. Even some participating companies cannot be expected to implement the MRAs due to problems with their internal systems and other factors. (Source: Koichi Ishikawa, Kazushi Shimizu, and Seiya Sukekawa (2009). *The ASEAN Economic Community: The Key to East Asian Integration? JETRO.*)
- Regarding the movement of persons, the Blueprint calls for MRAs as well as facilitating the issuance of visas and work permits for professionals and skilled labour—and stops there... In order to have further liberalisation of natural persons go more smoothly in an effort to support the free flow of skilled labour, the ASEAN Ministers concluded the ASEAN Agreement on the Movement of Natural Persons (MNP) in November of 2012. This move eliminated virtually all restrictions on the primary movement of natural persons engaged in trading goods, trading services, investments, and similar activities. (Source: Koichi Ishikawa, Kazushi Shimizu, and Seiya Sukekawa (2013). *Japan and the ASEAN Economic Community: Birth of a Massive Integrated Market. Bushindo Publishing.*)

Strategic target #2: Competitive economic region

1. Competition policy	
Goal	Introduce competition policy with the aim of achieving fair competition among ASEAN member states.
Expected progress by the end of 2015	In progress
Evaluation standards	Competition policy and competition laws are expected to be enacted throughout the ASEAN region as a whole after 2015. Competition policy and competition laws were in place in five countries as of August 2013, but it is not clear when implementation can be expected for the remaining five states.

◆Planned vs. actual progress

Plan	ASEAN Economic Community Blueprint (2007) <ul style="list-style-type: none"> Introduce competition policy and competition laws in all ASEAN member countries by 2015. Establish a network of authorities or agencies responsible for competition policy. Encourage capacity-building activities to help develop competition policy. Develop a regional guideline on competition policy by 2010. 	
	Achievements	Remaining issues
	<ul style="list-style-type: none"> Four countries (Singapore, Indonesia Viet Nam, and Thailand) had competition policy and competition laws in place prior to the issuance of the ASEAN Economic Community Blueprint, and have begun operating competition authorities or agencies. (Source: ASEAN Experts Group on Competition (AEGC) website) By 2007, the ASEAN Experts Group on Competition and several other key players in competition policy had been established. (Source: ASEAN Secretariat (2013). 45th ASEAN Economic Ministers Meeting) The ASEAN Regional Guidelines on Competition Policy were completed in 2012. (Source: ASEAN Secretariat (2013). 45th ASEAN Economic Ministers Meeting) The Handbook on Competition Policy and Laws in ASEAN for Business was completed in 2010. A revised edition was issued in June 2013. (Source: ASEAN Secretariat (2013). 45th ASEAN Economic Ministers Meeting) 	<ul style="list-style-type: none"> Brunei, Cambodia, Lao PDR, and Myanmar are currently in the process of drafting their competition policy. These countries have still not set up competition authorities or agencies. There are plans to have introduced competition policy by 2015, and progress is expected in terms of setting up related legal frameworks. (Source: ASEAN Experts Group on Competition (AEGC) website) The Philippines has established a competition agency, and is currently carrying out preparations for the introduction of competition-related laws. (Source: ASEAN Experts Group on Competition (AEGC) website)

Strategic target #2: Competitive economic region

2. Consumer protection	
Goal	Strengthen existing consumer protection measures in individual member states with the aim of building an integrated economic region with a people-centred approach.
Expected progress by the end of 2015	In progress
Evaluation standards	It is likely that the underlying frameworks required to provide consumer protection and relief will need to continue being developed after 2015.

◆ **Planned vs. actual progress**

Plan	ASEAN Economic Community Blueprint (2007) <ul style="list-style-type: none"> Strengthen ASEAN consumer protection through the establishment of the ASEAN Coordinating Committee on Consumer Protection (ACCCP). Establish a network of consumer protection agencies. Organize regional training courses for consumer protection officials and consumer leaders. 	
	Achievements	Remaining issues
	<ul style="list-style-type: none"> Progress in the following areas was confirmed at the 45th ASEAN Economic Ministers Meeting. <ul style="list-style-type: none"> ➤ The establishment of the new ASEAN Committee on Consumer Protection (ACCP) led to the October 2011 publication of guidelines for notification and information exchange on recalled and banned products. ➤ Preparations have begun to launch a cross-border redress website to serve as the primary gateway for consumer aid. ➤ The ASEAN Consumer Complaints Leaflet is currently in preparation as a means of spreading awareness of consumer rights in the region. (Source: ASEAN Secretariat (2013). 45th ASEAN Economic Ministers Meeting) 	<ul style="list-style-type: none"> An ASEAN framework for confirming and sharing information on recalled and banned products is expected to be introduced by 2013. These initiatives include redress mechanism models for national consumer protection in ASEAN member states, eight consumer protection digests, and one case study on emerging consumer protection issues. (Source: ASEAN Secretariat (2013). 45th ASEAN Economic Ministers Meeting) Issuing the notifications and information required to aid customers has not been made a priority. (Source: ASEAN (2012). ASEAN Economic Community Scorecard.)

Strategic target #2: Competitive economic region

3. Intellectual property rights	
Goal	Develop a culture of learning and innovation, supported by a friendlier intellectual property profile to businesses, investors, inventors, and creators in ASEAN.
Expected progress by the end of 2015	In progress
Evaluation standards	Although great strides have been made in terms of laying the foundation to protect intellectual property rights, parts of the action plan are not expected to be achieved until after 2015. There has been substantial progress in initiatives to protect intellectual property, but one of the action plans—the Madrid Protocol—will likely not be signed by all member states until after 2015.

◆Planned vs. actual progress

Plan	ASEAN Economic Community Blueprint (2007) <ul style="list-style-type: none"> Fully implement the ASEAN Intellectual Property Rights (IPR) Action Plan 2004–2010 and the Work Plan for ASEAN Cooperation on Copyrights. Establish an ASEAN filing system for design to facilitate filings by users and promote coordination among IP Offices in ASEAN member countries. Get countries to join the Madrid Protocol, an international trademark agreement Sustain consultations and information exchanges among national enforcement agencies in IPR protection. Promote regional cooperation on Traditional Knowledge (TK), Genetic Resources (GR), and Cultural Traditional Expressions (CTE). 	
	Achievements	Remaining issues
	<ul style="list-style-type: none"> The work plans for 28 initiatives under the ASEAN IPR Action Plan 2011–2015, adopted in August 2011 through the efforts of the ASEAN Working Group for Intellectual Property Cooperation (AWGIPC), are being implemented. (<i>Source: ASEAN Secretariat (2013). 45th ASEAN Economic Ministers Meeting</i>) The ASEAN IP Portal (www.aseanip.org), a one-stop portal that facilitates information flow within the region's IP knowledge network, was successfully launched in April 2013. (<i>Source: ASEAN Secretariat (2013). 45th ASEAN Economic Ministers Meeting</i>) Since the IPR Action Plan kicked off in 2004, ASEAN has seen a steady improvement in its IPR environment, with the number of patent applications increasing and piracy rates are on the decline. (<i>Source: ERIA (2012). Mid-Term Review of the Implementation of AEC Blueprint: Executive Summary (Revised Version)</i>) Three ASEAN countries (Singapore, Viet Nam, and the Philippines) joined the Madrid Protocol. 	<ul style="list-style-type: none"> Although we see IPR conditions improving when we look only within ASEAN, the importance of the awareness building of the IPR protection is increasing if the member states are to foster an environment that supports enterprises to do R&D activities in the ASEAN region going forward. (<i>Source: ERIA (2012). Mid-Term Review of the Implementation of AEC Blueprint: Executive Summary (Revised Version)</i>)

(Source: World Intellectual Property Organization (WIPO) website)	
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◆Remarks

1. Prior to the issuance of the Blueprint, regional IRP cooperation was carried out according to the ASEAN IPR Action Plan 2004–2010 (enacted in 2004) and the Work Plan for ASEAN Cooperation on Copyrights (enacted in 2006), based on the ASEAN Framework Agreement on Intellectual Property Cooperation (signed in 1995). The Blueprint also contains an injunction to abide by these action plans.
2. The ASEAN member states still suffer from a host of executive and judicial problems with respect to intellectual property rights—among them patent, trademark, design, and copyright protections. As a result, the Special 301 Report on Intellectual Property Rights (2013) published by the Office of the United States Trade Representative puts the Philippines and Viet Nam on its Watch List and Indonesia and Thailand on its Priority Watch List. Cambodia, Lao PDR, and Myanmar were not subject to review.

◆Excerpts from related documents

- Because the ten ASEAN member states are also members of the World Trade Organization, they have a responsibility to protect intellectual property as per the TRIPS agreement. Protecting patent rights, trademark rights, design rights, copyrights, and other forms of intellectual property requires the development of legislative systems that include actionable frameworks. Countries like Cambodia and Lao PDR—and Myanmar in particular—are lagging behind in the development of their legislative systems, though other member states have already put systematic intellectual property protections in place. Still, if we consider the actual state of executive and legislative proceedings in the region, we see that many problems still remain—among them incomplete development of regulations with legal teeth, undisclosed investigation standards, delayed investigations, insufficient administrative capacity, and regional protectionism at the implementation stage. (Source: Yoshifumi Fukunaga (2013). *Institute for International Trade and Investment (ITI) Flash Report*)
- Nine member countries (all except Myanmar) have joined the new ASEAN Patent Examination Co-operation (ASPEC), and although the organization is to be commended for its across-the-board use of English and other initiatives, the system is not really being put to practical use. Steps must be taken to further improve usability.
As of July 2013, just three countries (Singapore, Viet Nam, and the Philippines) had joined the Madrid Protocol. In order to make it possible for patents on inventions to enjoy simultaneous protection in a great number of countries, the other seven member states must quickly take steps to meet the qualifications for participation. (Source: JETRO (2013). *Trade Report*.)
- The three requirements for all member states to participate in the Madrid Protocol are: (1) training registrars, patent examiners, patent lawyers, attorneys, and other professionals able to handle the work involved in international patent registration; (2) expanding the capacity of existing computer systems, and (3) notifying the private sector (including SMEs) about the protocol. (Source: JETRO (2012). *Trade Report*.)

Strategic target #2: Competitive economic region

4. Infrastructure development (a) Transport and logistics	
Goal	An efficient, secure and integrated transport network in ASEAN is vital for realising the full potential of the ASEAN Free Trade Area as well as in enhancing the attractiveness of the region as a single production, tourism and investment destination and narrowing development gaps. Put the services and infrastructure necessary to facilitate regional ASEAN transportation in place.
Expected progress by the end of 2015	In progress
Evaluation standards	The foundations for an efficient and secure ASEAN transport network are not expected to be in place until after 2015. Although several agreements have been established as planned, the signing of protocols and ratification/alignment of domestic regulations in individual countries is behind schedule.

◆Planned vs. actual progress

Plan	<p>Brunei Action Plan 2011–2015</p> <ul style="list-style-type: none"> • Establish an integrated and seamless multimodal transport system (key points follow). <ul style="list-style-type: none"> ➢ Conclude and complete the introduction of the ASEAN Framework Agreement on the Facilitation of Goods in Transit (AFAFGIT), the ASEAN Framework Agreement on the Facilitation of Inter-state Transport (AFAFIST), and the ASEAN Framework Agreement on Multimodal Transport (AFAMT) by 2014–2015. ➢ Establish multilateral arrangements on facilitation of inter-state passenger land transportation in the region by 2015. ➢ Complete the Mekong–India Economic Corridor by 2020. ➢ Conduct a comparative study of transport systems in ASEAN and the EU by 2013. • Enhance the competitiveness of the ASEAN logistics industry (key points follow). <ul style="list-style-type: none"> ➢ Develop the capacity of transport operators and logistics service providers with joint training and similar programs. ➢ Build a database of logistics service providers by 2014. • Establish a safe and secure inter-state transport system. • Develop environmentally-friendly logistics 	
	Achievements	Remaining issues
	<ul style="list-style-type: none"> • The ASEAN Framework Agreement on the Facilitation of Goods in Transit (AFAFGIT) contains nine protocols, the following four of which have been signed and enacted. <u>Signed and enacted</u> Protocol 3 (types and quantity of road vehicles) Protocol 4 (technical requirements of vehicles) Protocol 5 (compulsory motor vehicle insurance) Protocol 8 (sanitary and phytosanitary measures) (Current as of November 2012) (Source: JICA documents) 	<ul style="list-style-type: none"> • Of the nine AFAFGIT protocols, the following three have been signed, but are delayed in being internally ratified and have not been put into force. <u>Signed but not yet enacted</u> Protocol 1 (designation of transit transport routes and facilities) Protocol 6 (railway border and interchange stations) Protocol 9 (dangerous goods)

	<ul style="list-style-type: none"> • Of the nine AFAFGIT protocols, the following two have been neither signed nor enacted. <u>Neither signed nor enacted</u> Protocol 2 (designation of frontier posts) Protocol 7 (customs transit system) (Current as of November 2012) (<i>Source: JICA documents</i>) • The ASEAN Framework Agreement on Multimodal Transport (AFAMT) requires ASEAN-wide agreement ratification, but the only countries that have completed signing and putting it into force are Cambodia, the Philippines, Thailand, and Viet Nam. Member states must also align their domestic regulations with the agreement. • The ASEAN Framework Agreement on the Facilitation of Inter-State Transport (AFAFIST) was signed in 2009, but Thailand, Viet Nam and Lao PDR are the only countries to ratify it so far. (Current as of November 2012) (<i>Source: JICA documents</i>)
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◆Remarks

1. The Blueprint initially called for the conclusion of AFAFGIT by 2009, AFAMT by 2010, and AFAFIST by 2008, since the Blueprint figures were based on the ASEAN Transport Action Plan 2005–2010. That plan was later revised. Currently, the most up-to-date plan on transportation and shipping is the Brunei Action Plan 2011–2015 (also known as the ASEAN Strategic Transport Plan 2011–2015), which revises the action period.

◆Excerpts from related documents

- The institutional aspect of logistics development has not been realized, as several countries have not yet ratified the Cross-border Transportation Agreement (CBTA). (*Source: JETRO (2012). Survey on Business Needs and Strategies in the Mekong Subregion*)
- In the area of land transport, soft infrastructure development lags far behind that of hard infrastructure. Setting up a cross-border road network requires setting up customs facilities and transport procedures at national borders, transshipping cargo, and other tasks that inhibit the smooth flow of cross-national transport... In many areas, the ASEAN member states have not yet reached agreement on transport facilitation issues. (*Source: Koichi Ishikawa, Kazushi Shimizu, and Seiya Sukekawa (2013). Japan and the ASEAN Economic Community: Birth of a Massive Integrated Market. Bushindo Publishing.*)
- Late introduction is due to delays in the ratification of soft infrastructure plans already in existence in the ASEAN region as well as the time it takes to revise domestic legislation to conform to these initiatives. Because the process requires years of negotiation to reach region-wide agreement, countries must engage it as a national priority issue. It is extremely optimistic to believe that ASEAN will be able to complete all key measures currently planned by 2015. (*Source: ISIS Abidin & Rosli. (2011). Infrastructure Development in ASEAN.*)

Strategic target #2: Competitive economic region

4. Infrastructure development (b) Land transport	
Goal	Establish an efficient, integrated, safe, and environmentally sustainable land transport network to promote trade and tourism within the ASEAN region and surrounding countries.
Expected progress by the end of 2015	In progress
Evaluation standards	As the completion of the Singapore Kunming Rail Link (SKRL) and ASEAN Highway Network (AHN) projects has been extended from 2015 to 2020, connectivity via land transportation in the ASEAN region will likely be achieved after 2015.

◆Planned vs. actual progress

Plan	<p>ASEAN Economic Community Blueprint (2007)</p> <ul style="list-style-type: none"> • Complete the development of all the missing links in the Singapore–Kunming Rail Link (SKRL) • Complete the implementation of the ASEAN Highway Network (AHN) projects • Road construction/improvement of below Class III sections of designated Transit Transport Routes (TTRs) • Enhance road safety in ASEAN <p>Master Plan on ASEAN Connectivity</p> <p>◇Singapore–Kunming Rail Link (SKRL)</p> <ul style="list-style-type: none"> • Complete the 4,069 kilometres of missing links or links which need to be rehabilitated, prioritizing the Eastern Line through Thailand, Cambodia, and Viet Nam, by 2020. • Formulate a strategy for a seamless operation of SKRL by 2013. • Mobilize financial resources and technical assistance from external partners, either on a bilateral basis or with the coordination of the ADB, to study the possibility of extending the SKRL to Surabaya, Indonesia. <p>◇ASEAN Highway Network (AHN)</p> <ul style="list-style-type: none"> • Upgrade all below-Class III sections to at least Class III standards by 2012, with highest priority to Transit Transport Routes (TTRs). • Upgrade Class II or Class III sections with high traffic volume to Class I by 2020. • Conduct a feasibility study on bridging archipelagic countries and mainland ASEAN by 2015. • Upgrade the extension of AHN to China and India, particularly sections from Ha Noi via northern Lao PDR through Myanmar to the border with India, by 2015. • Install road signs in all designated routes by 2013 <p>Greater Mekong Subregion (GMS) project</p> <ul style="list-style-type: none"> • Develop three economic corridors: North-South, East-West, and Southern <p>Brunei Action Plan 2011–2015</p> <p><i>Note: Priority is given to SKRL/AHN completion to help develop economic corridors</i></p> <ul style="list-style-type: none"> • Accomplish the implementation of the SKRL project by 2020. • Complete the AHN by 2020. • Reduce road fatalities by 50% by 2020.
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	<ul style="list-style-type: none"> Establish an efficient and integrated inland waterway transport network (complete plans by 2012 and implement thereafter). Develop an Intelligent Transport System (ITS) (create a master plan by 2013 and implement thereafter). Enhance human, technical, and institutional capacity in ASEAN member states. Establish a sustainable, energy efficient, and environmentally friendly transport system.
Achievements	Remaining issues
<ul style="list-style-type: none"> The construction of the Singapore-Kunming Rail Link (SKRL) is proceeding but slowly, with current efforts focused in the Eastern Line primarily in the Cambodia sections by 2015 while the Viet Nam segments are to be implemented beyond 2015 toward 2020. (<i>Source: ASEAN (2012). ASEAN Connectivity Project Information Sheet</i>) Below-Class III roads/sections of the ASEAN Highway Network (AHN) have all been upgraded in Lao PDR. (<i>Source: ASEAN (2012). ASEAN Connectivity Project Information Sheet</i>) 	<ul style="list-style-type: none"> Projects to complete upgrades to Class I roads throughout the AHN and complete all lines of the SKRL are postponing their target years to 2020. Completion requires financing, technical knowledge, and human resource development; member states also need regional private capital and must seek out financial assistance and technical cooperation from donors and international agencies. (<i>Source: ASEAN (2010). Brunei Action Plan 2011–2015</i>) The remaining below Class III roads along the AHN are almost all in Myanmar, and quite a large percentage of these in the process of being upgraded. (<i>Source: ASEAN (2012). ASEAN Connectivity Project Information Sheet</i>)

◆Remarks

<ul style="list-style-type: none"> The AHN is based on an Asian Highway Network template that has been in progress since the 1960s, and many of the Economic Corridor routes in the Greater Mekong Subregion (GMS) overlap with this original model. The AHN and GMS economic corridor design specifications follow those for the European Highway, and are divided by class as follows. <ol style="list-style-type: none"> 1) Primary class: Four or more lanes and designed for speeds of 60–120 km/h. Access controlled to allow motor vehicles only. 2) Class I: Four or more lanes and designed for speeds of 50–100 km/h 3) Class II: Two lanes and designed for speeds of 40–80 km/h 4) Class II: Two lanes and designed for speeds of 30–60 km/h

◆Excerpts from related documents

- One of the problems that has gotten in the way of transport connectivity is the challenge of building bridges across the Mekong River. Developments in this area are being steadily carried out. (Source: Koichi Ishikawa, Kazushi Shimizu, and Seiya Sukekawa (2013). *Japan and the ASEAN Economic Community: Birth of a Massive Integrated Market*. Bushindo Publishing.)
- Once the bridge is finished along the Southern Economic Corridor route between Phnom Penh and Ho Chi Minh (scheduled for completion in March 2015), it will enable continuous travel across the Mekong River. (Source: JETRO (2013). *Latest Logistics and Customs Information from the ASEAN–Mekong Region*)
- Road development has gone ahead of rail development, so little significant progress has been made in this area. Although the concept of an SKRL exists, the route itself has not yet been finalized. The focus now is on rehabilitation projects on parts of the rail that cut across roadways. (Source: Koichi Ishikawa, Kazushi Shimizu, and Seiya Sukekawa (2013). *Japan and the ASEAN Economic Community: Birth of a Massive Integrated Market*. Bushindo Publishing.)
- All lines of the SKRL will not be completed by 2015, and 2020 is the new deadline. Efforts to secure the funding needed to develop each section are moving forward through financial assistance and technical cooperation from ADB and dialogue partners, but financial and technical challenges still remain. (Source: Atsusuke Kawada (2011). *The Greater Mekong Subregion*. Keiso Shobo.)

Strategic target #2: Competitive economic region

4. Infrastructure development (c) Maritime transport	
Goal	Build a competitive, seamlessly integrated shipping system to promote maritime safety and security as well as the development of ports that are both environmentally sustainable and user-friendly.
Expected progress by the end of 2015	In progress
Evaluation standards	The successful construction of a seamlessly integrated shipping system in the ASEAN region is expected to take place after 2015. Capacity enhancements at the 47 designated ports as well as increased efficiency for maritime shipping routes linking mainland and archipelagic zones, are expected to be behind schedule and completed after 2015.

◆Planned vs. actual progress

Plan	<p>Brunei Action Plan (2010)</p> <ul style="list-style-type: none"> • Build a competitive and seamlessly integrated shipping system <ul style="list-style-type: none"> ➢ Realise an ASEAN Single Shipping Market by 2015 ➢ Enhance the capacity of the 47 designated ports by 2015 ➢ Establish efficient and reliable shipping routes, including Ro-Ro ships, connections between mainland and archipelagic Southeast Asia, and strengthen the linkages with global and domestic routes by 2015 ➢ Establish and enhance the Cruise Corridors by 2015. • Develop a safety navigation system and establish an advanced maritime security system in line with international standards. <ul style="list-style-type: none"> ➢ Review ASEAN Near Coastal Voyage Limits as per the requirements of the Standards of Training, Certification and Watch-keeping Convention by 2012. ➢ Enhance search and rescue capability by 2015. ➢ Develop human resources to strengthen port and shipping operations by 2015. • Achieve environmentally sustainable and user-friendly maritime shipping operations <ul style="list-style-type: none"> ➢ Enhance the activity in cooperation with the International Maritime Organization (IMO), and promote the signing and implementation of the relevant IMO initiative Conventions by 2011. 	
	Achievements	Remaining issues
	<ul style="list-style-type: none"> • Strategies for an ASEAN Single Shipping Market to facilitate maritime shipping in the ASEAN region were formulated nine months late in October 2010. • Feasibility studies on identified routes for a Ro-Ro shipping network are complete, and the associated regulatory frameworks have been developed. Increased competitiveness is expected going forward in line with port expansion and other developments. <i>(Source: ASEAN (2012). ASEAN Connectivity Project Information Sheet)</i> 	<ul style="list-style-type: none"> • At present, the expansion of existing port networks, the development of Ro-Ro shipping networks, and other advancements are progressing well, but the establishment of single shipping market is still in the investigative and strategic formulation stage. Completion is expected to occur beyond 2015. <i>(Source: ASEAN (2012). ASEAN Connectivity Project Information Sheet)</i>

◆Remarks

1. Building physical connectivity in the ASEAN region requires not only projects on the continent, but also projects to link the island nations (primarily Indonesia and the Philippines) to the mainland and link outlying islands to one another. It has also been pointed out that the construction of economic corridors should involve not only overland routes, but maritime routes as well.

◆Excerpts from related documents

- The operation of Ro-Ro shipping networks, particularly in island countries like the Philippines and Indonesia, has been successful—thanks in part to competitive outcomes among multiple companies that run the domestic shipping routes in these countries. (*Source: So Umezaki (2012). Towards Enhanced Connectivity in the ASEAN Islands. International Research Report. IDE-JETRO.*)
- Although the region is aiming to establish an ASEAN Single Shipping Market, the task is apparently a difficult one and progress lags behind the integration of the aviation market. Investigations are moving forward thanks to technological cooperation from Korea, and there are two goals at present: (1) to use the ASEAN Single Shipping Market to promote fair competition among the region’s maritime businesses, and (2) the free movement of goods, services, investments, capital, and skilled labour throughout the ASEAN region. (*Source: Koichi Ishikawa, Kazushi Shimizu, and Seiya Sukekawa (2013). Japan and the ASEAN Economic Community: Birth of a Massive Integrated Market. Bushindo Publishing.*)
- Regarding inland water transport, a work schedule for the construction of an “efficient and integrated inland waterway transport network” specified in the Brunei Action Plan has been announced. Traditional modes of transportation still retain their importance today, particularly among those who use the Mekong River in the GMS. Residents of Yunnan Province at the headwaters of the Mekong River as well as those in the other countries it passes through (Lao PDR, Myanmar, and Thailand), have used inland water transport since ancient times, and still use the river as a transport route for small boats carrying produce and other goods for trade. The low cost of this mode of transport makes it preferable to overland transport. Larger ships are able to use the river to travel between the downstream countries of Cambodia and Viet Nam, and a new terminal for large containers is currently being constructed on the outskirts of Phnom Penh with support from China. (*Source: Koichi Ishikawa, Kazushi Shimizu, and Seiya Sukekawa (2013). Japan and the ASEAN Economic Community: Birth of a Massive Integrated Market. Bushindo Publishing.*)

Strategic target #2: Competitive economic region

4. Infrastructure development (d) Air transport	
Goal	Implement the ASEAN Single Aviation Market (ASAM) in order to realize ASEAN economic integration.
Expected progress by the end of 2015	In progress
Evaluation standards	The ASEAN Single Aviation Market will likely be implemented after 2015. The granting of freedoms to fly from one's own country to another, from another country to one's own, and between two foreign countries has been delayed in terms of multinational transport within the ASEAN region and in terms of cabotage (transport between two domestic points in a foreign country).

◆Planned vs. actual progress

Plan	<p>Brunei Action Plan (2010)</p> <ul style="list-style-type: none"> • Establish an ASEAN Single Aviation Market <ul style="list-style-type: none"> ➢ Formulate an ASEAN Single Aviation Market (ASAM) Roadmap and implementation strategy by 2011 and develop an ASAM by 2015 ➢ Ratify and implement the Roadmap for Integration of the Air Travel Sector (RIATS) and the ASEAN Multilateral Agreement on Full Liberalization of Passenger Air Services (MAFLPAS) by 2013. ➢ Implement the liberalization of the ASEAN Air Transport Ancillary Services by 2015. ➢ Enhance the involvement of the private sector. • Promote environmentally-friendly aviation <ul style="list-style-type: none"> ➢ Develop programmes to improve environmentally friendly aviation by 2015. • Enhance engagement with dialogue partners to promote greater connectivity <ul style="list-style-type: none"> ➢ Conclude the Air Transport Agreement with China by 2010; with India, Korea, and possibly other dialogue partners not later than 2015, and thereafter consider the possible expansion to other partners. 	
	Achievements	Remaining issues
	<ul style="list-style-type: none"> • Great progress has been made towards establishing an ASEAN Single Aviation Market based on the RIATS action plan. Nine member states (all except Indonesia) have ratified and enacted the ASEAN Multilateral Agreement on the Full Liberalisation of Passenger Air Services (MAFLAFS). All ten member states have ratified and enacted protocols 1 and 2 from the ASEAN Multilateral Agreement on Air Services (MAAS), and nine (all except Indonesia) have put protocols 3 and 4 into force. Protocols 5 and 6 are awaiting ratification from Indonesia and the Philippines, but the remaining eight member states have enacted these as well. MAFLPAS has been ratified by five countries (excluding Indonesia, Brunei, Cambodia, Lao PDR, and Myanmar). (Source: 	<ul style="list-style-type: none"> • Indonesia has been late in ratifying MAFLAFS and protocols 3, 4, 5, and 6 of MAAS, while the Philippines is behind in ratifying protocols 5 and 6 of MAFLAFS. (Source: Japanese Ministry of Land, Infrastructure and Transport (2012). Transport Conditions in ASEAN.)

<i>Japanese Ministry of Land, Infrastructure and Transport (2012). Transport Conditions in ASEAN.)</i>	
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◆Remarks

1. It has been noted that liberalising aviation-related services is a critical step towards facilitating the free flow of goods, services, and people throughout ASEAN and to and from other regions.
2. A Single Aviation Market is a market characterized by unrestricted liberalisation under the third (the right to fly from one's own country to another), fourth (the right to fly from another country to one's own), and fifth (beyond rights) freedoms of the air

◆Excerpts from related documents

- There are concerns among the ASEAN member states that the high degree of liberalisation found in Europe and the growing low-cost carrier (LCC) market will have a negative impact on their national flag carriers. In this sense, even if ASEAN liberalises its airspace up to the fifth freedom, it will be difficult to achieve a true single market where flights are able to pass freely through all points in the region. The resulting agreement will be closer to a multinational open sky policy. (Source: *Shinya Hanaoka (2010). Advancing Aviation Liberalisation in Asia and the Emerging Low Cost Carriers. Transportation and Economics. Vol. 70.*)
- Consensus among individual member states regarding the ASEAN aviation market is more solid than in land or maritime transport, with a majority of countries having signed and ratified the ASEAN Multilateral Agreement on the Full Liberalisation of Passenger Air Services (MAFLAFS) (which is based on the Roadmap for Integration of the Air Travel Sector (RIATS)), the ASEAN Multilateral Agreement on Air Services (MAAS), and the ASEAN Multilateral Agreement on Full Liberalization of Passenger Air Services (MAFLPAS). (Source: *Koichi Ishikawa, Kazushi Shimizu, and Seiya Sukekawa (2013). Japan and the ASEAN Economic Community: Birth of a Massive Integrated Market. Bushindo Publishing.*)

Strategic target #2: Competitive economic region

4. Infrastructure development (e) Energy	
Goal	Realize a secure and reliable supply of energy crucial to supporting and sustaining economic and industrial activities in the ASEAN region.
Expected progress by the end of 2015	In progress
Evaluation standards	The establishment of a secure and reliable ASEAN energy supply network is likely to take place after 2015. The ASEAN Power Grid and the Trans-ASEAN Gas Pipeline are core features of the region's energy supply network. Neither are expected to be completed by 2015.

◆Planned vs. actual progress

Plan	<p>ASEAN Plan of Action on Energy Cooperation 2010-2015</p> <ul style="list-style-type: none"> • ASEAN Power Grid (APG): Total of 15 development projects planned by 2015 (Note: Currently, four have been launched, three are in the construction phase, and 8 are in the preparation stage). • Trans-ASEAN Gas Pipeline (TAGP): Develop a regional gas grid by 2020 by linking the existing and planned gas pipeline networks. • Coal and Clean Coal Technology: Promote cleaner coal use and encourage coal use technologies with minimal negative environmental impact. • Energy Efficiency and Conservation: Achieve higher end-use efficiency through the development of energy efficiency technology and service providers; reduce regional energy consumption by at least 8% by 2015 based on 2005 level. • Renewable Energy: Achieve a collective target of 15% for regional renewable energy in the total power installed capacity by 2015 by promoting the development and trade of renewable energy sources. • Regional Energy Policy and Planning: Monitor the progress of APAEC introduction for effectiveness and strengthen collaborative regional systems. • Civilian Nuclear Energy: Lay the foundation for the eventual use of nuclear power generation technologies. 	
	Achievements	Remaining issues
	<ul style="list-style-type: none"> • Although progress in the energy sector is delayed overall, the Trans-ASEAN Gas Pipeline has made relatively solid progress. TAGP is about half incomplete, as it depends on the development of the East Natuna gas field (the region's largest) in Indonesia. The remaining half of the pipeline, however, is finished. Although the TAGP project is moving forward, the ASEAN region has also begun using the liquid natural gas (LNG) required for maritime transport in an effort to meet growing demand in the market. (Source: ERIA (2012). <i>Mid-Term Review of the Implementation of AEC Blueprint: Executive Summary (Revised Version)</i>) 	<ul style="list-style-type: none"> • The APG has 5 out of 16 interconnection systems already in operation, with two to three likely to be operational by 2015, and the rest well beyond 2015 into 2020. Even if all those interconnection systems are finished, a regional power grid is still far away since those interconnection systems are largely bilateral. (Source: ERIA (2012). <i>Mid-Term Review of the Implementation of AEC Blueprint: Executive Summary (Revised Version)</i>)

◆Remarks

The ASEAN Plan of Action on Energy Cooperation 2010–2015 (APAEC) outlines specific action plans for some of the energy goals listed in the ASEAN Economic Community Blueprint. The Blueprint places particular emphasis on completing the ASEAN Power Grid and the Trans-ASEAN Gas Pipeline.

◆Excerpts from related documents

- Energy demand in the ASEAN region is characterized by skyrocketing oil demand as vehicle ownership rapidly increases. Indonesia, once an oil exporter, has already switched to a net importer. Malaysia's export volumes are currently falling, and it is likely that the country will become a net importer as well. (*Source: The Institute of Energy Economics, Japan (2012). Asia/World Energy Outlook 2012*)
- Indonesia's coal exports have been rising swiftly since the 2000s, and in 2011 the country replaced Australia as the world's largest coal exporter. However, growing demand at home has made it likely that export volumes will soon hit their peak. Viet Nam currently exports smokeless coal, but rising demand for coal used in power generation is expected to push up regular coal imports. Importers like Thailand, the Philippines, Malaysia are also expected to up their imports as demand for power-generating coal increases. (*Source: The Institute of Energy Economics, Japan (2012). Asia/World Energy Outlook 2012*)
- The APG creates an interconnected power grid and enable electricity transactions throughout the region. Building it from scratch would have required a massive investment in power generation and transmission facilities, but neighbouring companies have been trading the electricity, leading to an estimated potential savings of USD 660 million dollars in new investment and operating costs.
ASEAN is looking to accelerate the implementation of the project protocols based on the TAGP Master Plan. Progress will include project promotion through a pipeline joint venture company as well as resolving issues related to cost and regulatory frameworks. (*Source: ASEAN Centre for Energy (2009). ASEAN Plan of Action for Energy Cooperation (APAEC) 2010–2015*)

Strategic target #2: Competitive economic region

4. Infrastructure development (f) Information (ICT)	
Goal	Develop high-speed inter-connections among all national information infrastructures (NII) in the ASEAN region.
Expected progress by the end of 2015	In progress
Evaluation standards	Completion of high-speed NIIs will likely extend beyond 2015. All projects are currently in the planning stages or under consideration. Completion of all plans cannot by 2015 is not a realistic expectation.

◆Planned vs. actual progress

Plan	<p>ASEAN Economic Community Blueprint (2007)</p> <ul style="list-style-type: none"> • Facilitate high-speed connection among all national information infrastructure by 2010. • Intensify capacity-building for Computer Emergency Response Teams (CERTs). • Encourage the participation of all stakeholders in the utilisation and development of ICT applications and services. • Support sectoral ICT applications (initially in customs, transport, logistics, and the content industry). • Expand the number of countries participating in the ASEAN MRA for telecommunications equipment. • Deepen regional policy and regulatory frameworks to deal with the opportunities and challenges in the area of Next Generation Networks. <p>Master Plan on ASEAN Connectivity</p> <ul style="list-style-type: none"> • Establish an ASEAN Broadband Corridor by 2014. • Promote the diversity of international connectivity by 2015. • Establish an ASEAN Internet Exchange Network by 2013. • Complete by 2015 a feasibility study on developing an ASEAN Single Telecommunications Market. 	
	Achievements	Remaining issues
	<ul style="list-style-type: none"> • Progress has been confirmed in the following areas. <ul style="list-style-type: none"> ➢ ASEAN ICT Master Plan 2011 concluded ➢ Efforts in place to promote ICT development, particularly the ASEAN Broadband Corridor and ASEAN Internet Exchange. ➢ ASEAN has completed the study on Adoption of ASEAN Technical Architecture Framework for e-Commerce Interoperability. (Source: ASEAN (2012). ASEAN Economic Community Scorecard.) • The following progress item was emphasized during the 24th ASEAN Summit. <ul style="list-style-type: none"> ➢ Introduction of the ASEAN ICT Master Plan 	<ul style="list-style-type: none"> • Although the ASEAN ICT Master Plan was adopted in 2015 and calls for regional cooperation in the ICT sector, specifications and other details for high-speed internet have yet to be decided. At present, the ASEAN Broadband Corridor is still in the conceptual phase. (Source: ERIA (2012). Mid-Term Review of the Implementation of AEC Blueprint: Executive Summary (Revised Version)) • The region was urged to quickly move forward with the following at the 24th ASEAN Summit. <ul style="list-style-type: none"> ➢ ICT introduction in rural areas to enhance the region’s digital environment ➢ Development of national broadband networks to create equitable opportunities for regional growth

2015 <i>(Source: ASEAN (2014). 24th ASEAN Summit.)</i>	<i>(Source: ASEAN (2014). 24th ASEAN Summit.)</i>
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Strategic target #3: Equitable Economic Development

1. SME development	
Goal	Increase the contribution of SMEs to the overall economic growth by promoting the development of SMEs in each member country.
Expected progress by the end of 2015	In progress
Evaluation standards	SME development and promotion is expected to continue beyond 2015. Although plans are partially moving forward, work to establish financial assistance programs (such as the SME Development Fund) has been insufficient and is expected to continue to beyond 2015.

◆Planned vs. actual progress

Plan	<p>ASEAN Economic Community Blueprint (2007)</p> <ul style="list-style-type: none"> • Timely implementation of the ASEAN Policy Blueprint for SME Development 2004–2014 (APBSD). • Promote networking of SMEs and their participation in the building of regional production and distribution networks. • Promote best practices in SME development, including SME financing. <p>ASEAN Policy Blueprint for SME Development 2004–2014</p> <ul style="list-style-type: none"> • Set up financial assistance frameworks, including the SME Development Fund, by 2015. • Set up a foundation by 2012 beginning with an SME portal and a multimedia toolkit for SME development. • By 2010, implement measures aimed at advancing SME technology in individual countries. • Actively engage in SME promotion; for example, by recognizing outstanding companies and establishing the SME Innovation Awards, by 2015. • Promote human resource development by launching common curriculum for entrepreneurship development in the region by 2013. 	
	Achievements	Remaining issues
	<ul style="list-style-type: none"> • In 2011, the ASEAN Strategic Action Plan for SME Development (2010–2015) was formulated and the ASEAN SME Advisory Board was established. • The following programs have been completed under the APBSD. <ul style="list-style-type: none"> ➢ Multimedia toolkit for SMEs ➢ SME Service Centre ➢ Directory of 800 Outstanding ASEAN SMEs 2011 • By country, the introduction of the APBSD has resulted in particularly strong outcomes in Malaysia and the Philippines. (Source: ERIA (2012). <i>Mid-Term Review of the Implementation of AEC Blueprint: Executive Summary (Revised Version)</i>) 	<ul style="list-style-type: none"> • Concrete action towards facilitating SME development and financing has been lacking. The following represent some of the steps that the region should take going forward. <ul style="list-style-type: none"> ➢ Common curriculum for investor development ➢ One-stop service centre ➢ SME Development Fund ➢ Financial facilities for SMEs ➢ Integrated IT systems ➢ Creation of business matching opportunities (Source: ERIA (2012). <i>Mid-Term Review of the Implementation of AEC Blueprint: Executive Summary (Revised Version)</i>) • The region was urged to quickly move forward with the following at the 24th ASEAN Summit.

<ul style="list-style-type: none"> • The following progress items were emphasized during the 24th ASEAN Summit. <ul style="list-style-type: none"> ➤ Establishment of an ASEAN SME Service Centre by the SME Working Group (SMEWG) ➤ Plans to establish a credit rating model for SMEs by the end of 2014 <p><i>(Source: ASEAN (2014). 24th ASEAN Summit.)</i></p>	<ul style="list-style-type: none"> ➤ Create a policy environment that encourages SMEs to participate in building regional supply chains <p><i>(Source: ASEAN (2014). 24th ASEAN Summit.)</i></p>
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Strategic target #3: Equitable Economic Development

2. Initiative for ASEAN Integration (IAI)	
Goal	Ensure that the benefits of ASEAN integration are shared and enjoyed by all ASEAN member countries by narrowing the development gap not only within ASEAN but between ASEAN and other parts of the world as well.
Expected progress by the end of 2015	In progress
Evaluation standards	Economic disparities within member states and across the ASEAN region are likely to persist beyond 2015. While we have seen a gradual narrowing in the economic gap between the CLMV countries and the rest of the ASEAN member states (ASEAN-6), the impact of the IAI has been limited, and economic disparities within countries and across the region are likely to remain in place by 2015.

◆Planned vs. actual progress

Plan	<p>ASEAN Economic Community Blueprint (2007)</p> <ul style="list-style-type: none"> Enhance the IAI to serve as the platform for identifying and implementing technical assistance and capacity-building programmes for both public and private sectors in ASEAN member countries to allow CLMV and other regions to be equal partners. Continue ASEAN-6 support for IAI programmes. Garner support from international organizations such as the Asian Development Bank and the World Bank for effective implementation of the IAI programmes. Build/strengthen the capacity of government officials to develop and implement economic and social policies that would mitigate the effects of economic integration. Conduct periodic socio-economic studies to monitor/evaluate the impact of economic integration. <p>Initiative for ASEAN Integration (IAI)</p> <ul style="list-style-type: none"> The IAI calls for the implementation of projects in seven sectors: (1) addressing infrastructure (transport and energy); (2) human resource development (public sector capacity building, labour and employment, and higher education); (3) information and communication technologies (ICT); (4) regional economic integration (trade in goods and services, customs, standards, and investments); (5) tourism; (6) poverty alleviation and quality of life; (7) comprehensive projects <p>Schedule: Work Plan 1 (2002–2008); Work Plan 2 (2009–2015)</p> <p>ASEAN Framework for Equitable Economic Development (AFEED)</p> <ul style="list-style-type: none"> Preparations are underway to set up a framework that will promote equitable economic development in the ASEAN region
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Achievements	Remaining issues
<ul style="list-style-type: none"> • Development agencies in CLMV are aware that IAI initiatives that deliver technological assistance and other support from the ASEAN-6 countries to CLMV play a pivotal role in narrowing development gaps in the ASEAN region. (Source: ERIA (2012). <i>Mid-Term Review of the Implementation of AEC Blueprint: Executive Summary (Revised Version)</i>) • In May 2013, the ASEAN Secretariat published its <i>Narrowing the Development Gap in ASEAN: Drivers and Policy Options</i> report, which was one of the outcomes of the IAI Work Plan 2. The CLMV Action Plan 2014, designed to help complete the IAI Work Plan 2, was approved in 2014. (Source: ASEAN Secretariat (2013). <i>45th ASEAN Economic Ministers Meeting</i>) 	<ul style="list-style-type: none"> • Budget and time limitations on IAI programs make it difficult to implement large-scale projects under this scheme. At the same time, there is sometimes a mismatch between the needs and priorities of the countries offering support (ASEAN-6) and those receiving it (CLMV). (Source: ERIA (2012). <i>Mid-Term Review of the Implementation of AEC Blueprint: Executive Summary (Revised Version)</i>) • The Ministers acknowledged the importance of sub-regional initiatives such as BIMP-EAGA, IMT-GT and GMS cooperation frameworks in narrowing the development gaps in the region, but urged the member states to align their development agendas with the ASEAN Economic Community Blueprint to increase their contribution to ASEAN integration. (Source: ASEAN Secretariat (2013). <i>45th ASEAN Economic Ministers Meeting</i>) • The importance of the following was stressed at the 24th ASEAN Summit. <ul style="list-style-type: none"> ➢ Work with the World Bank to jointly develop monitoring tools to measure fairness levels for economic development (Source: ASEAN (2014). <i>24th ASEAN Summit.</i>)

◆ **Excerpts from related documents**

<ul style="list-style-type: none"> • Of the 232 projects that had been implemented as of October 2012, particular emphasis was placed on developing human resources in the public sector (83 of the total). The more developed ASEAN member states contributed a combined USD 33.5 million, with Singapore offering the largest share at USD 24.5 million (about 70% of the total). In addition, twelve other dialogue partners (countries and regions), international agencies, and other organizations offered a total of USD 19.7 million in support. The IAI initiatives focus on soft infrastructure support (such as capacity building), but their scope is extremely small in light of plans aimed to achieve major AEC targets. As a result, the effect of their implementation is limited. (Source: Koichi Ishikawa, Kazushi Shimizu, and Seiya Sukekawa (2013). <i>Japan and the ASEAN Economic Community: Birth of a Massive Integrated Market</i>. Bushindo Publishing.)

Strategic target #4: Integration into the global economy

1. External economic relations

Goal	Boosting the international competitiveness of ASEAN businesses and making the region a more dynamic and critical segment of the global supply chain requires that the market become increasingly attractive to foreign investment while incorporating more external rules and legislation into its regulatory systems.
Expected progress by the end of 2015	In progress
Evaluation standards	Although ASEAN will have concluded free trade agreements with key trade partners (ASEAN Plus One FTAs with countries and regions) by 2015, it is likely that negotiations over the Regional Comprehensive Economic Partnership (RCEP) with East Asia and the Trans-Pacific Partnership (TPP) agreement will not be settled by the end of 2015.

◆Planned vs. actual progress

Plan	ASEAN Economic Community Blueprint (2007) ◇Free trade agreements (FTAs) and comprehensive economic partnerships (CEPs) <ul style="list-style-type: none"> Review FTA/CEP commitments in terms of current internal ASEAN integration commitments Establish a system for enhanced coordination in ASEAN's internal and multilateral economic relations. 	
	Achievements	Remaining issues
	<ul style="list-style-type: none"> Five ASEAN Plus One FTAs have been signed and are in the process of being ratified in the individual countries. <ul style="list-style-type: none"> ASEAN-China Free Trade Area (ACFTA) ASEAN-Korea Free Trade Area (AKFTA) ASEAN-Japan Comprehensive Economic Partnership (AJCEP) ASEAN-Australia-New Zealand Free Trade Area (AANZFTA) ASEAN-India Free Trade Area (AIFTA) <i>(Source: ASEAN Secretariat (2012). ASEAN Economic Community Scorecard)</i> ASEAN agreed to enter FTA negotiations with Hong Kong at the April 2013 ASEAN Summit. <i>(Source: ASEAN (2013). 22nd ASEAN Summit.)</i> At the ASEAN Economic Ministers Meeting in August 2013, the ministers noted progress in the commencement of negotiations for the Regional Comprehensive Economic Partnership (RCEP) in May 2013. They also urged officials involved in the negotiations to ensure that they adhered closely to the <i>Guiding Principles and Objectives for Negotiating the Regional Comprehensive</i> 	<ul style="list-style-type: none"> Ongoing negotiations are required for the following agreements. <ul style="list-style-type: none"> Conclusion of the ASEAN-India Services and Investment Agreement Implementation of the Japan-ASEAN economic partnership agreement in all member states (not yet ratified by Indonesia). <i>(Source: ASEAN Secretariat (2012). ASEAN Economic Community Scorecard)</i> RCEP negotiations are expected to present difficulties, as they involve the governments and economies of multiple countries. Their conclusion is therefore expected to occur sometime after 2015. <i>(Source: ERIA (2012). Mid-Term Review of the Implementation of AEC Blueprint: Executive Summary (Revised Version))</i>

<i>Economic Partnership. (Source: ASEAN Secretariat (2013). 45th ASEAN Economic Ministers Meeting)</i>	
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◆ **Excerpts from related documents**

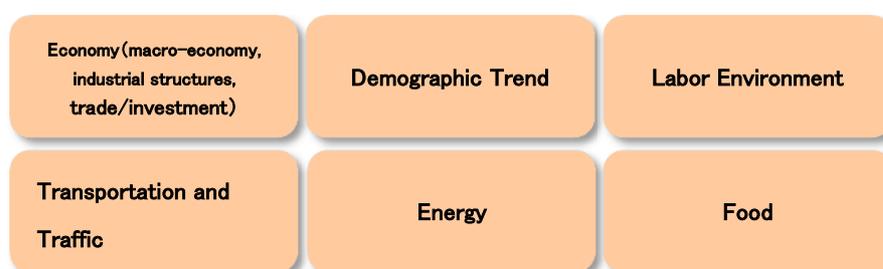
- Although AFTA and other ASEAN Plus One FTA agreements are nearly complete, they are inconsistent in terms of their target scope, degree of liberalisation, tariff reduction schedules, rules, and so on... From the perspective of the member states, FTAs have been concluded with every key market in the Asia-Pacific region, and the hub of that region is ASEAN itself. However, a barrage of ASEAN Plus One FTAs is not in itself enough to allow the multinational corporations that are developing production sites in the Asia-Pacific to efficiently set up divisions of labour in the region... The key to setting up Asia-Pacific supply chains is whether or not a broad-based FTA that integrates the entire region can be formulated. Negotiations for the RCEP got a head start in 2013 with the goal of having them completed by the end of 2015... The only key ASEAN market that has announced its intention not to participate in the TPP is Indonesia... Thailand announced its intention to participate in negotiations in November 2012, and so is likely to join the negotiating TPP parties in the future. (Source: Koichi Ishikawa, Kazushi Shimizu, and Seiya Sukekawa (2013). *Japan and the ASEAN Economic Community: Birth of a Massive Integrated Market*. Bushindo Publishing.)

Chapter3 Scenarios for ASEAN in 2025

In this section we prepared three scenarios (optimistic, realistic, and pessimistic) by major sectors for ASEAN in 2025, ten years after the realization of an ASEAN Economic Community (AEC).

These scenarios are based on quantitative (actual results, forecasts) and qualitative data from international organizations and various research organizations, as well as plans, policies and other information from the individual governments. That said, the "macro-economy" within the economic sector, presents the calculated values for ASEAN10 GDP (2013-2015) taking into consideration effects from the launch of AEC. However, scenarios for other sectors are not linked to GDP forecasts from research organizations, but are based on the abovementioned quantitative and qualitative data, as well as information from each government.

Figure 3-1: Main Sector



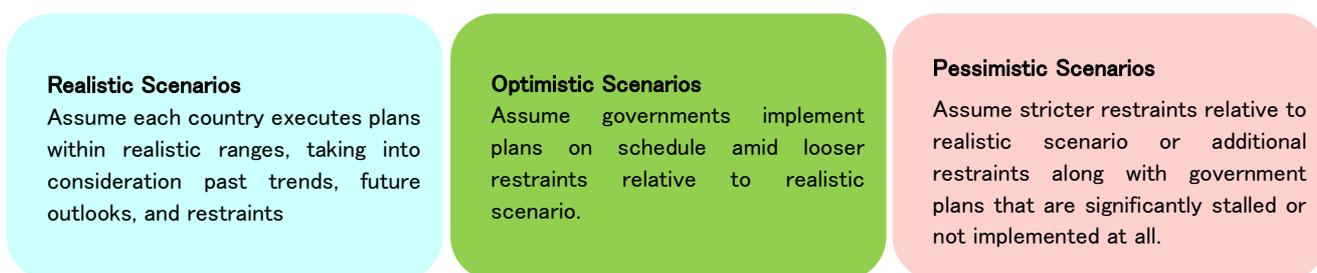
Our scenarios assume the following phenomenon regarding financial markets, political situations, natural disasters, energy markets, and the scope of the ASEAN member countries will not occur.

Figure 3-2: Precondition for creatinf of scenarios

Financial Markets	Financial crisis like Asian currency crisis or Financial crisis in 2008 will not happen
Political Situation	Political situation in ASEAN is considered as stable and terrorist attack or coup d' état will not happen
Natural Disasters	Natural disasters like a massive earthquake or flood will not happen
Energy Markets	The restricted supply of crude oil or speculation will not cause worldwide confusion like sudden rise in the oil price
ASEAN Country Members Bounds	East Timor has asked to be part of the ASEAN countries, but member countries have not approved yet, so East Timor will not be involved as part of the subject

In creating our three scenarios we first created "realistic" scenarios to serve as the base scenario, and then incorporated positive and negative factors to create the "optimistic" and "pessimistic" scenarios. The realistic scenarios assume each country executes their plans within the ranges seen as realistic, while taking into consideration past trends, future outlooks, and various restraints. The optimistic scenarios were set assuming (1) the mitigation of the restraints, and (2) the governments are more successful in implementing their plans than expected. Conversely, the pessimistic scenarios were set assuming more stringent restrictions than in the realistic scenarios and/or government plans that are significantly delayed or not implemented at all.

Figure 3-3: Definition of each scenarios



For the analytical use, the ASEAN10 countries were classified into the following country groups based on nominal per capita GDP levels as of 2012 based on International Monetary Fund (IMF) statistics. However, this does not apply to those sectors for which applying nominal per capita GDP is not appropriate. In this report, the ordering of countries within the country groups is based on 2012 nominal per capita GDP.

Figure 3-4: Grouping of ASEAN member countries

Country Group	Sub-Group	Member countries	GDP per capita (2012)
CLMV	—	Cambodia, Lao PDR, Myanmar, VietNam	\$800~1,800
ASEAN 4	Group 1	Indonesia, Phiippines	\$2,000~4,000
	Group 2	Malysia, Thailand	\$5,000~11,000
BS	—	Brunei, Singapore	Above\$40,000

(Source: Created by study team based on IMF World Economic Outlook 2013 October)

Chapter 3 Scenarios for ASEAN in 2025

(1) Economy (macro-economy, industrial structures, trade / investment)

When analyzing how industrial development and trade / investment expansion are tied to economic growth in the ASEAN region, we must also grasp the challenges and root causes behind potential disparities that could emerge from the growth process and consider countermeasures.

For that purpose we analyzed "economic growth," "industrial structures," "trade & investment," "gross net income boosts from TPP, RCEP, and FTAAP," "disparities within region," and "disparities within countries" and projected key economic challenges up to 2025.

① Realistic Scenario

< Summary >

【Economic growth】

- The ASEAN economy continues growing at a pace of around 5.5%-6% between 2012 and 2025. Overall GDP roughly doubles from the 2012 level to \$4,628.2 billion, which is still only equivalent to just 4% global GDP. ASEAN needs to bolster its competitiveness and realize further growth as an integrated market in order to raise its global profile amid the ascension of China, India, African nations and other emerging markets.
- CLMV enjoys growth of 7%-9% with continued contributions from robust investment and growing workforces. ASEAN4 (Group 1) sees growth of 6%-7% with contributions from increased consumption in addition to investment and growing workforces. For ASEAN4 (Group 2) and BS, however, there are concerns about slowing economic growth amid the issues of labor shortages, the need to foster industries offering added value, and the need develop human resources.

【Industrial structures】

- For all except BS and ASEAN4 (Group 2), there is the strong likelihood of declining ratios of agriculture to GDP along with increasing ratios of manufacturing/service industries to GDP. On the other hand, the ratio of agriculture to GDP trends higher for ASEAN4 (Group 1).
- Consumption is expected to grow in Viet Nam, ASEAN4 (Group 1), and Thailand along with increased disposable income. As such, service industry growth is expected, mainly in urban areas.

【Expansion of trade and investment】

- Trade inside and outside the region grows owing to expanded FTA's with surrounding countries in addition to approaches taken by each country to eliminate tariffs based on the AEC strategic goals.
- Investment in the manufacturing sectors continues. Meanwhile, service fields are expected to be targeted as new growth fields amid the easing of restrictions on foreign capital and the growing middle class.
- Myanmar, Lao PDR, Cambodia, and Indonesia could lose some competitiveness in attracting overseas direct investment if major improvements are not made in preparing systems supporting better investment

environments.

【Economic impacts of TPP, RCEP, and FTAAP】

- ASEAN gross net income (GNI) grows 2.2% on increased trade and investment, provided 12 countries agree to TPP (Trans-Pacific Partnership) by 2015. Within ASEAN the GNI boosting effect is the strongest for Viet Nam at 10.5%, followed by Malaysia at 5.6%. However, 0.4% negative growth is projected for Thailand and the CLM nations that choose not to participate in TPP.
- TPP participation increases exports to North America, but makes it more difficult to enact policies protecting domestic industries. As such, the conditions for developing industry differ for the TPP-participant and non-participant countries.
- ASEAN gross net income (GNI) grows 2.9% and all ASEAN members see positive growth on increased trade and investment, provided RCEP (Regional Comprehensive Economic Partnership) is concluded by 2016¹. Within ASEAN, the GNI boosting effect is the strongest for Brunei at 5.8%, followed by Viet Nam at 5.1%.
- Furthermore, production networks for parts and semi-finished goods are projected to expand within the region and positively impact the economies of each country in the region.

【Disparities within region】

- Singapore has the highest per capita GDP among ASEAN members at 61.3 times that for Myanmar, which has the lowest per capita GDP (as of 2012). However, Myanmar maintains sharp economic growth outpacing that for Singapore and in 2025 Singapore's per capita GDP narrows to 36.3 times that for Myanmar. Still, this represents a significant gap between the two nations.

【Disparities within countries】

- Disparities (GINI coefficient) within Lao PDR, Indonesia, and Malaysia widen, while those in Cambodia, Viet Nam, Philippines, and Thailand narrow. Furthermore, the income gaps between rural and urban societies widen in Indonesia, Thailand, and the Philippines. In the future there could be temporary widening of disparities between rural communities, where the main industry is agriculture with low labor productivity, and the rural societies, where growth is expected for the manufacturing and service sectors.

¹ China, Japan, ASEAN10, Australia, India and New Zealand sign by 2016 (scenario created by Professor Peter A. Petri's study team)

【Economic growth】

For this report the study team jointly prepared GDP forecasts for ASEAN10 from 2013 to 2025 along with Jinichi Uemura, an expert in econometrics working for the Institute of Developing Economies, Japan External Trade Organization's (JETRO). These forecasts calculate GDP taking into consideration impacts from the launch of the ASEAN Economic Community (AEC). However, these forecasts are not linked to the forecast values for the labor environment, transport & transportation, energy & food demand, and GDP analyzed separately in this chapter.

<Forecast model>

The study team and Jinichi Uemura jointly made forecasts of overall GDP and per capita GDP for each ASEAN member in 2025 using a "monetarist-type" macro-econometric model². This model (hereafter referred to as "study team / Uemura model") was adopted because it can simultaneously be applied to multiple countries. Furthermore, the GDP determining factors are government expenditures, money supply and population, and this model incorporates the trade creation effects from the reduction of tariffs and non-tariff barriers and the economic effects of government expenditures for building infrastructure.

<Setting forecast conditions>

In forecasting 2025 GDP, we added three conditions to the monetarist-type forecast model.

The three conditions are ① effects from eliminating tariffs, ② effects from reducing non-tariff barriers, and ③ effects from infrastructure investment. Conditions ①~③ were set in the following manner after referring to relevant documentation and holding hearings with experts (Fig. 3-5).

The "effects from eliminating tariffs" is calculated as an increase in exports assuming tariffs are eliminated in 2015 (2018 for CLMV).

The "effects from reducing non-tariff barriers" is calculated as an increase in exports assuming that non-tariff barriers are reduced by a fixed rate of 50% from current levels by 2025.

We assume the increases in exports are proportional to the degree to which tariffs and non-tariff barriers are eliminated / reduced. For example, as trading partner countries impose a tariff exponent of 6.92(%)³ on goods imported from Thailand, we assume this as the actual value of the "burden" currently placed on Thai exports. Accordingly, if all trading partner countries eliminate their tariffs, this exponent would become 0.00(%), and we could assume an export increase of $1/(1-0.06920) = 1.07434$ times. In order to calculate effects on trade within the ASEAN region when tariffs and non-tariff barriers are eliminated / reduced, our forecasts tabulated trade ratios for each ASEAN member and the effects from eliminating / reducing tariffs and non-tariff barriers, and integrated these results into export amounts.

We used the ASEAN region trade ratios as of 2011. The values for tariffs and non-tariff barriers are from the Global Trade Analysis Project (GTAP).

² Model in which GDP consists of exports, government expenditures and money supply

³ Average of tariffs used by trading partner countries weighted by export share.

Regarding the effects from government investment in infrastructure, we assume that 30% of the infrastructure needs⁴ of the Asia-Pacific region calculated by ADBI in 2010 will be added between 2010 and 2025. In ASEAN there is the problem of infrastructure development delays due to delays in procuring funding (see Chapter 4. Transport and traffic) and achieving infrastructure investment equivalent to between 5% and 14% annual GDP as needed according to ADBI is considered difficult. However, Goldman Sachs forecasts that ASEAN4 infrastructure investment (as % of GDP) will increase from 1.5-3.5% in 2012 to 2.5-5% in 2020. Calculating an infrastructure investment amount approximately equal to this increase suggests that 30% of the needed infrastructure amount will be invested between 2010 and 2025. Accordingly, this forecast assumes the following figures applied to existing government expenditures.

Figure 3-5: Conditions for scenario (Study team / Uemura model)

Items	Conditions
① Elimination of tariffs	By 2015 (2018 for CLMV)
② Reducing non-tariff barriers (vs. current level)	50% reduction by 2025
③ Investment in infrastructure (% of ADBI's projected needed infrastructure investment ⁵ actually invested between 2010-2025)	30%

< Estimation results >

2 Overall GDP for ASEAN will roughly double from \$2,305.5 billion in 2012 (IMF estimate) to \$4,628.2 billion in 2025 (Fig 3-6). ASEAN's share of global GDP will increase from roughly 3.2% in 2012 to roughly 4% in 2025⁶. However, ASEAN's share of global GDP is small⁷ compared to the US (25.3%) and China (10.1%). As such, in order for ASEAN to achieve further growth it will need to bolster its competitiveness as an integrated market, while attracting investment and talented human resources.

CLMV is expected to achieve growth of between 7% and 9% through continued brisk infrastructure investment and workforce growth, with the elimination/ reduction of tariffs and non-tariff barriers contributing to export creation. The two ASEAN4 (Group 1) countries are forecast to achieve growth of 6-7% with infrastructure and workforce growth. On the other hand, relatively low economic growth is forecast for ASEAN4 (Group 2) countries and BS due to labor shortages, small infrastructure investment, and limited additional export creation as trade is already liberalized (see Chapter 4 Labor Environment, for details on economic growth factors).

The projected per capita GDP growth rates are 6.3-6.7% for CLMV, 4.3-5% for ASEAN4 (Group 1), 3-4.5% for ASEAN (Group 2), and 2.2-2.4% for BS.

⁴ ADBI (2010), "Estimating Demand for Infrastructure in Energy, Transport, Telecommunications, Water and Sanitation in Asia and the Pacific: 2010-2020"

⁵ ADBI (2010), "Estimating Demand for Infrastructure in Energy, Transport, Telecommunications, Water and Sanitation in Asia and the Pacific: 2010-2020"

⁶ Average global GDP growth rate between 2013 and 2018 (IMF estimate) extrapolated to 2025.

⁷ From Japan Center for Economic Research's "Global Growth Forecasts ~ Three Scenarios for Japan" (2013)

Figure 3-6: Forecast of GDP and GDP per capita (study team / Uemura model)

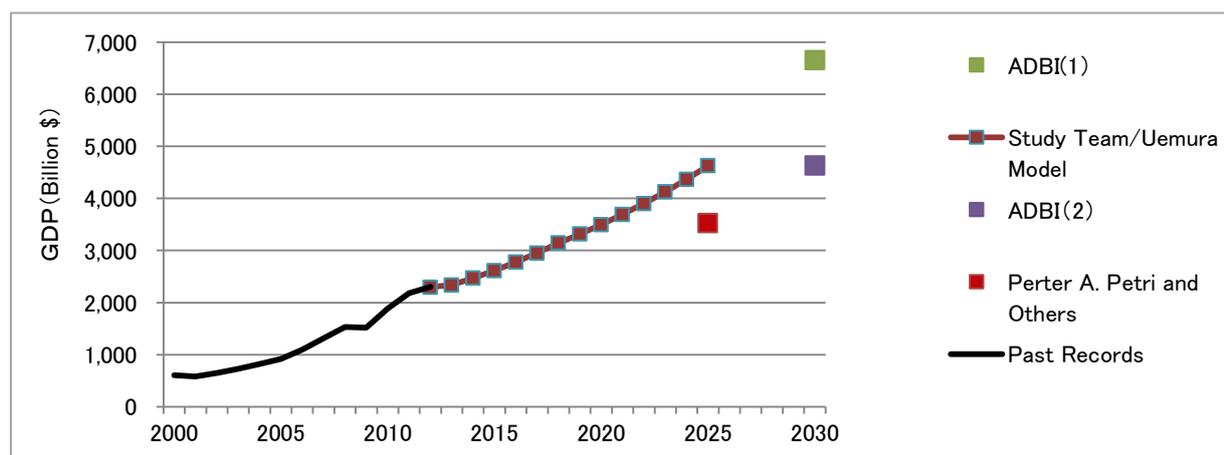
		GDP			
		Amount (\$100 mil)		Amount (\$100 mil)	
		Amount (100 mil)	Amount (100 mil)	Amount (100 mil)	Amount (100 mil)
ASEAN Overall		46,282	5.9%	–	–
CLMV	Myanmar	1,044	7.7%	1,938	6.7%
	Cambodia	383	8.1%	2,172	6.6%
	Lao PDR	245	9.0%	3,088	6.5%
	Viet Nam	3,464	7.8%	3,509	6.3%
ASEAN4 (Group 1)	Philippines	5,352	6.3%	4,493	4.3%
	Indonesia	18,823	6.5%	6,714	5%
ASEAN4 (Group 2)	Thailand	6,908	5.7%	9,734	4.5%
	Malaysia	5,300	4.7%	15,056	3%
BS	Brunei	277	3.5%	57,934	2.2%
	Singapore	4,484	4.0%	70,350	2.4%

(Source: Study team / Uemura)

< Comparison of GDP forecast values >

Comparisons were made between the study team / Uemura model forecasts and similar forecasts prepared by various organizations (Fig. 3-7~3-9). As starting years for forecast periods and forecast methods differ, values for the forecast years are displayed as reference values, and changes are only shown for the study team / Uemura model. Comparison with the different forecasts shows that values in the study team / Uemura model as a little higher than the median.

Figure 3-7: Main GDP forecasts



(Source: Created by study team based on various materials (mentioned in notes))

Figure 3-8: Model settings for each scenario

	Study Team / Uemura Model	ADBI (1) ⁸ (2030 values)	ADBI (2) ⁹ (2030 values)	Peter A. Petri, Michael G. Plummer, and Fan Zhai ¹⁰
Baseline	•IMF forecasts (exports, government expenditures) until 2018, trends based on UN urbanization forecasts for after 2018.	N/A	N/A	•IMF forecasts until 2015, then CEPII (Center for International Prospective Studies) forecasts until 2025.
Added Factors	•Elimination of tariffs •50% reduction in non-tariff barriers by 2025 •30% of 2010–20 infrastructure needs amount executed in 2010–25	N/A	N/A	•13-country ¹¹ TPP agreement •ASEAN+3 (Japan, China, South Korea) FTA agreement •EAFTA (EU+ASEAN) agreement

(Source: Created by study team based on various materials (mentioned in notes))

Figure 3-9: Forecasts of GDP per capita by each scenario (Unit:\$)

	Study Team / Uemura Model (2025)	ADBI (1) (2030)	ADBI (2) (2030)	Peter A. Petri (2025)
Myanmar	1,939	3,216	2,149	–
Cambodia	2,172	2,934	3,244	–
Lao PDR	3,088	3,623	3,575	–
Viet Nam	3,509	4,336	4,136	2,788
Philippines	4,493	5,034	5,224	2,613
Indonesia	6,714	10,582	6,080	5,248
Thailand	9,734	14,204	9,702	7,763
Malaysia	15,056	24,780	15,912	12,504
Brunei	57,594	75,433	43,587	46,653
Singapore	70,350	79,300	54,206	61,067

(Source: Created by study team based on various materials (mentioned in notes on previous page))

⁸ Created by study team based on ADBI (2012), “ASEAN2030 Toward Borderless Economic Community”

⁹ ADB (2011), “ASEAN 2030: Growing Together for Shared Prosperity Luncheon Speech by Masahiro Kawai, Dean and CEO”

¹⁰ Peter A. Petri, Michael G. Plummer, and Fan Zhai (2011), “The Trans-Pacific Partnership and Asia-Pacific Integration: A Quantitative Assessment” East-West Center

¹¹ Canada, US, Mexico, Peru, Chile, New Zealand, Australia, Brunei, Singapore, Malaysia, Viet Nam, Japan, South Korea

【Industrial structures】

It has been stated that as an empirical rule, industrial structures change from agriculture to manufacturing and services as national income rises, as in Petty-Clark's Law. Hoffmann's Law also noted that the proportion of heavy industry gradually expands as national income rises.

With a dual economy model, which is a model in which the economy is analyzed from the supply side, overall labor productivity improves and it is assumed to be linked to economic development, by surplus labor moving from traditional industries with low productivity to modern industries with high productivity. On the other hand, in analysis from the demand side, since spending goes to purchases of food and daily necessities for the majority of the public in a low income country, it is assumed that changes in consumption conducive to industrialization are difficult to produce. However, a model of increasing industrial competitiveness to catch up with developed countries by incorporating external demand to move forward with industrialization was shown in the flying geese theory¹². This has been the theoretical background for each ASEAN country creating Special Economic Zones (SEZs) and attracting foreign companies to drive industrialization oriented toward exports. Also, with regard to the movement of labor between agricultural areas and cities, in the Harris Todaro Model, the movement of labor from agricultural areas to urban areas is assumed to continue until the expected wages in urban areas, taking into account the risk of unemployment, correspond to the level of wages in rural areas.

Based on these theories, it will be necessary to move the workforce from agriculture with low productivity to exporting industries or to manufacturing and service industries directed at internal demand in countries pressing forward to catch up with developed countries. This trend is actually seen in many ASEAN countries (Figs. 3-10~3-13).

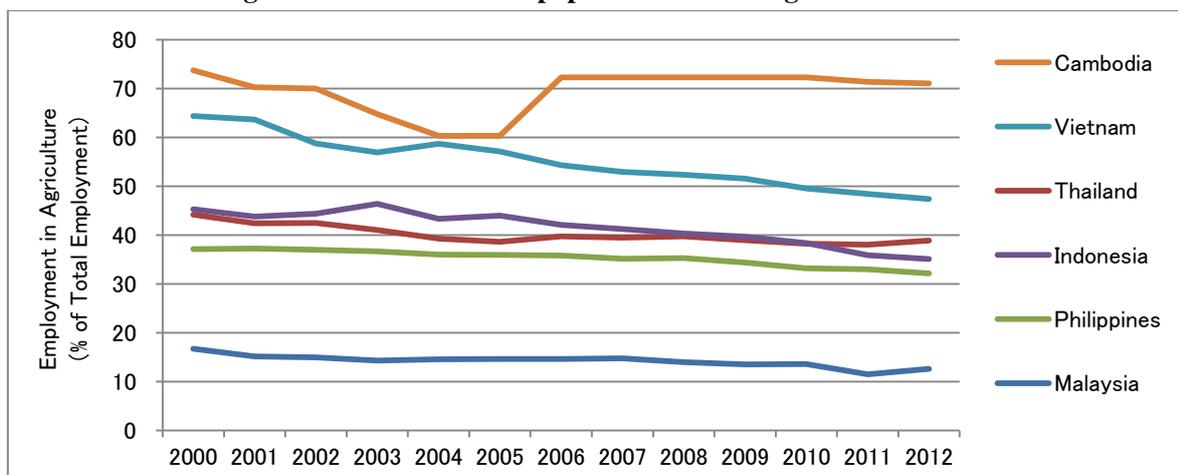
However, for the agricultural workforce ratios of each ASEAN country, the pace of the reduction has slowed in Cambodia and Thailand since 2005 (Fig. 3-10). In addition, agriculture's share of GDP is trending higher as well (Fig. 3-11). If the productivity of agriculture is high and it is competitive as an industry, increases in its ratio to the overall workforce agriculture's share of GDP are not necessarily things to be concerned about. That said, the agricultural productivity for rice, which is the primary crop for both countries, has dropped below the ASEAN average (see Chapter 4. Food). Cambodia has indicated a target of reducing agriculture's share of GDP to 30% by 2018, and with projections of business expansion into manufacturing and service industries as well, it is thought that the agricultural workforce ratio to the overall workforce and agriculture's share of GDP will start to decrease over the medium to long-term¹³. Thailand has indicated its target of maintaining the agriculture's share of GDP, including agriculture-related industries, at 16% or higher¹⁴. Meanwhile, the working-age population will dip starting in 2018, so the necessity to improve labor productivity for agriculture overall will increase. For that reason, it is thought that the agricultural workforce ratio will decrease at a pace that is more moderate than other countries, and that agriculture's share of GDP will be maintained through improvement in labor productivity.

¹² "Introduction to the Macroeconomic Analysis of Developing Countries" Research Report Chapter 3 "Changes to Industrial Structure and a Perspective on These - From the Dynamics of Petty-Clark's Law - To General Equilibrium Analysis -" edited by So Umezaki of the Institute of Developing Economies (IDE) (2006)

¹³ "Guidelines for formulating National Strategic Development Plan (NSDP) 2014-2018", Cambodian Ministry of Planning (MoP) (2013)

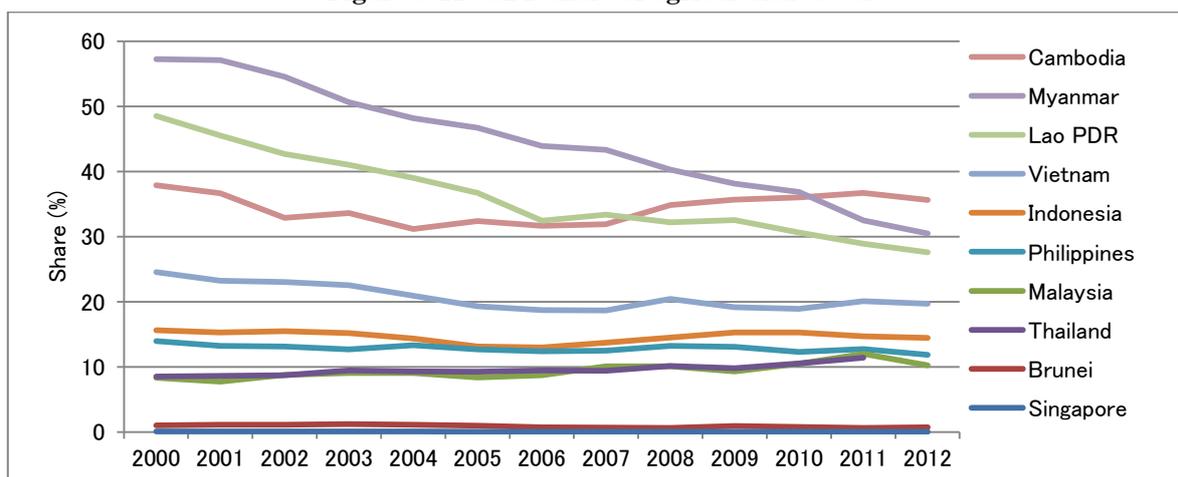
¹⁴ "The Eleventh National Economic and Social Development Plan (2012-2016)", National Economic and Social Development Board

Figure 3-10: Transition of population ratio of agriculture sector



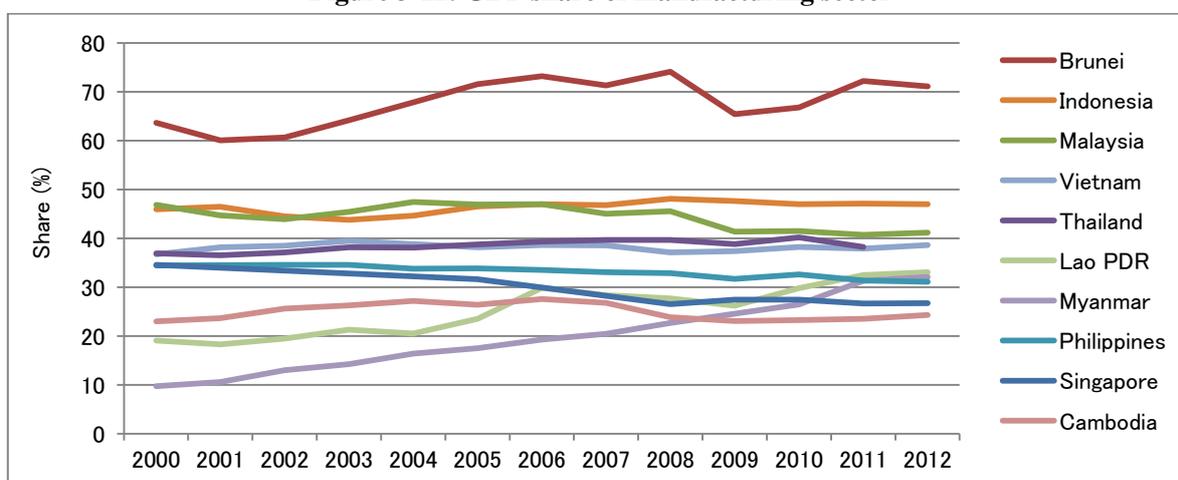
(Source: Created by study team based on ADB's "Key Indicators for Asia and the Pacific 2013")

Figure 3-11: GDP share of agricultural sector



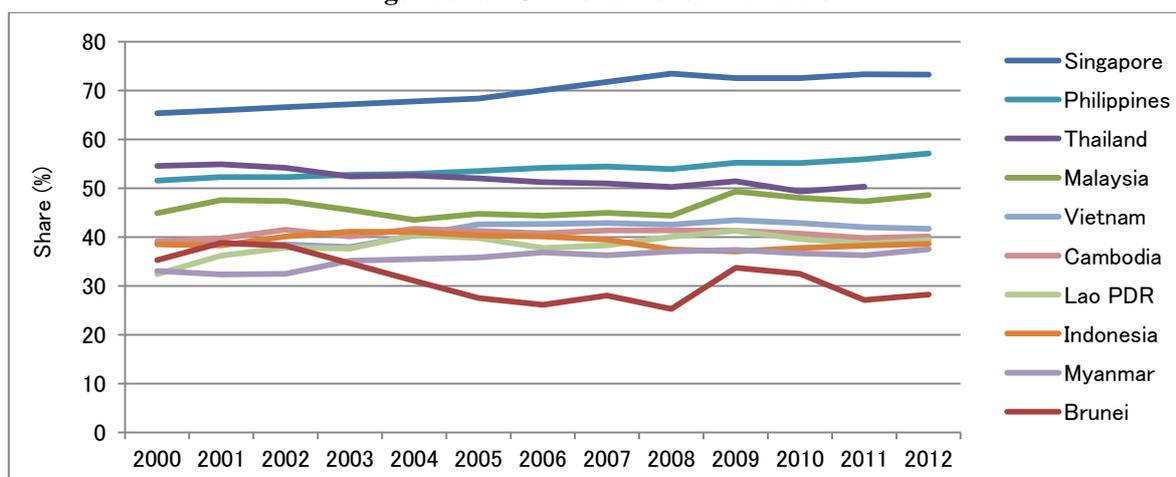
(Source: Created by study team based on ADB's "Key Indicators for Asia and the Pacific 2013")

Figure 3-12: GDP share of manufacturing sector



(Source: Created by study team based on ADB's "Key Indicators for Asia and the Pacific 2013")

Figure 3-13: GDP share of service sector



(Source: Created by study team based on ADB's "Key Indicators for Asia and the Pacific 2013")

The fields of the manufacturing industries for which growth is expected will be different in each country (Fig. 3-14). As trends, advances in the apparel / shoe manufacturing industries and electrical / electronic industries, and the auto parts industry will increase in CLMV (Cambodia, Lao PDR, Myanmar and Viet Nam) as these countries are ready to take over from "China + 1" and "Thailand + 1". Special Economic Zones (SEZs) are already up and running near the Thai border in Cambodia, Lao PDR and Myanmar. The concentration of electrical / electronic industries is expanding in Viet Nam.

The Philippines had been late in building up its manufacturing industries compared to China and Thailand. However, wages are now increasing in China and Thailand, and securing labor has become difficult. In the Philippines, on the other hand, wages are cheaper and workers are easy to secure since the working-age population will increase in the future and the unemployment rate is high. Thus, its importance is increasing as a country ready to take over from "China + 1", mainly in the electrical / electronic industries¹⁵.

The concentration of varied industries such as the automotive and consumer product-related industries is thought to be growing in Indonesia, mainly around Jakarta. However, there is the possibility that issues such as traffic congestion and functional deterioration of roads and ports due to inadequate infrastructure, a lack of land for industrial complexes in areas close to Jakarta and a sharp rise in land prices will be obstacles to the expansion of industrial concentrations¹⁶.

In Thailand, a concentration of the automotive and electrical / electronic industries is being formed in the outskirts of Bangkok within a distance of 100km. However, because of an inadequate workforce due to increases in wages, a declining birthrate and growing elderly population, some manufacturing processes are moving to Cambodia, Lao PDR and Myanmar where labor costs are lower while final assembly, R&D and business management functions remain in Thailand.

In Malaysia, in addition to consumer electronics and solar panels, for which there is already industrial

¹⁵ "Trends in New Concentrations of Industries in Asia", JETRO (2013)

¹⁶ "Trends in New Concentrations of Industries in Asia", JETRO (2013)

concentrations, manufacturing of products with higher added value such as medical devices and biodiesel is being promoted. In the state of Johor bordering Singapore, a new industrial complex could be formed under the Iskandar (Malaysia development) Plan.

Brunei is a leading high-income Asian country, but it is trying to diversify from an industrial structure dependent upon natural resources. However, while industries for processing natural resource (such as to methanol and ammonia) will grow, industrial structure dependent upon natural resources in 2025 looks likely.

It is thought that in Singapore, while concentration of the petrochemical industry continues to be maintained, concentrations of pharmaceutical product and medical device manufacturing and other products based on the results of R&D are expanding.

Figure 3-14: Main changes in manufacturing industry

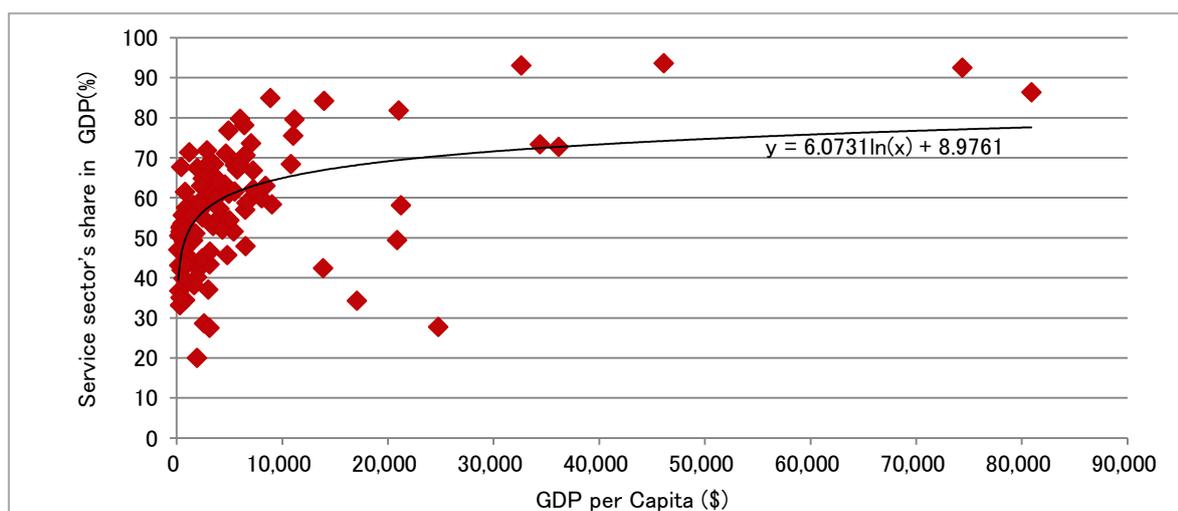
Country	Main Changes
Myanmar	<ul style="list-style-type: none"> Development and exports of natural gas drive the economy Advances for labor-intensive manufacturing industries, centered on apparel / shoe manufacturing industries
Cambodia	<ul style="list-style-type: none"> Concentration of the apparel / shoe manufacturing industries progresses Increase in new construction of auto part factories exporting to Thailand
Lao PDR	<ul style="list-style-type: none"> Progress in development of natural resources such as electric power (hydropower) and mining (gold, silver, copper, coal, lignite, potassium, bauxite, others) Increase in new construction of auto part factories exporting to Thailand
Viet Nam	<ul style="list-style-type: none"> Concentration of the electronics industry progresses, including smartphones and printers / all-in-one printers
Philippines	<ul style="list-style-type: none"> Concentration of the electronics industry progresses around Manila, including printers and smartphone parts
Indonesia	<ul style="list-style-type: none"> Production facilities for automobile, motorcycle, electrical / electronic, metal, machinery and chemical industries are concentrated in economic corridors from Jakarta Expansion of general consumer good-related industries such as household items, foods and beverages due to growth in domestic demand
Thailand	<ul style="list-style-type: none"> Role as production and export base for electrical / electronic equipment and automobiles is expanding Labor-intensive industries shifting to neighboring countries because of a lack of workers and wage increases domestically
Malaysia	<ul style="list-style-type: none"> Concentration of solar power-related companies Advances in electrical / electronic-related manufacturing divisions from Singapore in Johor Bahru
Brunei	<ul style="list-style-type: none"> Development of businesses processing methanol and ammonia from petroleum and natural gas as downstream industries that enhance the value chain for domestically produced natural resources
Singapore	<ul style="list-style-type: none"> R&D and manufacturing facilities increasing for a variety of industries such as petrochemicals, machinery and medical devices Establishment of manufacturing bases by Singapore companies increasing in Malaysia (state of Johor)

(Source: Created by the study team based on JETRO "Commerce Report," Japan Center for International Finance "Basic Report / Industrial Structures", the *Nikkei*)

There is a trend for service industries to grow along with rising income levels worldwide (Fig. 3-15). It is thought that there is growth of services accompanying the expansion of manufacturing industries (logistics, finance,

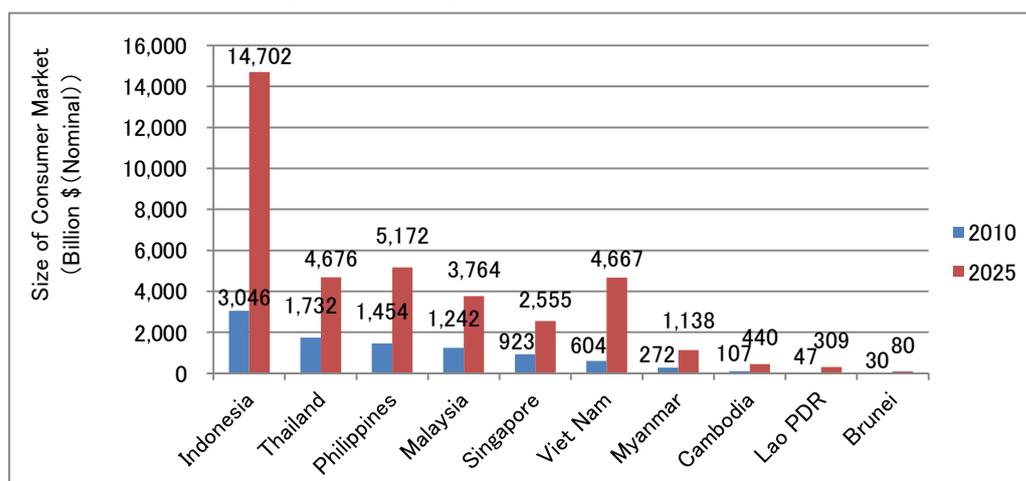
IT) and growth of services for individuals (retail, entertainment, medical, education) serving as a backdrop. With regard to service spending by individuals, the number of consumers who also spend on items other than purchases of daily necessities because of increased income is expected to grow, so the consumer market will be growing in 2025 (Fig. 3-16). It is predicted that in Indonesia, Thailand, the Philippines and Viet Nam, where the populations are particularly large and broad-based growth of the consumer markets is expected, investments by companies that provide services for consumers will increase and service industries will grow. However, broad-based regulations on service industries remain in ASEAN¹⁷. Easing the regulations and improving productivity through competition is assumed to be necessary for the development of service industries¹⁸.

Figure 3-15: GDP per capita and GDP share of service sector



(Source: Created by study team from World Bank's "World Development Indicators")

Figure 3-16: Expansion of consumer market



(Source: Created by study team from Euromonitor International)

¹⁷ JETRO Trade Information (World Business News) February 5, 2014

¹⁸ Oxford University Press, Edited by Aaditya Mattoo, Robert M. Stern, and Gianni Zanini(2008), "A Handbook of International Trade in Service"

[Expansion of trade and investment]

< Trends of internal and external trade >

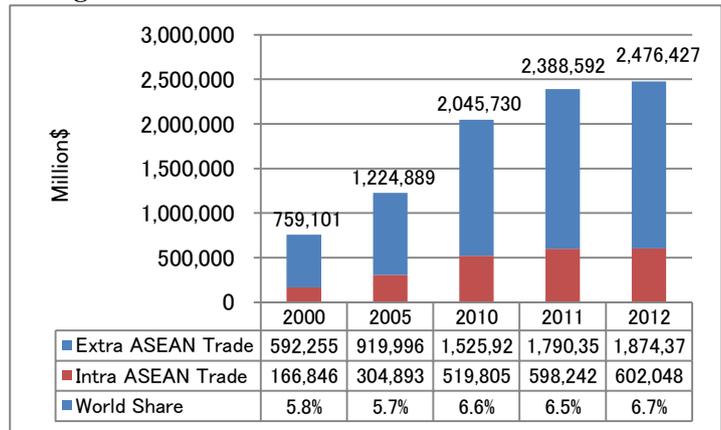
ASEAN trade grew 3.1 fold externally and 3.6 fold internally from 2000 to 2012. The ASEAN share of global trade is trending higher as well (Fig. 3-17). Driving this trend is the promotion of trade liberalization including the elimination of tariffs within the region, free trade agreements (FTAs) with neighboring countries, which have accelerated in recent years, initiatives for all of the countries based on the strategic objectives of the ASEAN Economic Community (AEC).

In addition, when looking at transaction amounts for major ASEAN trading partners, trade with China, which was 4.3% of the total in 2000, rapidly expanded in the past 13 years, reaching 12.9% in 2012 (Fig. 3-18). In terms of growth in the amount of trade, transactions with China, which were approximately 32 billion dollars in 2000, grew 9.9 fold to 310 billion dollars for 2012¹⁹. Also, while its share of total ASEAN transactions is low, India showed 7.4-fold growth, from approximately 9.6 billion dollars²⁰ from 2000 to 2012.

As of 2011, ASEAN accounted for a comparatively large share of India's imports and exports, exceeding the US and China in exports

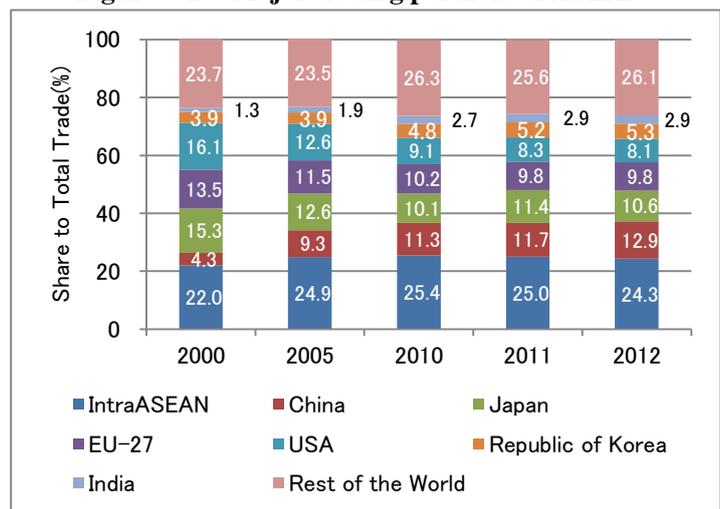
(ASEAN imports) in particular (Fig. 3-19). On the other hand, China's share has exceeded ASEAN in imports (ASEAN exports). According to a study by JETRO, Japanese companies involved with ASEAN manufacturing industries see India as the most promising market over the mid- to long-term (approximately 5-10 years)²¹. In the 2008 study, the percentage of companies noting that India was a promising market was 38.1%, surpassing 27.4% for China and 27.0% for Thailand. There have been moves in rapid succession by Japanese electrical / electronic companies in Thailand to export products such as televisions, air conditioners and refrigerators from Thailand to

Figure 3-17: Internal and external trade of ASEAN



(Source: Created by study team from ASEAN Community in Figures 2012, ASEAN Merchandise Trade Statistics Database, WTO Statistics)

Figure 3-18: Major trading partners of ASEAN



(Note: EU27 became the EU28 from 2012 with the inclusion of Croatia.)

(Source: Created by study team based on ASEAN Community in Figures 2012, ASEAN Merchandise Trade Statistics Database, WTO Statistics)

¹⁹ ASEAN Community in Figures 2012, ASEAN Merchandise Trade Statistics Database

²⁰ ASEAN Community in Figures 2012, ASEAN Merchandise Trade Statistics Database

²¹ JETRO (2009) "Fact-Finding Study on Activities of Japanese Companies in Asia and Oceania (FY2008 study)" JETRO

India in recent years, using the Early Harvest program²², and there are more than a few cases of shifting production from facilities in India to Thailand²³. The Early Harvest Scheme (EHS) by Thailand and India, which began in September of 2004, covers 82 items including consumer electronics, auto parts and other products. With automobiles, a move to export parts from India to Thailand has been initiated utilizing the Early Harvest Scheme, and if progress is made in reducing tariffs through a free trade agreement (ASEAN-India Free Trade Area (AIFTA)²⁴) between ASEAN and India for the purpose of liberalizing trade of goods, it is thought that cases of utilizing AIFTA to access the Indian market would increase.

Figure 3-19: Imports and exports of India (2011) (Unit: million\$)

	Exports		Imports	
	Amount	Share	Amount	Share
US	33,170	0.8%	22,564	4.8%
EU	42,783	13.9%	42,535	9.2%
China	19,113	6.2%	55,298	11.9%
ASEAN	35,993	11.7%	40,368	8.7%
Middle East/Northern Africa	59,435	19.4%	133,644	28.8%
Sub-Saharan Africa	18,649	6.1%	32,630	7.0%
World	306,748	100.0%	463,015	100.0%

(Source: IMF (2013) Direction of Trade Statistics Yearbook 2012)

Trade between ASEAN and India is expected in the future through the elimination of tariffs on schedule (Figs. 3-20 and 3-21). However, in AIFTA (1) the method for reducing and eliminating tariffs is extremely complex, (2) the liberalization rate is low (75%) and (3) there are issues such as strict rules of origin²⁵, so negotiations to increase the liberalization for AIFTA and to revise the rules of origin, or negotiations in the framework of the Regional Comprehensive Economic Partnership (RCEP) will be required.

²² Early Harvest: It is the "early harvest" of providing economic benefits between countries that are parties to an agreement by implementing the reduction of tariffs and other measures in advance for limited goods, before reaching conclusion of the agreement for all items

²³ "Evaluation of the Expansion of Trade that Progress on AFTA will Produce" p.118-119, Institute for International Trade and Investment (ITI) (2008)

²⁴ AIFTA negotiations were initiated in January of 2004 and the signing of the Agreement on Trade of Goods was carried out in August of 2009.

²⁵ Goods that are recognized as originating goods are (1) products that are acquired completely and produced, and (2) for products that are not products acquired completely and produced, the provision is that only in cases where the final process of the manufactured goods is carried out in a territory of the exporting country, and (i) AIFTA content is 35% of the free on board (FOB) price or higher, and (ii) the tariff (classification) number has been changed with a change in the tariff sub-heading (CTSH) (HS6 digit), will the goods be regarded as originating goods

Figure 3-20: Schedule of elimination of tariffs between ASEAN and India FTA

	ASEAN5 and India	Philippines and India	India → CLMV	CLMV → India
Normal Track 1	2013	2018	2013	2018
Normal Track 2	2016	2019	2016	2021

(Source: ASEAN/India FTA)

Figure 3-21: Schedule of 5% reduction on sensitive track

	ASEAN5 and India	Philippines and India	India → CLMV	CLMV → India
5% reduction	2016	2019	2016	2021

(Source: ASEAN/India FTA)

When looking at the markets of the Middle East and Africa, west of India, which have attracted attention as markets with growth second only to Asia in recent years, the presence of ASEAN is still minor at this point in time. In 2011, ASEAN's share of exports to the Middle East and North Africa (MENA) was 6.9% and its share of imports was 4.3%, not on par with China and India for either imports or exports (Fig. 3-22). For Sub-Saharan Africa as well, exports to ASEAN are only 2.3%, and imports only 5.4% (2011), far below the 13.9% (exports) and 15.7% (imports) for China²⁶ (Fig. 3-23). Sub-Saharan Africa has traditionally had close economic ties with Europe, but China has been showing double-digit growth every year in recent years, rapidly expanding trade there. Items imported from China are electronic and electrical equipment, such as cell phones, and machinery. Although not on a par with China in its share of trade, India is the largest (2012) in its investment, with particularly large investment directed at Mauritius.

Figure 3-22: Imports and exports of Middle East/North Africa (2011) (Unit: billion\$)

	Exports		Imports	
	Amount	Share	Amount	Share
US	94.1	7.5%	62.2	7.4%
EU	171.2	13.7%	180.8	21.5%
Japan	146.7	11.7%	28.1	3.3%
South Korea	107.6	8.6%	33.7	4.0%
China	125.6	10.0%	95.5	11.4%
ASEAN	86.4	6.9%	36.4	4.3%
India	120.9	9.7%	64.0	7.6%
Middle East/Northern Africa	135.8	10.8%	147.7	17.6%
World	1,252.6	100%	841.4	100%

(Source: IMF (2013), Direction of Trade Statistics Yearbook 2012)

²⁶ IMF(2013), "Direction of Trade Statistics Yearbook 2012"

Figure 3-23: Imports and exports of Sub-Saharan Africa (2011) (Unit: billion\$)

	Exports		Imports	
	Amount	Share	Amount	Share
US	67.4	18.1%	23.1	6.4%
EU	79.4	21.3%	73.8	20.3%
China	51.7	13.9%	57.1	15.7%
ASEAN	8.6	2.3%	19.7	5.4%
India	24.3	6.5%	19.4	5.3%
Sub-Saharan Africa	40.4	10.9%	43.7	11.9%
World	371.9	100%	363.2	100%

(Source: IMF (2013), Direction of Trade Statistics Yearbook 2012)

When looking at the exports of major ASEAN countries, exports from Malaysia to the Middle East and North Africa (MENA) and from Singapore to Sub-Saharan Africa are sizable, but the shares of exports for each country are small (Fig. 3-24).

Figure 3-24: ASEAN6 exports to Western markets (2011) (Unit: million\$)

	India		Middle east/North Africa		Sub-Saharan Africa	
	Amount	Share	Amount	Share	Amount	Share
Indonesia	13,336	6.5%	6,935	3.4%	3,554	1.7%
Malaysia	9,222	4.1%	10,271	4.5%	3,823	1.7%
Philippines	388	0.8%	500	1.0%	185	0.3%
Singapore	14,117	3.4%	7,344	1.8%	8,025	1.9%
Thailand	5,128	2.3%	10,378	4.6%	5,951	2.6%
Viet Nam	1,554	1.7%	1,815	1.9%	2,460	2.6%

(Source: IMF (2013), "Direction of Trade Statistics Yearbook 2012")

China and India are taking a strategic approach to the markets west of India. China decided on its basic policies for its strategy in Africa in 1999. Specifically, it held the Forum on China–Africa Cooperation (FOCAC) in 2000 and published its African Policy Paper in 2006. China's African policies are comprehensive, with items such as trade, investment, aid, natural resource development, development of human resources, tourism and security, and it is highlighting its focus on Africa with items such as 45.7% of its foreign aid up until 2009 (cumulative total) being directed to Africa²⁷. China is also active in top-level visits to Africa, with Former Chairman Hu having made visits to 18 countries over four trips. With regard to free trade agreements, an agreement has been reached to start negotiations with the Southern African Customs Union (SACU: South Africa, Namibia, Botswana, Swaziland and

²⁷ Katsumi Hirano (2013) "Africa: The Continent of Economy" Chuokoron-shinsha

Lesotho)²⁸. For India, there are approximately 5 million Indian citizens residing abroad in the Middle East and 4 million in Africa, and they are having an impact on the business communities in all of the countries. Furthermore, the government is supporting the Indian companies' development of the west (of India) markets in various ways. For Africa, they have negotiated PTA (preferential trade agreements) with SACU, the Focus Africa Programme, which promotes trade investment in the fields of textiles, chemicals, communication and IT, tariff exemptions for cotton and cocoa, the Pan-African e-Network Project and provision of credit to promote infrastructure development (5.4 billion dollars)²⁹. For the Middle East and North Africa (MENA), they are conducting negotiations of free trade agreements with the GCC (Gulf Cooperation Council) and initiatives such as the Agreement on the Mutual Promotion and Protection of Investments. When seeing these kinds of approaches by China and India, the active initiatives of the governments are succeeding, so as ASEAN, strategies and initiatives directed at capturing the west of India markets, which are the remaining growth markets, are required from this point forward.

²⁸ Same as above

²⁹ Kono Takashi (2013) "To Markets Westward From India" JETRO

【Investment trends in ASEAN】

ASEAN inward foreign direct investment (stock) grew 5 fold from 2000 to 2012, and is to a scale 1.5 times China and 5.8 times India as of 2012 (Fig. 3-25). Looking at global shares, ASEAN inward foreign direct investment received is 5.8% of the total, which is the same scale as the U.K., ranked 3rd in the world. Also, Singapore is ranked 9th in global share, and 50% of inward foreign direct investment in ASEAN is accounted for by investment in Singapore (Fig. 3-26).

Figure 3-25 : Inward foreign direct investment of ASEAN, China, India (stock)

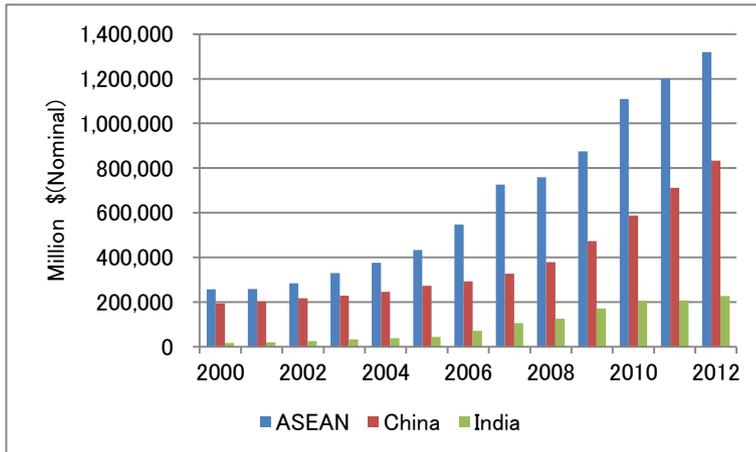


Figure 3-26 : Ranking of inward foreign direct investment received (stock)

	2012	Share	
1	U. S	3,931,976	17.2%
2	Hong Kong	1,422,375	6.2%
3	United Kingdom	1,321,352	5.8%
4	France	1,094,961	4.8%
5	Belgium	1,010,967	4.4%
6	China	832,882	3.7%
7	Germany	716,344	3.1%
8	Brazil	702,208	3.1%
9	Singapore	682,396	3.0%
10	Switzerland	665,596	2.9%
~	~	~	~
-	ASEAN	1,319,242	5.8%
22	India	226,345	1.0%

(Source: Created by study team based on UNCTAD, UNCTADStat)

When looking at the average annual growth rates for inward foreign direct investment (stock) at the 7-year intervals from 2000 to 2006 and from 2006 to 2012, ASEAN was growing from 13.4% (2000-2006) to 15.8% (2006-2012) while the global growth rate was dropping (Fig. 3-27). Also, the growth rates exceed the average for developing countries, suggesting a high level of interest in ASEAN as an investment destination. In addition, within ASEAN we found that the growth of Indonesia (24.8%), Cambodia (19.1%), Lao PDR (19.1%) and Viet Nam (19%) was dramatic, and that investments in countries with comparatively low levels of wages expanded from 2006 to 2012.

Figure 3-27: Inward foreign direct investment (Unit: million\$)

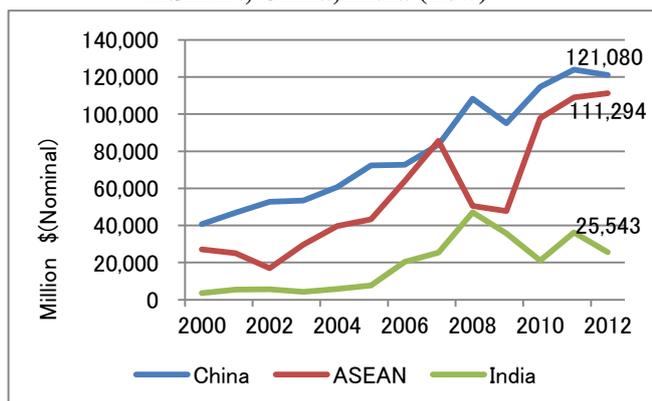
	Inward Foreign Direct Investment (Stock)			Annual Growth (average)	
	2000	2006	2012	2000-2006	2006-2012
World	7,511,311	14,405,342	22,812,680	11.5%	8.0%
Developing economies	1,771,481	3,456,059	7,744,523	11.8%	14.4%
ASEAN (Association of S	257,244	546,868	1,319,242	13.4%	15.8%
Brunei Darussalam	3,868	9,657	13,302	16.5%	5.5%
Cambodia	1,580	2,954	8,413	11.0%	19.1%
Indonesia	25,060	54,534	205,656	13.8%	24.8%
Lao People's Dem. Rep.	588	868	2,483	6.7%	19.1%
Malaysia	52,747	53,710	132,400	0.3%	16.2%
Myanmar	3,211	5,191	11,910	8.3%	14.8%
Philippines	13,762	16,914	31,027	3.5%	10.6%
Singapore	110,570	297,645	682,396	17.9%	14.8%
Thailand	31,118	80,542	159,125	17.2%	12.0%
Viet Nam	14,739	24,853	72,530	9.1%	19.5%
China	193,348	292,559	832,882	7.1%	19.0%
India	16,339	70,870	226,345	27.7%	21.4%

(Source: Created by study team based on UNCTAD, UNCTADStat)

The inward foreign direct investment (flow) from 2000 to 2012 showed a decline after the global financial crisis, but it has been rapidly increasing since 2010, and 2012 was the highest value ever (Fig. 3-28). From 2010 to 2012,

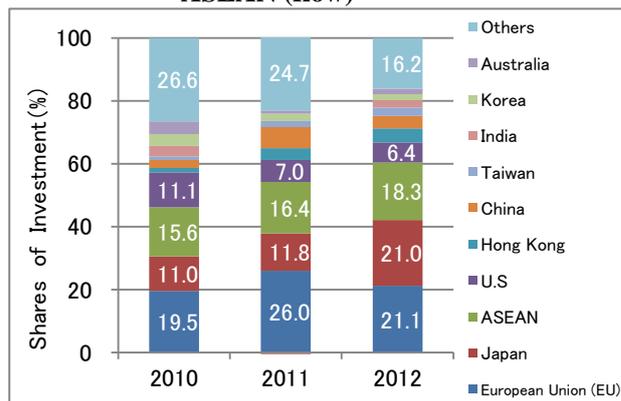
Japan's share within the ASEAN region was increasing, and when looking at the breakdown of the investment in ASEAN in 2012, 60% of the total was accounted for by EU (21.1%), Japan (21.0%) and ASEAN (18.3%) (Fig. 3-29). Investment within the region increased 30% from 2010 to 2012, and it is presumed that investment within the region will increase in the future as well due to the realization of the ASEAN Economic Community (AEC) and promotion of the economic partnership agreement (EPA). Meanwhile, the U.S. is trending lower, and the EU is also the same when compared to previous years.

Figure 3-28: Inward foreign direct investment to ASEAN, China, India (flow)



(Source: Created by study team based on UNCTAD, UNCTADStat)

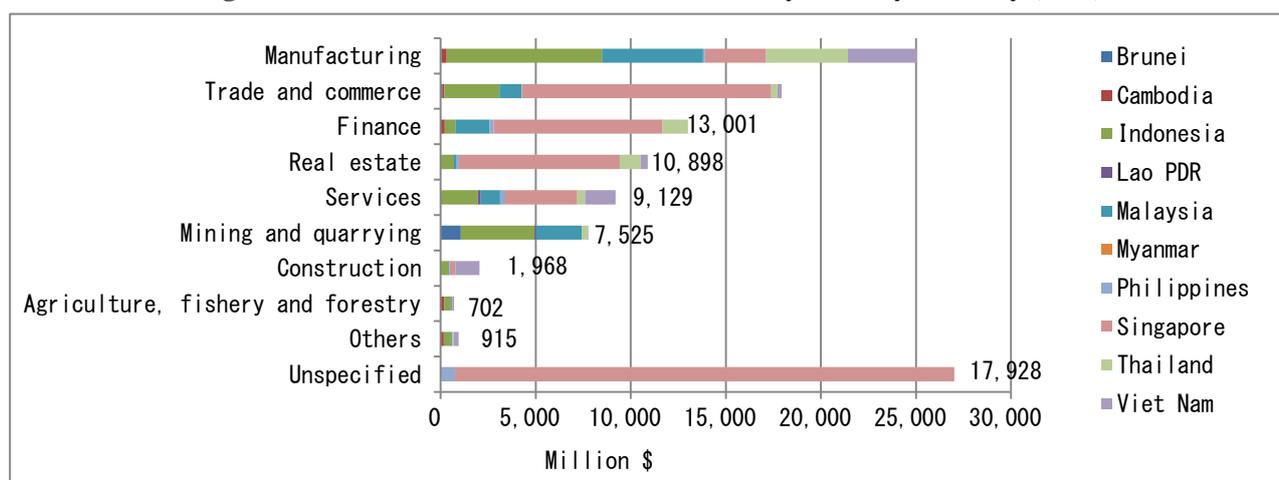
Figure 3-29: Country share of investment to ASEAN (flow)



(Source: Created by study team from ASEAN Secretariat, ASEAN FDI database)

Furthermore, when looking at the industries receiving inward direct investment (flow) in 2011, the highest amounts were for manufacturing industries, and Indonesia was the destination for 30% of investment received and Malaysia accounted for 20%. A large portion of investments in Singapore targets finance industries and real estate, which are the areas of trades with high amounts of investment, following manufacturing industries (Fig. 3-30). In the AEC blueprint, it has also been stipulated that the percentage of investment by foreign capital be eased to 70% for aviation, e-ASEAN, healthcare and tourism by 2010, for logistics services by 2013, and for other service fields by 2015. Differences will arise in the responses by country, but in general, it is generally expected that the flow of this sort of liberalization will drive expansion of investment in service fields.

Figure 3-30: Inward direct investment received by industry / country (2011)



(Source: Created by study team from ASEAN Secretariat, ASEAN FDI database)

In ASEAN, the investment environments differ greatly by country. With levels of wages (see section (3) Labor Environment) and growth of the middle income brackets (see section (2) Population), development of institutions is important in attracting direct foreign investment as an element of the investment environment, and the statuses of institutional development are varied in the 10 ASEAN countries as well. In "Doing Business 2014", a report on the business environment of each country by the World Bank (WB) and the International Finance Corporation (IFC), there is an index of 10 items focusing on business-related regulations, and these institutions have assigned rankings for the "ease of doing business" among 189 countries of the world based on this index. As an overall assessment, Singapore is ranked first out of 189 countries and Malaysia is ranked 6, which is a high rank, but the countries other than these have low rankings, and it is known that they lag behind in institutional development and operational aspects.

Figure 3-31: Doing business ranking (189 countries) 2014

	Overall Ease of Doing Business Rank	Rankings by Indicators									
		Starting a Business	Dealing with Construction Permits	Getting Electricity	Registering Property	Getting Credit	Protecting Investors	Paying Taxes	Trading Across Borders	Enforcing Contracts	Resolving Insolvency
Brunei	59	137	46	29	116	55	115	20	39	161	48
Cambodia	137	184	161	134	118	42	80	65	114	162	163
Indonesia	120	175	88	121	101	86	52	137	54	147	144
Lao PDR	159	85	96	140	76	159	187	119	161	104	189
Malaysia	6	16	43	21	35	1	4	36	5	30	42
Myanmar	182	189	150	126	154	170	182	107	113	188	155
Philippines	108	170	99	33	121	86	128	131	42	114	100
Singapore	1	3	3	6	28	3	2	5	1	12	4
Thailand	18	91	14	12	29	73	12	70	24	22	58
Viet Nam	99	109	29	156	51	42	157	149	65	46	149

(Source: Created by study team based on World Bank / International Finance Corporation's "Doing Business 2014")

【Economic impacts of TPP, RCEP and FTAAP】

<Overviews of TPP and RCEP>

Entities such as TPP (Trans-Pacific Partnership) and RCEP (Regional Comprehensive Economic Partnership, or more specifically the East Asia Region Comprehensive Economic Partnership) are noted as factors that will influence trade and investment for ASEAN moving toward 2025. TPP is a free trade agreement expanding and developing the Trans-Pacific Strategic Economic Partnership Agreement (Pacific-4 (P4) Agreement: Participating countries are Singapore, New Zealand, Chile and Brunei), and is currently under negotiation by 12 countries aiming for conclusion during 2014. ASEAN promoted RCEP in 2011, the decision was made to initiate negotiations in 2013 at a top-level meeting in 2012, and negotiations by ASEAN + 6 were begun in May of 2013. Currently, TPP and RCEP are negotiating concurrently, and are scheduled to be concluded and take effect by 2015. Liberalization measures such as the elimination of tariffs are for a maximum of 10 years³⁰, so the liberalization by TPP and RCEP will be realized in 2025. In addition, the ASEAN + 1 free trade agreements will also be completed from 2015 to 2025 (ASEAN–India Free Trade Area (AIFTA) 2024 and ASEAN-Australia-New Zealand Free Trade Area (AANZFTA) 2025). In ASEAN, although a total of ten countries are participating in RCEP, only the four countries of Singapore, Brunei, Viet Nam and Malaysia are participating in the negotiations for TPP. However, Thailand and the Philippines have shown an interest in TPP. Among countries other than those in ASEAN, Korea has initiated preliminary discussions, and China and Taiwan have also expressed a clear interest, so it is envisioned that the participating countries will increase. TPP features a high rate of liberalization and a broad range of areas covered, as well as rule creation. RCEP aims for high liberalization that exceeds the five ASEAN + 1 agreements, and there will be eight areas that will be covered. With ASEAN + 1, the liberalization rate for the ASEAN-India free trade agreement was low at approximately 75%, so a high liberalization rate such as for TPP (there is the view that it will be 98% or higher) will be difficult. As covered areas, the basic areas will be common (to both agreements), but TPP has a broader range, and the levels of items such as liberalization will differ even if the areas are shared. The important differences are as follows³¹.

Figure 3-32: Differences of TPP and RCEP

Differences of TPP and RCEP	
Government procurement	<ul style="list-style-type: none"> Government procurement is not included in RCEP (it is also excluded by AEC). The liberalization of government procurement, which is said to be 10–15% of GDP, is an important item to be negotiated for TPP. In ASEAN, the only country that is a member of WTO’s Agreement on Government Procurement (GPA) is Singapore, but Malaysia and Viet Nam are observers. If a move toward liberalization of government procurement is made by GPA participation and by TPP, the possibility will emerge of government procurement being covered by RCEP as well (China and New Zealand have applied to be members and Australia is an observer. However, there are sensitive areas such as Malaysia’s bumiputera policy, so this will probably end up being liberalization with conditions attached.
Competition policy	<ul style="list-style-type: none"> Policies on competition is an area that is covered by RCEP as well, but with TPP, “There will be a call for equal conditions for competition (level playing field) and a provision concerning state-owned enterprises is becoming a theme at the request of the U.S., and Viet Nam and Malaysia oppose this.
Intellectual property	<ul style="list-style-type: none"> Intellectual property is an area covered for RCEP, but the US is seeking the broad-based strengthening of the protection for intellectual property rights with items such as copyrights and patents on pharmaceutical products in the TPP negotiations, and continues to be at odds with developing countries and New Zealand.

³⁰ There are also cases of more than 10 years

³¹ Koichi Ishikawa, Kazufumi Shimizu, and Naruya Sukegawa (2013) "The ASEAN Economic Community and Japan" Bunshindo

Labor and the environment	<ul style="list-style-type: none"> Labor and the environment are areas that are not covered by free trade agreements between Asian countries.
Rate of liberalization	<ul style="list-style-type: none"> With TPP, the liberalization rate will be virtually 100%, and with bilateral agreements 100% will not be reached but there is the possibility of the liberalization rate being high. The liberalization rate with RCEP will exceed the liberalization rates for the existing ASEAN + 1 free trade agreements (other than the FTAs with India and Japan, these are 90% or higher).
Other	<ul style="list-style-type: none"> With RCEP, special and different treatment (S&D) given to developing countries (Cambodia–Lao PDR–Myanmar–Viet Nam (CLMV) is being requested, but with TPP it is being said that cooperation will be given on items such as capacity building, not S&D.

(Source: Created by research group based on "The ASEAN Economic Community and Japan", Ishikawa, Shimizu, and Sukegawa 2013)

Figure 3-33: TPP and RCEP Target Fields and Liberalization Rates

	TPP	RCEP
Common Target Fields	Trade of goods, trade of services (cross-border, financial, telecommunications), investment, intellectual property, competition, cooperation, dispute resolution	Trade of goods, trade of services (cross-border, financial, telecommunications), investment, intellectual property, competition, economic and technical cooperation, dispute resolution
Not Common Target Fields	Government procurement, movement of people, e-commerce, technical barriers to trade (TBT), sanitary/phyto-sanitary (SPS), labor, environment, cross-area items (regulatory harmonization, others)	-
Liberalization Rates	Extremely high liberalization rates	Exceed ASEAN + 1 FTAs

(Note: Rules of origin excluded.)

(Source: Created by research group based on "The ASEAN Economic Community and Japan", Ishikawa, Shimizu, and Sukegawa 2013)

For TPP, negotiations between Japan and the U.S. on the elimination of tariffs (for the Japanese side, five agricultural products are said to be off-limits, and automobiles for the U.S.) will be a major factor in the progress of the negotiations. The liberalization rate will remain at 93.5% if the five items that are off-limits are excluded, and acceptance by the other 11 countries will be difficult, so it is thought that ultimately big-picture liberalization will be carried out and agreements will be made by political decisions.

With government procurement, it is thought that agreement will be reached by permitting exceptions or gradual liberalization to localities or to groups that are economically weak. In addition to developing countries, New Zealand also opposes broad-based strengthening of the protection of intellectual property rights, so it is expected that a realistic compromise will be reached. Further, enactment of the Presidential Trade Promotion Authority (TPA) bill in the U.S. will also be a major factor in TPP being concluded and coming into effect.

<Economic impacts of TPP, RCEP, FTAAP>

According to calculations made by Professor Peter A. Petri's study team, the impact on ASEAN from EPAs such as TPP, RCEP and FTAAP (Free Trade Area of the Asia-Pacific) will differ widely by country. One characteristic found in the simulation results is that the size of the projected impact for 2025 tends to grow with increases in the

number of countries participating in each agreement and the speed at which agreements are reached. As such, the study team looked at different scenarios based on the number of countries participating in TPP, RCEP, and FTAAP and the likely timing for reaching agreements. The most probable scenarios were then selected as our "realistic scenarios." TPP12 negotiations were not concluded in 2013 as planned due to difficult negotiations between Japan and the US regarding the elimination of tariffs. As such, realization of TPP16 in 2014 is unrealistic, so we see a two-year delay to 2015 as the most realistic outcome within our main scenario. Furthermore, conclusion of RCEP in 2015 as planned is our realistic scenario.

Figure 3-34: Scenarios for TPP, RCEP, FTAAP

	Agreement	Scenario	
		Participating Countries	Parameter Change
Baseline	-	-	• Change to tariffs, non-tariff barriers (NTB) on schedule
TPP12	2015	TPP11 (Australia, Brunei, Canada, Chile, Malaysia, Mexico, New Zealand, Peru, Singapore, US, Viet Nam), Japan	• Tariffs, non-tariff barriers (NTB) eliminated based on prior agreements among TPP participants
TPP12	2020	Same as above	• Many preferential duties applied based on cumulative rules of origin
TPP16	2014	TPP9 (Australia, Brunei, Chile, Malaysia, New Zealand, Peru, Singapore, US, Viet Nam), Canada, Japan, South Korea, Mexico, Indonesia, Philippines, Thailand	
RCEP	2016	China, Japan, South Korea, ASEAN10, Australia, India, New Zealand	N/A
RCEP	2020	Same as above	
FTAAP	2020	Expansion of TPP13 (TPP12+South Korea) or APEC 21 including ASEAN+3FTA (Japan, China, South Korea)	• Tariffs and non-tariff barriers (NTB) reduced based on average values for TPP13, ASEAN+3FTA • Many preferential duties applied based on cumulative rules of origin

(Note: Original scenario called for a TPP12 agreement only in 2013. However, as no agreement was reached as of March 2014, the study team set the new 2015 and 2020 scenarios. The original scenario also called for a RCEP agreement in 2016, but this was changed to 2020.)

(Source: Created by study team based on Peter A. Petri, Michael G Plummer and Fan Zhai. Asia-Pacific Trade)

Fig. 3-35 shows the results of simulations on income gains from TPP, RCEP, and FTAAP (including impacts on trade and investment) within each scenario. The results are broken down based on the timing for TPP, RCEP and FTAAP with color coding for the impacts (blue for negative impacts, increasingly darker pink as impacts increase). These results point to negative impacts for those ASEAN members not participating in TPP (Indonesia, Philippines, Thailand, Cambodia, Lao PDR, and Myanmar). These negative effects are likely due to the trade diverting effect. Meanwhile, the results suggest Viet Nam stands to enjoy the strongest income boost among ASEAN nations of between 10.5% (TPP12: 2015) and 14.3% (TPP16). The reasons for the anticipated strong income boosting effect for Viet Nam are (1) a large percentage of its exports are to the US, (2) its main export products of apparel and

shoes will remain protected, (3) China's competitiveness for such products is declining, and (4) an increase in investment along with the increase in income³².

TPP forecasts by sector indicate a particularly stark increase in the exports of sewn products. In the case of TPP16 (2014), the growth is 74.9%³³ compared to the 2025 baseline value, likely attributed to increased exports to North America realized through TPP participation. However, while participation in TPP will increase exports to North America, it will also make it more difficult to adopt strategies protecting domestic industries. As such, different industrial development conditions are forecast for ASEAN members that do and do not participate in TPP.

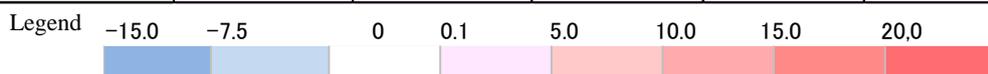
Furthermore, RCEP is expected to provide benefits for all countries with no significant disparities within the region, providing positive growth for all ASEAN members.

An agreement on RCEP by 2016 would likely boost overall income in ASEAN by 2.9% through increased trade and investment, with the strongest income boost for Brunei at 5.8%, followed by Viet Nam at 5.1%. Such realization of TPP and RCEP is forecast to expand production networks within the region for parts and semi-finished goods, bringing about positive growth for the regional economy.

As FTAAP is expected to realize economic benefits three times the global average (Viet Nam gains the most), the development of TPP and RCEP within FTAAP would become an economic growth factor for ASEAN.

Figure 3-35: Forecast of income gains from TPP, RECEP, FTAAP (2025)
(Peter A. Petri, Michael G Plummer and Fan Zhai) Unit: %

	TPP12(2020)	TPP12(2015)	TPP16(2015)	RCEP(2020)	RCEP(2015)	FTAAP(2020)
ASEAN	2.1	2.2	5.5	0.3	2.9	6.9
Indonesia	-0.1	-0.1	4	0.9	1.1	2.5
Philippines	-0.3	-0.2	6.9	1	2.3	4.9
Thailand	-0.4	-0.4	7.6	1.3	2.8	4.9
Brunei	0.8	0.9	1.8	2.2	5.8	5.4
Malaysia	5.2	5.6	7	1.3	3.3	8.9
Singapore	1.6	1.9	3	0.1	0.6	3.3
Viet Nam	10.6	10.5	14.3	1.9	5.1	21.5
CLM	-0.4	-0.4	-0.6	0.8	1.9	3.7
World	0.2	0.2	0.4	0.3	0.6	1.9



(Note: ASEAN overall calculated as 10-country average by study team.)

(Source: Created by study team based on Peter A. Petri, Michael G Plummer and Fan Zhai. Asia-Pacific Trade)

A study by Kenichi Kawasaki of the Research Institute of Economy, Trade and Industry (RIETI)(2014) noted similar trends for the economic impacts from TPP, RCEP, and FTAAP. The same forecasts values and a CGE model were used to calculate the income gains (as % of GDP) from eliminating tariffs and reducing non-tariff measures (NTMs). Though the years in which agreements are reached for each EPA is not taken into account for these simulations, the results are similar to those in the simulations by Professor Peter A. Petri's groups, which indicate that the biggest economic boost is expected for Viet Nam (Fig. 3-36). Furthermore, these results suggest bigger economic impacts from reducing non-tariff measures than eliminating tariffs, and that countries not participating in

³² Peter A. Petri, Michael G. Plummer, and Fan Zhai (2011). "The Trans-Pacific Partnership and Asia-Pacific Integration: A Quantitative Assessment" East-West Center

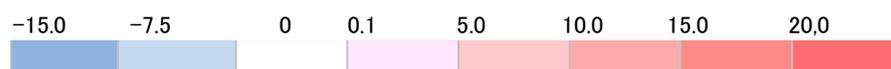
³³ Peter A. Petri, Michael G Plummer and Fan Zhai. Asia-Pacific Trade http://asiapacifictrade.org/?page_id=106 March 31, 2014 Accessed

TPP will experience negative impacts or only a mild positive effect.

Figure 3-36: Forecast of income gains from TPP, RECEP, FTAAP (2025)
(Kenichi Kawasaki, Research Institute of Economy, Trade and Industry (RIETI)) Unit: %

	TPP12		RCEP		FTAAP	
	Tarrif	+NTMs	Tarrif	+NTMs	Tarrif	+NTMs
ASEAN	1.5	6.8	7.7	18.2	3.6	12.9
Indonesia	0.1	0.1	3.7	5.8	2.5	4.6
Philippines	-0.3	-0.9	4.8	18.3	5.3	19.9
Thailand	-0.8	-0.2	8.8	12.9	8.7	12.7
Brunei	-	-	-	-	-	-
Malaysia	3	20.6	6.2	27.5	6	28.3
Singapore	1	14	3.6	18.3	3.3	18.8
Viet Nam	9.9	20.1	17.7	31	15.6	30
Cambodia	-1	0	12.3	21.6	-12.4	-11.3
Lao PDR	0	0.3	4.8	9.8	0.1	0.5
Myanmar	-	-	-	-	-	-
World	0.1	0.6	0.6	1.4	0.9	2.1

Legend:



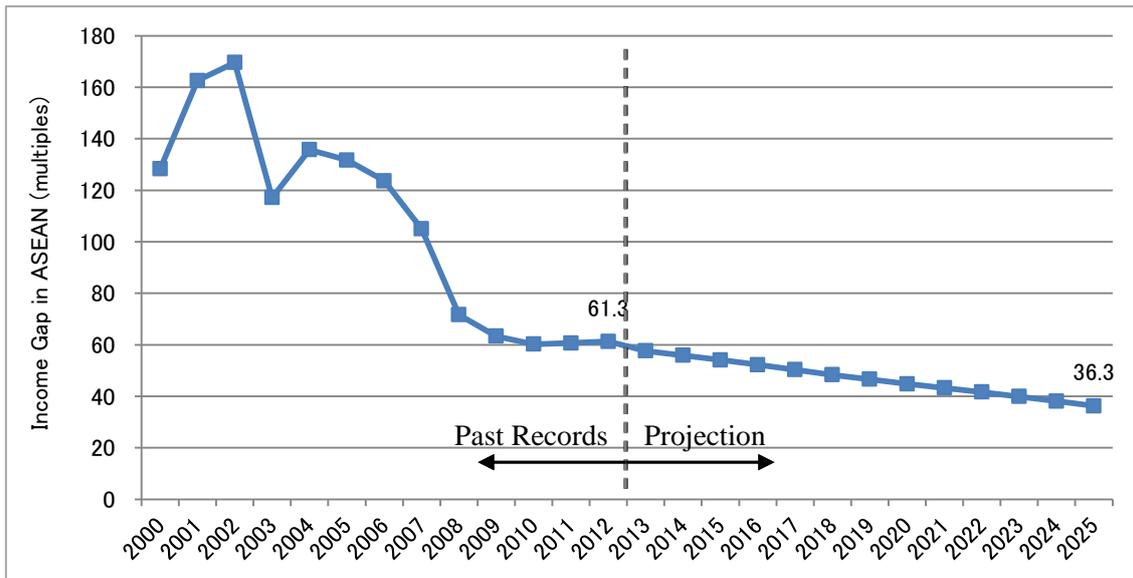
Notes:

- 1) Assuming tariffs, non-tariff barriers reduced by TPP12, RCEP, FAAP
- 2) ASEAN overall calculated as 8-country average (excl. Brunei, Malaysia) by study team
 (Source: Created by study team based on Kawasaki Kenichi (2014).”The Relative Significance of EPAs in Asia-Pacific,” RI ETI Discussion Paper Series14-E-009

【Disparities within region】

Based on the study team / Uemura model, the per capita GDP for Singapore (highest among ASEAN members) is 61.3 times that for Myanmar (lowest), but this gap is expected to narrow to 36.3 times in 2025. However, the gap between the countries with the highest and lowest per capita GDPs in the EU (Luxemburg - Estonia), which is likewise pursuing economic integration, is only 6.6 times, which underscores the extent of diversity among ASEAN member countries.

Figure 3-37: Disparities within ASEAN region (Singapore - Myanmar)



(Source: Created by study team)

【Disparities within countries】

Looking at GINI coefficients³⁴ for ASEAN members in the 2000s, the Philippines and Malaysia have scores exceeding 40, which suggests a high risk of social instability (Fig. 3-38). GINI coefficients are trending higher for Lao PDR, Indonesia, and Malaysia, but lower for other ASEAN members.

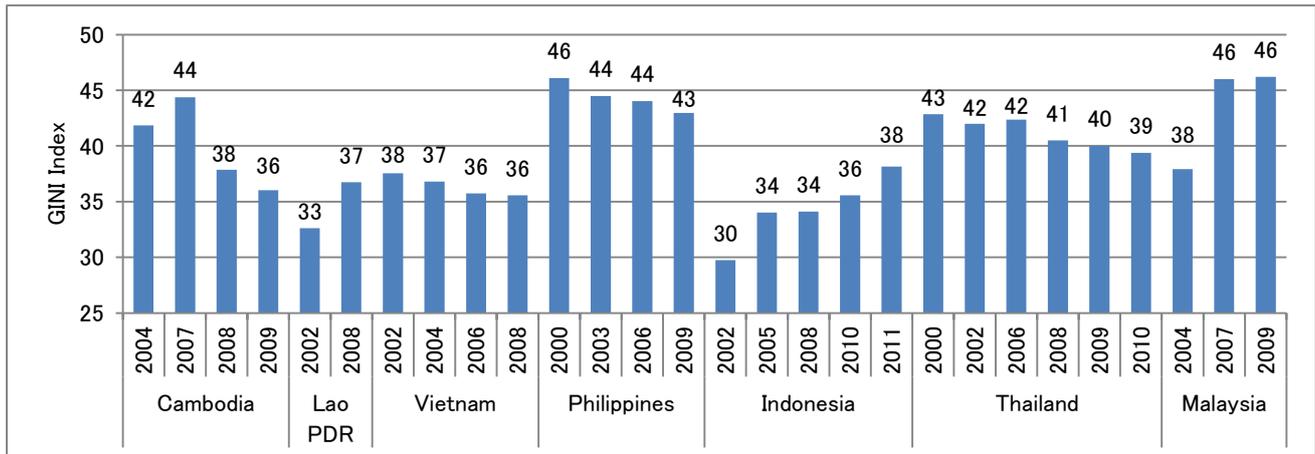
Furthermore, calculations of disparities in GRDP (Gross Regional Domestic Products) within countries, a particularly high disparity (highest-to-lowest multiple) was seen in Indonesia and this gap widened between 2009 and 2011 (Fig. 3-39).

For Thailand, disparities within the country overall, as indicated by the GINI coefficient, are declining, while disparities between regions, as indicated by the per capita GRDP, are growing. This could suggest that while the low-income bracket is shrinking and the middle-income bracket is growing, there are still regions with many low-income residents. A common point for each country is the tendency for per capita GRDP to be higher in cities and resource producing regions and lower in rural regions. In order to reduce disparities between regions, labor productivity will need to be increased in the rural regions or income redistribution functions will need to be established. However, as mentioned earlier, labor productivity for agriculture, the main industry for the rural sections of Cambodia, Viet Nam, the Philippines, Indonesia and Thailand are low, and sufficient income redistribution functions do not exist³⁵. Until this problem is resolved, the growth of manufacturing and service industries in urban areas will cause disparities between urban and rural regions to expand.

³⁴ The Gini coefficient uses a scale of 0 to 100 to express overall income disparities within countries.

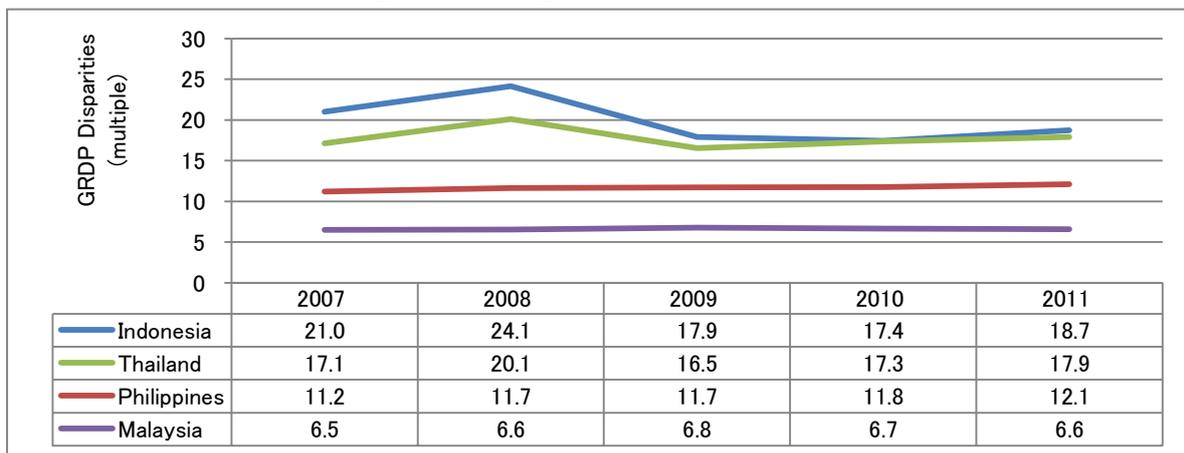
³⁵ NIRA's The Uneven Distribution of the Benefits of Growth Impeding the Expansion of Asia's Middle-Income Stratum (August 2012)

Figure 3-38: GINI coefficients



(Source: Created by study team based on World Bank Poverty and Inequality Database)

Figure 3-39: Disparities within countries³⁶



(Source: Created by study team based on Department of Statistics, Malaysia Official Website, Philippine Statistics Authority - National Statistical Coordination Board, Office of the National Economic and Social Development Board, Thailand, Badan Pusat Statistik Republik Indonesia (Statistics Indonesia of The Republic Indonesia))

② Optimistic Scenario

	Scenario
Optimistic Scenario	<ul style="list-style-type: none"> FTAAP is established and the importance of ASEAN as a manufacturing sector production base within the Asia-Pacific region increases. Furthermore, the preparation of infrastructure and regulatory systems to attract manufacturing helps to accelerate the formation of manufacturing cluster and drive economic growth. TPP is realized in 2015, RCEP in 2016, and FTAAP by 2020. The CLM countries not participating in TPP are adversely impacted until the realization of FTAAP. However,

³⁶ Disparities for each country calculated as those between the following regional groupings. 2011 GRDP shown in (). Indonesia: East Kalimantan (approx. 106.6 mil rupiah) - North Maluku (approx. 5.7 mil rupiah); Thailand: Samut Sakhon Province (approx. 542,000 baht) - Amnat Charoen Province (approx. 30,000 baht); Philippines: Manila (approx. 174,000 peso) - Autonomous Region in Muslim Mindanao (approx. 14,000 peso); Malaysia: Kuala Lumpur (approx. 74,000 ringgit) - Kelantan (approx. 11,000 ringgit) Linear interpolation used for years in which regional population data unavailable.

	<p>from 2020 they enjoy positive growth similar to other ASEAN members.</p> <ul style="list-style-type: none"> • Assuming RCEP is realized by 2016, income for ASEAN overall increases 2.9% on the benefits of expanded trade and investment. Positive growth is realized for all ASEAN members, but the impacts are smaller compared to those from TPP16 (2015) and FTAAP (2020). • With realization of RCEP (2016) and FTAAP (2020), CLM countries enjoy growth rates faster than that for Singapore, promoting a narrowing of disparities within the region. • Assuming educational levels and academic skills rise, allowing for systems to develop human resources needed by the markets, CLMV and ASEAN4 (Group 1) have sufficient managers for production sites, while ASEAN4 (Group 2) and BS see an increase in managers and researchers needed for more sophisticated work. These human resources help accelerate economic growth. • In CLMV and ASEAN4 (Group 1), the share of the industrial structure held by manufacturing easily increases, while that of agriculture decreases due to the preparation of infrastructure / regulatory frameworks and the cultivation of human resources. In ASEAN4 (Group 2) labor shortages are addressed by improved labor productivity, while increased sophistication of consumption lowers the share of the industrial structure held by agriculture and increase that of the service industry. • In the rural regions, infrastructure is prepared and human resources that can run agricultural and tourism industries in accordance with demand are developed. This results in more active industry in rural areas and narrower disparities within countries.
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③ Pessimistic Scenario

	Scenario
Pessimistic Scenario	<ul style="list-style-type: none"> • TPP12 and RCEP are realized in 2020. • Income increase for ASEAN overall due to RCEP (2020) is only 0.3%. Realization of TPP12 negatively influences Indonesia, the Philippines, Thailand and CLM nations not participating in TPP. • Progress is made liberalizing trade, but the competitiveness of domestic industries in some of the lesser developed countries is weak so the opening of market results in an inflow of industrial products from advanced nations. As such, there is no hope for further sophistication of local industry. Consequently, there is the fear that the currently advantageous structure favoring the exporting of labor-intensive industrial and agricultural products will become entrenched. • Once industry becomes concentrated, economies of scale are realized and spreading of the industry becomes more difficult. As such, ASEAN continues to become an important manufacturing base for ASEAN. That said, further concentration becomes

	<p>difficult for not only manufacturing, but also for service industries, assuming there are delays in preparing regulatory frameworks / regional infrastructure, and labor shortages result in steep wage increases.</p> <ul style="list-style-type: none"> • Even though higher wages drive internal demand, the economic growth rate declines due to sluggish investment and the wage increase rate slackens. • The declining employment opportunities in urban areas result in unemployed people returning to rural areas and fewer people moving to cities. Consequently, the population of those involved in farming increases and changes to the industrial structure stagnate. • At the same time labor productivity in rural areas declines, resulting in bigger disparities with urban area and concerns about increase social security burdens and social instability.
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④ Challenges in Economic Sector

The Realistic Scenario for this sector (economy) raises the challenges of "delays in preparing trade / investment environments," "industrial structure solidification," and "domestic income disparities."

Fig. 3-40 classifies the current status of these challenges in each country and provides a list of the key challenges (refer to Legend for explanation of classifications).

Delays in preparing trade / investment environments: The red classification was applied to Myanmar, Cambodia, Lao PDR, Viet Nam, the Philippines, and Indonesia, which are all below than ASEAN (average) rank of 89 in the global ranking of 189 countries in terms of preparing investment environments.

Industrial structure solidification: The red classification was applied to Thailand, for which the movement of people from agriculture to manufacturing and service sectors has stalled and where agricultural productivity remains at low levels.

Domestic income disparities: The red classification was applied to the Philippines and Malaysia, which have GINI coefficients of more than 40, suggesting a high risk of social instability. The red classification was also used for Indonesia, Thailand, and the Philippines due to widening disparities between regions.

The various challenges for the countries classified as red in this chapter will be covered in greater detail in the next chapter.

Figure 3-40: List of challenges in economic sector

	CLMV				ASESN4 (Group1)		ASESN4 (Group2)		BS	
	Myanmar	Cambodia	Lao PDR	Viet Nam	Philippines	Indonesia	Thailand	Malaysia	Brunei	Singapore
Delays in Preparing Trade / Investment Environments										
Industrial Structure Solidification										
Domestic Income Disparities										

Legend

	Challenges already emerged or expected to emerge by 2025
	Likely to be a challenge by 2025
	Low likelihood of becoming a challenge by 2025
	Unable to verify due to insufficient data

(2) Demographic Trends

In terms of demographic trends, impacts on society and the economy will vary depending on the youth population (ages 0 to 14), the working-age population (15 to 64), and the elderly population (65 and older), as well as urban/rural population compositions, population scale and composition by income bracket. As such, for this sector (demographic trends) we projected how demographic trends in 2025 will impact ASEAN, considering the above elements and with a focus on declining birth rates / growing elderly populations, growing urbanization, and potential of consumer market growth.

① Realistic Scenario

<Summary>

【Declining birth rates / growing elderly populations】

- For many ASEAN countries, the total fertility rate declines or levels off, and for some countries the elderly population grows at a pace even faster than in Japan. The working-age populations in Singapore and Thailand decline until 2025 and these countries become aged societies¹. Viet Nam and Brunei also transition to aging societies². Amid this falling birthrate / growing elderly population, enhancing social welfare systems becomes an urgent issue for developing countries Thailand and Viet Nam, which become aging societies.
- The so-called "demographic bonus" period comes to an end around 2025 for the seven ASEAN countries other than Laos, Philippines and Cambodia. In order to mitigate the economic burdens resulting the declining birthrate / growing elderly population trend, these countries must fully utilize their labor forces during the demographic bonus period and prepare for the future societal changes.

【Growing urbanization】

- ASEAN urban populations grow by roughly 99 million people (38%) between 2010 and 2025. During this period, urban populations swell by 44 million in Indonesia and 18 million in the Philippines. The urban population grows 1.73 fold.
- ASEAN cities are now confronted with traffic congestion and other problems. Urban functions will need to be enhanced in order to handle this future population growth.

【Potential of consumer market growth】

- The overall ASEAN population reaches roughly 694 million people. As income levels increase, the percentage of the population held by those in the middle and high income brackets increases from 56.4% to 76.5% between 2010 and 2025.³
- The ASEAN consumer market grows 3.96 fold between 2010 and 2025. By country, the consumer market

¹ Aged society: Those aged 65 and older account for more than 14% of the population.

² Aging society: Those aged 65 and older account for more than 7% of the population.

³ Period in which economic growth is supported by faster growth in the working population compared to the youth and elderly populations (dependent population)

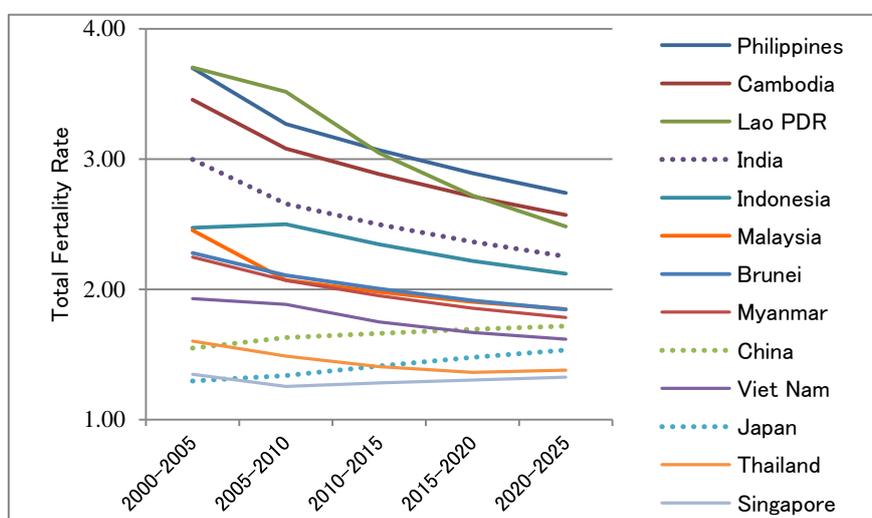
grows 7.7 fold in Viet Nam, 6.6 fold in Laos, 4.8 fold in Indonesia and 3.5 fold in the Philippines. This consumer market growth encourages overseas direct investment and the fostering of domestic industries.

【Declining birthrates / growing elderly populations】

<Declining birthrates>

Total fertility rates (average number of children born over a woman's lifetime) have been trending lower each year in ASEAN countries. Between 2000 and 2005 fertility rates in Viet Nam, Thailand and Singapore already fell below the 2.1 replacement rate⁴ and this rate is not expected to move back over 2.1 by 2025. Furthermore, total fertility rates for Myanmar, Brunei, and Malaysia are projected to fall below 2.1 between 2010 and 2015.

Figure 3-41: Total fertility rates by country



(Source: Created by study team based on the United Nations Population Division. “World Population Prospects: The 2012 Revision” Medium Fertility)

Figure 3-42: Total fertility rates (TFR)(2020-25)

	TFR
Philippines	2.74
Cambodia	2.57
Lao PDR	2.48
India	2.25
Indonesia	2.12
Malaysia	1.85
Brunei	1.85
Myanmar	1.79
China	1.72
Viet Nam	1.62
Japan	1.54
Thailand	1.38
Singapore	1.33

⁴ Replacement fertility: Fertility rate needed to maintain the population at a certain level. The standard replace fertility rate set by the UN is 2.1. http://www.un.org/esa/sustdev/natinfo/indicators/methodology_sheets/demographics/total_fertility_rate.pdf

<Working-age populations>

Declining birth rates point to future declines in the working and overall populations. Working-age populations will start declining in 2018 for Thailand and in 2022 for Singapore, the two ASEAN countries with the fastest declining birth rates. As such, there is the potential for labor shortages to hinder economic growth (see Scenario (3) Labor Environment).

Figure 3-43: Working-age population (Thailand)

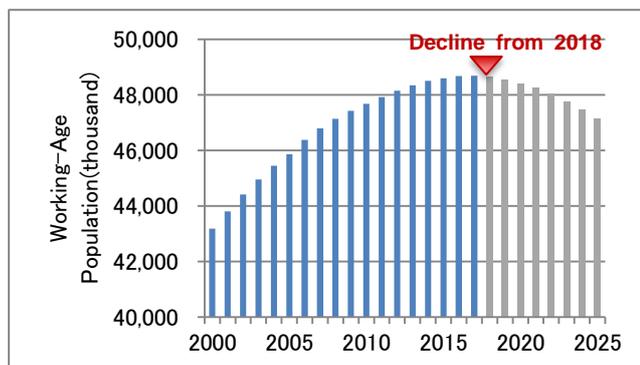
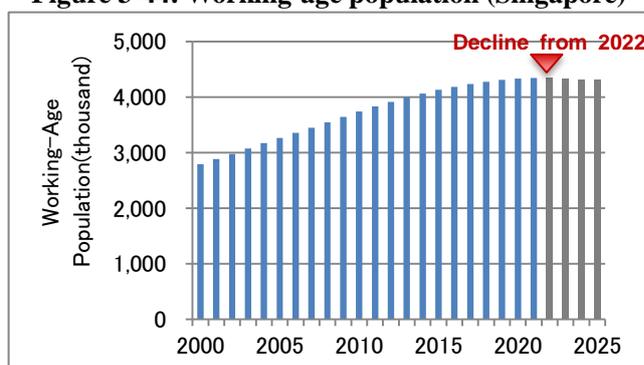


Figure 3-44: Working-age population (Singapore)



(Source: Created by study team based on the United Nations Population Division. “World Population Prospects: The 2012 Revision” Medium Fertility)

On the other hand, working-age populations are forecast to grow until 2025 for all ASEAN countries other than Singapore (Fig. 3-45).

For example, Indonesia's working-age population is expected to increase by about 29 million between 2013 and 2025. This level is equivalent to 1.6 times Cambodia's projected 2025 population of around 18 million. Countries with working-age populations growing in this manner will need to produce sufficient employment opportunities. That said, the working-age populations will start declining for Viet Nam in 2035 and for Myanmar in 2036 (Fig. 3-46). These countries will need to consider measures for conditions during the ten years from 2025 (See Scenario (3) Labor Environment).

Figure 3-45 : Working-age population growth (2013-2025)

	Increased # of Working-Age Population
Indonesia	29,274,317
Philippines	15,392,299
Viet Nam	5,167,986
Malaysia	3,571,811
Myanmar	3,537,818
Cambodia	1,867,996
Lao PDR	1,157,780
Brunei	40,738

(Source: Created by study team based on the United Nations Population Division. “World Population Prospects: The 2012 Revision” Medium Fertility)

Figure 3-46: Changes in working-age populations in Viet Nam and Myanmar

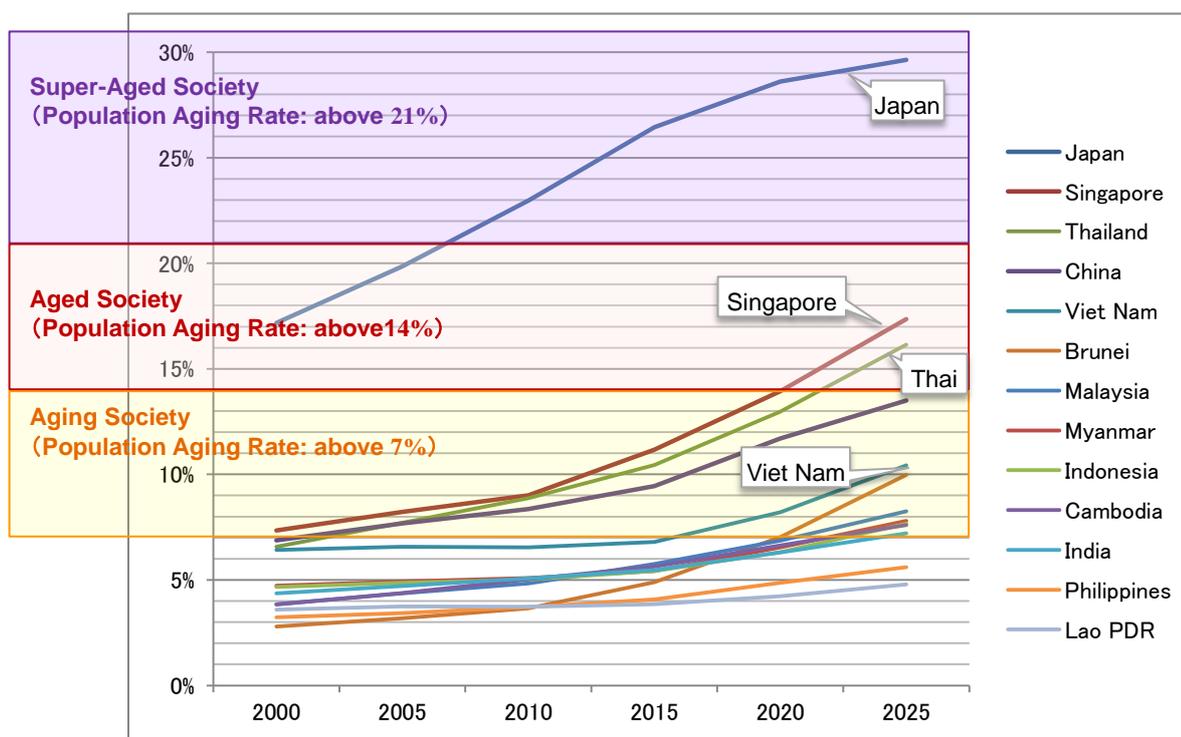
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
ベトナム	70,001	70,236	70,419	70,559	70,674	70,767	70,827	70,866	70,872	70,827	70,724	70,580	70,386	70,145	69,862	69,540
ミャンマー	40,747	40,918	41,082	41,235	41,374	41,493	41,566	41,625	41,670	41,700	41,712	41,680	41,637	41,580	41,507	41,416

(Source: Created by study team based on the United Nations Population Division. “World Population Prospects: The 2012 Revision” Medium Fertility)

<Population aging>

Furthermore, declining birthrates will result in accelerated growth of elderly populations from 2015 in Singapore, Thailand, Viet Nam and other ASEAN countries. Fig. 3-47 classifies Asian countries, including the ASEAN region, as "aging" (elderly account for more than 7% of population), "aged" (more than 14% of population), and "super aged" (more than 21% of population) based on United Nation's classifications. From 2020, Singapore and Thailand will transition from aging to aged societies and in 2025 the percentage of their populations accounted for by the elderly will be roughly equivalent to the levels for Japan in 2000. Moreover, Viet Nam, Brunei, Malaysia, Myanmar, Indonesia, and Cambodia will transition to aging societies between 2015 and 2025.

Figure 3-47: Percentage of aged population by country

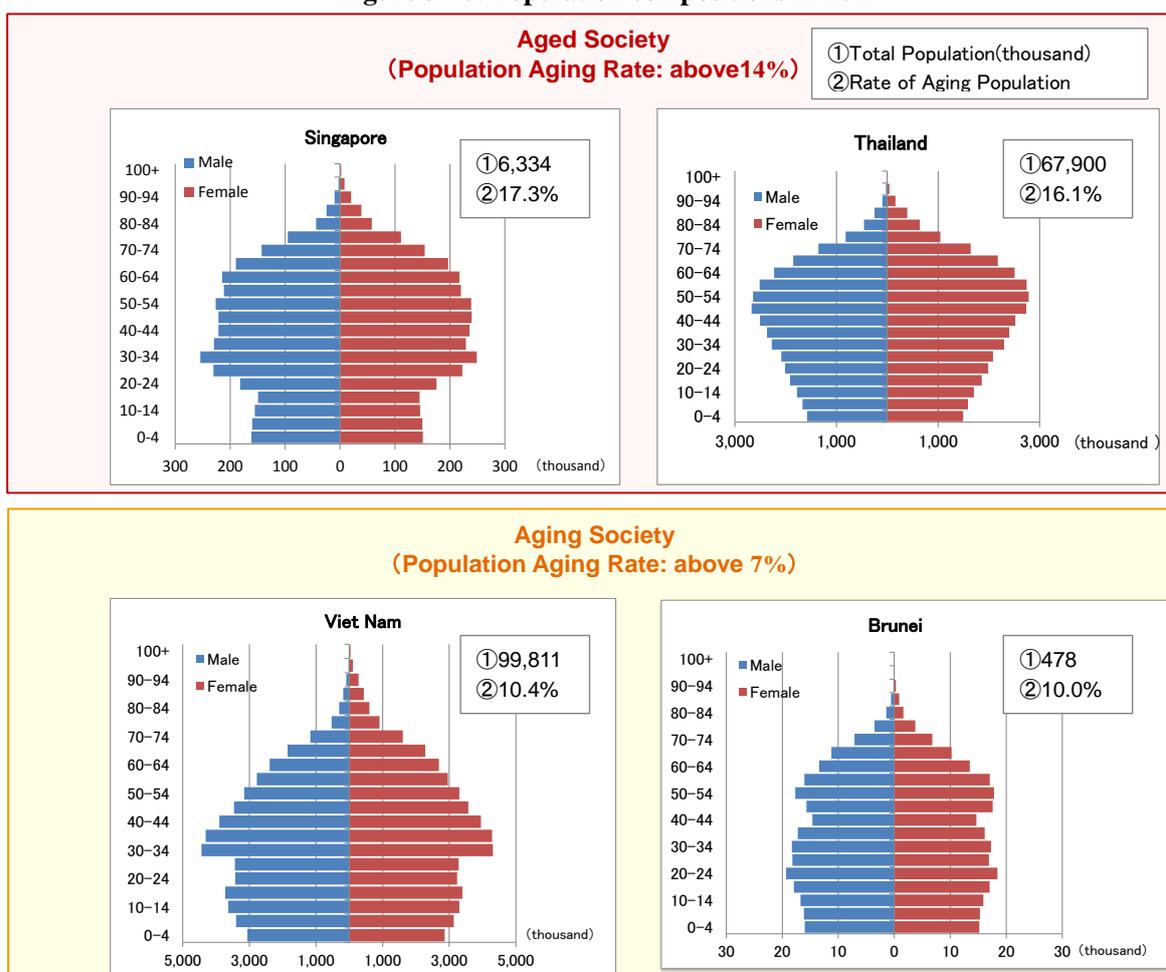


(Source: Created by study team based on the United Nations Population Division. "World Population Prospects: The 2012 Revision" Medium Fertility)

Fig. 3-48 uses pyramids to represent 2025 population compositions for each country. The "up to age 30" segment is strikingly narrow for the aged societies of Singapore and Thailand, and the pyramid for Viet Nam is similar to these two countries due to its declining birthrate and rapidly growing elderly population.

Generally speaking, the negative impacts of an aging society are lower savings rates, fiscal burdens due to increases in pension and other social welfare costs, and pressure on household budgets, all of which can slow economic growth. As savings are one source of funds for domestic investment, maintaining domestic savings, along with foreign direct investment, is essential for sustainable economic growth. Based on the Life Cycle Hypothesis⁵ (people will save during their working years for future consumption and will draw down these savings when older to support their lifestyles), future savings rates are expected to decline as the percentage of the population that is elderly increases. Furthermore, not all ASEAN countries have conditions in place allowing people to save for when they are old. Realistically, there are households in which the young support the lifestyles of the older family members. As such, the economic burdens on young people during their working years are expected to increase.

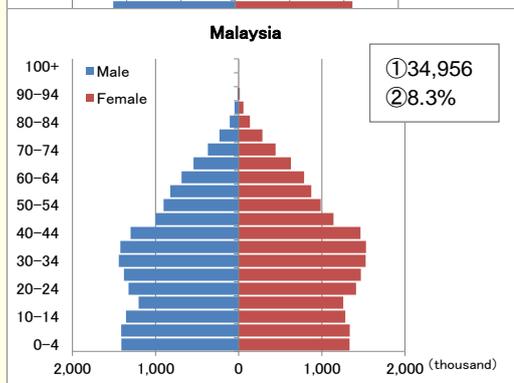
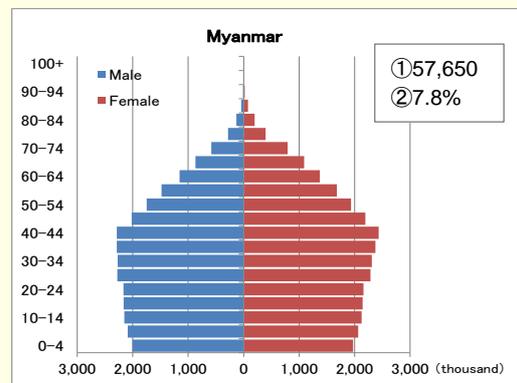
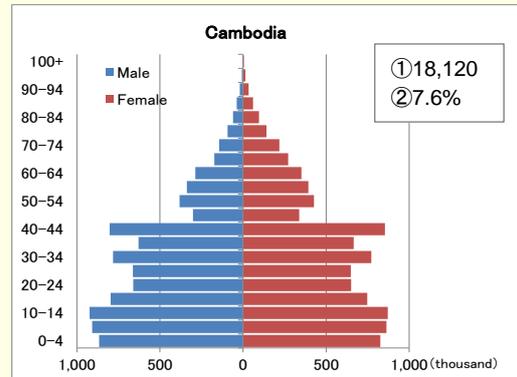
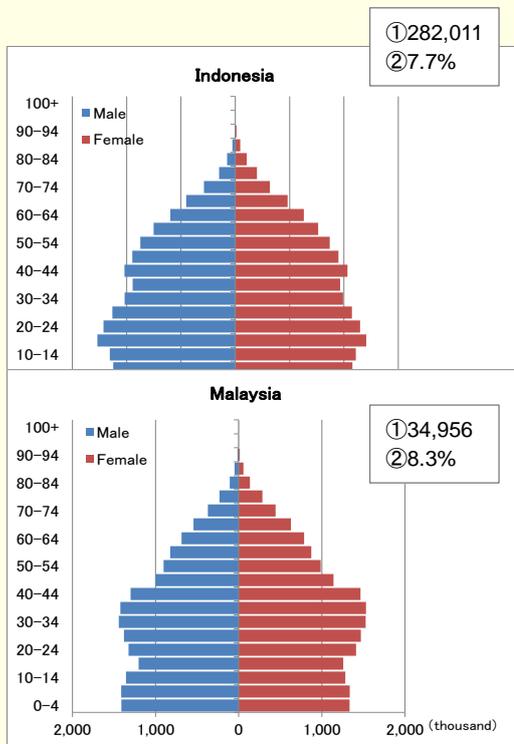
Figure 3-48: Population compositions in 2025



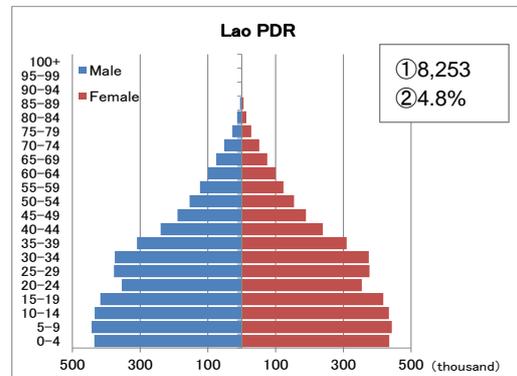
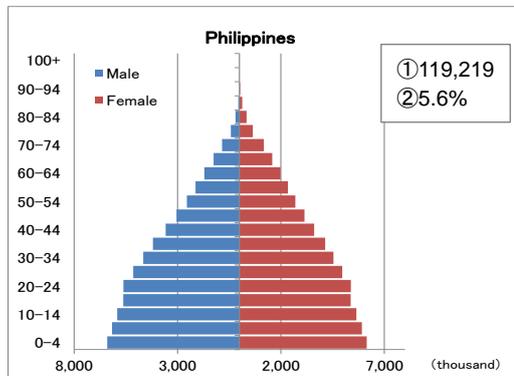
⁵ Modigliani, Franco, "The Life Cycle Hypothesis of Saving, the Demand for Wealth and the Supply of Capital, Social Research, (1966: Summer). Extracted from PCI Full Text, published by ProQuest Information and Learning Company.

Aging Society
(Population Aging Rate: above 7%)

① Total Population(thousand)
② Rate of Aging Population



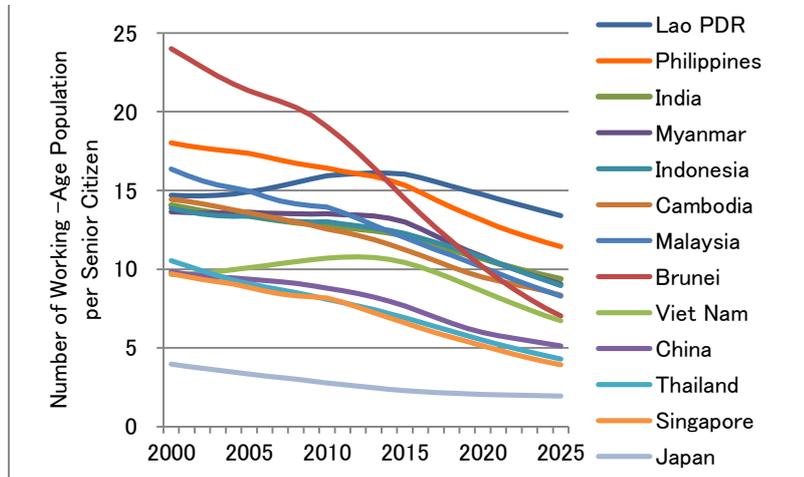
Others



(Source: Created by study team based on the United Nations Population Division. "World Population Prospects: The 2012 Revision" Medium Fertility)

Figures 3-49 and 3-50 show how the number of working-age population to each senior citizen (65 or older) is expected to decrease between 2013 and 2025. In 2025 the number of working-age population to each elderly citizen will be 3.9 in Singapore and 4.3 in Thailand, equivalent to conditions in Japan in 2000 and 1998, respectively.

Figure 3-49: Number of working-age population per senior citizen



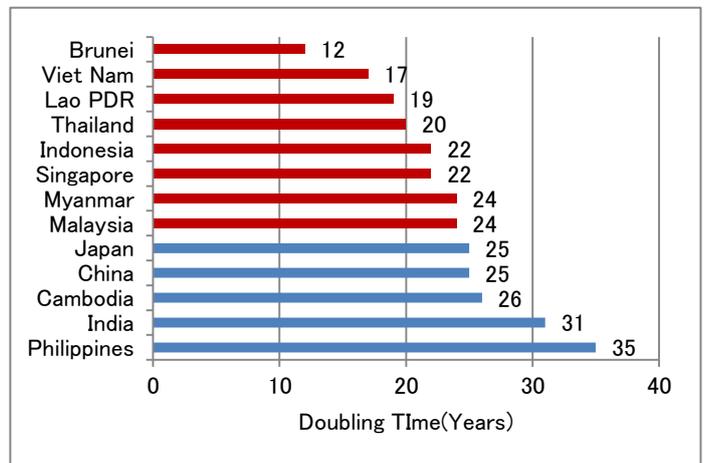
(Source: Created by study team based on the United Nations Population Division. "World Population Prospects: The 2012 Revision" Medium Fertility)

Figure 3-50: Number of working-age population per senior citizen (2013 vs. 2025)

	(A)2013	(B)2025	(B)-(A)
Lao PDR	16.1	13.4	2.7
Philippines	15.9	11.4	4.5
India	12.4	9.4	3.1
Myanmar	13.4	9.1	4.3
Indonesia	12.6	9.0	3.6
Cambodia	11.9	8.3	3.5
Malaysia	12.8	8.3	4.5
Brunei	16.4	7.0	9.4
Viet Nam	10.7	6.7	4.0
China	8.2	5.1	3.1
Thailand	7.4	4.3	3.1
Singapore	7.2	3.9	3.3
Japan	2.5	2.0	0.5

The trend of aging society is expected to continue for all ASEAN countries, and the critical point is the speeds of its progress. Fig. 3-51 shows the periods (doubling time⁶) during which the countries are expected to transform from aging to aged societies. In Japan, the transition from an aging to an aged society took 25 years, but this process is expected to be even faster for many ASEAN countries. In particular, Singapore and Thailand will become aged societies before 2025, while Viet Nam and Brunei will be aged societies during this ten-year period. As such, these countries have little time to prepare for their aged societies (Fig. 3-52).

Figure 3-51: Transition periods from aging to aged societies (doubling time)



(Source: Created by study team based on the United Nations Population Division. "World Population Prospects: The 2012 Revision" Medium Fertility)

⁶ Doubling time: Number of years required for the percentage of elderly to the overall society increases from 7% to 14%.

Figure 3-52: Year of transition from aging to aged society

	(A)Aging Society	(B)Aged Society	Doubling Time (B)-(A)
Japan	1970	1995	25
Singapore	1999	2021	22
Thailand	2002	2022	20
China	2001	2026	25
Viet Nam	2016	2033	17
Brunei	2020	2032	12
Malaysia	2021	2045	24
Myanmar	2022	2046	24
Indonesia	2023	2045	22
Cambodia	2022	2048	26
India	2024	2055	31
Philippines	2035	2070	35
Lao PDR	2038	2057	19

(Source: Created by study team based on the United Nations Population Division. "World Population Prospects: The 2012 Revision" Medium Fertility)

However, the social welfare systems (health care, income security) in many ASEAN countries are considered as insufficient (Fig. 3-53) and securing sufficient funding for a growing number of social welfare recipients is a pressing issue. If social security systems or other frameworks are not established, aging of the population without insurance or social security will grow, likely resulting in lower living standards and more serious poverty problems. As plenty of time is needed to design systems, secure funding and realize stable operations, quickly establishing systems is essential for Thailand and Viet Nam, where the declining birth rate / growing elderly population trend is proceeding and social welfare systems are still in the development stage.

Figure 3-53: Main social security system issues (social security systems for entire nation)

	Health care system for entire nation	Worker income security system	Features
Thailand	○	×	• Limited to certain groups, many workers without insurance or social security.
Vietnam	×	×	• Income insurance for limited group. • No budget for public assistance so per capita benefits are small.
Malaysia	○	×	• Currently limits on maintaining funds for health care system for all citizens.
Myanmar	×	×	• Limited to certain groups. • Health care system insufficient so individuals must pay higher percentage of medical costs.
Indonesia	×	×	• Many uninsured mainly in informal sectors. Needs to expand coverage to the uninsured.
Cambodia	×	×	• No health care system for entire nation. • Reliance on external funds to cover health care expense.
Philippines	×	×	• Needs to expand social security coverage and reduce percentage of out-of-pocket expense.
Laos	×	×	• Limited to certain groups. • Reliance on external funds (aid) to cover health care expense.

(Source: JICA 2012 "ASEAN Region – Basic Information on Social Security Sector / Investigation Report," ASEAN Labor Management Handbook (2012))

<Demographic bonus>

Furthermore, understanding the duration of "demographic bonus" periods is important in terms of projecting the economic impacts of changes in demographic trends. Andrew Mason defined "demographic bonus" as support for economic growth from faster growth in the working-age population relative to the dependent population (children and elderly). The United Nations Population Fund noted in its White Paper on World Population 1998⁷ that growth for the working-age population exceeding that for the dependent population entails opportunities for economic growth and that countries can mitigate burdens for future aging periods by wisely utilizing demographic bonus periods to their advantage. In order to utilize the demographic bonus to drive economic growth, industries capable of absorbing the growing work force must be formed. Fig. 3-54 shows the demographic bonus periods for each country with the point at which the working-age population ratio turned up as the "starting point" and the point at which it started to decline as the "end point." This demographic bonus period will likely end for seven of the ten ASEAN members (excluding Laos, the Philippines and Cambodia) around 2025 with a transition to a "demographic onus" period (period of increased economic burdens as the working-age population ratio declines and the dependent population ratio increases).

Figure 3-54: Demographic bonus periods by country

Country/Year	1960	1965	1970	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050			
Singapore	1965											2011										
Thailand		1970										2013										
Viet Nam		1969										2014										
Malaysia	1965											2019										
Brunei		1966										2019										
Myanmar		1968										2017										
Indonesia		1972											2026									
Lao PDR											2010								2044			
Philippines	1965																			2049		
Cambodia	1965									2012	2021							2036				

(Source: Created by study team based on the United Nations Population Division. "World Population Prospects: The 2012 Revision" Medium Fertility)

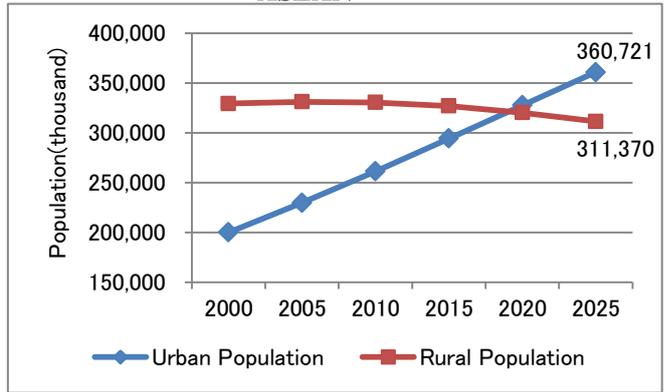
⁷ UNFPA (1998) "The State of World Population 1998"

https://www.unfpa.org/webdav/site/global/shared/documents/publications/1998/swp_1998_eng.pdf

【Growing urbanization】

Within ASEAN there has been a rapid population shift towards big cities and this trend will likely continue. Fig. 3-55 shows urban and rural demographic trends between 2000 and 2025. Between 2000 and 2025 the ASEAN population is expected to increase by about 99 million people (38%), with the urban population surpassing the rural population around 2020. This population concentration in big cities will drive increases in consumption and demand for services, but at the same time it will be essential to provide employment opportunities and build public transportation and other infrastructure needed to accommodate larger urban populations.

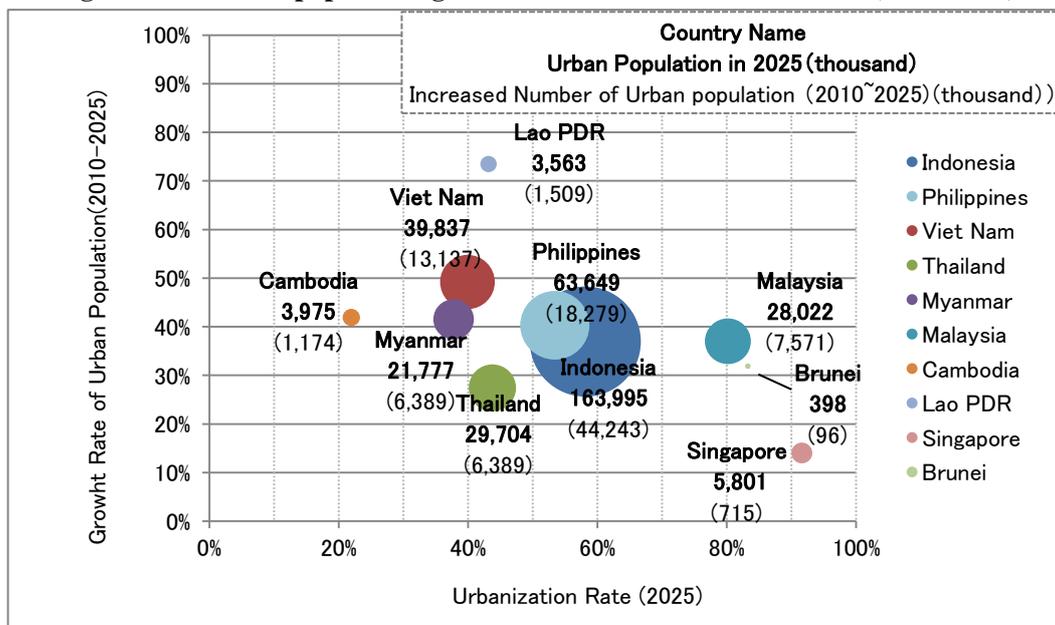
Figure 3-55: Urban, rural population trends in ASEAN



(Source: Created by study team based on the United Nations Population Division. “World Population Prospects: The 2012 Revision” Medium Fertility)

The rates of urban population growth (Fig. 3-56) indicate that urbanization is progressing particularly quickly for CLMV nations. Specifically, urban populations between 2010 and 2025 are projected to grow 73.4% in Laos, 49.2% in Viet Nam, 41.9% in Cambodia, and 41.5% in Myanmar. Furthermore, the scale of this urban population increase is particularly large in Indonesia and the Philippines. Indeed, the urban population increase between 2010 and 2025 for Indonesia will be equivalent to roughly 2.8 times the entire population of Cambodia as of 2013. An inability to prepare infrastructure and provide employment that matches the speed and scale of this urbanization could hold back economic growth. As such, preparing infrastructure in the major cities of Indonesia and the Philippines, where traffic congestion is already a serious problem, is a pressing issue.

Figure 3-56: Urban population growth rates and urbanization rates (2010~2025)

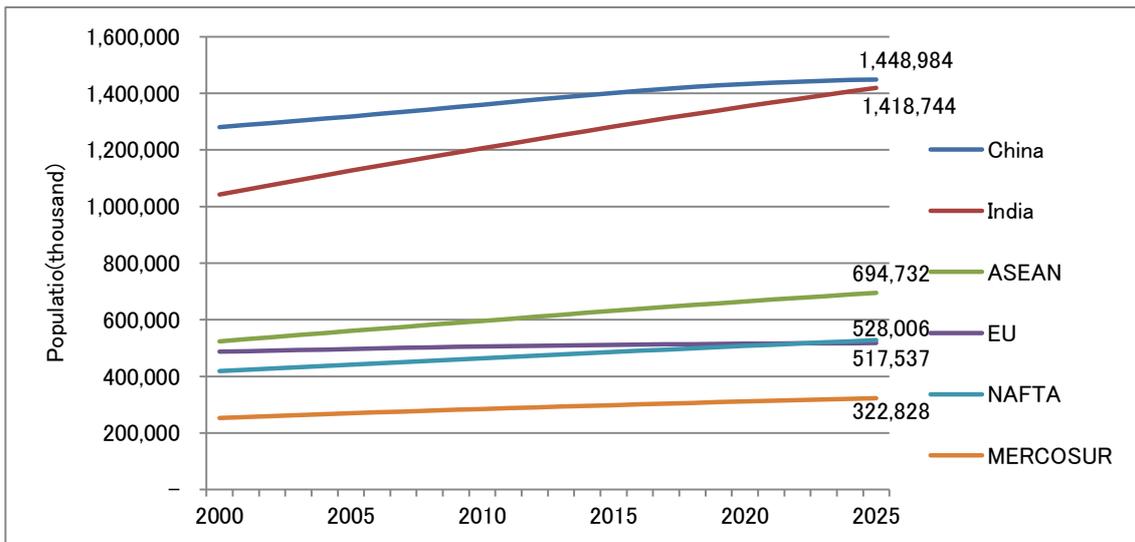


(Source: Created by study team based on the United Nations Population Division. “World Population Prospects: The 2012 Revision” Medium Fertility)

【Potential of consumer market growth】

Considering its population size and growing middle class, the ASEAN consumer market is expected to grow. Fig. 3-57 shows overall demographic trends for China, India, ASEAN and other regional economic communities (EU, NAFTA, Mercosur). The ASEAN population is expected to grow at an annual rate of 1%, from around 610 million people in 2012 to roughly 695 million in 2025. In terms of scale, this population is only about one-half that of China or India, but still the largest population among regional economic communities such as the EU, NAFTA and Mercosur.

Figure 3-57: Comparison of Overall Population Trends by Country and Region (Unit: thousand)



(Source: Created by study team based on the United Nations Population Division. “World Population Prospects: The 2012 Revision” Medium Fertility)

In 2025, Indonesia will have the largest population within ASEAN at roughly 280 million, accounting for one-fourth the overall ASEAN population (Fig. 3-58, 3-59). From 2012 the Philippine population will grow at an annual rate of 1% and reach roughly 120 million in 2025. The population of Viet Nam is also expected to approach 100 million.

Figure 3-58: Population trends (thousand) and growth rates by country

	2012	2025	Average Annual Growth
Indonesia	246,864	282,011	1.0%
Philippines	96,707	119,219	1.6%
Viet Nam	90,796	99,811	0.7%
Thailand	66,785	67,900	0.1%
Myanmar	52,797	57,650	0.7%
Malaysia	29,240	34,956	1.4%
Cambodia	14,865	18,120	1.6%
Lao PDR	6,646	8,253	1.7%
Singapore	5,303	6,334	1.4%
Brunei	412	478	1.2%
ASEAN Total	610,415	694,732	1.0%

(Source: Created by study team based on the United Nations Population Division. “World Population Prospects: The 2012 Revision” Medium Fertility)

Figure 3-59: Population ratio of ASEAN(2025)

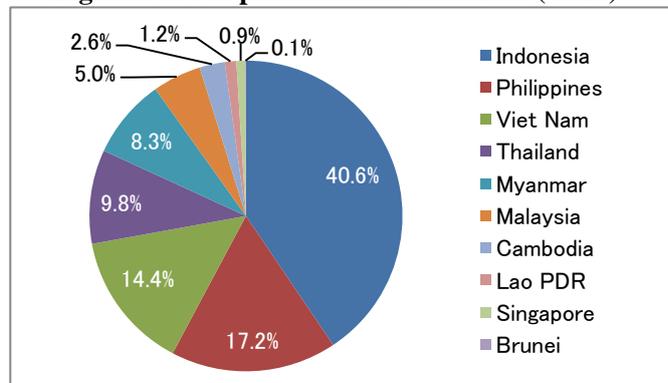
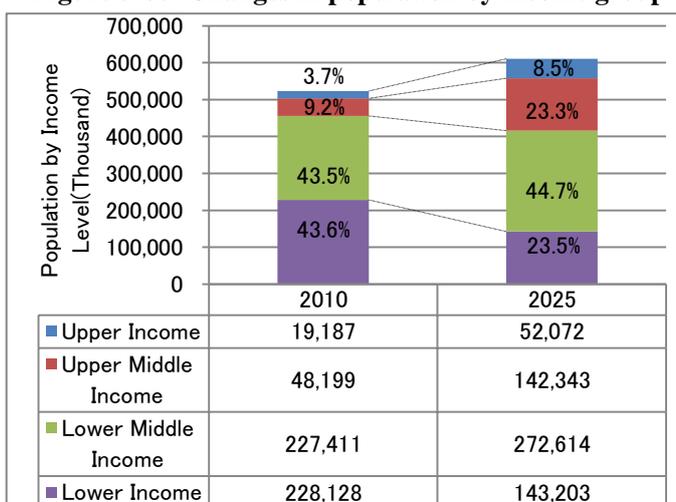


Fig.3-60 shows population changes by income bracket for ASEAN overall between 2010 and 2025. Here, income brackets are classified according to annual disposable income as wealthy (\$35,000 or higher), upper-middle class (\$15,000-\$34,999), lower-middle class (\$5,000-\$14,999) and poor (less than \$4,999). The percentage of those in the middle and higher income brackets to the overall population is expected to increase from 56.4% in 2010 to 76.5% in 2025, which will most likely increase the appeal of ASEAN as a consumer market.

Figure 3-60: Changes in population by income group

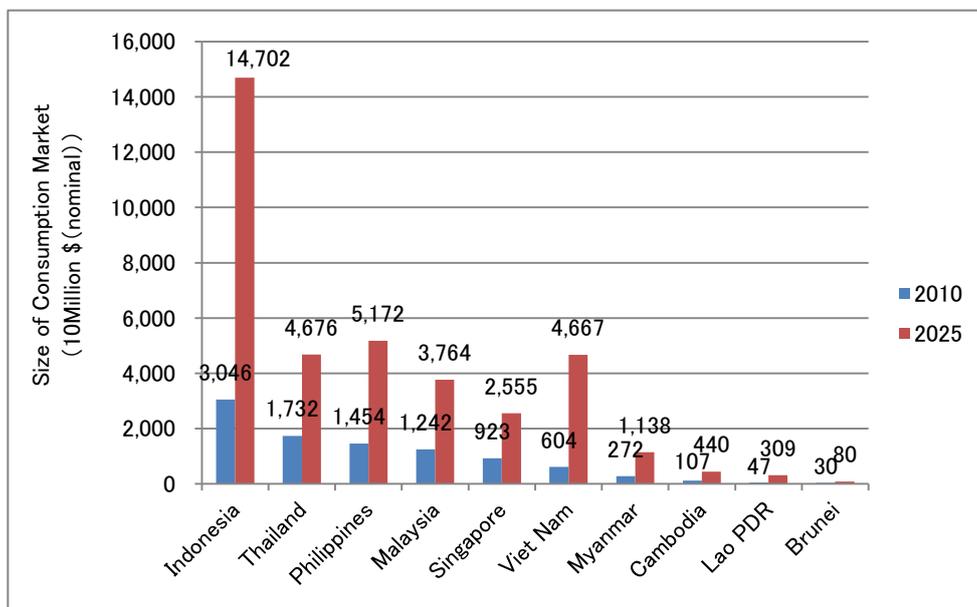


(Source: Created by study team based on Euromonitor)

Pronounced consumer market growth is expected

for Indonesia, the Philippines and Viet Nam, evidenced by the consumption expenditure forecasts for each country shown in Fig. 3-61. Between 2010 and 2025, consumption expenditures are forecast to increase roughly 4.8 times for Indonesia, 3.5 times for the Philippines, and 7.7 times for Viet Nam. The Philippine consumer market was small relative to that in Thailand as of 2010, but is expected to surpass Thailand in 2025 to become the second largest consumer market in ASEAN. Furthermore, the Vietnamese consumer market is expected to grow to the size of the market in Thailand. Such consumer market growth in each country will not only support economic growth, but will make these countries more competitive by attracting more foreign direct investment.

Figure 3-61: Sizes of domestic consumer markets



(Source: Created by Research team based on Euromonitor)

② Optimistic Scenario

Optimistic Scenario

- Demand for health care and nursing services increases due to the aging society trend. Developing human resources for the relevant fields, attracting investment and developing systems all support the creation of markets targeting the elderly and help some nations escape the "middle income trap."
- Progress in preparing social security systems reduces the burdens during working lives associated with aging of society and stimulates consumption.
- Consumption becomes more sophisticated with the provision of products and services to meet the demands of the growing middle class.

③ Pessimistic Scenario

Pessimistic Scenario

- Unable to fully utilize labor forces during demographic bonus period: Fiscal burdens associated with declining birthrate / growing elderly population hold back economic growth.
- Unable to prepare solid social security systems: More severe poverty for the aging low-income and non-permanent worker brackets, leading to greater income disparities and social instability. Declining birth rate trend also leads to increase in elderly without relatives.
- Infrastructure building does not keep pace with rapid urbanization: Economic development held back by insufficient urban infrastructure (electric power, waterworks) and provision of administrative services, traffic congestion, pollution, and inadequate housing (slums), even in countries other than Indonesia and the Philippines.

④ Challenges in demographic trends sector

The Realistic Scenario for this sector (demographic trends) raises challenges in the declining birthrate / growing elderly population trend⁸. Declining birth rates can reduce the working-age population, while a growing elderly population can slow economic growth through increased fiscal burdens. Fig. 3-62 classifies the current status of the declining birthrate / growing elderly demographic trends in each country and provides a list of the key challenges (refer to Legend for explanation of classifications). In the list of challenges, the "red" classification was applied to Singapore and Thailand, for which their working-age populations will start declining before 2025, and Viet Nam, which will see its demographic bonus period end in 2014 and will shift to an aging society from 2016. In order to mitigate the economic burdens associated with the declining birthrate / aging population trend, countries must sufficiently utilize labor forces during the demographic bonus period and make preparations for future changes in the society. The various challenges for the countries classified as red in this chapter will be covered in greater detail in the next chapter.

⁸ Urbanization issue covered in "Chapter 3. (4) Transportation & Traffic."

Figure 3-62: List of challenges in demographic trends sector

	CLMV				ASEAN4 (Group1)		ASEAN4 (Group2)		BS	
Decline of Birth Rates and Aging Population	Myanmar	Cambodia	Lao PDR	Viet Nam	Philippines	Indonesia	Thailand	Malaysia	Brunei	Singapore

Legend

	Challenges already emerged or expected to emerge by 2025
	Likely to be a challenge by 2025
	Low likelihood of becoming a challenge by 2025
	Unable to verify due to insufficient data

(3) Labor Environment

The labor environment elements of "worker increase/decrease," "labor supply/demand," "wage level," and "education" all impact the economic growth elements of each country.

For this sector we analyzed each element and projected labor environment challenges towards 2025.

① Realistic Scenario

< Summary >

【Increase/decrease of labors】

- Even though the overall ASEAN working-age population continues growing until 2025, the rate of increase slows. By specific country, the working-age populations in Thailand and Singapore start declining from 2018 and 2022, respectively. Furthermore, Viet Nam's working-age population growth rate is only 0.37% in 2025, and there is a high likelihood that this population will start declining from 2034.
- Discussions are held for liberalizing the cross-border movement of skilled workers for eight professional fields including construction, health care and accounting, but each country is slow to ratify specific agreements. Furthermore, as restrictions on the movement of unskilled workers remain in place, it becomes hard to use labor mobility to offset declining working-age populations.

【Labor supply/demand】

- Cambodia, the Philippines, and Brunei, countries expected to see job shortages in the future, develop industries effective in creating employment. Conversely, there is the likelihood of labor shortages in Thailand, Viet Nam, Malaysia and Singapore. As such, these countries take steps to raise labor productivity, stop "brain drains" (human resource outflows), and build systems supporting international divisions of labor.

【Wage level】

- Sharp wage increases are seen in Myanmar, Viet Nam, Indonesia, and Thailand. There are also concerns that wage increases will progress sooner than expected in Viet Nam, Thailand, Malaysia, and Singapore where labor shortages are anticipated.

【Education】

- Education levels need to be further elevated, particularly in Cambodia and Indonesia. There is room for improving the quality of education for all ASEAN members other than Singapore.

【Economic growth factors】

- Economic growth factors shift from labor input to capital input and total factor productivity (TFP). In order to realize this shift, there will need to be policies for raising the level and quality of education, increasing R&D investment and protecting intellectual properties.

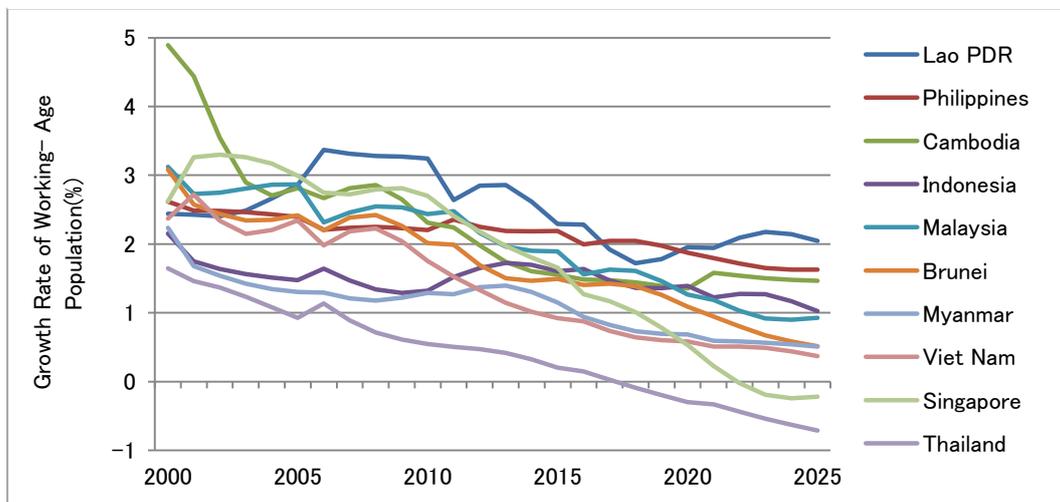
【Increase/decrease of labors】

< Changes in working-age population >

Working-age populations are projected to start declining for Thailand and Singapore in 2018 and 2022, respectively. Working-age populations are expected to continue growing for the other countries until 2025. However, the respective growth rates are projected to slow (Fig. 3-63).

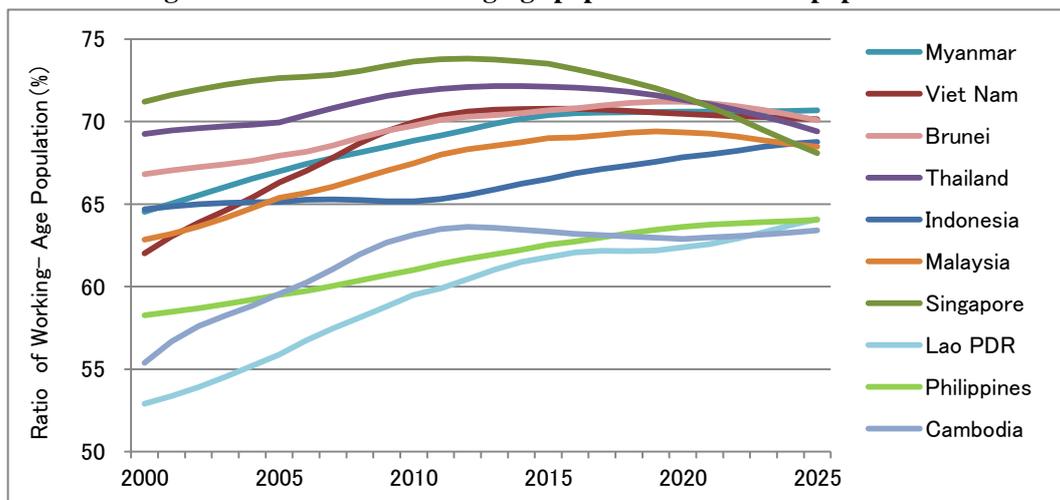
In particular, the working-age population will account for 75% of Viet Nam's overall population in 2025, the next highest rate after Myanmar. These countries, along with Indonesia and the Philippines, will possess robust workforces (Fig. 3-64). On the other hand, the working-age population growth rate for Viet Nam is among the lowest for ASEAN members, just after that for Thailand and Singapore, and this population is expected to begin declining from 2034.

Figure 3-63: Growth rate of working-age population by country



(Source: Created by study team based on “World Population Prospects: The 2012 Revision” from Population Division, Department of Economic and Social Affairs, United Nations)

Figure 3-64: Ratio of working-age population to overall population



(Source: Created by study team based on “World Population Prospects: The 2012 Revision” from Population Division, Department of Economic and Social Affairs, United Nations)

<Labor mobility>

For those countries where the working-age population is declining or the rate of growth is slowing, the acceptance of foreign workers could resolve worker shortages for those occupations where workers are scarce and also ease upward pressure on wages. However, labor mobility still has not been fully liberalized in the ASEAN region.

The mobility of skilled workers has been liberalized to some degree in ASEAN under the ASEAN Framework Agreement on Services (AFAS) and ASEAN Agreement on Movement of Natural Persons (AMNP). However, the liberalization of labor mobility for all workers in ASEAN, where there are large income gaps, could produce excessive labor inflows into high-income countries. Therefore, ASEAN is promoting liberalization for only temporary mobility of natural persons engaged in trade and investment, while at the same time aiming for liberalization limited to "professional services" under mutual recognition agreements (MRA). Eight MRA's had been signed as of 2012. However, these agreements have been difficult to realize as domestic regulations for each specialized field must be prepared and coordination with industry groups is also required. As such, there are currently no MRA's actually in force (as of December 2013) (Fig. 3-65). From 2015 such agreements could gradually come into force under the "ASEAN minus X" (implementation started from those countries that can participate after the consensus) and "2 plus X" (implemented by only the two or more members that can participate) methods¹.

There has also been cooperation in terms of immigration control and preparing employment environments for non-skilled works, not as part of an economic community, but as part of approaches for forming an ASEAN social and cultural community. However, the discussions here do not aim to liberalize labor mobility, but focus on memorandums between two countries regarding required personnel, as well as the acceptance of such workers through the issuance of work visas (Ex.: Indonesian housekeepers allowed to work in Malaysia²). However, in recent years Thailand, Malaysia, and Singapore have adopted policies that in principle limit the acceptance of non-skilled workers from other countries³.

Figure 3-65: Concluded MRAs (Mutual Recognition Agreements) on professional services in ASEAN

	Professional Service	Signed Date
1	Engeneering Service	9 th Dec. 2005
2	Nursing Service	8 th Dec. 2006
3	Construction Service	19 th Nov. 2007
4	Surveying Engineer	19 th Nov. 2007
5	Accounting Service	26 th Feb. 2009
6	Medical Practitioner	26 th Feb. 2009
7	Dentist	26 th Feb. 2009
8	Sightseeing Specialist	9 th Nov. 2012

(Source: Created by study team based on "ASEAN Economic Community" by Koichi Ishikawa, Kazushi Shimizu, Seiya Sukekawa (2013))

¹ "ASEAN Economic Community" – JETRO, by Koichi Ishikawa, Kazushi Shimizu, Seiya Sukekawa (2009)

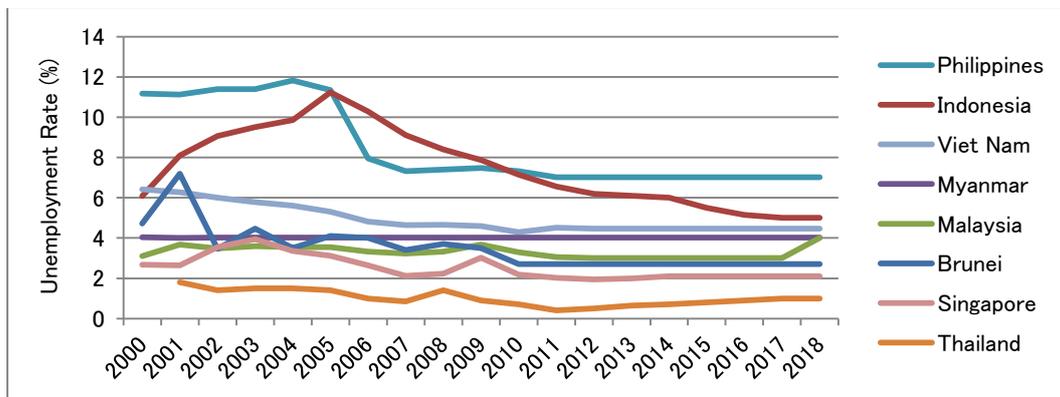
² Immigration Department of Malaysia

³ "The Economics of East Asian Integration," Ikuo Kuroiwa, Nippon Hyoron Sha (2014)

【Labor supply / demand】

According to IMF's unemployment forecasts through 2018, unemployment will be particularly low for Thailand and Singapore, two countries with declining working-age populations, suggesting the potential for worker shortages in these countries (According to IMF's unemployment forecasts through 2018, unemployment will be particularly low for Thailand and Singapore, two countries with declining working-age populations, suggesting the potential for worker shortages in these countries (Fig. 3-66). On the other hand, the unemployment rate for the Philippines is projected to trend over 7%, so creating job opportunities to bring down the unemployment rate will become an issue.). On the other hand, the unemployment rate for the Philippines is projected to trend over 7%, so creating job opportunities to bring down the unemployment rate will become an issue.

Figure 3-66: Unemployment rate forecast



(Source: Created by study team based on IMF's "World Economic Outlook.")

In order to analyze the worker-to-job balance for each ASEAN member, we compared the projections for the number of workers (age 15 and older) up to 2025⁴ to the number of employees (= jobs), assuming the rate of employees growth between 2008 and 2012 will continue until 2025⁵. There are actual differences depending on type of job, region and time period, but in general the countries facing job shortage trends in which the number of workers exceeds the number of employees are Cambodia, the Philippines, and Brunei. These countries need to foster industries effective in creating jobs. For example, Cambodia is being entrusted with some manufacturing processes from Thailand and has started constructing systems supporting such international divisions of labor. Such valuable employment opportunities must be expanded.

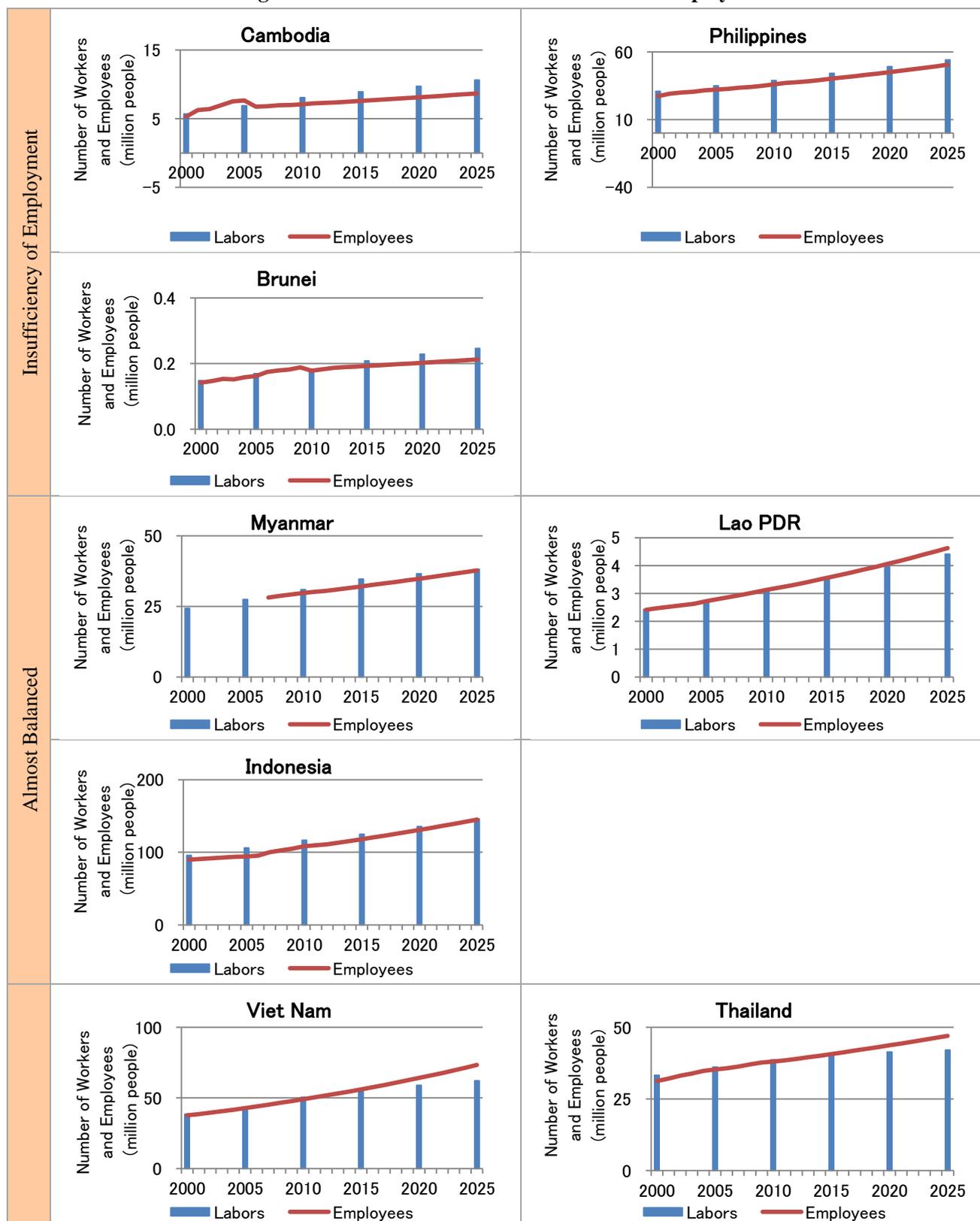
The countries with a roughly even balance between workers and employees are Myanmar, Lao PDR, and Indonesia (slight labor shortage for Lao PDR possible from 2020).

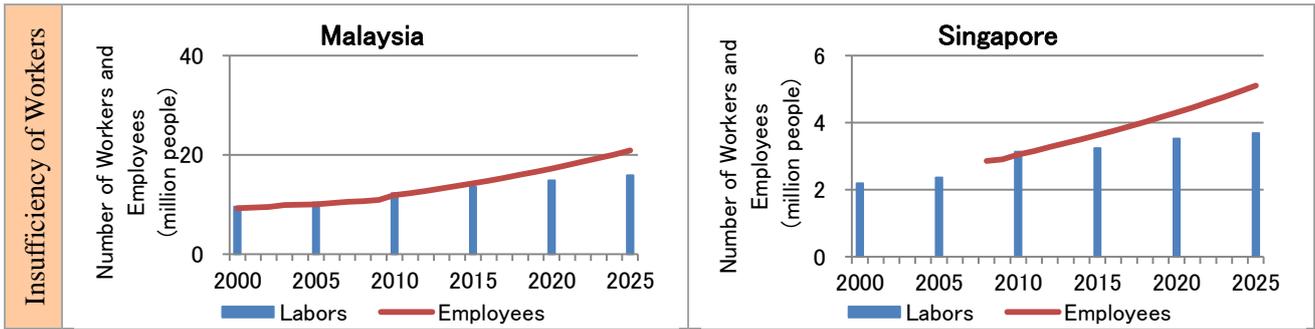
Conversely, the countries facing worker shortage trends in which the number of jobs exceeds the number of workers are Viet Nam, Thailand, Malaysia, and Singapore. These countries will need to maintain adequate workforces and raise worker productivity by stopping brain drains, preparing systems to allow for the acceptance of foreign workers, promoting the employment of women, and postponing the mandatory retirement age. These countries will also need to transfer labor-intensive jobs to neighboring countries with worker surpluses, and prepare systems supporting international divisions of labor (Fig. 3-67).

⁴ Applied 2102 labor force participation rate (ADB Key Indicator) to population 15 and older (median estimates from United Nations, Population Division)

⁵ As data was unavailable, used the 2002-03 period for Lao PDR and the 2009-12 period for Singapore.

Figure 3-67: Balance of numbers of labors and employees



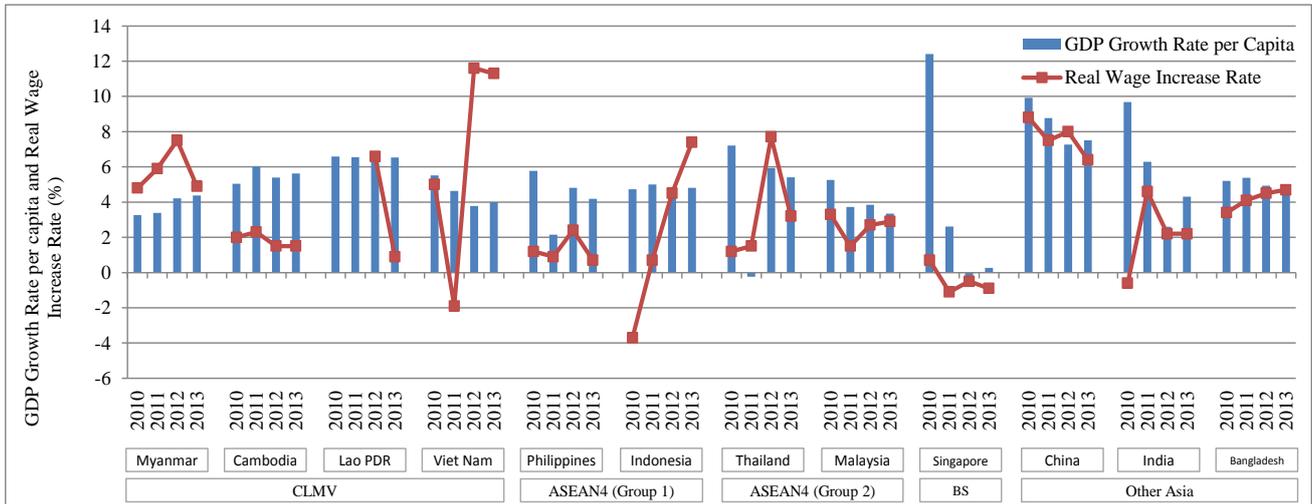


(Source: Created by study team based on Population Division, Department of Economic and Social Affairs, United Nations, ADB “Key Indicators for Asia and the Pacific 2013”, and UN ESCAP database)

【Wage Levels at Japanese Corporations in ASEAN】

The sharp rise in wages in ASEAN has been cited as a concern for foreign companies working in this region (survey of Japanese companies)⁶. According to a survey of Japanese companies, between 2010 and 2013, real wages in Myanmar, Viet Nam, Indonesia, and Thailand grew at faster paces than increases in their respective real per capita GDP (Fig. 3-68).

Figure 3-68: Increase rate of real wage (2013)(Japanese corporations in ASEAN)



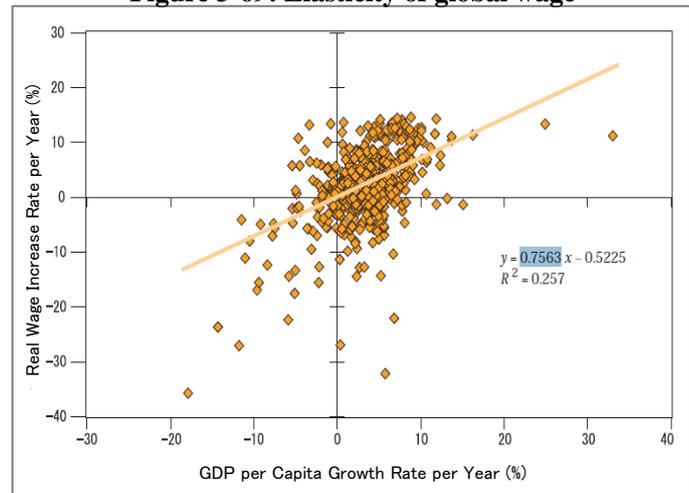
(Source: Created by study team based on IMF World Economic Outlook, JETRO "Conditions for New Industrial Clusters in Asia" (Sep. 2013))

⁶ Survey of Japanese Corporations Operating in Asia/Oceania (2013), JETRO

According to ILO (International Labor Organization) research⁷, global wage elasticity (ratio of wage increase to per capita GDP increase) is roughly 0.75 on average (inclination of linear function in Fig. 3-69). In other words, wages increase at a rate equivalent to 0.75 times the rate of increase for per capita GDP. Even though there are many countries with wage elasticity of more than 0.75, sustained wage increases at rates exceeding per capita GDP can restrict growth, particularly for labor-intensive industries that must rely on relatively cheap labor. As such, continued excessive wage increases in countries where labor-intensive industries are located could cause those countries to lose some of their competitiveness as a target for direct investment, provided that labor productivity does not also increase. Attention is warranted for Myanmar, Viet Nam, Indonesia, and Thailand, where wage increases have outpaced per capita GDP increases.

Furthermore, in terms of population trend dynamics, worker shortages are projected for Viet Nam, Thailand, Malaysia, and Singapore as mentioned earlier (Fig. 3-67). Such conditions raise the possibility of wages rising faster than per capita GDP in these countries.

Figure 3-69: Elasticity of global wage



(Source: ILO "Global Wage Report")

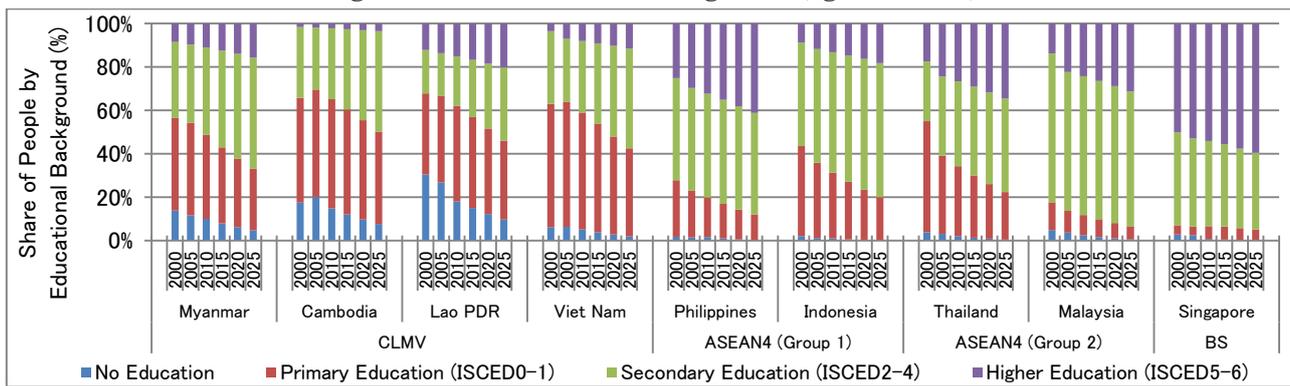
⁷ ILO Global Wage Report (2008)

[Education]

Education level forecasts provided by the International Institute for Applied Systems Analysis (IIASA)⁸ point to low percentages of workers with higher education for Cambodia among CLMV and for Indonesia among ASEAN4 (data extracted for workers between ages 25-29 for which education attainment assumed to be set) (Fig. 3-70). The labor markets in these countries will have a shortage of workers with higher educations, which means there could be a shortage of researchers and managers, jobs that typically require employees with higher educations. Furthermore, countries with large percentages of workers with only elementary (primary) education such as Cambodia, Lao PDR, and Viet Nam will need to raise education levels.

Countries with low percentages of workers with secondary education, but high percentages of workers with elementary and higher educations are experiencing high/low education polarization. Such countries include Lao PDR in CLMV and Thailand in ASEAN4. Assuming employment positions are in proportion to education level, such countries will likely have workers for labor-intensive jobs, as well as workers capable of research and upper management jobs. However, at the same time they are likely to have a shortage of workers capable of managing production sites and stores.

Figure 3-70: Educational Background (ages of 25-29)

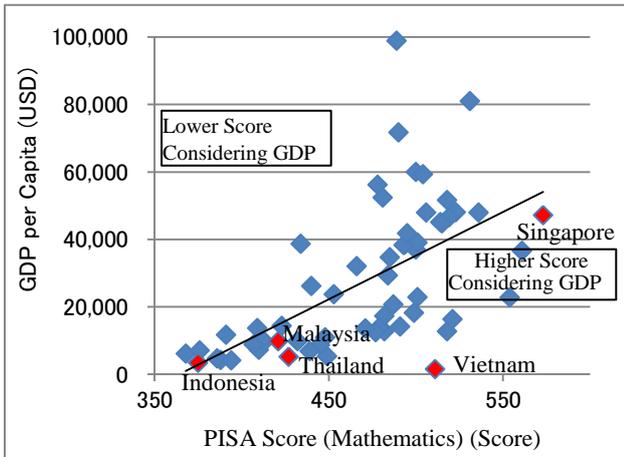


(Source: Created by study team based on IIASA “Projection of Populations by Level of Educational Attainment, Age and Sex for 120 Countries for 2005-2050” (Sep. 2010))

Education attainment levels are expected to trend higher in ASEAN countries. However, unless academic ability increases at the same time, workers will not possess the knowledge and technical skills appropriate for higher education levels and human resources with skill levels not matching the salaries of those with high educations will increase. A failure to employ such human resources would result in a labor supply/demand mismatch. Results of the OECD's Programme for International Student Assessment (PISA) targeting people 15 years old in 65 countries show that when making comparisons of countries by per capita GDP, academic ability relative to income level is increasing in ASEAN countries in the areas of math, reading comprehension, and science. The academic ability of those in Viet Nam, in particular, is trending sharply higher than in countries with the same per capita GDP level, suggesting citizens there are very academically competitive as of the age of 15 (Figs. 3-71, 3-72,3-73).

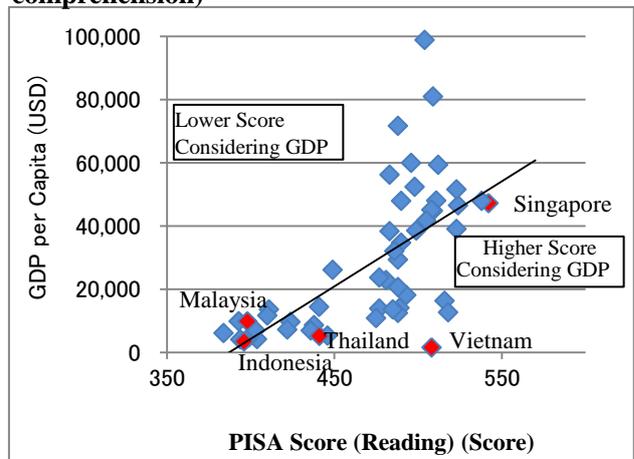
⁸ Education level forecasts assuming a pace for global standard education level elevation based on actual results until 2000.

Figure 3-71: Distribution of PISA score (math)



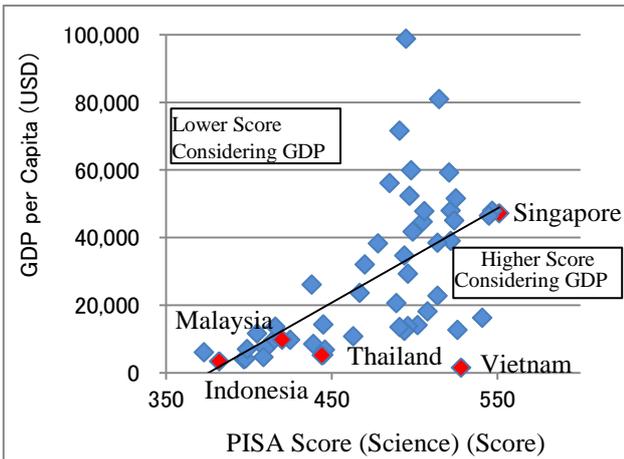
(Source: Created by study team based on OECD PISA 2012, World Bank)

Figure 3-72: Distribution of PISA score (reading comprehension)



(Source: Created by study team based on OECD PISA 2012, World Bank)

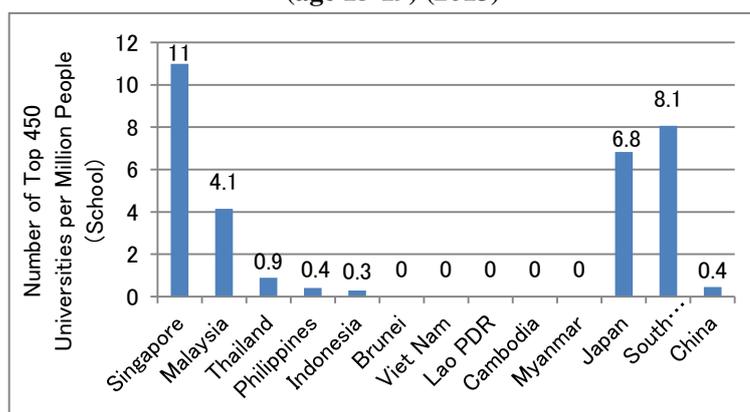
Figure 3-73: Distribution of PISA score (science)



(Source: Created by study team based on OECD PISA 2012, World Bank)

PISA is the only large-scale international academic test targeting students 16 and older and covering the individual ASEAN countries. Therefore, based on the assumption that students educated at globally respected universities have high academic skills, comparisons were made of countries based on the number of top 450 universities⁹ per one million citizens between the ages of 15 and 19 (Fig. 3-74). The assumption is that countries with numerous universities have the potential to develop many students with high academic skills.

Figure 3-74: Number of top universities per million people (age 15-19) (2013)



(Source: Created by study team based on Quacquarelli Symonds Limited, UNESCO)

Within ASEAN, Singapore has a score of 11 universities, higher than the scores for Japan and South Korea. On the other hand, the score for Malaysia was 4.1 universities, and that for Thailand, the Philippines, and Indonesia were less than 1 university. The scores for other ASEAN countries were all 0 (even Viet Nam, which topped the OECD average in PISA targeting 15-year old students). As there are no policies for raising the competitiveness of their universities over a short period of time, each ASEAN country (excl. Singapore) needs to not only raise educational levels, but continue working to raise academic ability.

【Economic Growth Factors】

<Factor Changes>

As suggested by Professor Paul Krugman's "Myth of Asia's Miracle," in order for ASEAN countries to maintain long-term economic growth, the aim must be to increase total factor productivity through the economic growth factors of labor input and capital input.

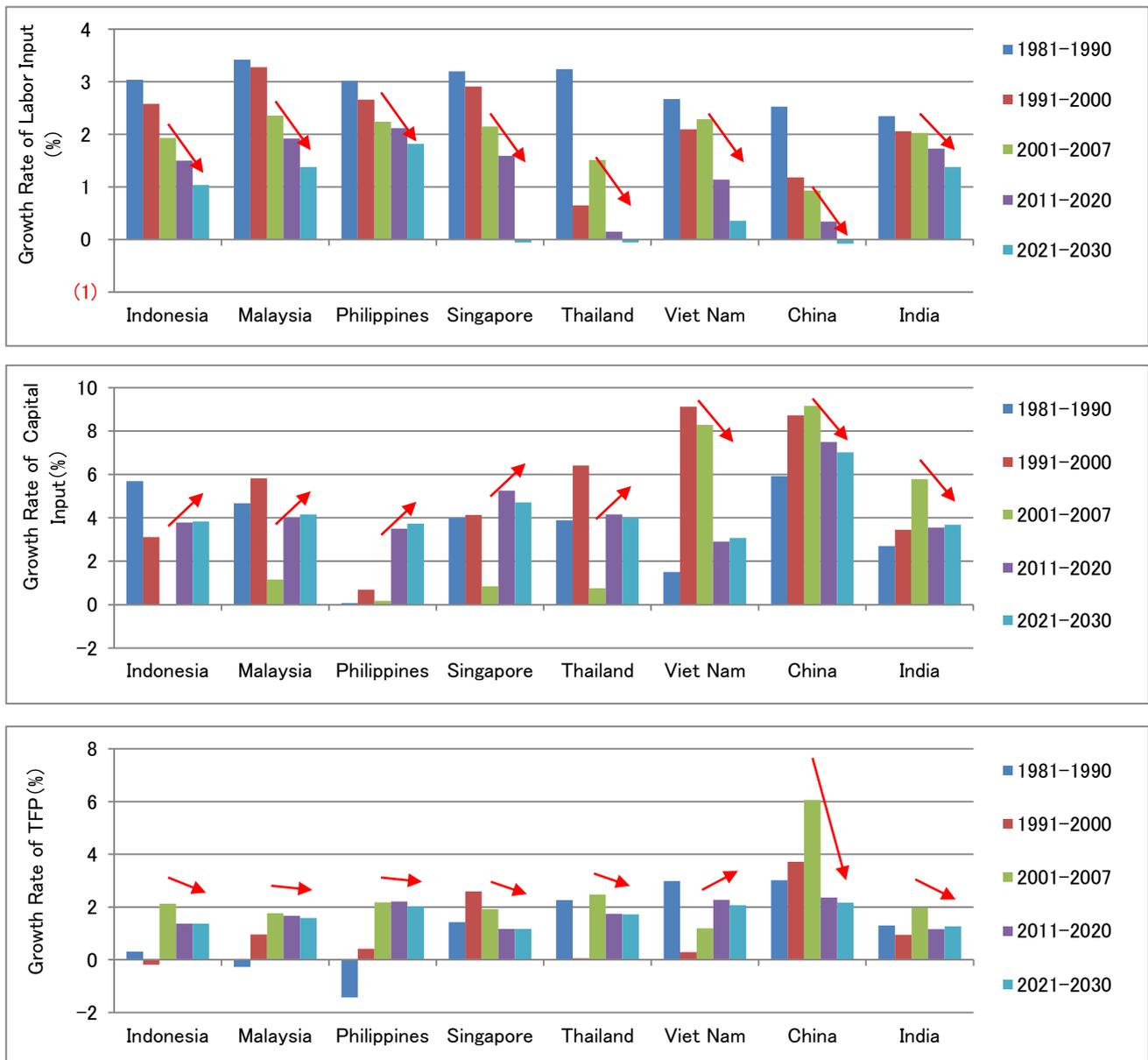
According to ADB¹⁰ forecasts, when comparing actual results until 2007 with projections for the period between 2021 and 2030, the growth rate for the economic growth factor "labor input" declines for each country, turning negative for Singapore and Thailand, while approaching zero for Viet Nam (Fig. 3-75). Regarding the "capital input" growth rate, recent progress has been made and the rate is projected to increase, except for Viet Nam where the marginal productivity of capital is forecast to decline. Meanwhile, "total factor productivity" is projected to decline, except in Viet Nam. Viet Nam needs to maintain high growth rates for capital input, while other ASEAN countries must improve total factor productivity. The same forecast projects an increase in the capital input and total factor productivity growth rates through education (mentioned earlier), R&D investment and intellectual property protection reforms.

⁹ Quacquarelli Symonds Limited, "QS World University Rankings 2012/2013"

¹⁰ ADB (2010), "Economic Growth in Asia: Determinants and Prospects"

This report used figures for up to 2007, which could be obtained, as the actual figures. For the sake of convenience in terms of available annual data, the report's projection period starts from 2010. As such, growth rate projections are from 2011. This report also touches on education as an economic growth factor.

Figure 3-75: Growth Rates for each GDP Growth Factor



(Source: Created by study team based on ADB “Economic Growth in Asia: Determinants and Prospects” (Sep 2010))

<Promoting Economic Growth>

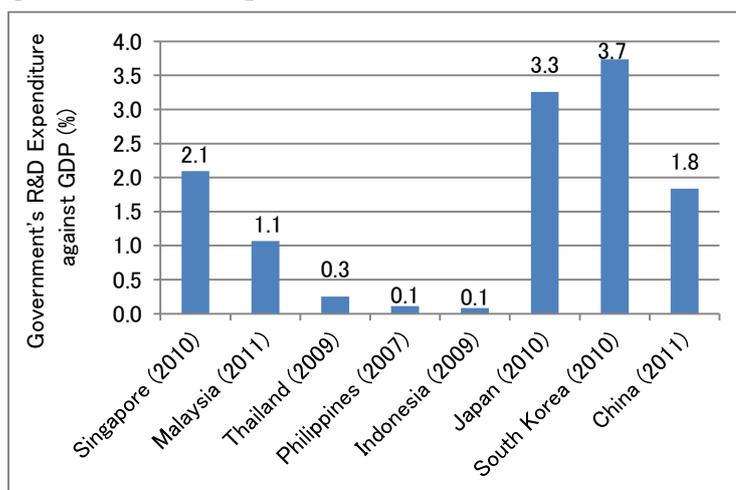
Robust R&D activities should be promoted in each country as they contribute to improved profitability through cost reductions and the sales of value added products.

Government R&D investment amounts as a percentage of GDP is one indicator of R&D conditions. This percentage is 2.1% for Singapore and 1.1% for Malaysia, respectable scores albeit low compared to Japan and South Korea. Meanwhile, the percentages for Thailand, the Philippines and Indonesia are only between 0.3-0.1%, less than one-third the level for Malaysia (Fig. 3-76).

In terms of the number of researchers per 1,000 workers, Singapore is roughly on par with Japan and South Korea. However, Malaysia is at roughly one-third, while Thailand and other ASEAN members are at less than one-tenth the levels in Japan and South Korea (Fig. 3-77).

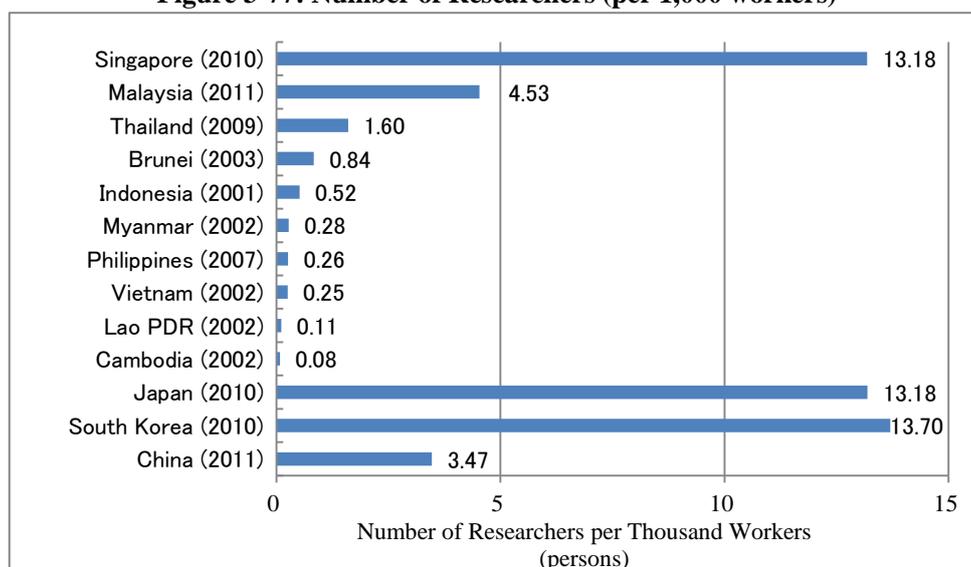
Singapore and Thailand, where the working-age population is declining, as well as Malaysia, which aims to become a high-income country, will need to foster industries with high profitability by increasing expenditures for R&D and developing researchers.

Figure 3-76: R&D Expenditures of Government (as % of GDP)



(Source: Created by study team based on World Bank's "World Development Indicator")

Figure 3-77: Number of Researchers (per 1,000 workers)

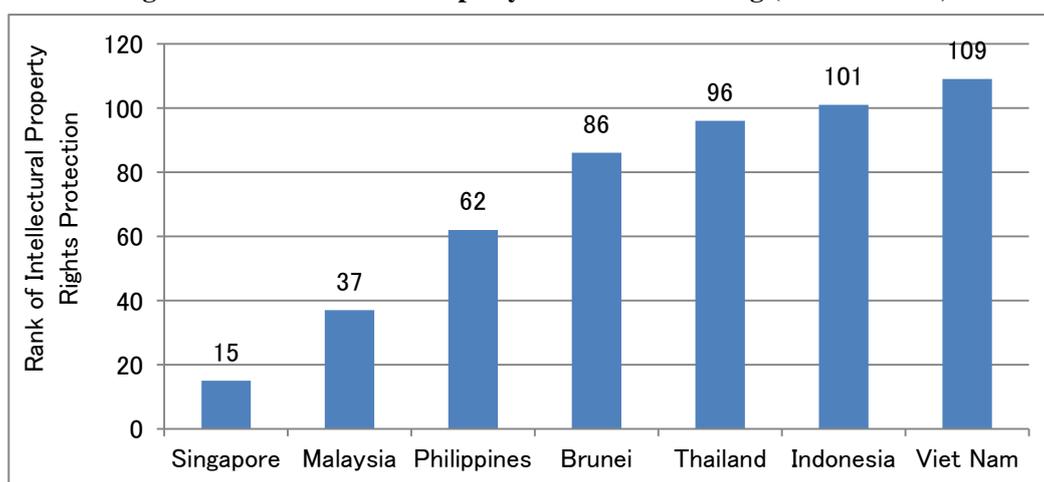


(Source: Created by study team based on UNESCO)

Along with increased R&D investment, countries need to construct frameworks for protecting intellectual property, the fruits of R&D, and enhance international competitiveness as R&D bases.

An international ranking of protection for various assets¹¹ ranked the protection of intellectual properties for 131 countries. Among ASEAN members, the ranks were 86 for Brunei, 96 for Thailand, 101 for Indonesia and 109 for Viet Nam (Fig. 3-78). These countries will need to prepare intellectual property right laws, and enhance their popularization, awareness and regulation so that the laws will be obeyed.

Figure 3-78: Intellectual Property Protection Ranking (131 countries)



(Source: Created by study team based on IPRI "International Property Rights Index 2013 Report.")

¹¹ IPRI(International Property Rights Index) "International Property Rights Index 2013 Report"

② Optimistic Scenario

Optimistic Scenario

- Even though working-age populations begin to decline or their growth rates begin to slow, needed workers can be obtained thanks to the enactment of MRA's for skilled workers and the easing of restrictions on the acceptance of non-skilled workers, which in turn eases upward pressure on wages.
- Meanwhile, countries such as Cambodia and Lao PDR, which have surplus labor, see an increase in citizens working overseas. Money sent back to these countries by citizens working overseas increases and technology transfers progress through the acceptance of skilled workers.
- In addition to stable wage levels, manufacturing sector R&D progresses and the supply of researchers, engineers and managers increases due to improvements in education levels and quality, increased R&D investment, and progress in protecting intellectual property rights. As a result, improved investment input and total factor productivity accelerate the shift to economic growth and offset labor input-related drags on economic growth.

③ Pessimistic Scenario

Pessimistic Scenario

- Not only do the working-age populations decline / growth rates slow in Thailand, Singapore and Viet Nam, but securing adequate worker levels becomes difficult due to delays in enacting MRA's for skilled workers and tougher restrictions on accepting non-skilled workers.
- Upward pressure on wages in countries with labor shortages increases due to delays in preparing infrastructure needed for smoother trade within the region and poor progress in preparing systems for international divisions of labor.
- Investment in mechanization (capital input) increases as private corporations try to offset higher wages with improved worker productivity. However, there is not a shift in workers to knowledge-intensive industries and the unemployment rate increases as policies for raising the level and quality of education, increasing R&D investment and protecting intellectual property rights are insufficiently implemented. Furthermore, the growth rate for total factor productivity declines. As a result, the overall economic growth rate declines along with a drop in the labor input growth rate.
- Countries with robust working-age populations and surplus workers see an increase in citizens working in other countries (including illegally). Furthermore, the economic growth rate declines as capital inputs and total factor productivity do not improve.

④ Challenges in Labor Environment Sector

The Realistic Scenario points to "insufficient employment opportunities," "worker shortages," "sharp wage increases," "low education levels," and "domestic education disparities" as challenges for this sector (labor environment).

We prepared a list of challenges and classified the current conditions for each challenge in each country (Fig. 3-79) (classifications explained in legend).

For the issue of "insufficient employment opportunities" we assigned the color red to those countries where employment is projected to be insufficient to meet the growing number of workers (Cambodia, the Philippines, Brunei).

For the challenge of "worker shortages" we assigned the color red to those countries where the number of workers is expected to not keep pace with increasing job opportunities (Viet Nam, Thailand, Malaysia, and Singapore). For the challenge of "sharp wage increases" we assigned the color red to those countries where there have recently been indications of high wage increase rates (Myanmar, Viet Nam, Indonesia, Thailand), as well as those countries where labor shortages could easily increase upward pressure on wages (Malaysia, Singapore, Thailand, Viet Nam). For the challenge of "low education level" we assigned the color red to those countries with high percentages of workers with no or only elementary education (Cambodia, Lao PDR, Viet Nam, Indonesia). Finally, for the challenge of "domestic education disparities" we assigned the color red to those countries with low percentages of workers with secondary education, but high percentages of workers with elementary and higher educations, resulting in a high/low education polarization (Lao PDR, Thailand).

Challenges for the countries classified as red in this chapter are explained in greater detail in the next chapter.

Figure 3-79: List of challenges in labor environment sector

	CLMV				ASEAN4 (Group1)		ASEAN4 (Group2)		BS	
	Myanmar	Cambodia	Lao PDR	Viet Nam	Philippines	Indonesia	Thailand	Malaysia	Brunei	Singapore
Insufficient Employment Opportunities										
Worker Shortages										
Sharp Wage Increases									-	
Low Education Level									-	
Domestic Education Disparities									-	

Legend

	Challenges already emerged or expected to emerge by 2025
	Likely to be a challenge by 2025
	Low likelihood of becoming a challenge by 2025
-	Unable to verify due to insufficient data

(4) Transportation and Traffic

In order to improve ASEAN's investment environment, it must improve its infrastructure to increase the physical and institutional connectivity within the region, while at the same time, it must also improve its infrastructure to respond to the urbanization that is advancing in each country.

Toward this, in this sector, "physical infrastructure improvements," "institutional infrastructure improvements," and "city traffic" are analyzed, and transportation- and traffic-related trends heading toward 2025 are forecast.

① Realistic Scenario

<Summary>

【Physical infrastructure improvement】

- According to a forecast by Professor Peter A. Petri's research group, the volume of trade in ASEAN in 2025 will have increased by about 2.3 times compared with 2010. As it is difficult to envisage realizing a trade volume of 2.3 times the 2010 level while using the existing physical infrastructure, it will be necessary to improve the infrastructure, including constructing new ports and airports and upgrading existing ones, and laying more roads and railway lines. In addition, we can see that a certain level of infrastructure improvement is going to be required to create the business environment required by companies engaged in trade.
- The economic effects from the improvements to the physical infrastructure that are being planned for the ASEAN region will be considerable, and according to a forecast by the Economic Research Institute for ASEAN and East Asia (ERIA) on the effects they will have in terms of pushing up Gross Regional Domestic Product (GRDP) between 2010 and 2020, there will be positive economic impacts in most areas.
- However, according to an Asian Development Bank (ADB) forecast, the demand for infrastructure between 2010 and 2020 as a percentage of GDP will be extremely high—for example, 23.8% in Laos and 12.4% in Cambodia – and it predicts there will be delays to projects due to difficulties in securing budget.
- In addition to eliminating the problem of insufficient budgets, it is considered that there will be an increase in the use of Public Private Partnership (PPP) schemes for infrastructure improvements, such as for airports, ports, or railways, with the objectives of improving service quality and creating business opportunities for private-sector companies. On the other hand, it will also be necessary to solve a range of problems, including an incomplete regulatory environment, the inability of governments to form projects, and the lack of transparency about who will undertake risk in the public and private sectors.
- For the ASEAN Highway Network (AHN), it is possible that the completion of the plan to upgrade class II and III roads to class I roads and above by 2020 will be delayed until 2025 or beyond.
- The Singapore-Kunming Rail Link (SKRL) is being targeted for completion in 2020, but there have been difficulties securing budget and it is unclear whether it will be completed even by 2025.
- Improvements to international ports have been planned and executed in each country, centered on the 10 priority ports, and this plan will be further progressed in the future.
- For marine transportation over short distances using roll on/roll off (Ro-Ro) vessels, it is thought that

improvements have been made between Dumai (Indonesia) and Malacca (Malaysia), and between Belawan (Indonesia) and Penang (Malaysia), which were judged to have a high priority level from an F/S by the Japan International Cooperation Agency (JICA).

- Regarding the liberalization of air travel, the liberalization of service routes provided by airline carriers within the region is difficult to accept for those countries whose own flagship airline carriers are competitively weak, and the possibility is low that the airline carriers within the region, including within each country, will be allowed to liberalize routes.

【Improvement of institutional infrastructure】

- Regarding agreements on traffic facilitation, there are countries that are going to require time to coordinate with their domestic operators and to make the required legal revisions, and so the signing and ratification of the agreements will be delayed. Therefore, it will be difficult to implement these agreements in the entire ASEAN region.
- On the other hand, through the Cross Border Transportation Agreement (CBTA), the number of border points implementing single stop and single window measures are expected to increase.
- Connectivity tests for the ASEAN Single Window (ASW) structure, which is an AEC initiative, have been successfully carried out in seven countries, excluding Myanmar, Cambodia, and Laos, and ASW will be operational at the main ports by 2025. Time will be required in the future to construct and manage the National Single Window (NSW) and for ASW connectivity tests in Myanmar, Cambodia, and Laos, and consequently it will be difficult to have the structure operational in these countries by 2025.

【Urban traffic】

- The urbanization of ASEAN is expected to further advance in the future and the urban population for the entire region will increase by 1.4 times between 2010 and 2025, meaning it will constitute approximately 52% of the total ASEAN population by 2025¹. Apart from Singapore and Cambodia, the urban populations will increase by between 8% and 11% in the other countries and they will become further urbanized.
- In ASEAN, it is forecast that vehicle ownership will increase from 8.6 million vehicles to 14 million vehicles between 2011 and 2025. According to city, there will be 550,000 extra vehicles in Jakarta and it will become the most motorized of all the ASEAN cities.
- In conjunction with urbanization, the population density of each urban area will increase. The increase in Manila will be particularly remarkable; its 2011 population density of 18,650 people per km² (which is higher than Tokyo) will have further increased by 1.3 times by 2025, to 23,453 people per km², giving it the highest population density of any ASEAN city.
- From the perspectives of the increases in urbanization, vehicle ownership, and population density, particularly in Jakarta and Manila, it can be said that is highly likely that traffic congestion will worsen in the future. Traffic congestion in other cities will also become an urban problem. But including in Jakarta and Manila, progress is

¹ United Nations Department of Economic and Social Affairs, Population Division; “World Population Prospects: The 2012 Revision” medium-range estimates

being made in creating mass transit networks using trains and other methods to replace existing road traffic networks, while some cities are planning to construct additional road networks and to introduce intelligent transport systems (ITS). Even if the completions of these projects are delayed by 5 years, they will still be ready by 2025, and so we can expect progress to be made in the shift to the use of public transport, such as trains and buses.

• However, traffic congestion is even a problem in advanced countries that have well-developed urban traffic infrastructures and it is difficult to control increases in urbanization, the percentage of people owning vehicles, and population density, so this problem is not one that can be completely eliminated. However, by increasing the volume of traffic that roads can tolerate and by advancing the shift to public transport, it is expected that chronic traffic congestion can be gradually ameliorated.

【Improving physical infrastructure】

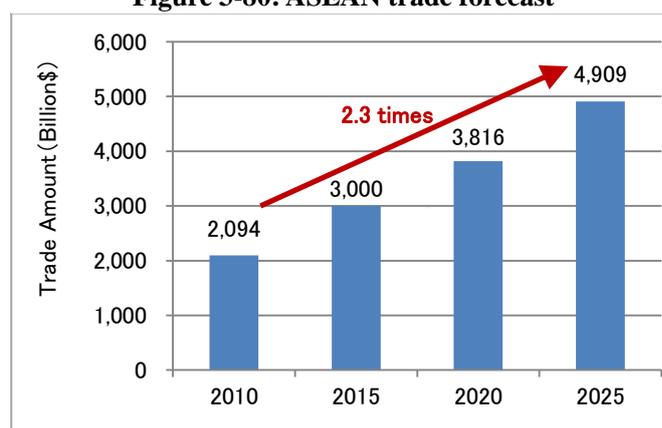
<Increase in trade volume>

According to forecasts by Professor Peter A. Petri’s research group, ASEAN’s trade volume (total of exports and imports) will increase by approximately 2.3 times between 2010 and 2025² (Fig. 3-80). While trade volume is considerably influenced by price fluctuations of the items being traded, as long as there is not a rapid rise in prices, it is considered that trade volume will increase.

In order to realize trade volume of approximately 2.3 times, improvements to physical infrastructure, such as to ports, airports, roads, and railways, are going to be necessary.

We can also assume that a certain level improvement to physical infrastructure is going to be required to attract companies who will engage in trade.

Figure 3-80: ASEAN trade forecast



(Source: Peter A. Petri, Michael G. Plummer and Fan Zhai (2012), “The Trans-Pacific Partnership and Asia-Pacific Integration: A Quantitative Assessment, Policy Analysis” Washington: Peterson Institute for International Economics and East-West Center.)

² In the event that RCEP is established in 2019

Peter A. Petri, Michael G. Plummer and Fan Zhai, (2012) “The Trans-Pacific Partnership and Asia-Pacific Integration: A Quantitative Assessment, Policy Analysis” Washington: Peterson Institute for International Economics and East-West Center.

<The effects from improvements to physical infrastructure>

In the event of improvements to physical infrastructure in ASEAN, economic effects will also be generated in the surrounding regions. Forecasts made using ERIA's Geographical Simulation Model (GSM) (2011 -2020)³ clarified that improving physical infrastructure would result in the following economic effects.

1. The population will flow from the regional areas into industrial-agglomeration areas that will come to serve as relay stations in economic corridors, resulting in population increases in the industrial-agglomeration areas and population decreases in the regional areas.
2. Through the creation of employment in the industrial-agglomeration areas, incomes will increase and consumption will be stimulated, which will help to develop the economies of the surrounding regions.

If we color code on a map the GRDP of ASEAN and its surrounding regions in the future, we can see that this push-up effect will occur over a large range (Fig. 3-81).

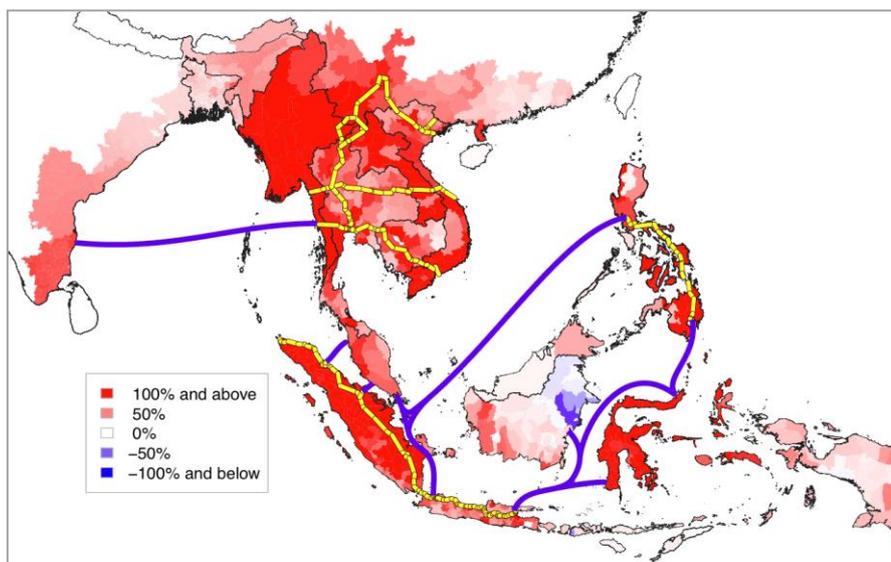
The country where this effect will push up GDP the most is Myanmar, which is forecast a 145.8% increase, while the country where it will have the least effect is Brunei, which is only forecast a 2.7% increase (Fig. 3-82). In terms of the characteristics of these effects, improvements to physical infrastructure will have the greatest effect in countries that are experiencing growth problems.

According to region, out of the 956 regions, the GRDP increase effect will be 100% or above in 254 regions, 50% to 99% in 239 regions, 0% to 49% in 446 regions, and less than 0% in 17 regions; in other words, practically all of the regions are forecast to experience economic effects to some degree (Fig. 3-83). On the other hand, regions that are located away from economic corridors or sea lanes are not expected to achieve economic growth (namely, the push-up effect on the economic growth rate will be less than 0%), and these regions include Cambodia, Malaysia, Indonesia, and the Philippines. Unless some measures are taken, regional disparities are expected to increase between these regions and the regions that will benefit, and it will be necessary to implement measures to address this disparity, including to develop existing resources and to promote agriculture.

But as will be discussed later, infrastructure improvements tend to be delayed, including due to problems in securing budget, and therefore in actuality it is highly likely that the effects they will have in increasing GRDP will be below the ERIA forecasts.

³ The long term forecasts for the economic effects due to changes to industries and population clusters on the establishment of economic corridors were analyzed. In this model, economic effects can be verified according to regional units that are more detailed than country units. The forecasts are in the event of the establishment of and improvements to the southern economic corridor, the east-west economic corridor, the south-north economic corridor, the economic corridors in Indonesia and in the Philippines, the Dawa-Madras sea route, and also sea routes for ro-ro vessels between Malaysia, Singapore, Indonesia, and the Philippines.

Figure 3-81: Push-up effects on GRDP from improvements of distribution infrastructure between 2010 and 2020



(Source: ERIA presentation materials (2010), “Comprehensive Asia Development Plan”)

Figure 3-82: Economic effects on GDP by country

	Country	GDP Increasing Effects (%)
100% or more	Myanmar	145.8
	Vietnam	114.6
50% or more	Lao PDR	99.3
	Thailand	98.6
	Cambodia	97.9
	Indonesia	85
	Philippines	73.4
	Malaysia	64.4
0% or more	Singapore	29.2
	Brunei	2.7

(Source: ERIA presentation materials (2010), “Comprehensive Asia Development Plan”)

Figure 3-83: Number of regions by economic effects

Economic Effects	Number of Regions
100% or more	254
50% to 100%	239
0% to 50%	446
Less than 0%	17
Total	956

(Source: ERIA presentation materials (2010), “Comprehensive Asia Development Plan”)

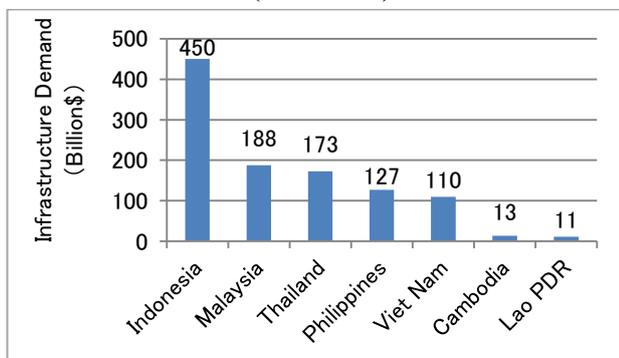
<Budgetary constraints on infrastructure improvements>

ADB forecasts for the amounts of demand for infrastructure improvements (total demand for distribution, electric power, ICT, water and sewer related infrastructure) in each ASEAN country between 2010 and 2020 included about 450 billion dollars in Indonesia, about 188 billion dollars in Malaysia, and about 173 billion dollars in Thailand (Fig. 3-84). When the amounts for the yearly infrastructure demand are compared to the GDP of each country (2012), the percentages are 23.8% in Laos, 12.4% in Cambodia, and 12% in Vietnam (Fig. 3-85). As of 2012, the amount of government spending as a percentage of GDP was between 16.6% and 26.7% in each country, and if we assume all infrastructure demand will be met by government spending, nearly all the government spending in Laos and Cambodia will have to be spent on infrastructure improvements (Fig. 3-86).

In particular, in Laos, Indonesia, and Cambodia, the demand for distribution infrastructure constitutes more than 50% of all demand and the progress that they will make in improving their distribution infrastructure will mainly be determined by the extent to which they can secure budgets (Fig. 3-87).

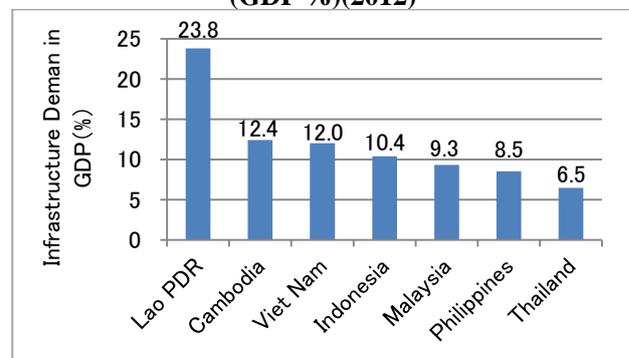
As described above, there will be difficulties when infrastructure improvements are financed solely out of governments' budgets, and consequently, it is considered that infrastructure improvements will progress through Public Private Partnerships (PPP) for airports, ports, railways, and other such infrastructure. On the other hand, when introducing a PPP scheme, the necessary laws and regulations must also be in place and the training for human resources carried out, and it is considered that time will be required for these tasks.

Figure 3-84: Infrastructure demand (2010-2020)



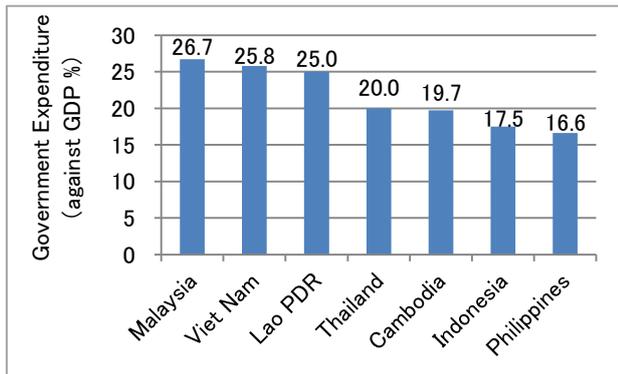
(Source: ADBI (2010), “Estimating Demand for Infrastructure in Energy, Transport, Telecommunications, Water and Sanitation in Asia and the Pacific: 2010-2020”)

Figure 3-85: Annual infrastructure demand (GDP %)(2012)



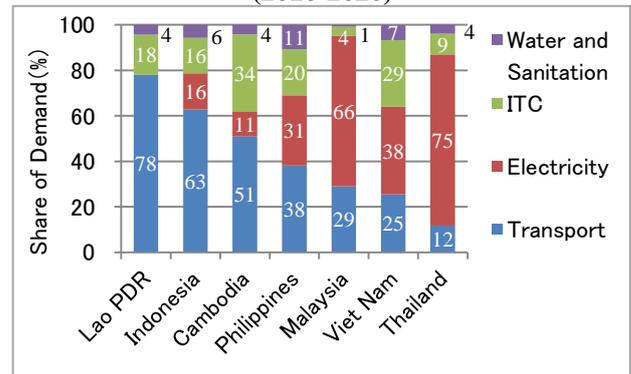
(Source: ADBI (2010), “Estimating Demand for Infrastructure in Energy, Transport, Telecommunications, Water and Sanitation in Asia and the Pacific: 2010-2020”, UN ESCAP database)

Figure 3-86: Total government expenditure (GDP %) (2012)



(Source: UN ESCAP database)

Figure 3-87: Share of demand by infrastructure (2010-2020)



(Source: ADBI (2010), "Estimating Demand for Infrastructure in Energy, Transport, Telecommunications, Water and Sanitation in Asia and the Pacific: 2010-2020")

<The main projects to improve physical and connectivity of infrastructure>

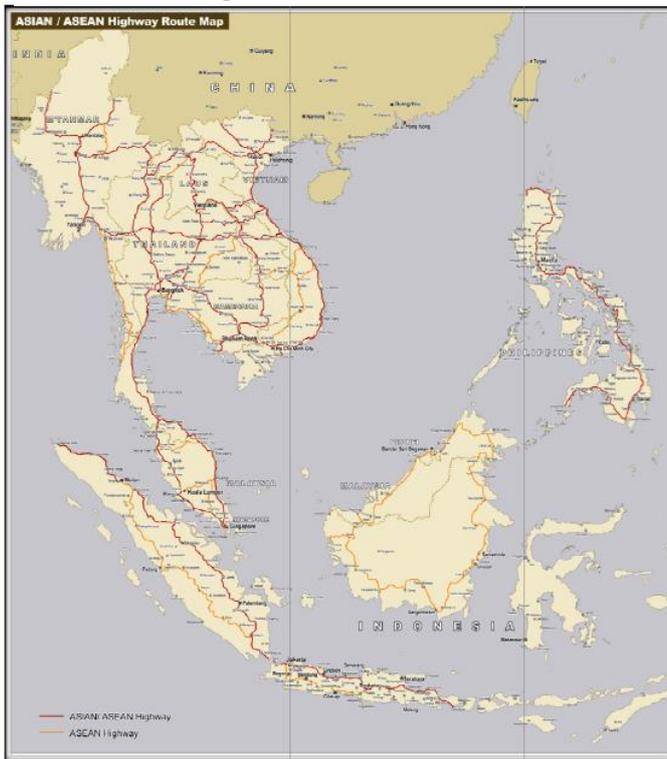
In the Master Plan on ASEAN Connectivity, which was adopted in the October 2010 ASEAN Summit Meeting, the ASEAN Highway Network (AHN) and the Singapore-Kunming Rail Link (SKRL) have been positioned as the leading physical traffic infrastructure projects among those for land-transportation infrastructure. Also, in marine transportation, important projects include improving 47 important ports and connectivity with islands, while in air transportation, they include constructing a single aviation market.

<Progress of improvements on land transportation infrastructure>

In AHN, the plan is to establish 23 routes running over 38,400km within ASEAN (Fig. 3-88), while SKRL will be comprised of an eastern route running between Singapore and Malaysia, Thailand, Cambodia, Vietnam, and China (Kunming); a western route running between Thailand, Myanmar and China (Kunming); and a line between Vietnam and Laos. In addition to the existing lines, it will also be necessary to establish 4,069 km of new lines for the parts of the routes where there are no lines and for stretches of existing lines that require repairs⁴ (Fig. 3-89). Compared to SKRL's east route, there are a number of problems that will have to be addressed in order to realize the west route, and therefore, the Master Plan on ASEAN Connectivity has set the establishment of the east route as the priority.

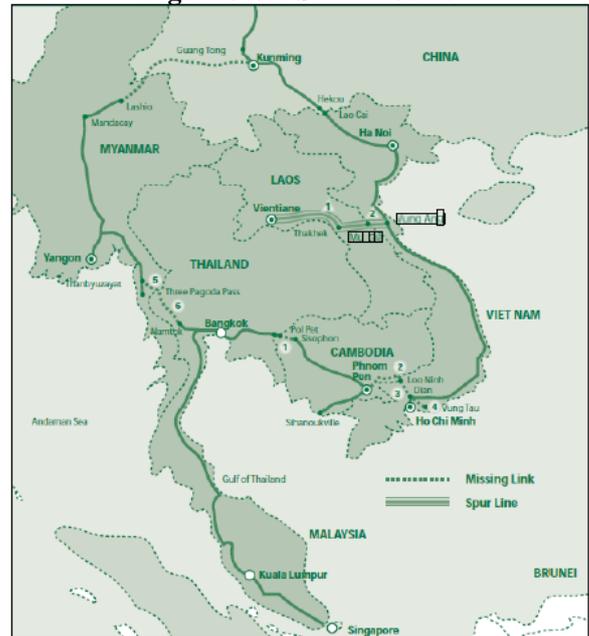
⁴ ASEAN (2010) Master Plan on ASEAN Connectivity

Figure 3-88: AHN routes



(Source: ASEAN (2010) Master Plan on ASEAN Connectivity)

Figure 3-89: SKRL routes



(Source: ASEAN (2010) Master Plan on ASEAN Connectivity)

On the other hand, delays are predicted for the completion of both AHN and SKRL.

Progress was made for AHN between 2004 and 2008, and the distance of roads of class III or below⁵ were reduced by 1,645.4km (while total distance increased from 37,068.9km to 37,690.9km) (Fig. 3-90).

But as of 2008, there were still 5,311.2km of roads of class III or below⁶. While the goal was set in the Brunei Action plan (2010) of having all roads as better than class III by 2012, according to an investigation by JETRO (November, 2012) in which researchers actually drove the west side of the east-west economic corridor (between Bangkok and Rangoon), there continue to be long stretches of roads of class III or below, particularly in the mountainous region of Myanmar, and from this it was clarified that the improvements to make them above class III have been delayed (Fig. 3-91). If we suppose that the roads will be improved at the same pace as between 2004 and 2008, we can calculate that it will be 2021 before the upgrades of the roads of class III and below will be completed.

Also, in the Brunei Action Plan, the goal is particularly to make class II and class III roads that experience large amount of traffic class I or better by 2020. But construction work will have to be carried out in parallel with the work to improve the roads of class III and below, and difficulties are expected in terms of securing the budget and managing the project.

⁵ Class II signifies a road with 2 lanes that is designed for vehicles traveling 60-80km/h on level ground.

⁶ ASEAN Secretariat (2010), "BRUNEI ACTION PLAN 2011-2025 (ASEAN STRATEGIC TRANSPORT PLAN)"

Figure 3-90: AHN categories

Category	Traffic Lane	Designed Speed	Other Requirement
Primary	More than 4	60-120km/h	Exclusive use of cars
Class I	More than 4	50-100km/h	-
Class II	2	40-80km/h	-
Class III	2	30-60km/h	-

(Source: ASEAN Secretariat, <http://www.asean.org/communities/asean-economic-community/item/annea-b-asean-highway-standards>, accessed on April 8, 2014)

Figure 3-91: An example of a road of class III or below



(Source: JETRO (2013) Investigation of land-transportation roads between Bangkok and Rangoon via the western route of the east-west corridor)

At the 5th ASEAN summit in 1995, 2015 was set as the target year for the completion of SKRL⁷, but in both the Master Plan on ASEAN Connectivity and the Brunei Action Plan (both 2010), this target year has been extended to 2020 for all but one part of the missing section of road. But the biggest problem for the sections with a scheduled completion year of 2020 is securing the required capital, and progress has not been smooth⁸. Within this section, parts to be newly constructed include roads of long distances, such as 330km between Vientiane and Thakhek, and 129km between Loc Ninh (on the Cambodian border) and Ho Chi Minh City⁹, and it is possible that their completion dates will be pushed back even further than 2020 (Fig. 3-92).

Figure 3-92: Current state of unconnected parts of the SKRL east roads

Country	Missing Route	Current Situation	Completion
Cambodia	Poipet (Thailand Border) -Sisophon	Under Construction	2015
Cambodia	Phnom Penh-Loc Ninh (Vietnam Border)	F/S Finished	2015
Vietnam	Loc Ninh (Cambodia Border) -Ho Chi Minh City	F/S Finished	2020
Thailand	Aranyaprathet-Klongluk	Open bid	2014
Laos	Vientiane-Thakhek	F/S Finished	2020
Laos	Thakhek-Mu Gia (Vietnam Border)	F/S Finished	2020
Vietnam	Mu Gia (Laos Border) -Tan Ap	Pre F/S Finished	2020
Vietnam	Tan Ap-VungAng	F/S on going	2020

(Source: SEAN Secretariat (2012), “ASEAN Connectivity, Project Information Sheets”)

⁷ Koichi Ishikawa (2012), Current state of the foundation of the ASEAN Economic Community — a scorecard evaluation, (Quarterly International Trade and Investment) Winter 2012/No.90)

⁸ INFRASTRUCTURE INVESTOR, PEI Ltd. (APRIL 2013) “ASEAN an Intelligence Report”

⁹ Ibid.

<Progress of marine-transportation infrastructure improvement>

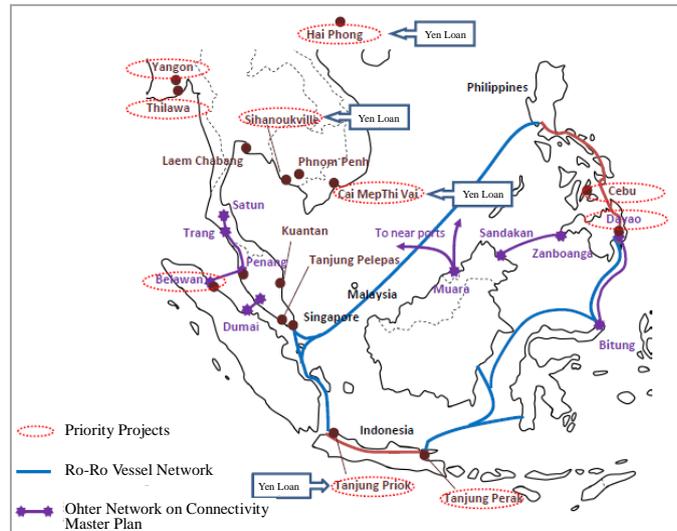
In the Master Plan on ASEAN Connectivity, 47 ports have been specified as “important” toward the creation of a marine transportation network.

Moreover, based on a JICA survey, improvements to 10 ports in ASEAN have been selected to be priority projects¹⁰ (Fig. 3-93). At these ports, projects to improve their capabilities that utilize support from donors and private-sector capital are already being implemented. If ports lack capabilities, this will restrict the increase in trade volume, and therefore in the future projects to improve ports will be advanced as a priority.

For marine transportation over short distances, both within countries and within the ASEAN region, the use of Ro-Ro vessels, which are faster than container vessels and can be loaded and unloaded using basic port facilities, will increase.

When deciding the sea routes for these Ro-Ro vessels, according to a F/S carried out by JICA¹¹, routes with high priority levels are those between Dumai (Indonesia) and Malacca (Malaysia) and between Belawan (Indonesia) and Penang (Malaysia) (Fig. 3-94). To a certain extent, the equipment is already in place on these routes and so it would be comparatively easy to equip them for Ro-Ro vessels. Going forward, time will be needed so that each country can establish customs, immigration and quarantine (CIQ) and the other systems that the Ro-Ro vessels require to operate. But if they begin operating by 2025 on the priority sea routes, it is highly likely that they will increase GRDP in the surrounding regions.

Figure 3-93: Prioritized port projects



(Source: JICA (2011) Toward ASEAN Integration: problems in realizing connectivity and JICA initiatives)

¹⁰ JICA (2011) Toward ASEAN Integration: problems in realizing connectivity and JICA initiatives

¹¹ JICA (2013) “The Master Plan and Feasibility Study on the Establishment of an ASEAN RO-RO Shipping Network and Short Sea Shipping”

Figure 3-94: Levels of priority for establishing sea routes for Ro-Ro vessels

Priority	routes	Country	Existing Routes
1	Dumai-Malacca	Indonesia-Malaysia	all
2	Belawan-Penang	Indonesia-Malaysia	all
3	Davao/General Santos-Bitung	Philippines-Indonesia	Some Sections
4	Tawau-Tarakan-Pantoloan	Malaysia-Indonesia	Some Sections
5	Muara-Zamboanga	Brunei-Philippines	Some Sections
-	Muara-Labuan-Brooke's Point	Brunei-Malaysia-Philippines	Some Sections
-	Belawan-Phuket	Indonesia-Thailand	No
-	Johor-Sintete	Malaysia-Indonesia	No

(Source: JICA (2013), "The Master Plan and Feasibility Study on the Establishment of an ASEAN RO-RO Shipping Network and Short Sea Shipping")

<Progress of air transportation infrastructure improvement>

The Brunei Action Plan includes the targets that by 2015, the ASEAN Single Asean Market (ASAM) will be established and the Roadmap for Integration of Air Travel Sector (RIATS) and the ASEAN Multilateral Agreement on the Full Liberalisation of Air Freight Services (MAFLPAS) will be ratified and implemented.

However, even if these targets are realized, it is not the case that the airline carries within each of the countries in the ASEAN region will be able to freely fly on routes. This is because in RIATS, within the items confirmed as for liberalization in the Chicago Convention on International Civil Aviation (1944), it sets the targets of realizing unrestricted the 3rd and 4th liberties and realizing the 5th liberty¹². But to make the liberalization of air routes possible, it is necessary to also realize the 6th liberty (liberty of transport between third countries with the home country as the hub), the 7th liberty (gauge rights: liberty of transport between third countries), and the 8th liberty (cabotage: internal transportation in other countries)¹³. In ASEAN, studies are already being conducted toward realizing these types of liberalization¹⁴ and it is possible that more in-depth discussions toward achieving them will be held in the future. But countries with flagship carriers that are competitively weak and that operate on domestic routes may have their market stolen from them by carriers of other countries. Therefore, it is likely that a considerable amount of time will be required from the start of the discussions until an agreement is reached, signed, and ratified. Consequently, it is considered unlikely that the airlines will be allowed to operate freely within the ASEAN region by 2025.

【Improvement of institutional infrastructure】

The progress made in smoothing-out the trade procedures in parallel with the improvements to the physical infrastructure will result in a reduction in the time and costs required for distribution and will help to create a better investment environment for companies. This in turn will lead to more investment and the economic development of the country where the improvements were made.

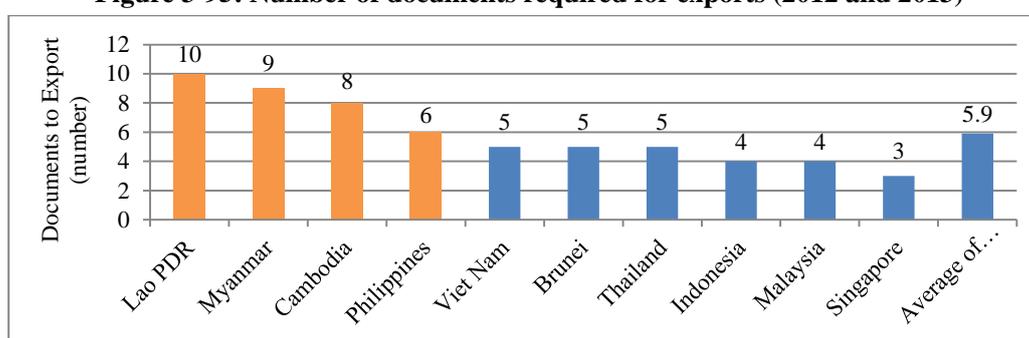
¹²Liberalization of the boarding of passengers and the loading of freight in the partner country, and their transportation to a third country (the right to fly beyond the destination to a third country), Ministry of Land, Infrastructure and Transport (2012), reference materials for the 1st basic policy meeting of the Transportation Policy Committee Airlines Subcommittee

¹³ Koichi Ishikawa, Kazufumi Shimizu, Sukekawa Naruya (2013), The ASEAN Economic Community and Japan, Bunshindo Publishing

¹⁴ Shinya Hanaoka, (2010), Progress of the liberalization of the airline industry in Asia and the deployment of low cost carriers, (Transportation and Economy, Volume 6, Issue 70)

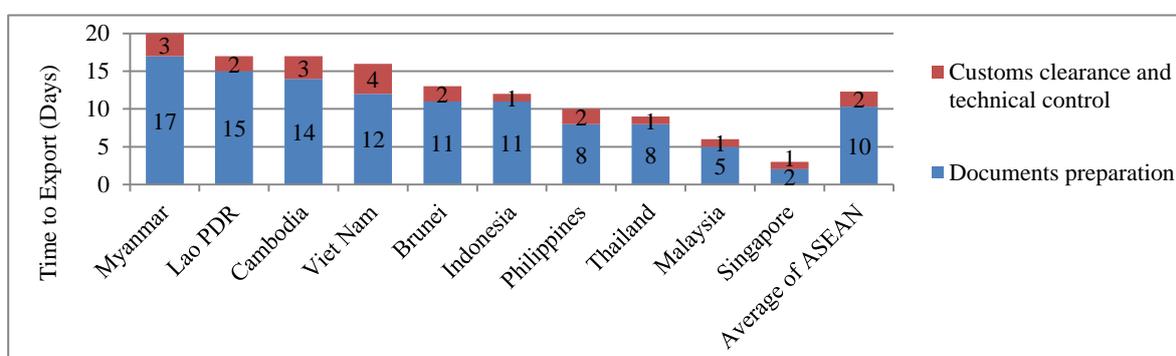
In “Doing Business,” which is a World Bank survey into competitiveness, it was found that a relatively large numbers of export documents are required by Laos, Myanmar, Cambodia, and the Philippines¹⁵ (Fig. 3-95). Also, the time required to prepare the documents and for customs’ clearance and inspections is above the ASEAN average in Myanmar, Laos, Cambodia, Vietnam, and Brunei (Fig. 3-96). In the cases of Vietnam and Brunei, the number of exports documents is below the ASEAN average, but a significant amount of time is required to prepare these documents, and it is considered that in these countries there are documents that are time consuming to prepare and also require time to be provided by the issuing authority. The number of sheets of the export documents required in Myanmar, Laos, and Cambodia is also high, and so exporting requires considerable time. Therefore, it is thought that the efficiency of these countries’ procedures needs to be improved.

Figure 3-95: Number of documents required for exports (2012 and 2013)



(Source: the World Bank and the International Finance Corp. (2013), “Doing Business 2014”)

Figure 3-96: Number of days required for exports (2012 and 2013)



(Source: The World Bank and the International Finance Corp. (2013), “Doing Business 2014”)

In order to facilitate the smooth flow of traffic in ASEAN, the following agreements have been signed: in 2000, the ASEAN Framework Agreement on the Facilitation of Goods in Transit (AFAFGIT); in 2005, the ASEAN Framework Agreement on Multimodal Transport (AFAMT); and in 2009, the ASEAN Framework Agreement on the Facilitation of Inter-State Transport (AFAFIST). However, AFAFIST has not yet come into effect as the ratification procedures have not been completed by every country. The first agreement to come into effect was AFAFGIT, but among the 9 protocols that prescribe the content of the measures to be implemented, Protocol 2

¹⁵ In Doing Business, a questionnaire was sent to more than 10,200 exporters around the world and a survey report was prepared from the answers collected from them.

(facilitation of border crossings by the establishment of border offices) and Protocol 7 (a customs system for transit border crossings) remain unsigned¹⁶. It is considered that coordinating the interests of the various countries and for them to enact the required laws will be a long-term task, and based on the fact that 10 years or more were required for the agreements that have come into effect up to the present time, it is difficult to envisage that these agreements will have been signed and ratified by 2025.

The Cross-Border Transport Agreement (CBTA) in the Mekong region is an approach at the sub-regional level, and it has been joined by Thailand, Laos, Vietnam, Cambodia, Myanmar, and China. In CBTA, instead of having to complete two procedures on entering and leaving the country, they are integrated into a single-stop procedure, while a single window is also created for CIQ¹⁷, and it regulates the arrangements for cross-border traffic. As measures in advance of the main agreement, the single-stop procedure is being implemented between Lao Bao (Vietnam) and Dansavanh (Laos) and a single window has been established between Mukdahan (Thailand) and Savannakhet (Laos) and between Hekou (China) and Lao Cai (Vietnam)¹⁸. It has been reported that the average time to clear customs between Lao Bao and Dansavanh has been reduced from 90 minutes to 30 minutes¹⁹. In the future, these measures will be expanded centered on the country borders listed in Protocol 1 of CBTA, and by 2025, there are expected to be many more country borders with routes for which single stops are being implemented and single windows have been established

In order for the AEC initiative to reduced and standardize the documents necessary for trade, and to reduce the number of days required to prepare the documents and for the customs' clearance and inspection, the goal is to put in place in each country the National Single Window (NSW) electronic customs clearance system, and by 2015 to have constructed the ASEAN Single Window (ASW) so that it connects to NSW in specific ports in ASEAN²⁰. At the 45th ASEAN Meeting of Economic Ministers in August 2013, it was evaluated that the connection tests for seven countries had succeeded, but not for Myanmar, Cambodia, and Laos²¹. Up to 2025, the system will begin operations in advance in these 7 countries and it is expected to be utilized for many cross-border routes. In Myanmar, Cambodia, and Laos, construction work for NSW is underway and although it will eventually be realized, more time is required to connect it to ASW, and therefore it is considered that the connections will be limited to specific borders or will remain at the preparatory stage.

Based on these measures, it is thought that for land transportation, trade will particularly be facilitated on the routes crossing country borders in the main economic corridors located in the GMS countries, while for marine transportation, it will be facilitated at the main ports in the seven countries that plan to introduce ASW.

¹⁶ Koichi Ishikawa, Kazufumi Shimizu, Sukekawa Naruya (2013), *the ASEAN Economic Community and Japan*, Bunshindo Publishing

¹⁷ In CBTA, the goal is for neighboring countries to cooperate to set up at country borders a single window for trade procedures. Conversely, the goal of the AEC single window is to integrate the windows into one window and carry out the processing electronically.

¹⁸ Yushu Feng (ADB) (2014), "Transport and Trade Facilitation for Connectivity in the GMS Regional Cooperation"

¹⁹ Ibid.

²⁰ ASEAN (2010), *ASEAN Connectivity Master Plan*

²¹ ASEAN Secretariat (2013), "KEY OUTCOMES OF THE 10th AEC COUNCIL MEETING, 45th ASEAN ECONOMIC MINISTERS' MEETING AND RELATED MEETINGS"

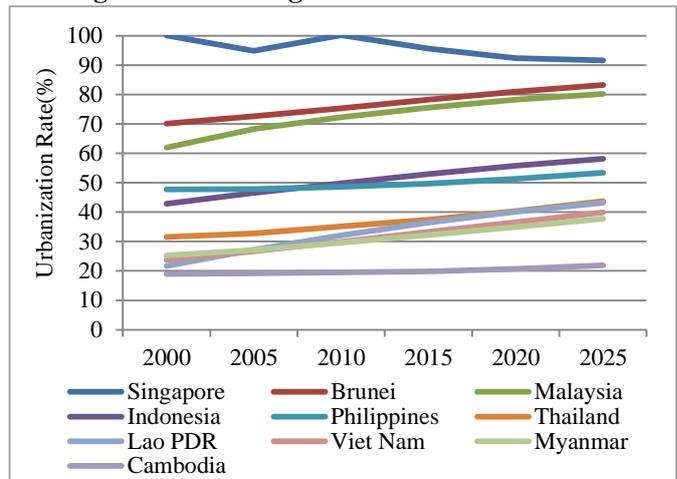
【Urban traffic】

◀Progress of urbanization and motorization▶

Urbanization in ASEAN is forecast to progress even further in the future, and the region’s entire urban population is set to increase by 1.4 times between 2010 and 2025, meaning it will constitute approximately 52% of the total ASEAN population by 2025²². Cambodia currently has the lowest urbanization rate and it will not change significantly between 2010 and 2025. But excluding Singapore, urbanization will advance significantly in other countries, by 8% to 11% (Fig. 3-97).

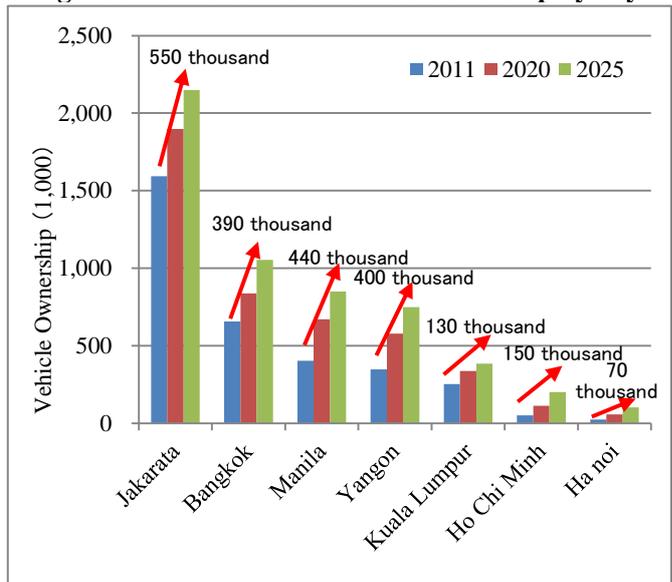
Also, in addition to the advance of urbanization, against the backdrop of the expansion in the social group that are purchasing vehicles due to increases in their incomes, motorization is also expected to further increase in the future. In Fig. 3-98, based on the forecasts by Japan’s Institute of Energy Economics about the rates of vehicle ownership according to country²³ and the United Nation’s population forecasts according to city, the number of vehicles that were and will be owned in each city in 2011, 2020, 2025 were calculated. If we look at the increase in the number of vehicles in Jakarta between 2011 and 2025, we see that it is forecast for an increase of 550,000 vehicles, which is greater than the number in the city of Manila in 2011 (400,000). Elsewhere, in Bangkok, Manila, Rangoon, and Kuala Lumpur, the number of vehicles owned in 2025 will have doubled, while the numbers owned in Ho-chi-minh and Hanoi will be 4 times their 2011 numbers. Therefore, as long as the share of traffic methods other than cars does not improve, or the volume of traffic that roads can tolerate is not increased, then it is predicated that traffic congestion will further deteriorate in the future.

Figure 3-97: Changes in the urbanization rate



(Source: Prepared by the survey team from United Nations Department of Economic and Social Affairs, Population Division; “World Population Prospects: The 2012 Revision”)

Figure 3-98: Forecasts of vehicle ownership by city

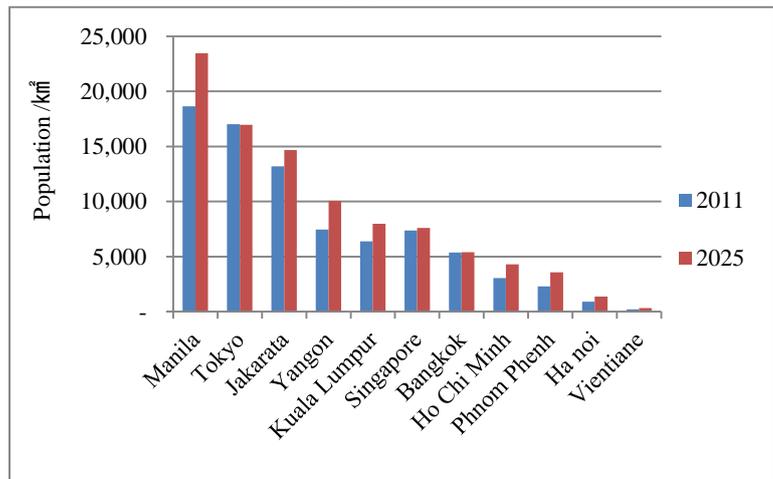


(Source: prepared by the survey team from UNHABITAT "State of the World's Cities 2012/2013" and the United Nations Department of Economic and Social Affairs, Population Division "World Population Prospects: The 2012 Revision", The Institute of Energy Economics, Japan, "Asia/world energy outlook 2013")

²² United Nations Department of Economic and Social Affairs, Population Division, “World Population Prospects: The 2012 Revision”
²³ Institute of Energy Economics, Japan (2013) "Asia/world energy outlook 2013"

In particular, the likelihood that congestion will worsen rises further in cities that are dependent on road traffic and that have high population densities. Fig. 3-99 shows changes to population density between 2011 and 2025. As of 2011, Manila's population density of 18,650 people per km² (which is higher than Tokyo) will have further increased by 1.3 times by 2025, to 23,453 people per km², giving it the highest population density of any ASEAN city. After Manila, the city with the greatest population density is Jakarta (14,656 people per km²), and by 2025, its population per km² is forecast to increase by 1,460

Figure 3-99: Changes in population density (2011 to 2025)



(Source: UNHABITAT “State of the World’s Cities 2012/2013, prepared by the survey team from each city’s homepage)

people compared to 2011. Jakarta's rate of reliance on road traffic is high, at 98%, so it is expected that this increase in population will have a serious impact on its traffic congestion. Also, by 2025, Rangoon will have the third highest population density in ASEAN and its population per km² will have increased by 2,614 people compared to 2011, meaning its population density will have increased by 1.4 times. In other cities also, as we can see from Fig. 3-98, motorization will advance, while population densities are also forecast to increase in many cities. Therefore, in the event that no progress is made in improving infrastructure for urban traffic, it is expected that traffic congestion will worsen in every city.

<Urban-traffic infrastructure>

Traffic congestion that affects the economic activity and lives of the citizens of metropolitan areas causes the distribution function and citizens' accessibility to worsen, and so is a problem that results in economic loss. From the perspectives of the expected increases in urbanization, vehicle ownership, and population density, Fig. 3-100 summarizes the main plans and projects for urban traffic, centered on the cities where it is highly likely that traffic congestion will further worsen in the future (Jakarta, Manila, Bangkok, Kuala Lumpur, Rangoon, and Ho-chi-minh).

A point common to each city is that presently, they are progressing plans for railway-based mass transportation systems to replace road traffic. But in some cities, the road networks are also being expanded and advanced traffic systems known as intelligent transport systems (ITS) are scheduled to be introduced. Even supposing that these projects are delayed by 5 years, the construction work for the majority of them will still be completed by 2025. Therefore, we can expect progress to be made in the shift to public transport, such as railways and buses. However, traffic congestion is even a problem in advanced countries that have well-developed urban traffic infrastructures and it is difficult to control the increases in urbanization, the percentage of people owning vehicles, and population density, so this problem is not one that can be completely eliminated. However, by expanding the volume of traffic that roads are able to tolerate and by progressing the shift to public transport, it is expected that chronic traffic congestion can be gradually ameliorated.

Figure 3-100: Major Urban Transport Plans

	Major Urban Transport related Plans/Projects	Target Year of Completion / Target Effect Indicators
Jakarta	【Roads】 •MPA Strategic Planning/Fast-Track Projects: Improvement of road network of JABODETABEK ²⁴ (Jakarta, Bogor, Depok, Tangerang, Bekasi)	• 2020
	•MPA Strategic Planning/Fast-Track Projects: ITS (Intelligent Transport System) Project ²⁵ for mitigation of traffic congestion in Jakarta	• 2020
	【Railways²⁶】 •MPA Strategic Planning/Priority Project: Jakarta Mass Transit Transit (MRT)	• 1 st Section (15.7Km 13 Stations) : 2016 • 2 nd Section (8.1Km 9 Station) : 2020
	• Jakarta Railway Capacity Enhancement Project (Phase2)	• 2020

²⁴ JICA (2013), The 4th working committee to promote investment in the Jakarta metropolitan priority area (MPA)

²⁵ METI (2013) Assistance policy by country, attachment, Re: Indonesia, Business Development Plan

²⁶ JICA (2013) The 4th working committee to promote investment in the Jakarta metropolitan priority area (MPA)

Manila	<p>【Roads】</p> <ul style="list-style-type: none"> Strengthening the high technical–standard road network through the mega Manila zone ITS²⁷ 	<ul style="list-style-type: none"> 2030(completion of system implementation)
	<p>【Railways】</p> <ul style="list-style-type: none"> Project to expand the mass passenger transportation system in the Manila metropolitan area ²⁸ 	<ul style="list-style-type: none"> 2016 (Route 1•Route 2) /Passenger capacity (1000people• km/day) Baseline (2011) : 3,751 (Route 1), 1,691 (Route 2) Target (2018) : 5,922 (Route 1), 3,464 (Route 2) →Passenger capacity will be increased by 1.5 times for Route 1 and 2 times for Route 2.
Bangkok	<p>【Railways】</p> <ul style="list-style-type: none"> Development of BangkokMass Transit network (Redline²⁹•Purpleline³⁰) 	<ul style="list-style-type: none"> Redline: <ul style="list-style-type: none"> –Transport 160 thousand people /Day in 2014 –Transport 310 thousand people/Day in 2024 Purpleline: <ul style="list-style-type: none"> –Transport 200thousand people/Day in 2013 –Transport 290thousand people/Day in 2022
Kuala Lumpur	<p>【Roads³¹】</p> <ul style="list-style-type: none"> Kuala Lumpur City Plan 2020 Strategic Direction5.1 Implenting Congestion Free City 	<ul style="list-style-type: none"> Urban traffic share of public transport accounts for 50% by 2015, 60% by 2020(MRRII accounts 20% in 2015 an 27.5% in 2020)
Yangon	<p>【Roads³²】</p> <ul style="list-style-type: none"> Urban Development Planning for Yangon (Master Plan) 	<ul style="list-style-type: none"> Development of functional road network including outer ring roads. Implementation of Advanced Traffic Control System(ATCS), which

²⁷ JICA (2013) Project to strengthen the high technical-standard road network through the mega Manila zone ITS, final report

²⁸ JICA (2013) Project preliminary assessment table, Project to expand the mass passenger transportation system in the Manila metropolitan area

²⁹ JICA (2008) Project preliminary assessment table, Project to improve the Bangkok mass transportation network (red line) (I)

³⁰ JICA (2010) Project preliminary assessment table, Project to improve the Bangkok mass transportation network (purple line) (II)

³¹ Kuala Lumpur City Plan 2020 <http://klcityplan2020.dbkl.gov.my/eis/?page_id=313> (accessed April 9, 2014)

³² JICA•Rangoon Regional Government and Rangoon City Development Committee (YCDC) (2013) Myanmar Rangoon metropolitan area development master plan

		substitutes old model fixed cycle type traffic signal
	【Railways³³】 •Urban Development Planning for Yangon (Master Plan)	•Shifting traffic share of public transport from 80% of bus to 30% of railways
Ho Chi Minh/ Hanoi and surrounding cities	【Roads】 •Master plan of Vietnam High Way /South-North High Way(East side line)(Total length 1.811km, between Hanoi-Cần Thơ, through 24 cities) ³⁴	•Completion of 1,469km length by 2020 and the rest of 342km for after 2020.
	•Hanoi Urban Transport Development Project (Development of BRT (Bus Rapid Transit) System), Ring road route2, grade separation of crossroad, development of institutional system and human resource) ³⁵	•Number of bus passengers(3 sections total): increase number of bus passengers by 1.2 times from 2013. -105 thousand passengers/day(2013) →206 thousand/day (2015)
	【Railways³⁶】 •South-North high speed rail (total length of 1,570km from Hanoi to Ho Chi Minh)	•2050

(Source: prepared by the survey team based on JICA's project preliminary assessment table for various countries and various other reports; METI's assistance policy by country; the Ministry of Land, Infrastructure and Transport's analysis of trends related to regional policy for the Asia region, etc; various countries' governments' urban plans; and materials from the World Bank)

³³ Ibid.

³⁴ METI (2013) Analysis of trends related to regional policy for the Asia region, etc., and survey of assistance policies, etc. ~the situation for Vietnam's national-territory polices-report

³⁵ The World Bank "Implementation Status & Results Vietnam Hanoi Urban Transport Development Project (P083581) "

³⁶ METI (2013) Analysis of trends related to regional policy for the Asia region, etc., and survey of assistance policies, etc. ~the situation for Vietnam's national-territory polices-report

② Optimistic Scenario

Optimistic scenario

- Through the progress made in introducing PPP schemes for physical infrastructure, infrastructure improvements accelerate even in Laos, Indonesia, and Cambodia, for which there had been particular concerns about delays due to difficulties in securing budget.
- Especially, progress is made in improving infrastructure such as airports, ports, and railways through PPP schemes. When there is a budget surplus, it is allocated to infrastructure improvements and institutional infrastructure improvements in farming and island communities, which helps to improve the investment environment of the country as a whole and to reducing disparities within the country,
- Further, in terms of institutional infrastructure, the items prescribed in AFAFGIT, etc., and CBTA are put into practice in each ASEAN country and China, reducing the time and cost required for exports. As a result, companies find it easier to build production networks that span country borders and within the region, trade of finished products, semi-finished products, and parts increase, and the ASEAN industrial agglomeration further expands. This has the effect of pushing up GRDP across a wide region.
- Through the progress made in improvements to railways and other public transportation, the extent of the reliance on road traffic decreases and steps are taken toward eliminating the chronic traffic congestion. This results in the region's increased competitiveness as a destination for investment. But in Jakarta, Indonesia, where the scale of the increase of the population living in cities will be the greatest and where the middle class is expanding, the number of vehicles owned is forecast to increase by 550,000, the largest in ASEAN, and traffic management must be executed efficiently.

③ Pessimistic Scenario

Pessimistic scenario

- Not only in Myanmar, Cambodia, and Laos, but also in Vietnam, Indonesia, and the Philippines, where the demand for physical-infrastructure improvements is high, there will be delays in securing capital and launching PPP schemes, and there will also be delays in improving infrastructure even on the routes prioritized for improvements.
- Moreover, in the event of delays to the improvements to institutional infrastructure (particularly CBTA, NSW, and ASW), the time and financial cost to cross country borders will not decrease and it will become difficult to expand the production network centered on the GMS countries over border crossings into other countries. As a result, production bases will be concentrated in the existing industrial- agglomeration regions, and while the effect of pushing-up GRDP will be high in these regions, it will be low in regions where industry is not located. As a result, disparities within the region and within countries will increase.
- If improvements to city-traffic infrastructure do not keep pace with the increase in the volume of road traffic, not only domestic distribution functions, but also the investment efficiency of companies located in cities will decline, causing them to become less competitive as destinations for investment. This trend will be seen particularly in Indonesia and the Philippines, whose urban populations are increasing remarkably, and it will

become a factor behind their inability to escape from the traps imposed by being countries with middle-income groups that shackle their economic growth.

④ Challenges in Transportation and Traffic Sector

From the realistic scenario for this sector (transportation and traffic), its challenges include “incomplete distribution infrastructure,” “the complexity of trade procedures,” and “urban traffic congestion.”

For each challenge, the situation in each country has been color coded and the problems are shown as a list (Fig. 3-100) (please refer to the legend for each color code).

For “incomplete distribution infrastructure,” Myanmar is color coded red as it has many roads of AHN class III and below.

For the “complexity of trade procedures,” Myanmar, Laos, and Cambodia are color coded red, as both the number of documents and the number of days they require for exports are above the ASEAN average.

For “urban traffic congestion,” Indonesia and the Philippines are color coded red, as they already have chronic traffic congestion in their cities and both vehicle-ownership numbers and population densities are increasing at remarkable rates.

For the countries color coded red in this chapter, their challenges will be considered in more detail in the next chapter.

Figure 3-101: List of challenges in transportation and traffic sector

	CLMV				ASEAN4 (Group1)		ASEAN4 (Group2)		BS	
	Myanmar	Cambodia	Lao PDR	Viet Nam	Philippines	Indonesia	Thailand	Malaysia	Brunei	Singapore
Incomplete Distribution Infrastructure	Red	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green	Green
Complexity of Trade Procedures	Red	Red	Red	Yellow	Yellow	Yellow	Yellow	Green	Yellow	Green
Urban Traffic Congestion	Yellow	Yellow	Yellow	Yellow	Red	Red	Yellow	Yellow	Yellow	Green

Legend

Red	Challenges already emerged or expected to emerge by 2025
Yellow	Likely to be a challenge by 2025
Green	Low likelihood of becoming a challenge by 2025
-	Unable to verify due to insufficient data

(5) Energy

Energy supply/demand, energy procurement costs, and electric power supply/demand are all important elements for economic activities.

For this sector we analyzed these elements and forecasted the key energy-related challenges toward 2025.

① Realistic Scenario

<Summary>

【Energy supply demand】

- Primary energy consumption between 2011 and 2030 increases roughly 34% globally and 86% in ASEAN. Production of unconventional resources¹, mainly in North America, allows for the affordable procurement of petroleum and natural gas in the surrounding regions, however does not extend to the lowering of international petroleum and natural gas prices. Rather the international prices of petroleum, natural gas, and coal increase. As such, the use of coal, which offers relatively affordable prices and stable procurement, increases in ASEAN.

【Energy procurement】

- Up to 2025 the biggest price increases are for coal, natural gas, and petroleum, in that order. Malaysia, Thailand, and the Philippines become net importers of coal, Thailand and Singapore become net importers of natural gas, and Indonesia, Viet Nam, Singapore, the Philippines, Cambodia, Myanmar, Brunei, and Laos all become net importers of petroleum. As such, energy procurement costs increase. Higher energy procurement prices result in increased fiscal burdens for the governments of Indonesia, Thailand, Viet Nam, and Malaysia, which provide energy subsidies.

【Electric power supply/demand】

- Viet Nam, the Philippines, Thailand and Singapore, are all expected to become net importers of electric power in 2030 as their electric power supply fails to keep pace with growing demand. As such, there will need to be measures for building more power generating facilities and preparing power grids within the ASEAN region.

¹ Examples include shale oil/gas, oil sand, tight sand gas and coal bed methane (CBM) through petroleum and natural gas developed from other than conventional oil and gas fields (from JOGMEC website).

【Energy supply/demand】

<Main countries and regions>

Global consumption of primary energy (oil equivalent) will increase 34% from 13,113 million tons in 2011 to 17,517 million tons in 2030 (Fig. 3-102). By the main countries and regions, primary energy consumption in China will increase roughly 47% from 2,728 million tons in 2011 to 4,009 million tons in 2030. China will remain the world's largest consumer of energy with its share of global energy consumption increasing from 20.8% in 2011 to 22.9% in 2030. As such, China will exert a strong influence over the global energy market (Fig. 3-103).

ASEAN primary energy consumption will increase roughly 86% from 557 million tons in 2011 to 1,038 million tons in 2030, with its share of global consumption over this period increasing from 4.2% to 5.9%.

Figure 3-102: Global primary energy consumption

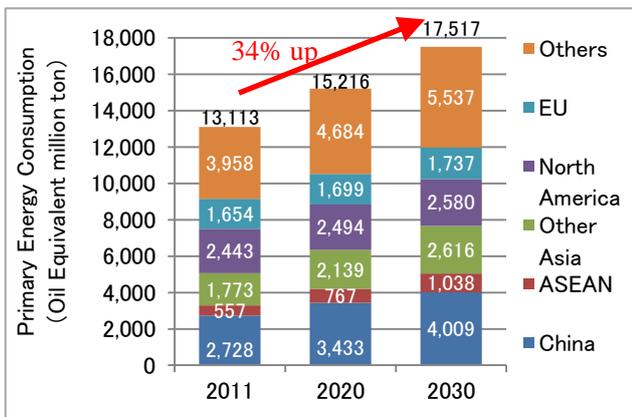
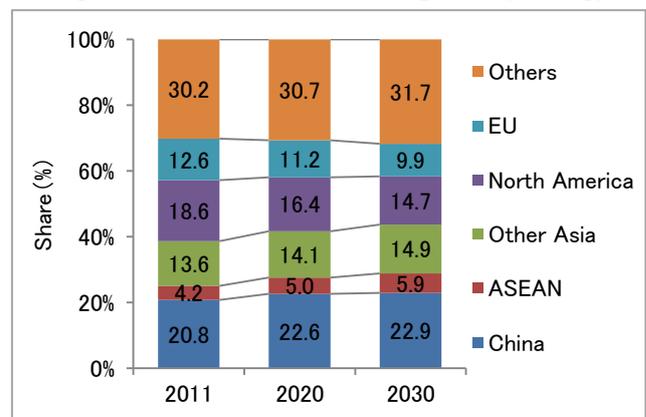


Figure 3-103: Global shares of primary energy



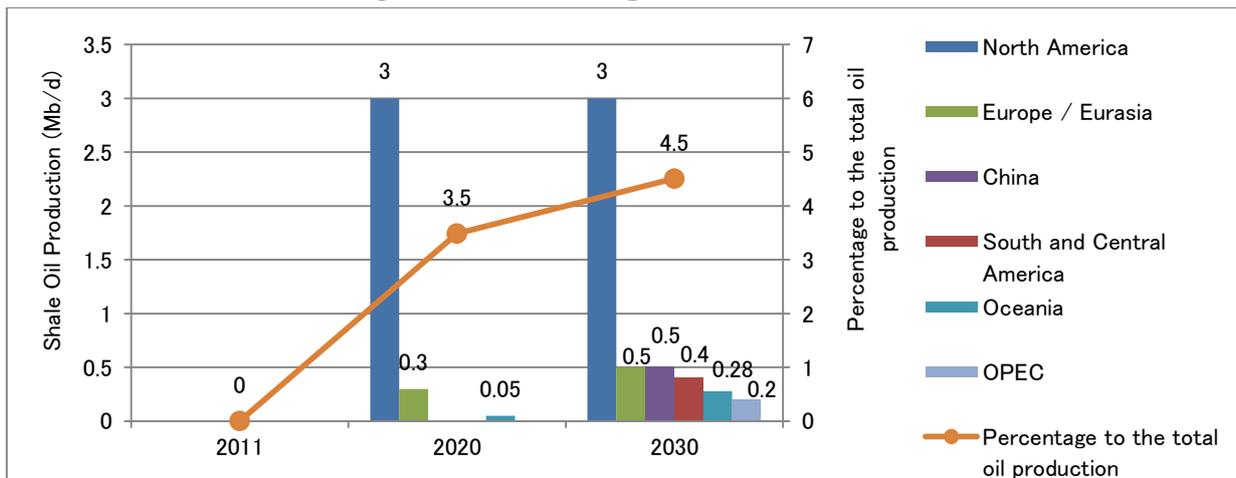
(Source: Created by study team based on Asia/World Energy Outlook 2013, The Institute of Energy Economics, Japan (2013))

Furthermore, the development of unconventional resources is expected to influence global energy supply and demand. According to the Institute of Energy Economics, Japan, the commercialization of unconventional gas will gradually proceed, from 2018 for Argentina and Mexico, and from 2021 for China, Australia, Middle East, Europe, former Soviet Union, and Africa². However, only production in Australia, the former Soviet Union and Africa are expected to provide additional supply to the international market. All other productions will likely be consumed within the country of origin.

Furthermore, the production of shale oil, a good representative of unconventional petroleum, is expected to reach 3.35 million barrels/day in 2020 and 4.88 million barrels/day in 2030, equivalent to roughly 4.5% of all petroleum production. Of this amount, 3 million barrels/day (approx. 61%) will be produced in North America (Fig. 3-104).

² Asia/World Energy Outlook 2013, The Institute of Energy Economics, Japan (2013)

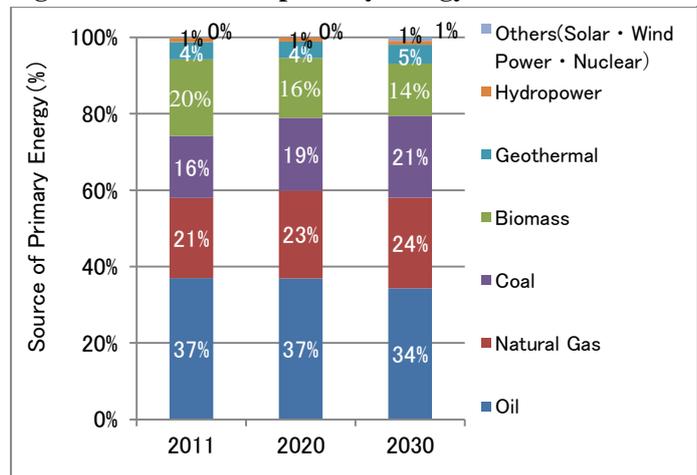
Figure 3-104: Shale oil production forecasts



(Source: Prepared by the study group based on *Asia/World Energy Outlook 2013*, The Institute of Energy Economics, Japan (2013))

Meanwhile, the share held by petroleum among the primary energy sources used in ASEAN is declining, while the use of coal, which has a relatively lower and more stable price, is increasing. The share of coal among primary energy sources, which stood at 16% in 2011, will increase to 21% by 2030, topping biomass / waste to become the third most common energy source after petroleum and natural gas (Fig.3-105). However, the US has a policy to, in principle, stop providing public financing for coal thermal power plant projects, both inside and outside the country. The World Bank and other international organizations could also adopt similar financing restrictions³. The use of coal could decline if restrictions on coal power around the world tighten and each country is slow to adopt new technical solutions.

Figure 3-105: ASEAN primary energy source forecasts



(Source: Prepared by the study group based on *Asia/World Energy Outlook 2013*, The Institute of Energy Economics, Japan (2013))

³ The *Nikkei*, November 29, 2013 edition

<ASEAN Members>

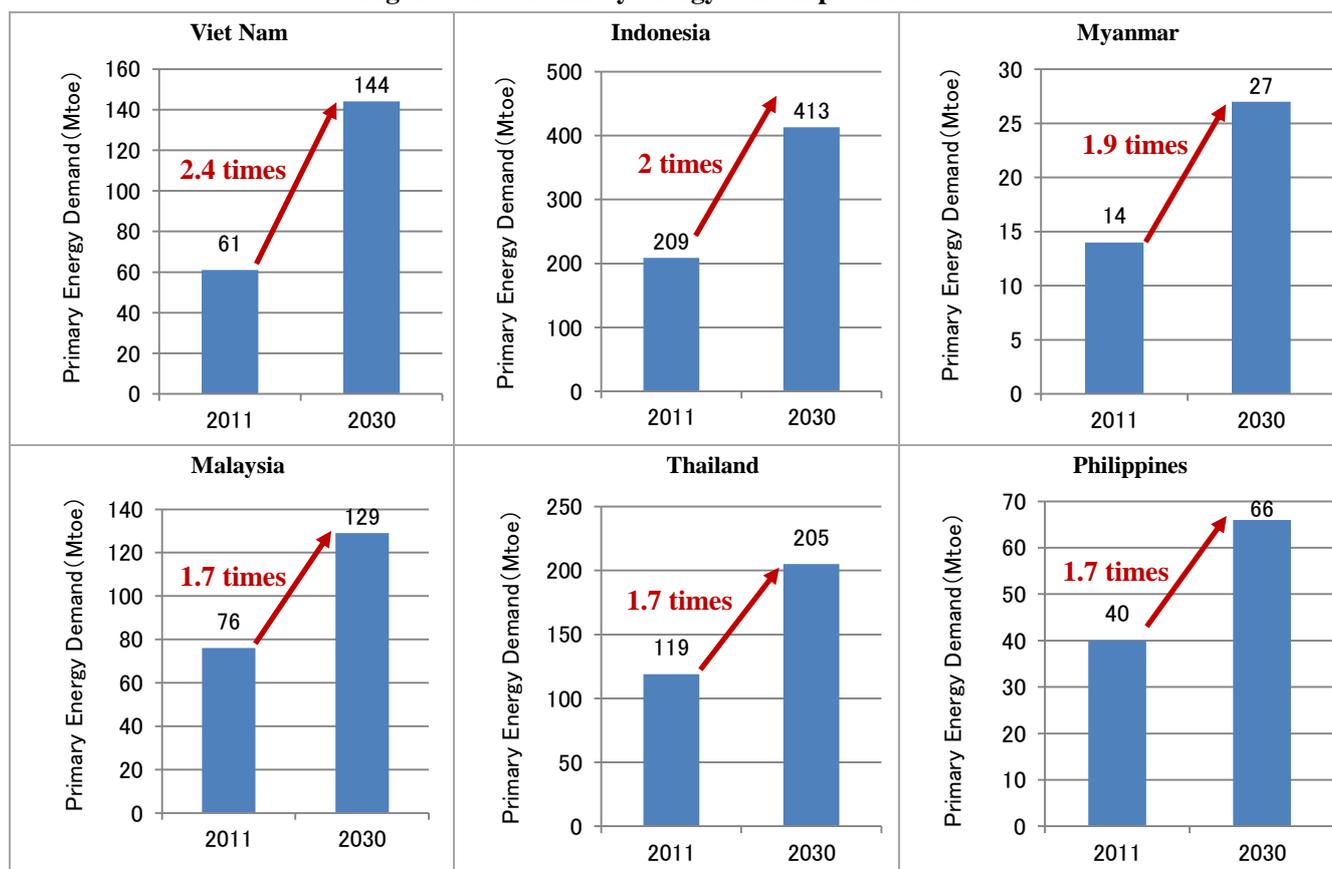
The consumption of primary energy in each ASEAN member country is expected to increase sharply along with their economic growth. Consumption is expected to increase roughly 2.4-fold for Viet Nam, with increases of 1.7-fold to 2-fold for the other countries (Fig.3-106).

In 2030, petroleum will be the main primary energy source for Indonesia, the Philippines, Thailand, and Viet Nam (Fig.3-107). The main primary energy source for Malaysia will be natural gas, while that for Myanmar will be bio-mass/waste. However, in the case of Myanmar, the biomass/waste serving as the primary energy source will mainly come from lumber and agricultural waste. In other words, this is not fuel grown from plants with the aim of creating bio-ethanol as an energy source ⁴.

The top for energy sources in ASEAN (excl. the Philippines) are petroleum, natural gas, coal, and biomass. However, the percentage of biomass usage is declining in each country so the importance of petroleum, natural gas and coal are increasing.

In terms of unique changes among countries, the weighting of coal usage will increase from 15% to 24% for Indonesia and the weighting for natural gas usage will increase for Myanmar from 10% to 38%. The domestic use of energy sources produced in each country will likely progress.

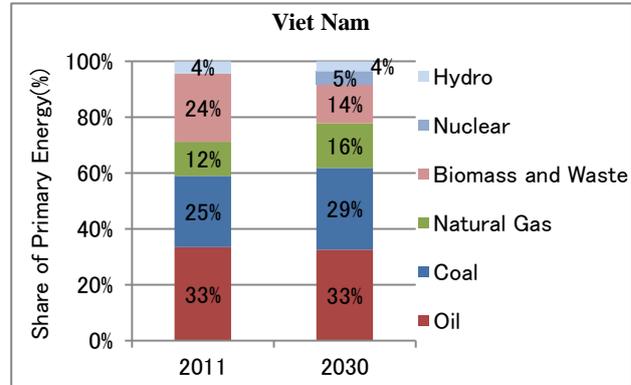
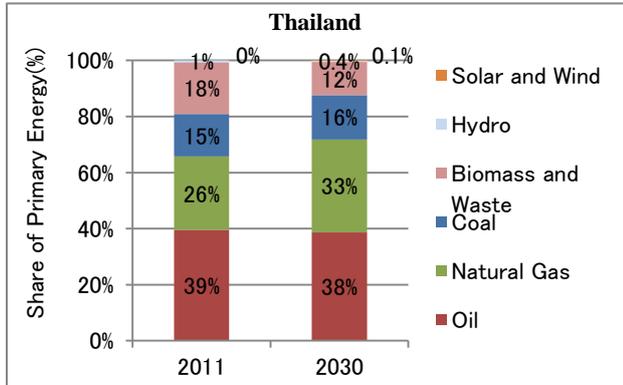
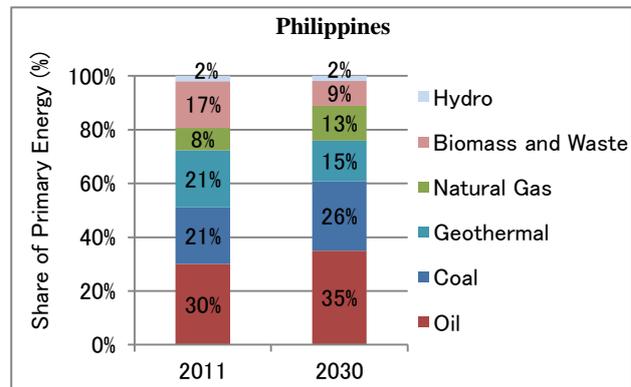
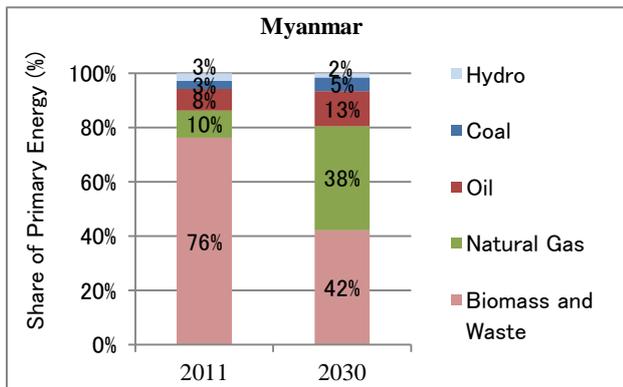
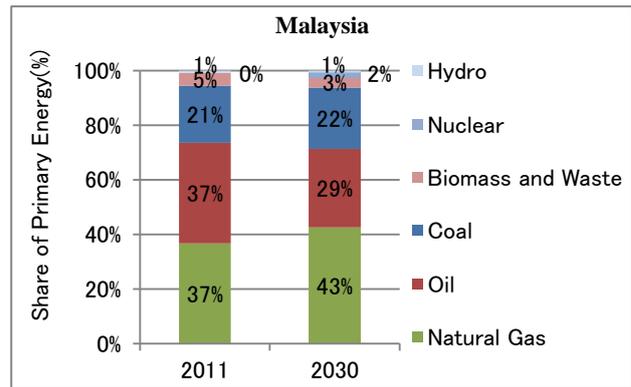
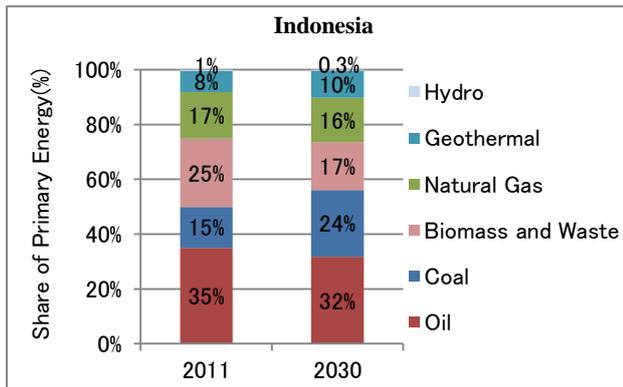
Figure 3-106: Primary energy consumption forecasts



(Source: Created by study team based on Asia/World Energy Outlook 2013, The Institute of Energy Economics, Japan (2013))

⁴ New Energy Foundation, Asia Biomass Office

Figure 3-107: Primary energy source forecasts by country⁵



(Source: Created by study team based on Asia/World Energy Outlook 2013, The Institute of Energy Economics, Japan (2013))

⁵ Data unavailable for Cambodia, Laos, Brunei, and Singapore

<Intraregional Energy Cooperation>

Within the Mekong region, the countries of Cambodia, Laos, Myanmar, Thailand, Viet Nam, and China⁶ are already involved in electric power trade, adjusting electric power shortages/surpluses between each country. According to ADB, in 2010 electric power imported from Mekong region countries accounted for roughly 77% of the consumption in Cambodia, 22% in Laos, 5% in Thailand, 7% in Viet Nam, and 0.05% in China (Fig. 3-108).

The *Master Plan on ASEAN Connectivity* includes plans for the ASEAN Power Grid (APG) (Fig.3-109) and Trans ASEAN Gas Pipeline (Fig.3-110). However, the schedules for completing both projects have already been postponed from 2015 to 2020. Further delays are possible as each country places priority on securing supply to meet growing domestic energy demand, while at the same time there are numerous issues such as procuring funds, setting technical standards, and preparing domestic systems.

Figure 3-108: Electricity trading in Mekong region

	Importer					
	Cambodia	Lao PDR	Myanmar	Thailand	Viet Nam	PRC
Exporter	Cambodia	-	-	-	-	-
Lao PDR	6.6	-	-	6,938	-	-
Myanmar	-	-	-	-	-	1,720
Thailand	385	1,042	-	-	-	-
Viet Nam	1,155	163	-	-	-	-
PRCa	-	112.5	-	-	5,599	-
Total Import	1,547	1,318	0	6,938	5,599	1,720
Share of Import (%)	77.01	20.09	0.00	4.93	6.54	0.05

(Source: ADB (2012) "Greater Mekong Subregion Power Trade and Interconnection Two Decades of Cooperation", EIA International Energy Statistics)

Figure 3-109: APG infrastructure plan



(Source: System Planning Division Electricity Generating, Authority of Thailand (2013), "ASEAN Power Grid.")

Figure 3-110: TAGP infrastructure plan



(Source: ASCOPE "ASEAN Council on Petroleum")

⁶ Connect to Yunnan Province

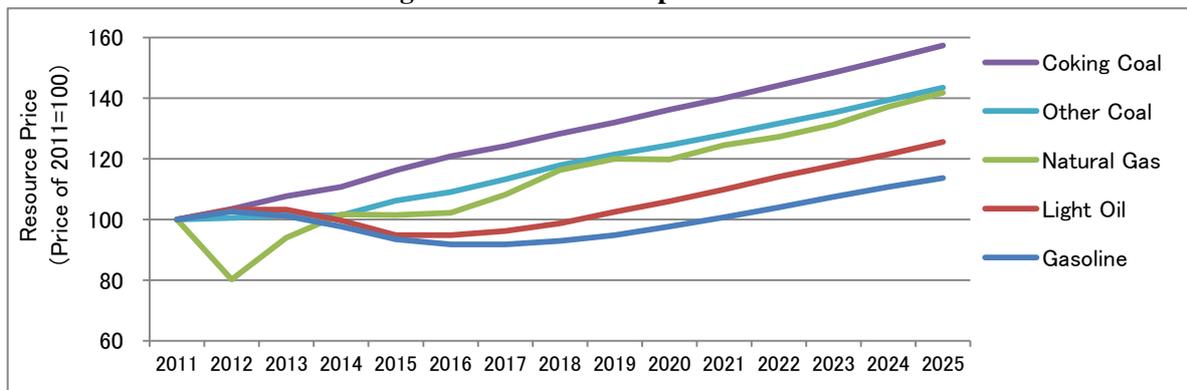
【Energy procurement costs】

<Energy prices>

The main sources of energy in ASEAN are petroleum, natural gas, and coal. According to EIA (U.S. Energy Information Administration), however, prices for coal (coking coal, others) and natural gas will increase at faster rates than petroleum (light oil, gasoline) prices toward 2025 (mainly US trading prices) (Fig.3-111). This is due to the expected easing of natural gas, light oil and gasoline prices on increased production of shale gas and oil.

However, prices will vary by region. Indeed, in 2030 the price of shale gas in Japan, which involves import costs, is projected to be 2.5 times the price in North America where production of shale gas will be increasing⁷. Within ASEAN, Indonesia has shale gas deposits, but a development schedule has not been set and these deposits are not expected to have a significant impact on lowering ASEAN natural gas prices.

Figure 3-111: Resource price forecasts



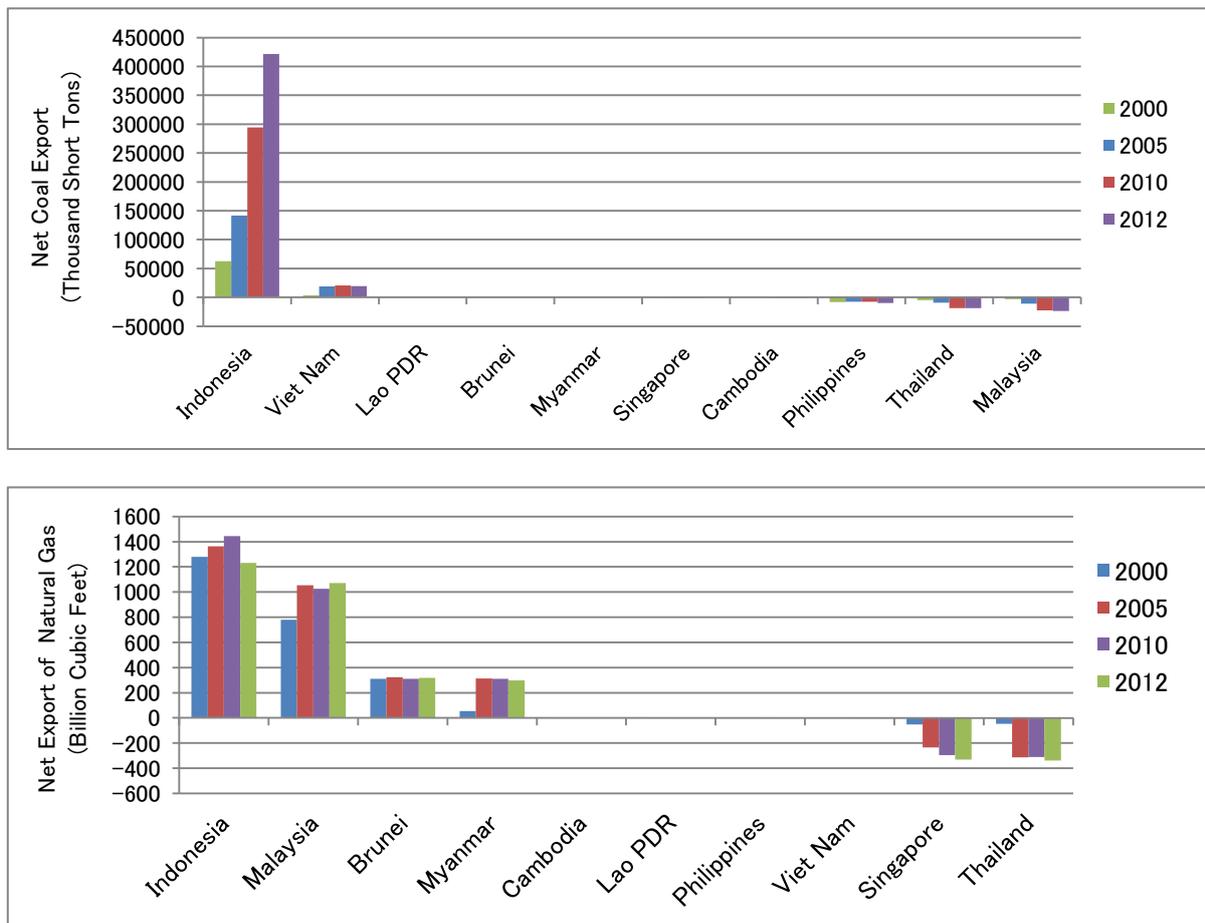
(Source: Created by study team based on EIA's (U.S. Energy Information Administration) "Annual Energy Outlook 2014 Early Release.")

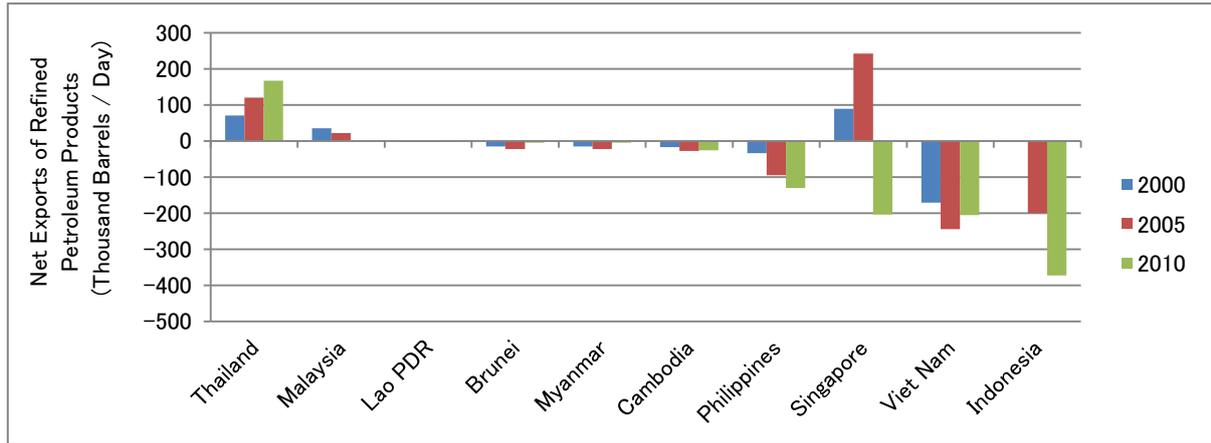
⁷ Source: *Asia/World Energy Outlook 2013*, The Institute of Energy Economics, Japan (2013)

<Energy resource trading>

Procurement cost will increase for those countries that are net importers of each type of energy resource expected to increase in price, which could place heavy burdens on household budgets, corporations, and government finances (Fig.3-112). Indonesia and Viet Nam are now net exporters of coal, however, net imports of coal are increasing particularly for Malaysia, Thailand, and the Philippines. Likewise, Indonesia, Malaysia, Brunei, and Myanmar are net exporters of natural gas, but Thailand and Singapore are net importers. Thailand and Malaysia are net exporters of petroleum products (total for gasoline, light oil, heavy oil, jet fuel), while import amounts are increasing, particularly for Indonesia, Viet Nam, Singapore, and the Philippines.

Figure 3-112: Trend of energy resource trade





(Source: Prepared by the study group based on EIA (U.S. Energy Information Administration) data)

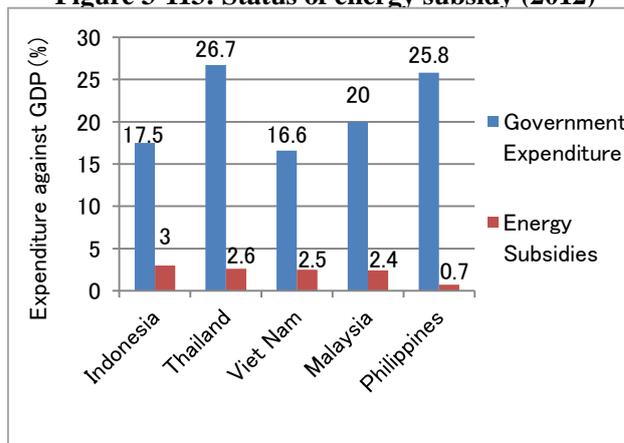
<Energy subsidies>

The ASEAN members with the highest rates of energy subsidy expenditures to GDP as of 2012 were Indonesia (3%), Thailand (2.6%), Viet Nam (2.5%), Malaysia (2.4%), and the Philippines (0.7%) (Fig.3-113). Considering that government expenditures in Indonesia are equivalent to 17.5% GDP, energy subsidies account for 17.1% of all expenditures, representing a very heavy fiscal burden.

Trends suggest that Indonesia, Thailand, Viet Nam, and Malaysia will consume even more energy through their economic activities. According to forecasts from the Institute of Energy Economics, Japan, ASEAN primary energy consumption/GDP in 2020 and 2030 will be above the average for Asia and more than three times the level for Japan (Fig.3-114). These conditions are attributed to increased energy consumption on the development of industries that consume large amounts of energy combined with poor energy efficiency.

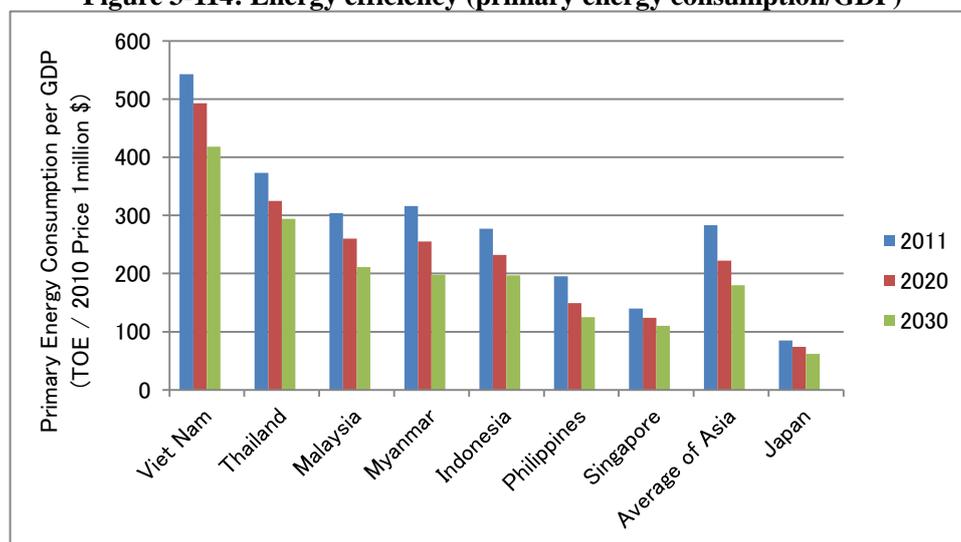
As forecasts call for increased energy consumption and higher energy prices, those countries that now pay large amounts in energy subsidies will need to adopted measure to reduce these subsidies and promote energy-saving technologies.

Figure 3-113: Status of energy subsidy (2012)



(Source: Prepared by study group based on IEA's (International Energy Agency) "World Energy Outlook" ADB Database)

Figure 3-114: Energy efficiency (primary energy consumption/GDP)

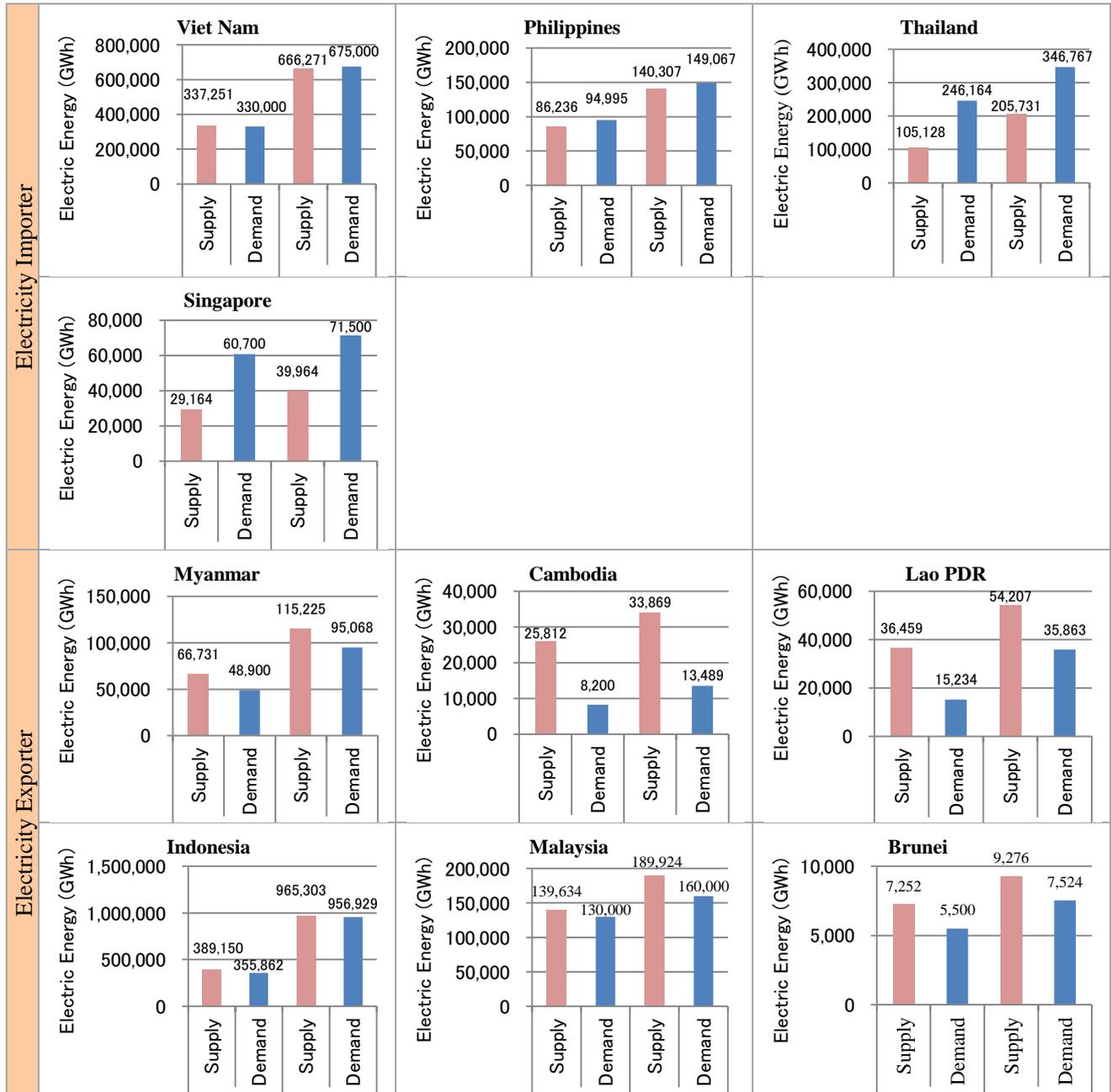


(Source: Asia/World Energy Outlook 2013, The Institute of Energy Economics, Japan (2013))

[Electric power supply / demand]

According to ERIA forecasts, assuming the power plant construction plans of each country proceed on schedule, electric power demand will still exceed supply in 2030 and Viet Nam, the Philippines, and Singapore will become electric power importing countries (Fig.3-115). Meanwhile, the countries projected to be electric power exporters are Myanmar, Cambodia, Laos, Indonesia, Malaysia, and Brunei. The electric power importing countries must prepare the power grids needed for the imported power and they will also need to construct more domestic electric power plants.

Figure 3-115: Electric power supply / demand forecasts



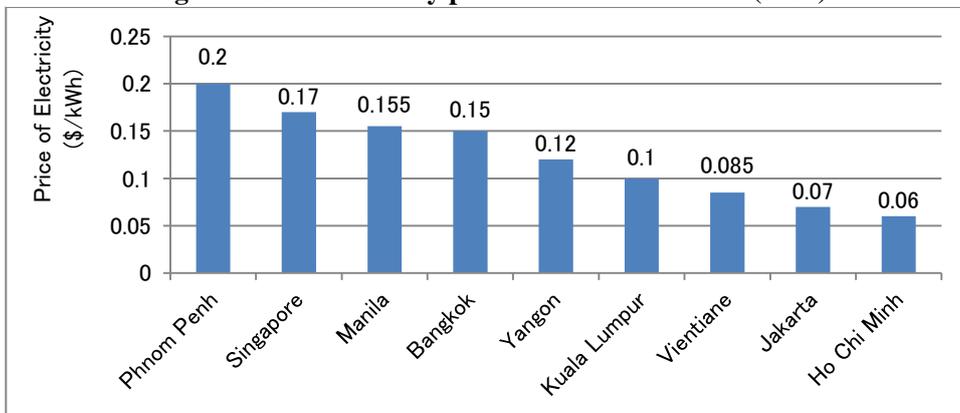
(Source: Created by study team based on "Study on Effective Investment of Power Infrastructure in East Asia through Power Grid Interconnection" ERIA (2013))

【Electricity prices】

Among ASEAN members, the electric power price is the highest in Phnom Penh (Cambodia), even higher than prices in countries with higher income levels such as Singapore and the Philippines (Fig.3-116). Not only is Cambodia presently a net importer of electric power⁸, it has one of the highest transmission loss rates after Myanmar and the Philippines. These factors are likely to blame for the high electric power price (Fig.3-117). However, the net importing conditions could be eliminated through the increase in power production as indicated by the abovementioned ERIA forecast. This combined with reductions in the transmission loss rate could lower the price of electric power.

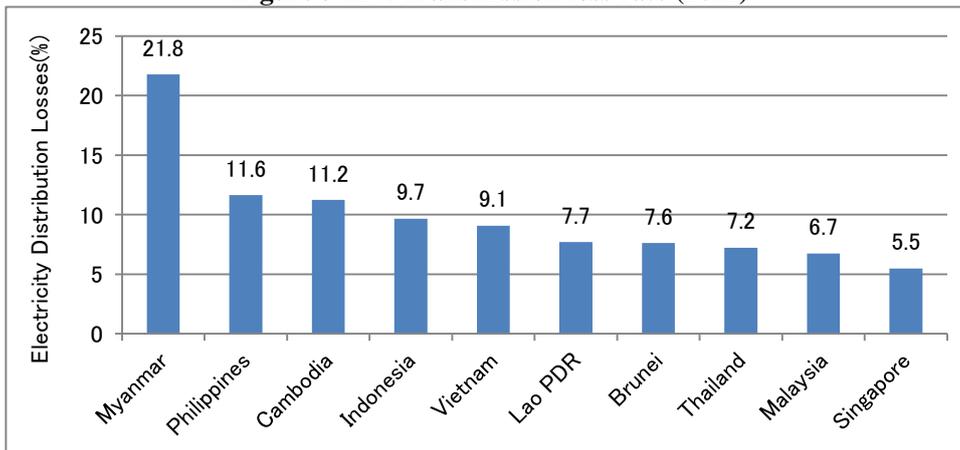
The high transmission loss rate in Myanmar is due to heavy use of out-of-date power transmission equipment⁹. Electric power supply is projected to exceed demand and the preparation of new power grids would reduce the possibility of electric power prices rising.

Figure 3-116: Electricity price for commercial use (2013)



(Source: Created by study team based on JETRO Country / Region-specific Information (J-FILE))

Figure 3-117: Transmission loss rate (2011)



(Source: Created by study team based on EIA data base)

⁸ Based on EIA data (as of 2011)

⁹ Nikkei BP (2013) Asia Biz Online "Part 6 – Large Investment Opportunities in Myanmar's Electric Power Field"

② Optimistic Scenario

Optimistic Scenario

- The production of unconventional resources, particularly in North America, Central/South America, China and Australia, is quickly commercialized (from 2020 at the earliest), the global prices for petroleum and natural gas fall and their consumption increases, but the consumption of coal declines.
- In ASEAN, Indonesia becomes a producer of unconventional resources (mainly shale gas), and economic growth is accelerated through resource exporting and the development of related industries. The other ASEAN members are not producers of unconventional resources, but their economic growth accelerates on lower prices for imported energy and benefits of increased demand on economic development for countries producing unconventional resources.
- Lower energy prices reduce fiscal burdens for those countries where energy subsidies are equivalent to 2-3% of GDP (mainly Indonesia, Malaysia, Philippines, and Thailand).
- More petroleum and natural gas used for thermal power due to lower prices. This in turn eases burdens place on the environment by lowering the percentage of power produced using coal, which produces more greenhouse gases.

③ Pessimistic Scenario

Pessimistic Scenario

- Energy demand increases due to development of the global economy. However, US shale oil production peaks around 2020 and other countries are slow in commercializing unconventional resources. As a result, petroleum and natural gas prices increase more than in the Realistic Scenario.
- Asia's primary energy consumption, which continued increasing since 2000, accounts for more 70% of the global share. Slow progress is made in adopting high energy efficient technologies (highly efficient power generation, public transportation) and competition from Asia for resources intensifies, driving up prices even for coal, which had maintained comparatively affordable prices.
- As a result, energy subsidies provided by each country grow to levels equivalent to 2.5-3% of GDP, placing increased pressure on government finances.
- Costs for the power generation options of petroleum, natural gas and coal all increase. However, the use of relatively cheaper coal increases further, placing greater burdens on the environment.

④ Challenges in Energy Sector

The Realistic Scenario points to "burdens from energy subsidiaries" and "electric power supply shortages" as challenges for this sector (energy).

We prepared a list of challenges and classified the current conditions for each challenge in each country (Fig.3-118) (classifications explained in legend).

For the challenge of "burdens from energy subsidies" we assigned the color red to Viet Nam, Indonesia, Thailand and Malaysia as trends suggest these countries will import more petroleum, natural gas, and coal, for which prices

are expected to increase, and energy subsidies will likely place more pressure on government finances.

For the challenge of "electric power supply shortages" we assigned the color red to Viet Nam, the Philippines, and Singapore as these countries will need to import electric power or construct more power generation plants.

Challenges for the countries classified as red in this chapter are explained in detail in the next chapter.

Figure 3-118: List of challenges in energy sector

	CLMV				ASEAN4 (Group1)		ASEAN4 (Group2)		BS	
	Myanmar	Cambodia	Lao PDR	Viet Nam	Philippines	Indonesia	Thailand	Malaysia	Brunei	Singapore
Burdens from Energy Subsidies	-	-	-	Red	Yellow	Red	Red	Red	-	-
Electric Power Supply Shortages	Green	Green	Green	Red	Red	Yellow	Red	Green	Green	Red

Legend

Red	Challenges already emerged or expected to emerge by 2025
Yellow	Likely to be a challenge by 2025
Green	Low likelihood of becoming a challenge by 2025
-	Unable to verify due to insufficient data

(6) Food

In order for ASEAN to stably secure food in the future, it will need to produce food in the context of limited resources and also based on changes to the supply and demand of food in the world and in each ASEAN country.

Therefore, in this sector, “the supply and demand of food in the world,” “the supply and demand of food in each ASEAN country” and “agricultural productivity in ASEAN” will be analyzed and food-related difficulties heading toward 2025 will be predicted.

① Realistic Scenario

<Summary>

【Food supply and demand in the world】

- It is forecast that imports of food will increase to China and ASEAN, which will constitute approximately 26.5% of the total world population in 2025.
- Demand-supply conditions will be tight, particularly for produce for which global demand will increase, such as seafood, dairy products (cheese, skimmed milk, butter, etc.), and meat (especially mutton, pork, and poultry). As a result, international prices are forecast to increase.
- Demand for grains, such as rice and wheat, will be stable, and because their production is expected to increase in emerging countries, their international prices are forecast to decline.

【Food supply and demand in ASEAN】

- ASEAN’s food self-sufficiency rate is forecast to fall from 97% in 2004 to 85% in 2030, and consequently it will become more susceptible to the impact of higher intentional prices. The background to this is that changes to production will not keep pace with changes to demand that will accompanying increases in income (greater demand for oils and fats, sugar, meat and poultry, fruit, vegetables, etc.)
- Each ASEAN country will maintain a high self-sufficiency rate for rice and beef, but for dairy products and other meats and poultry, the production in many countries will not be able to keep pace with the rapid increase in demand.
- It will be necessary to increase the production of those items whose demand is set to rise, such as by introducing production technologies, expanding business scale, and improving seeds and species. Also, with the goal of maintaining the self-sufficiency rate for ASEAN as a unit, there remains room to investigate establishing and improving large-scale production facilities and a trade system in which each item is produced by the optimal country to do so.

【ASEAN agricultural productivity】

- Rice constitutes approximately 72% of ASEAN’s land under cultivation and is its main crop, but in Myanmar, Thailand, Cambodia, and Laos, where productivity is low, agricultural capital (stock) per capita also tends to be

low. These countries must promote the improvement of their agricultural capital (improvements to agricultural infrastructure, mechanization, etc.) and the utilization of high-quality seeds that are appropriate for mechanization, and moreover they must shift the surplus labor force and land generated by productivity gains to the production of other items.

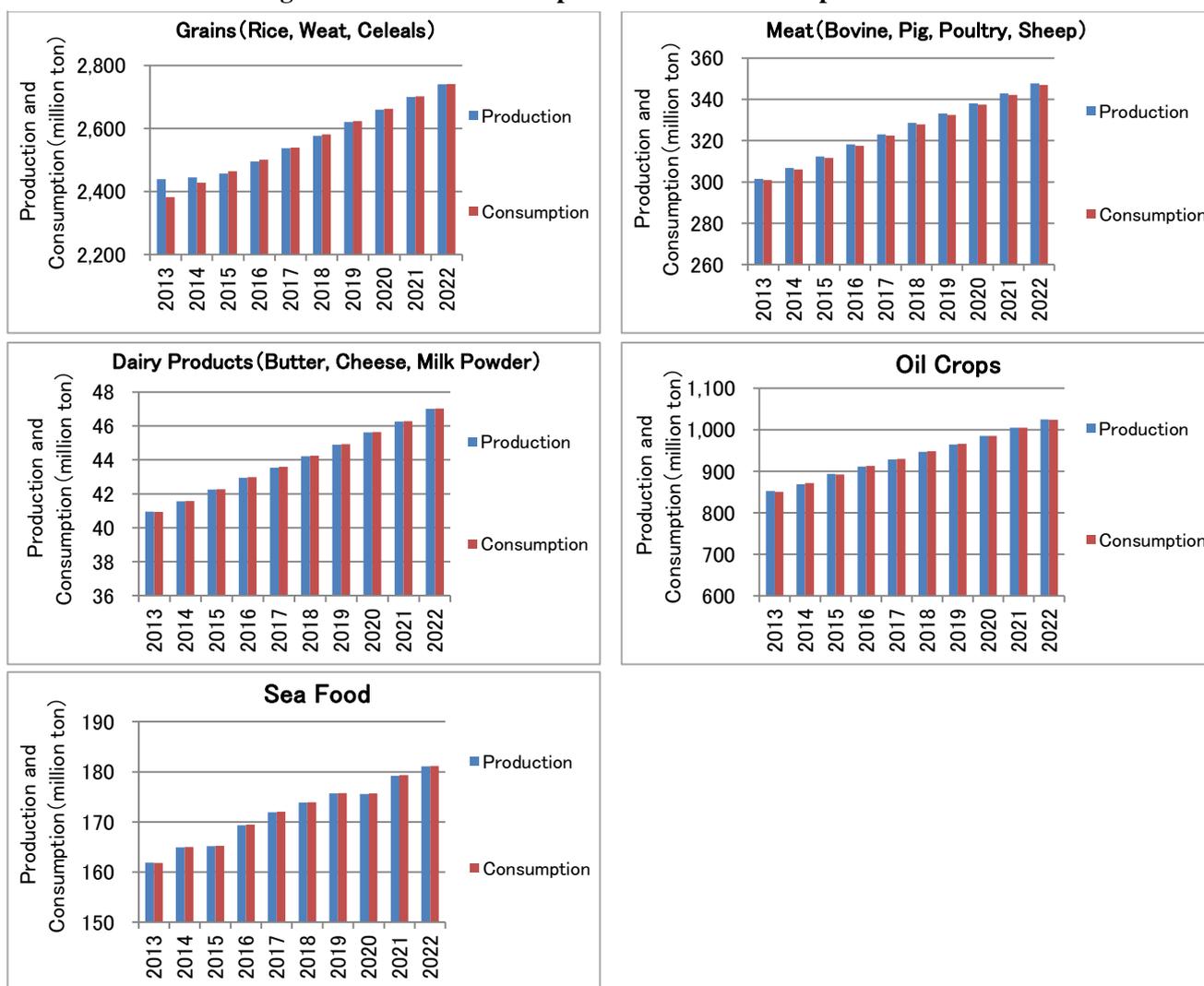
【Food supply and demand in the world】

According to forecasts by the Organisation for Economic Co-operation and Development (OECD) and the United Nations' Food and Agriculture Organization (FAO), in the global demand and supply of food (they give the examples of grains, meat and poultry, vegetable oil, dairy products, and seafood), the production volume of each food item will increase in conjunction with the rise in the volume consumed (Fig. 3-119). In addition to the existing agricultural nations, production will increase in emerging nations and therefore it is forecast that a supply of food exceeding demand will be secured¹.

Among the international prices of various foods, the prices of seafood; dairy products, such as cheese, powdered milk, and butter; and meat, including mutton, pork, and poultry, are forecast to rise, with the increase in the price of seafood set to be particularly high. The increase in demand for these items will center on emerging countries that have growing populations and incomes. But on the other hand, because increases in production will be limited by factors such as higher production costs and climate change, demand-supply conditions are expected to be tight. In contrast, demand for grains, including rice, wheat, and cereals; for beef; and for vegetable oil will remain stable, so their prices are forecast to decline (Fig. 3-120).

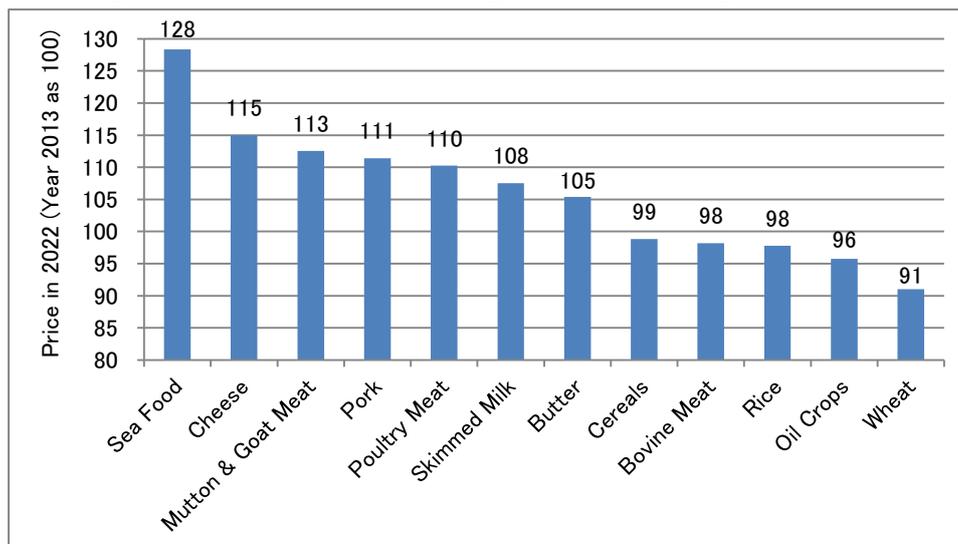
¹ OECD-FAO "OECD-FAO Agricultural Outlook 2013-2022"

Figure: 3-119: Global food production and consumption volumes



(Source: Created by study team based on OECD-FAO “OECD-FAO Agricultural Outlook 2013-2022”)

Figure: 3-120: International food prices in 2022 (compared to 2013)



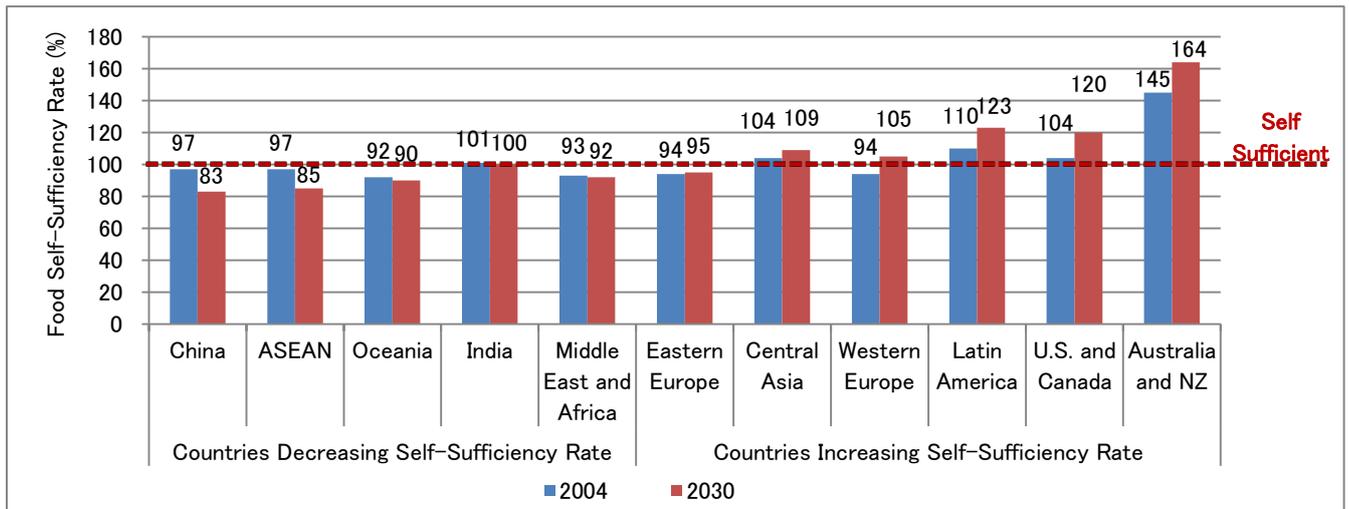
(Source: Created by study team based on OECD-FAO “OECD-FAO Agricultural Outlook 2013-2022”)

Globally, food production and consumption volumes will increase, but the situations will be different according to country and region. When we compare the food self-sufficiency rates of the major countries and regions, we see that in China and ASEAN, their food self-sufficiency rates will decrease significantly, by more than 10%, from 97% to 83% and from 97% to 85% respectively. If we combine the populations in 2025 of China and ASEAN, they would account for about 26.5% of world population, at about 2.14 billion people². The impact that an increase in imports of food into both China and ASEAN would have on global supply and demand would be huge. On the other hand, the food self-sufficiency rates of Latin America, North America, Australia, and New Zealand will greatly increase, by more than 10%, from 110% to 123%, 104% to 120%, and 145% to 164% respectively (Fig. 3-121).

China and ASEAN must identify the items for which demand will increase in their countries and change their production structures accordingly. For items for which they cannot be self sufficient and for which there is a possibility of a spike in international prices, they must promote their domestic production and implement policies to try to avoid the effects of short term spikes in prices.

² United Nations Department of Economic and Social Affairs, Population Division “World Population Prospects: The 2012 Revision” medium-range estimates

Figure 3-121: Food self-sufficiency rates of the major countries and regions



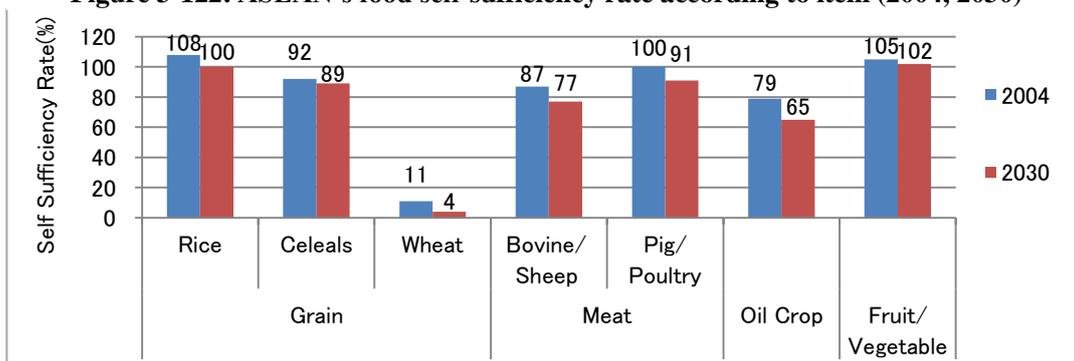
(Source: Created by study team based on ADBI “Agriculture and Food Security in Asia by 2030”)

【Food supply and demand in ASEAN】

According to ADBI, the decline in the food self-sufficiency rate in ASEAN will not only occur for specific items, they forecast it will decline for every item. In terms of the extents of the decline between 2004 and 2030, major declines are expected for vegetable oil and meats; specifically, vegetable oil (14%), beef and mutton (10%), and pork and poultry (9%) (Fig. 3-122).

FAO has pointed out that due to the increases in the urban populations and incomes in each ASEAN country, food consumption will rise and preferences will change (specifically, increases in demand for oil and fats, sugar, meats, fruit, vegetables, etc.)³ On the other hand, due to factors including increases in production costs and the number of regulations required for production and also changes to the environment, it will become difficult to increase production at the same pace as up to the present time⁴. It is considered that these changes in demand and supply will result in a decline in ASEAN’s food self-sufficiency rate.

Figure 3-122: ASEAN’s food self-sufficiency rate according to item (2004, 2030)

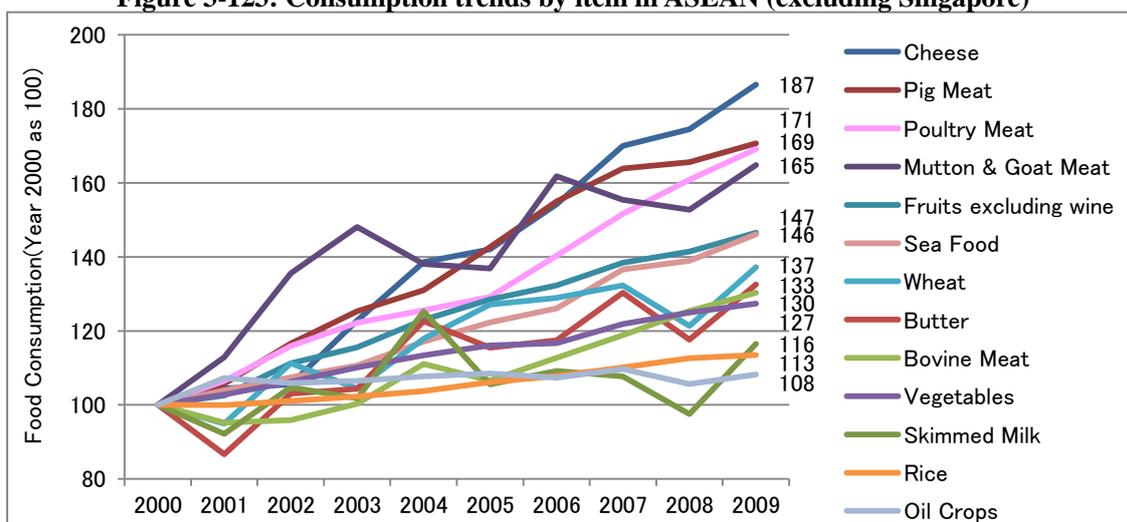


(Source: Created by study team based on ADBI “Agriculture and Food Security in Asia by 2030”)

³ FAO (2014), “ASEAN CONSULTATIVE MEETING ON INTEGRATING NUTRITION INTO ASEAN INTEGRATED FOOD SECURITY FRAMEWORK AND STRATEGIC PLAN OF ACTION ON FOOD SECURITY (2015-2019) REPORT”
⁴ OECD-FAO (2013), “OECD-FAO Agricultural Outlook 2013-2022”

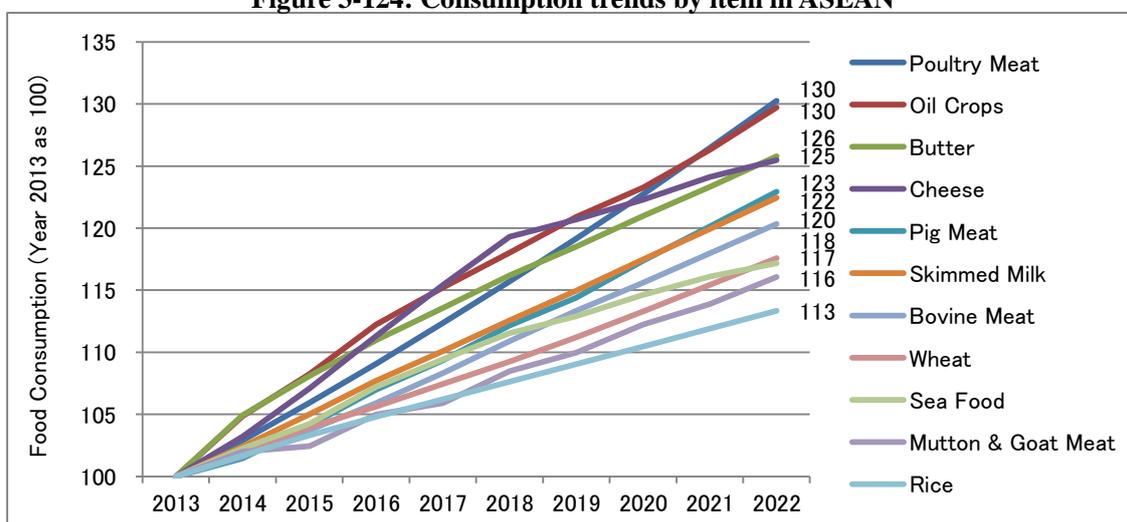
When we look at the changes in the consumption of food by item, we see that changes to preferences are already occurring. Between 2000 and 2009, the food item for which consumption increased the most was cheese, which traditionally was not eaten in the region (Fig.3-123). Changes to the economic environment and an increase in the urban population can be said to be accompanied by increases in demand for items such as fats and oils, sugar, meat, and fruits⁵. According to the forecast for from 2013 to 2022, the top positions in terms of the rate of increase will be held by meats (particularly poultry and pork), vegetable oil, and dairy products (butter and cheese) (Fig.3-124).

Figure 3-123: Consumption trends by item in ASEAN (excluding Singapore)



(Source: Created by study team based on FAOSTAT)

Figure 3-124: Consumption trends by item in ASEAN



(Note : excluding Myanmar, Cambodia, Lao PDR, Brunei, and Singapore)

(Source: Created by study team based on OECD-FAO "OECD-FAO Agricultural Outlook 2013-2022")

⁵ FAO (2014) , “ASEAN CONSULTATIVE MEETING ON INTEGRATING NUTRITION INTO ASEAN INTEGRATED FOOD SECURITY FRAMEWORK AND STRATEGIC PLAN OF ACTION ON FOOD SECURITY (2015-2019) REPORT”

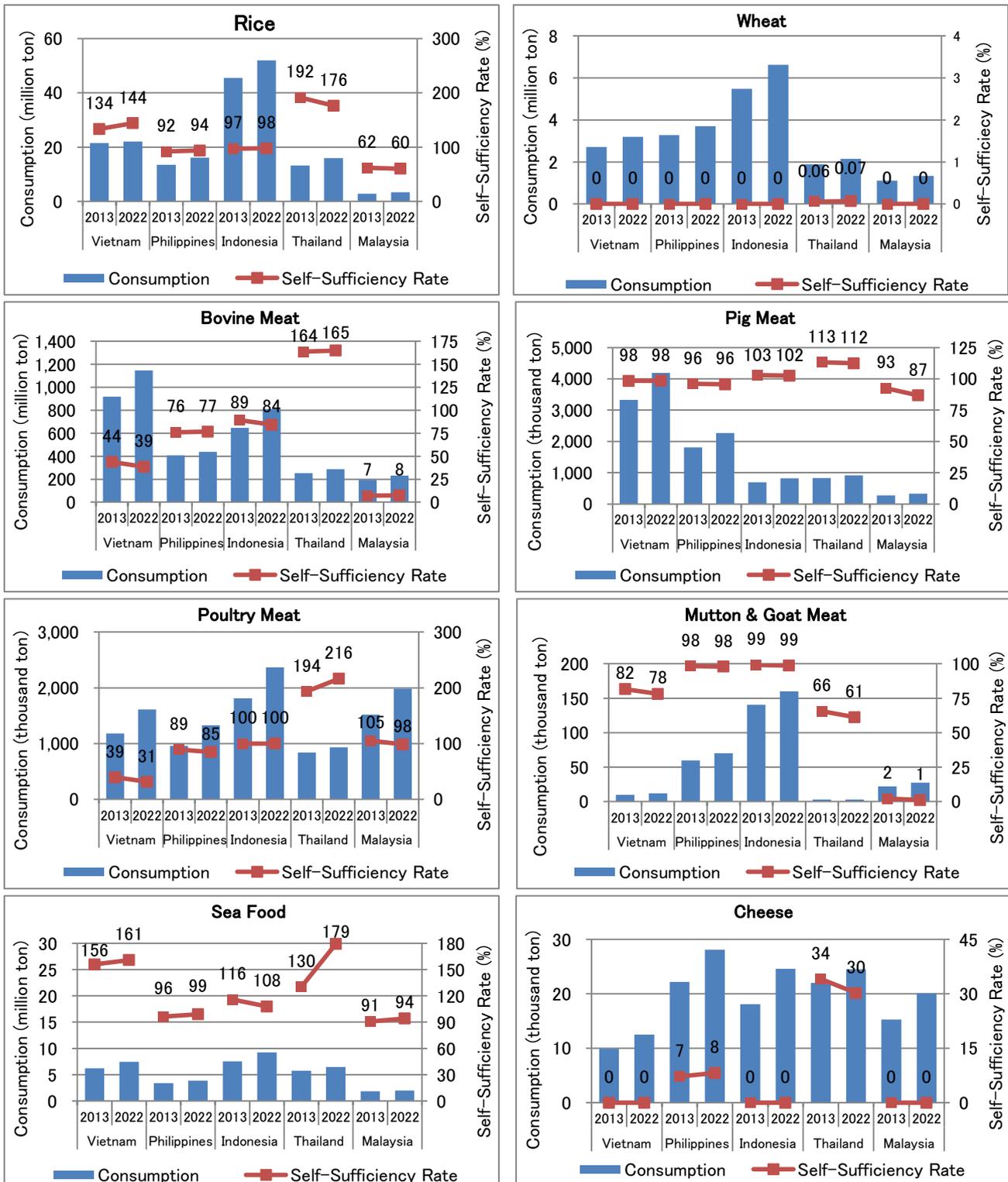
In the forecasts on food supply and demand carried out by OECD and FAO (in ASEAN, targeting Vietnam, the Philippines, Indonesia, Thailand, and Malaysia), within the production by each country of rice, meat (beef, pork, poultry, and mutton), seafood, and vegetable oil, the number of countries whose self-sufficiency rates in pork, poultry, mutton, and vegetable oil are declining exceeds those in which they are increasing. Also, consumption of wheat and dairy products (cheese, skimmed milk, and butter) is expected to increase in the future, but in contrast, their production is not expected to increase and so dependence on imports will rise. In such ways, in the various ASEAN countries it is considered that changes to production are not keeping pace with changes to demand, and that their food self-sufficiency rates are declining (Fig.3-125).

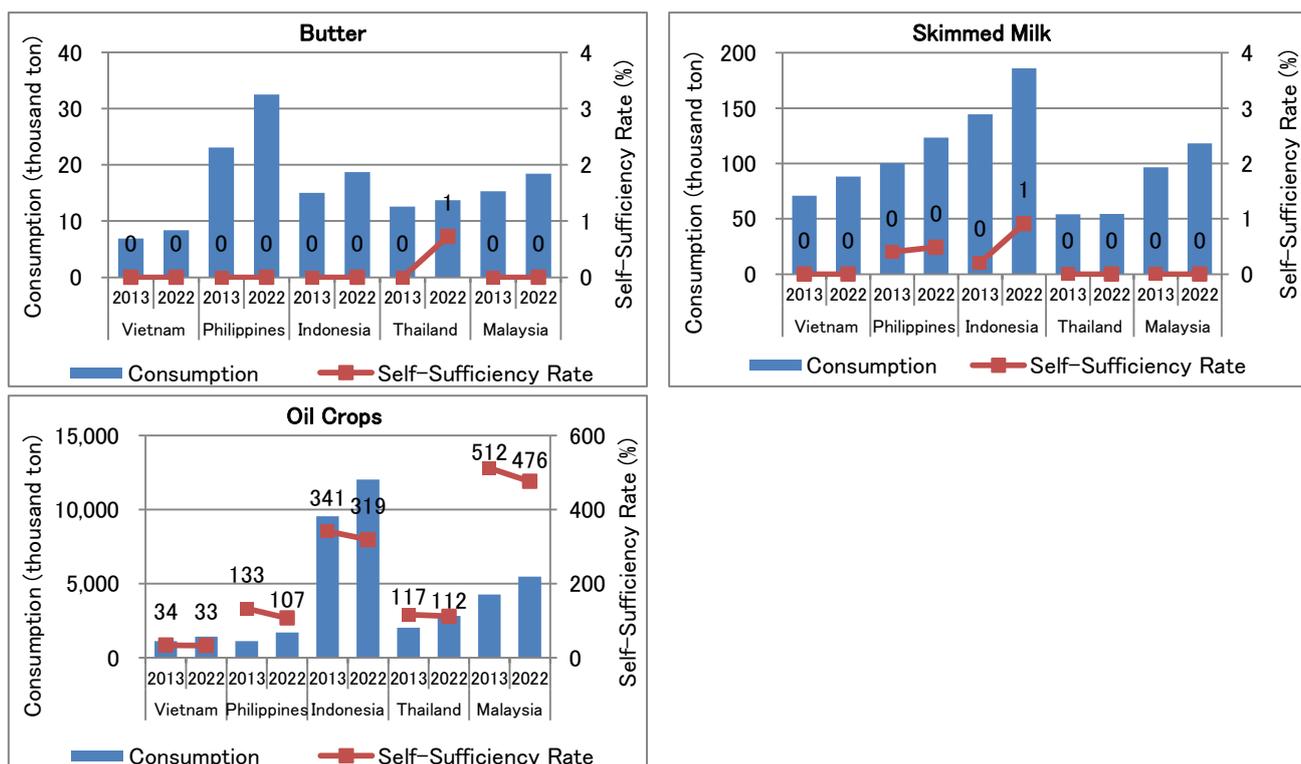
Also, as dairy products and meat are items whose international prices are forecast to increase (as described above), the prices of the foods that ASEAN will import in the future will rise.

In order for ASEAN to maintain its food self-sufficiency rate and to prevent an increase in the prices of the foods it imports, it must increase its production of items for which demand is forecast to rise. Of course, wheat is not suitable for cultivation in the ASEAN region, but for dairy products, each ASEAN country produces raw milk, and moreover their production of it is expected to increase in the future⁶. Therefore, if technology to process raw milk is introduced, it will be possible to increase the production of dairy products. With regards to meat also, production can be increased by expanding the scale of business and by creating crossbreeds that are suitable for the ASEAN climate, which will contribute to improving the region's food self-sufficiency rate and to the growth of its agriculture industry. In addition, by constructing within the ASEAN region large-scale production and distribution facilities in the most suitable countries, it will be possible to aim to maintain the self-sufficiency rate at the ASEAN level, while also increasing the competitiveness of the region's agriculture industry.

⁶ OECD-FAO (2013) ,“OECD-FAO Agricultural Outlook 2013-2022”

Figure 3-125: Food supply and demand by country and by item





(Source: Created by study team based on OECD-FAO “OECD-FAO Agricultural Outlook 2013-2022”)

【ASEAN agricultural productivity】

In order for ASEAN to maintain its food self-sufficiency rate, as was stated above it must increase the production of items for which demand will rise. However, as farmland and agricultural workers are limited, it will be difficult to sustainably increase the production of food without also improving productivity.

In order to improve agricultural productivity in each ASEAN country, it is important to improve the productivity of rice, which despite being worth only 30% of the value of agricultural products produced⁷ (as of 2011), it accounts for about 72% of the cultivated land⁸ (as of 2011). Once this is achieved, the surplus labor and land from rice farming can be shifted to the production of other items for which demand is expanding.

According to ADB forecasts, there remains room for productivity improvements in all of the rice producing country except for Singapore and Brunei (as of 2022) (Fig.3-126). Even in Vietnam, which has the highest productivity in ASEAN, there remains a difference of around 1MT per 1ha compared to Japan. Also, the productivity levels in Myanmar, Thailand, Cambodia, and Laos are below the ASEAN average. Within them, Thailand is the world’s fifth largest producer of rice, after China, India, Indonesia, and Vietnam⁹, but because its productivity is low, it requires more land for its production than other countries.

In Myanmar, Thailand, Cambodia, and Laos, the agricultural capital (stock) per agricultural worker is trending downwards and their situations in terms of the delays to improvements to agricultural infrastructure and

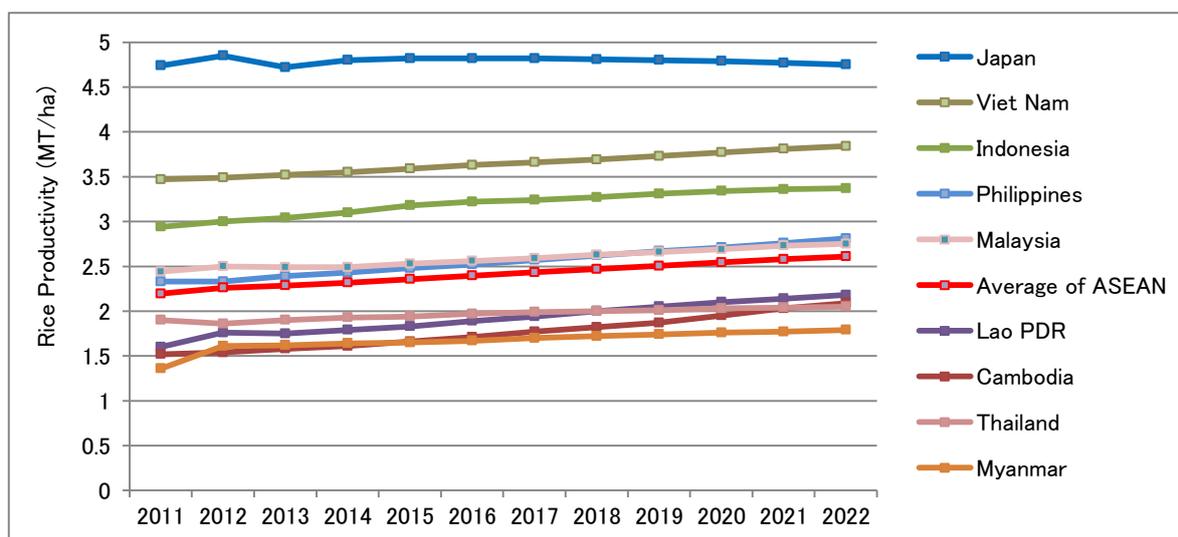
⁷ From FAOSTAT; calculations of rice-production statistics / agricultural-produce production statistics for the 7 countries excluding Singapore, Brunei, and Myanmar

⁸ From FAOSTAT; calculations of rice cultivation area statistics / area under cultivation statistics for the 7 countries excluding Singapore, Brunei, and Myanmar,

⁹ FAOSTAT

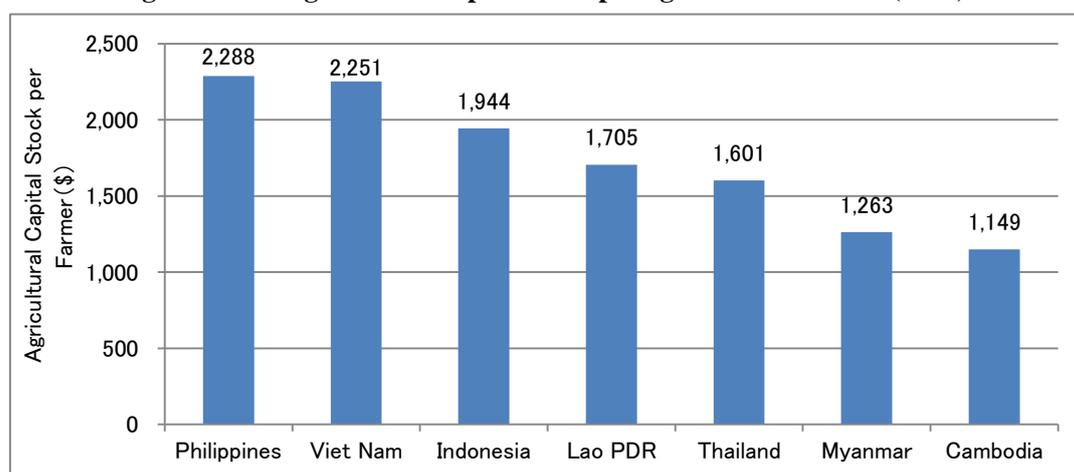
mechanization are thought to be having a detrimental effect on their productivity (Fig.3-127). Going forward, these countries will need to improve their productivity by improving their agricultural capital (agricultural infrastructure improvements, mechanization etc.), promoting the use of superior varieties (of seeds, breeds, etc), and practicing selective breeding and cultivation.

Figure 3-126: Productivity of rice farming



(Source ADB (2012), “ASEAN and Global Rice Situation and Outlook”)

Figure 3-127: Agricultural capital stock per agricultural worker (2007)¹⁰



(Source: FAO “The State of Food and Agriculture, 2012”)

¹⁰ Dollar rate in 2005

In the FOA’s definition, agricultural capital is assumed to be infrastructure for developing agricultural land, machinery and equipment, livestock, facilities for livestock, and trees (plants that can be repeatedly harvested).

② Optimistic Scenario

Optimistic scenario

- Demand for meat and dairy products is rising and currently imports of them are increasing, but gradually each ASEAN country starts to increase its investment in the production of dairy products and meat, and they come to produce food by responding to the changes to demand.
- As farmers come to be able to produce items for which there is high demand, this has the effect of improving agricultural productivity and also increasing the incomes of agricultural workers.
- Also, according to ADBI, if there is greater investment in agriculture and the total factor productivity growth rate for agriculture in ASEAN increases 0.5% above the realistic scenario, it forecasts that this would push up ASEAN's food self-sufficiency rate by 3% by 2030.
- Further, should the productivity gap between the agriculture industry and the manufacturing and service industries and the income gap between urban and agricultural communities shrink, this would result in a decrease in government spending, which is typically used to purchase agricultural produce, and this would contribute to the soundness of government finances.

③ Pessimistic Scenario

Pessimistic scenario

- If in countries and regions such as China and ASEAN, the volume of food imports increase not only for dairy products and meat, but also for rice, fruits and vegetables, it is highly likely that international food prices for a wide variety of items will also increase.
- According to ADB, the rise in the price of food will result in an increase in the poor population¹¹. In its 2011 trial calculations, it forecasts that in the event of a 10% increase in food prices, the poor population will increase as follows; by 4.46 million people in Indonesia, 1.55 million people in Vietnam, 1.37 million people in the Philippines, 310,000 people in Cambodia, 140,000 people in Laos, 50,000 people in Thailand, and 30,000 people in Malaysia.
- Even if food prices are reduced, such as by government subsidies, this may put pressure on government finances.
- In addition, centered on countries that are highly dependent on imports, like Singapore and Brunei, the increase in food prices will result in an increase in consumer prices and a slump in personal consumption expenditure, which will become a factor behind the slowdown of economic growth rates.

¹¹ ADB (2011), "Global Food Price Inflation and Developing Asia"

④ Challenges in the Food Sector

From the realistic scenario for this sector (food), we can see the challenges in it are “food shortages” and “low agricultural productivity.”

For each challenges, the situation in each country is color coded and the challenges are shown as a list (Fig.3-128) (please refer to the legend for each color code).

For “food shortages,” as the global balance in the supply and demand of food is being maintained, it is difficult to envisage that some countries are already facing a food crisis. But for items for which demand is expected to increase, should countries’ dependence on imports rise, they would become susceptible to the effects of price spikes and sudden reductions in supply. Therefore, each country must try to covert its production structure so that it reflects demand.

For “low agricultural productivity,” Myanmar, Thailand, Cambodia, and Laos are color coded red, as the productivity of their rice production, which is the staple crop in ASEAN and accounts for about 72% of its cultivated land, is below the ASEAN average, and moreover their per capita agricultural capital is low.

For the countries color coded red in this chapter, their challenges will be considered in more detail in the next chapter.

Figure 3-128: List of the challenges in the food sector

	CLMV				ASESN4 (Group1)		ASESN4 (Group2)		BS	
	Myanmar	Cambodia	Lao PDR	Viet Nam	Philippines	Indonesia	Thailand	Malaysia	Brunei	Singapore
Food Shortages	-	-	-							
Low Agricultural Productivity										

Legend

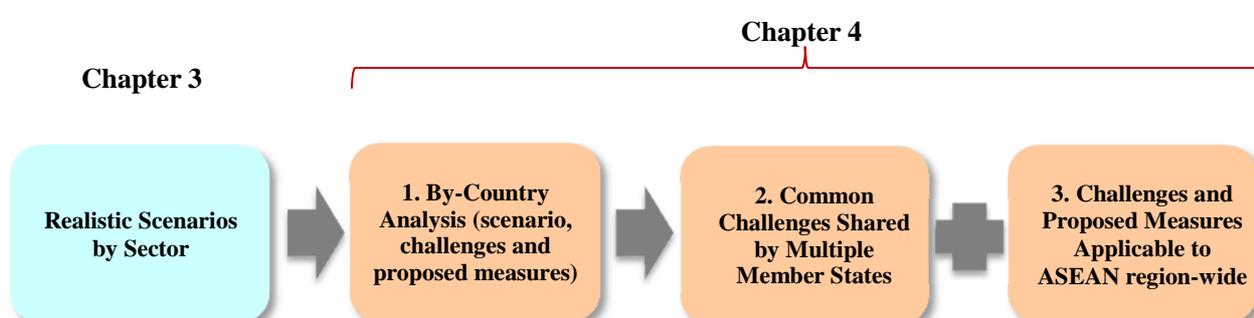
	Challenges already emerged or expected to emerge by 2025
	Likely to be a challenge by 2025
	Low likelihood of becoming a challenge by 2025
	Unable to verify due to insufficient data

Chapter 4 ASEAN’s Most Realistic Scenarios, Challenges and Proposed Measures

Section 1 (By-Country Analysis) of this chapter presents the Most Realistic Scenarios for individual member states, constructed on the basis of the Realistic Scenarios by sector discussed in Chapter 3. It also identifies the challenges that each member state faces.

Section 2 (Common Challenges Shared by Multiple Member States) presents groupings of member states based on how they share the challenges discussed in Section 1. It also discusses proposed measures that can be taken to address those challenges.

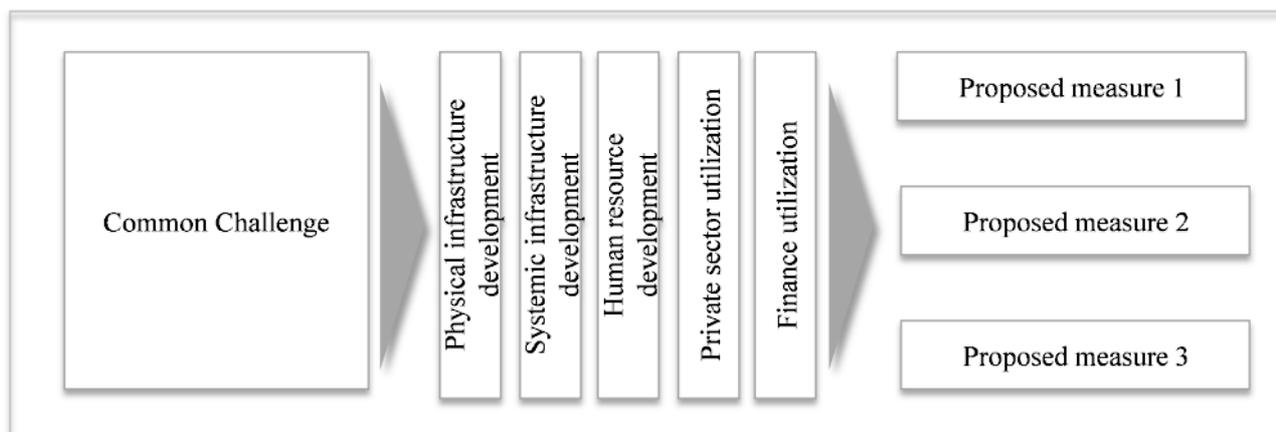
Section 3 (Challenges and Proposed Measures Applicable to ASEAN Region-wide) is focused on issues that should be tackled by ASEAN as a whole and the overall goals of measures to be taken to address those challenges.



1. By-Country Analysis

- Most Realistic Scenarios for 2025
 - The most realistic scenarios for individual member states are given. The scenarios are based on the realistic scenarios by sector identified earlier, together with various information concerning the applicable country’s economy-driving sectors and their characteristics, including past trends, government policies, and future estimates.
- Challenges and Proposed Measures Related to the Most Realistic Scenarios
 - Challenges categorized in the list of by-sector challenges (see Chapter 3) as either already existing or likely to emerge as a hindrance to economic growth, as indicated by projections for 2025, are reviewed as to their causes, and improvement measures needed to address those challenges are presented.
 - The proposed measures are aligned to the five perspectives shown below for each challenge. Measures designed from different perspectives are given for some issues. In addition to conventional developmental measures—physical infrastructure development, institutional infrastructure development, human resource development, and finance facilitation—private sector utilization was also considered in view of its increase in recent years.

Perspectives from Which Proposed Measures Were Designed



2. Common Challenges Shared by Multiple Member States

Groupings of member states based on common challenges are presented from the results of the most realistic scenario of each member state. Two methods were used for the groupings: (1) classification based on the level of per capita GDP and (2) classification based on the closing of the demographic bonus.

This analysis is a pre-requisite for the consideration of the proposed measures for addressing these common challenges.

3. Challenges and Proposed Measures Applicable to ASEAN region-wide

Finally, based on the analysis of common challenges of multiple member states, we identify the most important challenges that ASEAN should address region-wide.

The discussion here focuses on the following: (1) challenges that should be tackled by ASEAN as an economic community (from the view point of regional integration) and (2) challenges that must be resolved to strengthen ASEAN's international competitiveness (from the view point of global economy).

We consider proposed measures that could be effective in dealing with each common challenge, and then divide them into five categories above.

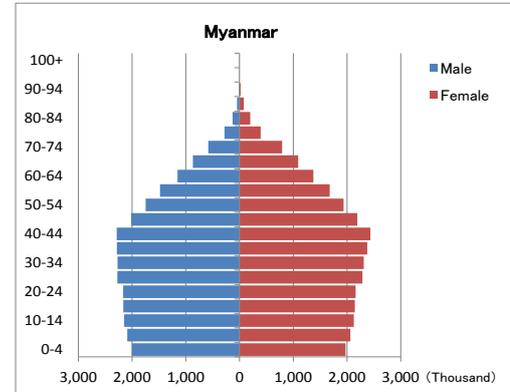
We also paid attention that the proposed measures could contribute to the attainment of the AEC's strategic goals in the light of the changing environment around ASEAN after 2015.

1. By-Country Analysis

(1) CLMV: Myanmar

【Basic information: Projection for 2025】

- **Total GDP:** \$104.307 billion (6th in the region)
- **GDP per Capita:** \$1,918 (10th in the region)
- **Total population:** 57.65 million (5th in the region)
- **Working-age population rate:** 71%
- **Population aging rate:** 7.8% (Aging society)



■ Most Realistic Scenarios for 2025

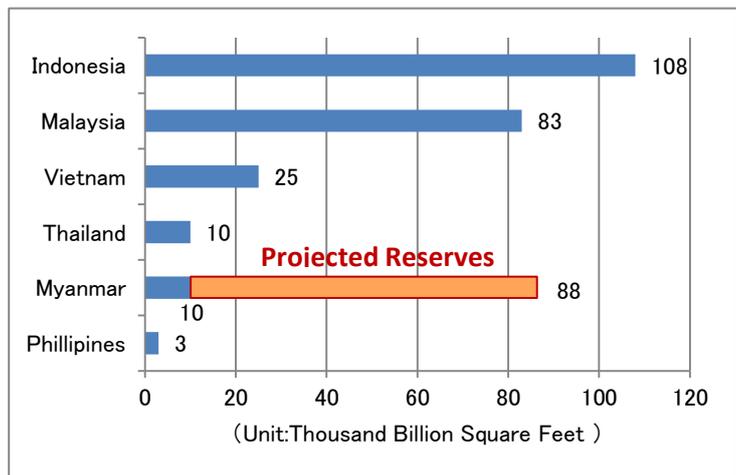
【Growth in resource industries】

<Rich natural resources>

Myanmar’s exports began increasing dramatically from the second half of the 2000s, reaching \$3.7 billion in 2005, before approximately doubling to \$8.1 billion in 2011.¹ The reason for this expansion is natural gas, which accounts for 41% (as of fiscal 2012) of total exports.² This rapid increase in exports of natural gas has resolved the problem of insufficient foreign-currency reserves which was the major reason for Myanmar’s economic stagnation, and has also contributed to the stabilization of the macroeconomy through effects such as the stabilization of the foreign exchange rate.

While the currently confirmed natural gas reserves in Myanmar are less than 10% of those in Indonesia, the projected volume of the reserves is approximately 8 times greater (Fig. 4-1). Countries investing in Myanmar’s natural resources have previously been limited to nations such as China and Thailand but since the

Figure: 4-1 Natural gas reserves



(Source: Created by the study team based on U.S. Energy Information Administration Statistics, Tokio Marine & Nichido Risk Consulting Co., Ltd., “Recent Circumstances and Business Risk in Myanmar,” *Front Line of Risk Management* 2013/No.40).

introduction of democratization and economic reform processes following the launch of the Thein Sein

¹ IMF Direction of Trade Statistics (DOTs)

² IMF Direction of Trade Statistics (DOTs)

administration in March 2011, the United States and the EU have significantly loosened their economic sanctions. We expect that investment in Myanmar’s rich natural gas resources will accelerate rapidly and the proportion of exports accounted for by natural gas will increase even further.

【Development of labor-intensive manufacturing industries】

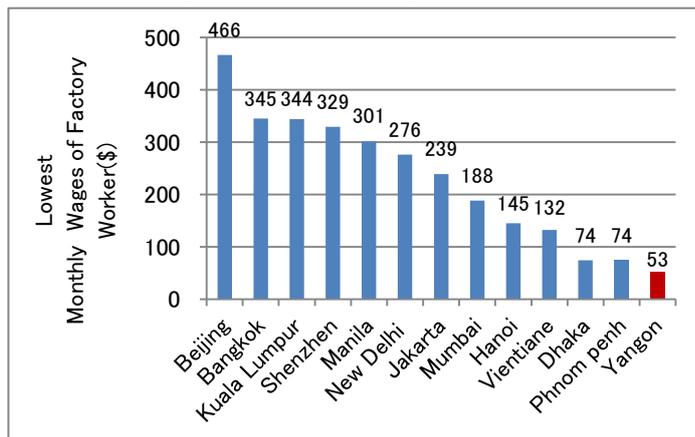
<Geographical advantage/low-cost abundant workforce>

Myanmar is in an important nodal location linking the various countries of ASEAN with China, India and the Indian Ocean. As a result of this favorable geographical position, Myanmar has great potential as a production and export base. Currently a division of labor is occurring within the countries of the ASEAN region, taking advantage of wage differentials and Myanmar (Yangon), which has the lowest wage levels in the region, has a competitive advantage as a base for labor-intensive manufacturing industry. An analysis of monthly wages for general factory laborers working for Japanese-owned corporations in the CLMV nations shows an average of \$145 in Vietnam (Hanoi), \$132 in Laos (Vientiane), \$74 in Cambodia (Phnom Penh) and \$53 in Myanmar (Yangon) (Fig. 4-2). In Vietnam, 100 employees can be hired for monthly wages of \$14,500, but that same total amount would pay for 273 laborers in Myanmar, 195 in Cambodia and 109 in Laos, a significant difference.

We note also that in the sewing industry, which is seeing a shift in production away from China, wages in Myanmar are cheaper than in Bangladesh (Dhaka, \$74) which serves, like Myanmar, as a destination for additional plants to risk hedge Chinese operations, which is an advantage for Myanmar.

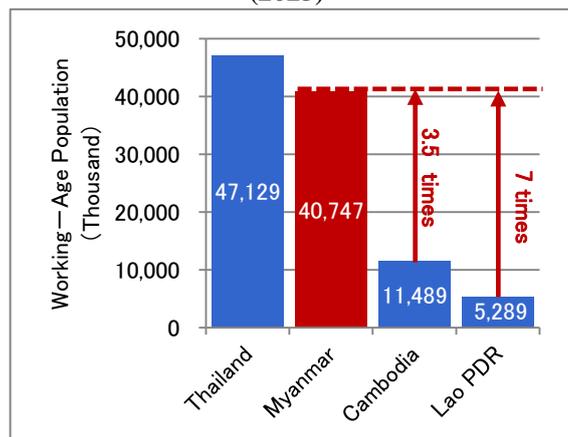
Myanmar also has a large labor force with 70% of the population of approximately 57 million people being of working age, giving a larger labor force than Thailand’s other neighbors of Cambodia and Laos. The labor force of 40 million people is smaller than Thailand’s labor force of 47 million, but still a very rich labor supply that is 3.5 times that of Cambodia and seven times that of Laos (Fig. 4-3).

Figure 4-2: Wage level at Japanese-owned companies (2013)



(Source: Created by the study team based on JETRO’s “New Industrial Accumulation in Asia, September 2013.”)

Figure 4-3: Projected working-age population (2025)



(Source: Created by study team based on the United Nations Population Division. “World Population

Figure 4-4: Adult literacy rate in selected countries (2011) (Unit : %)

Singapore	Brunei	Thailand	Philippines	Malaysia	Myanmar	Indonesia	Cambodia	Lao PDR
95.9	95.0	94.1	93.6	93.1	92.3	90.4	73.7	72.7

(Source: Created by the study team based on ASEAN Secretariat (2012), “ASEAN Statistics Leaflet: Selected Key Indicators.”)

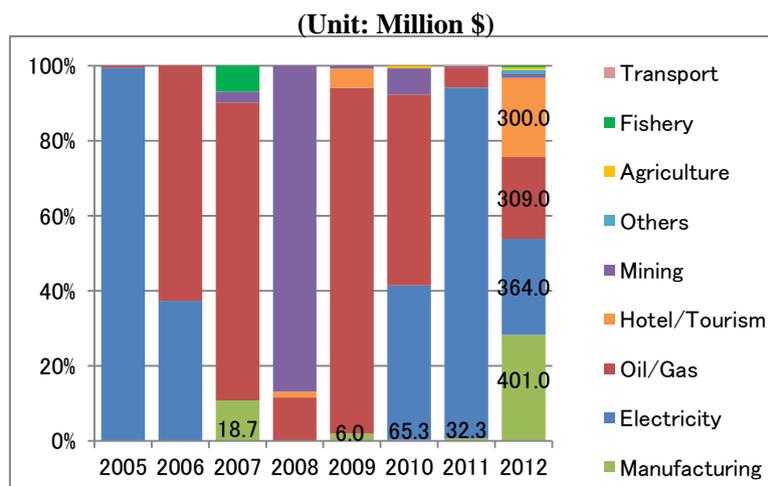
<High literacy rate>

Not only does Myanmar have low wage levels, it also has a high literacy rate compared to surrounding countries. Myanmar’s literacy rate is 92.3%, almost the same as that of Malaysia (93.1%), and higher than other countries used to risk hedge operations in Thailand such as Cambodia (73.7%) and Laos (72.7%), showing Myanmar’s comparative advantage as a center for labor-intensive manufacturing industry

<Investment in manufacturing industry>

Foreign direct investment in Myanmar has previously focused on areas such as power generation and oil and gas, but in 2012, 28.2% of all investment was directed into the manufacturing industry (Fig. 4-5), with the number of improved investment projects (78) and the total value of investments (\$4.01 million) both exceeding those of other sectors.³ This is due to the shift in the labor-intensive manufacturing industry, particularly in the sewing industry, away from China due to the rapid increases in wage costs, to the abolishing of economic sanctions imposed by the EU in 2012, and the lifting of economic sanctions imposed by the US, all of which have spurred further investment in manufacturing industry. Although there is a significant degree of year-by-year change, the Union of Myanmar Foreign Investment Law passed in November 2012 is expanding incentives to foreign investors and Myanmar’s geographical advantage, low-cost, abundant labor force, and high rates of literacy can be expected to drive the development of labor-intensive manufacturing industry, not only light industry but also, in the run up to 2025, heavy manufacturing industries such as automobile and motorcycle manufacturing.

Figure 4-5: Trend of foreign direct investment(2005–2012)



(Source: Created by the study team based on JETRO's “Global Trade and Investment Report: Myanmar.”)

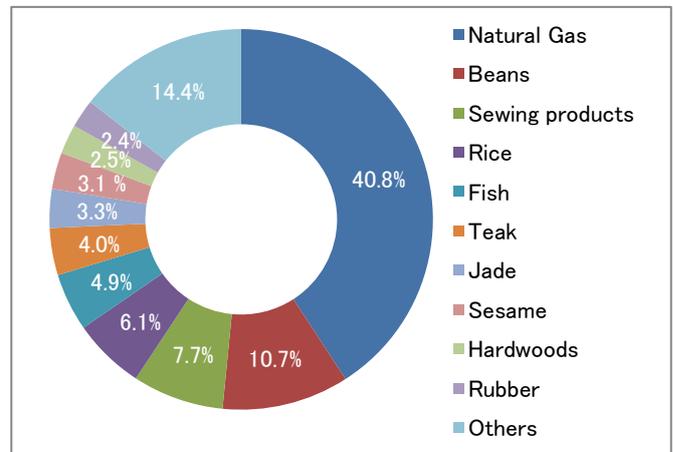
³ JETRO's “Global Trade and Investment Report: Myanmar.”

■ Challenges and Proposed Measures for the Realistic Scenario

Challenge ①: Resource Dependency of Exports

Natural gas accounts for 40% of total exports (Fig. 4-6). The excessive dependency on exports of natural resources means that exports may be very volatile. In recent years Myanmar is showing signs of Dutch Disease.⁴ The foreign exchange rate (market rate) for the kyat has been increasing continually since 2008, and in 2011 the value of the kyat reached 30% higher than in the previous year, adversely affecting their exports of manufactured goods. Myanmar needs to promote a diverse range of industries and work to improve the international competitiveness of exports other than natural resources for various reasons including the minimization of the adverse effects of excessive dependence on the export of natural gas.

Figure 4-6: Major export items (2012)



(Source: Created by the study team based on JETRO's "Global Trade and Investment Report: Myanmar" (2013).)

Proposed Measures

- Utilization of profits from the exports of natural gas resources as a source of funds for the diversification of industry.
- Development of a plan for the diversification of industry and prepare the legal environment required to encourage foreign direct investment into the targeted fields.

⁴ World Economic Forum (2013). "New Energy Architecture: Myanmar."

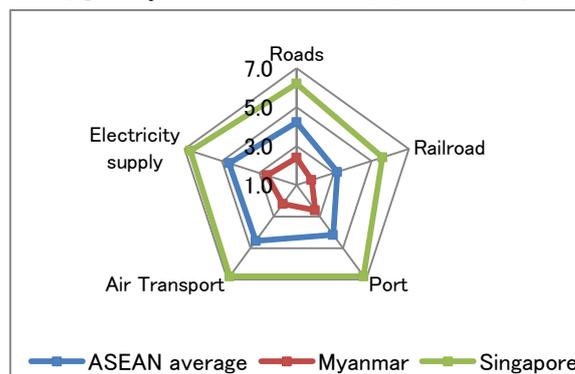
Challenge ②: Lack of Adequate Physical and Systematic Infrastructure

Myanmar is expected to develop its economy by harnessing its rich natural resources and low-cost, abundant labor to encourage investment in the manufacturing industry, but for these efforts to succeed Myanmar needs to invest in the physical infrastructure that will support industrial growth. However, progress in the development of infrastructure in Myanmar is notable for its slow pace, and the lack of infrastructure may serve to restrict Myanmar’s economic growth in future.

Fig. 4-7 shows a World Economic Forum⁵ evaluation of the competitiveness of each country’s infrastructure based on the Global Competitiveness Index (GCI).⁶ The evaluation covered

148 countries. The country with the highest rated infrastructure in the ASEAN region was Singapore. The report also lists an average value for ASEAN and an assessment of Myanmar’s physical infrastructure quality. Scores range from 1.0 (least developed, most inefficient) through to 7.0 (most developed, most efficient), and Myanmar scores below the ASEAN average. Myanmar’s lowest score is for railways, but the rankings for air travel, roads and ports are respectively 146th, 138th and 136th, showing that Myanmar is near the bottom of the list of the 148 countries (Fig. 4-8). In the areas covered by the AHN Project, particularly Myanmar’s mountainous regions, there are long distances of road classified as Class III, which is the lowest rating for road surfaces, suggesting it will be difficult to secure budgets and control businesses in this area (Refer to Chapter 4: Transportation and Transport). Only around 21.5% of roads in Myanmar are paved, which is only around one third of the ASEAN average (Fig. 4-9).

Figure 4-7: Global Competitiveness Index (Quality of infrastructure) (2013–2014)



(Source: Created by the study team based on World Economic Forum (2013), “The Global Competitiveness Report 2013–2014.”)

Figure 4-8: Global Competitiveness Index/ ranking: infrastructure quality in Myanmar (2013–2014)

	Score	Ranking
Roads	2.4	138 th
Railroad	1.8	104 th
Port	2.6	136 th
Airtransport	2.2	146 th
Electricity Supply	2.6	118 th

(Source: Created by the study team based on the World Economic Forum (2013), “The Global Competitiveness Report 2013–2014.”)

Figure 4-9: Paved road rate(2012)

	Myanmar	Cambodia	Lao PDR	Viet Nam
Paved road rate	21.5%	10.7%	14.9%	66.3%
	Philippines	Indonesia	Thailand	Malaysia
	80.5%	57%	80.8%	78.3%
	Brunei	Singapore	ASEAN	
	93%	100%	59.2%	

(Source: Created by the study team based on “ASEAN-Japan Transport Partnership Information Center Statistics, Road Transport 2012.”)

⁵ An international non-profit organization established in 1971. The WEF, which is based in Switzerland (Geneva) aims to work for a better world through cooperation between the public and private sector. The organization holds its annual general meeting in Davos every year at the end of January, <http://www.weforum.org/world-economic-forum>.

⁶ The WEF competitiveness indices are divided into 12 categories with scores in each category ranging from 1.0 to 7.0. The scores are collated through surveys of 160 partner organizations and 15,000 business leaders.

Numerous infrastructure projects are underway in Myanmar as a result of financial and technical cooperation from the World Bank, ADB and other foreign-government related organizations, as well as projects funded through private-sector investment. Under the supervision of the Myanmar government, there are, even when counting only those projects involving foreign companies, more than 100 infrastructure projects currently in the planning and construction stages, but a not insignificant number of these projects have been put on hold for financial or technical reasons.⁷ In recent years, a great deal of hope and expectation has surrounded the development of infrastructure through Public-Private Partnerships (PPP) in emerging countries, but in Myanmar there are no laws or guidelines in place related to PPP and as such there are no clear rules.⁸ In order to overcome these financial and technical issues and eliminate delays in the preparation of infrastructure, Myanmar needs to prepare the legal framework required for PPP, promote foreign investment and increase opportunities for private-sector investment and for taking on board private-sector technology and managerial know-how. In addition, while establishing the appropriate systems, Myanmar should also work to avoid technical reasons for delays in infrastructure projects by training personnel required to build and supervise domestic infrastructure.

Proposed Measures

- Promotion of accepting overseas experts with the aim of establishing legal systems and guidelines related to PPP.
- Promotion of accepting technology and personnel from overseas and train personnel who can build, manage and supervise domestic infrastructure.

⁷ JETRO Yangon Office (2012) Myanmar Infrastructure Map.

⁸ Japanese Ministry of Economy, Trade and Industry (2013) “Fiscal 2013 Basic Survey Reports on Legal Systems Required to Capture Markets in Emerging Economies.”

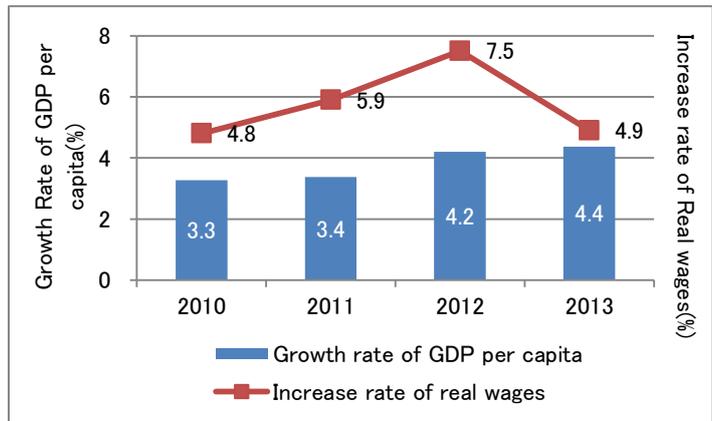
Challenge ③: Sharp Increase of Wages

While the low level of wages in Myanmar compared to other ASEAN nations is an advantage, rapid increases in wages will reduce Myanmar's benefit as a production center for labor-intensive industry and therefore wage trends should be watched. According to global wage elasticity calculated by the ILO,⁹ average wage increases are equivalent to 75% of the GDP per capita growth rate (For further details, see Chapter 4 (3): Labor Environment).

However, Fig. 4-10 shows that, in Myanmar's case, the increase in wages up until 2012 greatly exceeded the speed of economic growth. In 2013, Myanmar passed a law on minimum wages at

private-sector corporations and has announced that the minimum wage will be finalized during 2014.¹⁰ Considering recent labor disputes and the upcoming general election in 2015, there is a possibility of the minimum wage being raised still further. For Myanmar to maintain competitiveness as a production center, appropriate wage levels will need to be set.

Figure 4-10: Increase rate of real wages (Japanese companies)



(Source: Created by the study team based on the IMF World Economic Outlook and JETRO's "New Industrial Accumulation in Asia, September 2013.")

Proposed Measures

- Setting wages at an appropriate level with regard to wages in surrounding countries and living costs of contractors and laborers living in the industrial areas.

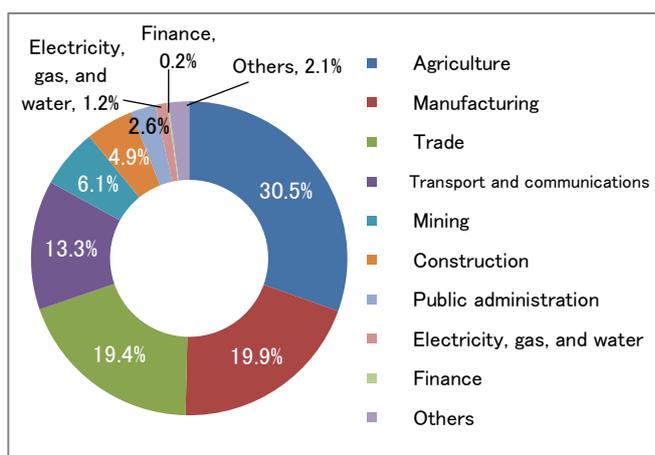
⁹ ILO (2008) Global Wage Report.

¹⁰ JETRO *Tsusho Koho* (World Business News), March 25, 2014.

Challenge ④: Low Agricultural Productivity

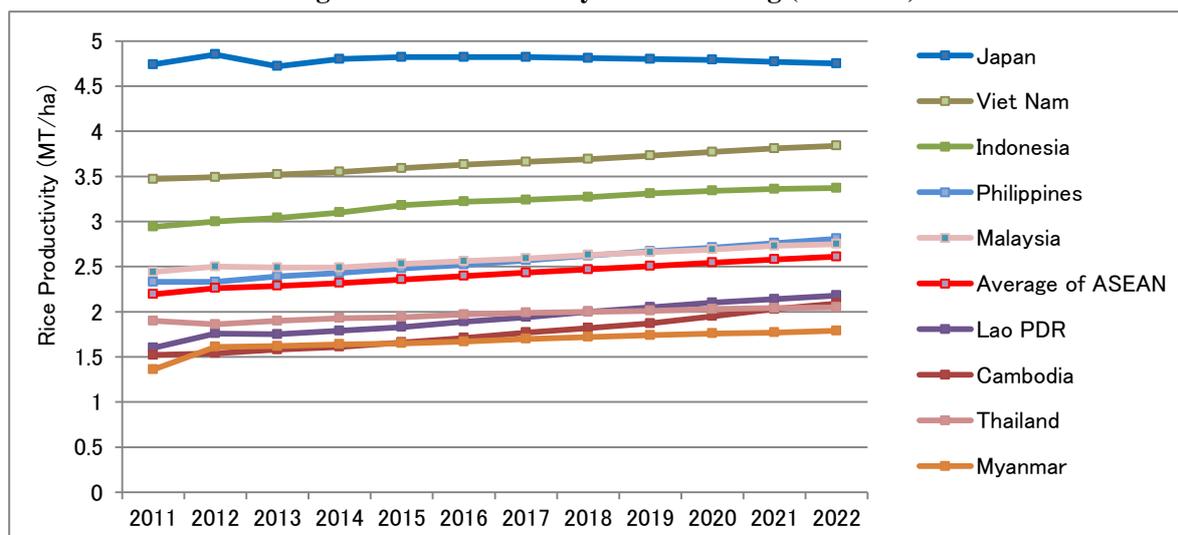
Agriculture accounts for 30% of Myanmar’s total GDP (Fig. 4-11), and rice, which is Myanmar’s major agricultural product, accounts for 50% of total agricultural production and 40%¹¹ of the total value of agricultural shipments. Approximately 60% of the population is engaged in agriculture,¹² but, as of 2012, Myanmar had the lowest productivity among neighboring rice-producing countries in terms of volume of rice produced per hectare (Fig. 4-12). Furthermore, according to predictions for 2020, the difference in agricultural productivity between Myanmar and the second lowest country of Cambodia is expected to widen (Fig. 4-12).

Figure 4-11: GDP by industry (2012)



(Source: Created by the study team based on ADB “Key Indicators 2013.”)

Figure 4-12: Productivity of rice farming (Reshown)



(Source: ADB (2012), “ASEAN and Global Rice Situation and Outlook.”)

The reason for the low rice productivity is the result of poor physical infrastructure and restrictions imposed by systems and frameworks. According to a report by the ADB, transportation infrastructure such as roads and bridges in agricultural villages in Myanmar is of poor quality and therefore farmers have restricted access to markets.¹³ Furthermore, although 60% of the population is engaged in agriculture, the percentage of households in agricultural villages connected to the electricity grid is very low, at only 16%.¹⁴ The remaining 84% of households do not have

¹¹ FAO Statistics

¹² FAO Statistics

¹³ ADB (2013), “Myanmar Agriculture, Natural Resources, and Environment Initial Sector Assessment, Strategy, and Road Map.”

¹⁴ World Bank, “Bringing more electricity for the people of Myanmar” Feature Story, September 24, 2013,

<http://www.worldbank.org/en/news/feature/2013/09/24/bringing-more-electricity-for-people-of-myanmar>, accessed May 2, 2014.

access to the electricity grid and therefore, if households are engaged in farming, they have to contend with an unstable electricity supply, or with no electricity supply at all, which leads to inefficiencies in raising the groundwater required for irrigation and inefficiencies in post-harvest processes.

Furthermore, there are further restrictions on agriculture as a result of insufficient frameworks and systems for supporting farmers who do not have adequate access to capital, technology and information.

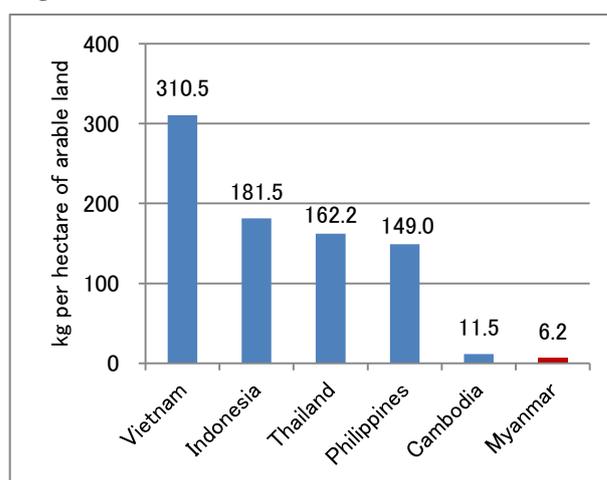
In order to increase the volume of production and reduce harvesting losses, farmers in Myanmar should make effective use of fertilizer and seeds which are appropriate for the farmland and the climate, but many farmers do not have the capital to purchase fertilizers or improved seeds.¹⁵ Data on the average volume of fertilizer (kilograms) used per hectare in various countries shows that fertilizer used in Myanmar is only one 50th of that in Vietnam (Fig. 4-13). The Myanmar Agricultural Development Bank (MADB) offers financing program but currently holds a large volume of unrecoverable loans.¹⁶ As farmers do not have any opportunity to obtain any knowledge about supply and demand trends for agricultural products in the market or that of market prices, they tend to set the prices based on the low prices of the harvest period.¹⁷ As a result, much of the profit and sales accrues to mediators and exporters, leaving the farmers themselves with only a small portion of profits which prevents them from repaying any loans that they may take out.

Growth of the agricultural sector is important to raise income levels in Myanmar’s agricultural villages and agriculture also has an important role to play in changing the current structure of overreliance on the export of natural resources. If Myanmar can raise productivity levels for its agricultural industry as a whole, particularly for the mainstay product of rice, and achieve a certain stable volume of production, then this will lead to an increase in agricultural exports. In addition to increasing productivity, the contribution to the growth of Myanmar’s agricultural sector can be made by looking not only towards domestic consumption but also towards overseas sales, and responding to the growing need for safe and reliable agricultural products among the region’s expanding middle class.

Proposed Measures

- Improvement the quality of roads and bridges linking agricultural villages to the market and improve farmers’ market access.
- Establishment of organizations, systems and frameworks for providing farmers with information on market prices and supply and demand trends for agricultural products.
- Provision of facilities for on-grid electric power supply and off-grid electric power generation to provide a

Figure 4-13 Volume of fertilizer used (2010)



(Source: Created by the study team based on World Bank “World Development Indicators.”)

¹⁵ ADB (2013), “Myanmar Agriculture, Natural Resources, and Environment Initial Sector Assessment, Strategy and Roadmap.”

¹⁶ ADB (2013), “Myanmar Agriculture, Natural Resources, and Environment Initial Sector Assessment, Strategy and Roadmap.”

¹⁷ ADB (2013), “Myanmar Agriculture, Natural Resources, and Environment Initial Sector Assessment, Strategy and Roadmap.”

stable source of power to agricultural villages.

- Promotion of importing overseas technology for the production of high-value-added crops (such as organic crops or fruit with a high sugar content) and work to increase production of products targeting the region's expanding middle class.
- Implementation of standards and systems for the shipment of rice and other agricultural products that achieve high safety standards, with the aim of expanding exports of these products (expertise related to plant quarantine and testing for residual agrochemicals).

Challenge ⑤: Delay in the Development of Social Infrastructure in Minority Areas

Approximately 30% of Myanmar's population is made up of members of ethnic minority groups who principally live in mountainous areas along the country's borders. As a result of long years of military conflict between Myanmar's army and ethnic minority armed groups, the social and economic development of the regions in which minority populations live lags behind the rest of the country. As Myanmar continues economic development, the failure to develop these regions will lead to increasing disparities within the country. The government of Myanmar is, alongside the democratization process, proceeding with the regional devolution of power and regional governments in areas inhabited by minorities will play an important role in addressing these domestic disparities. International organizations and overseas government organizations are already working to support the advancement of peace process, the development of agriculture and improvements in healthcare provision, but the areas listed below must also be addressed.

Figure 4-14: Ethnic minority regions



(Source: Japanese Ministry of Foreign Affairs “ODA White Paper, 2012.”)

Proposed Measures

- Promotion of the providing training programs for local government officials and stationing of overseas experts in order to increase local administrative bodies' capability to take action.
- Implementation of social security systems to ensure the redistribution of income.
- Construction of roads in the mountainous areas inhabited by minority groups in order to link the areas to Metropolitan areas.
- Provision of job training and employment support for members of ethnic minorities.

Challenge ⑥: Lack of Legal Frameworks and Procedures for Doing Business

According to Doing Business 2014, Myanmar is positioned towards the bottom of the list on almost every measures of the ease of doing business. Of the 189 countries surveyed, Myanmar is at the very bottom of the list regarding Starting a Business (Fig. 4-15). While Myanmar is enjoying an investment boom as the last frontier of manufacturing industry, legal frameworks in Myanmar are incomplete in various areas including the procedures required to start a business, protecting investors and enforcing contracts. One could say that the provision of legal frameworks has not kept pace with the speed of economic development.

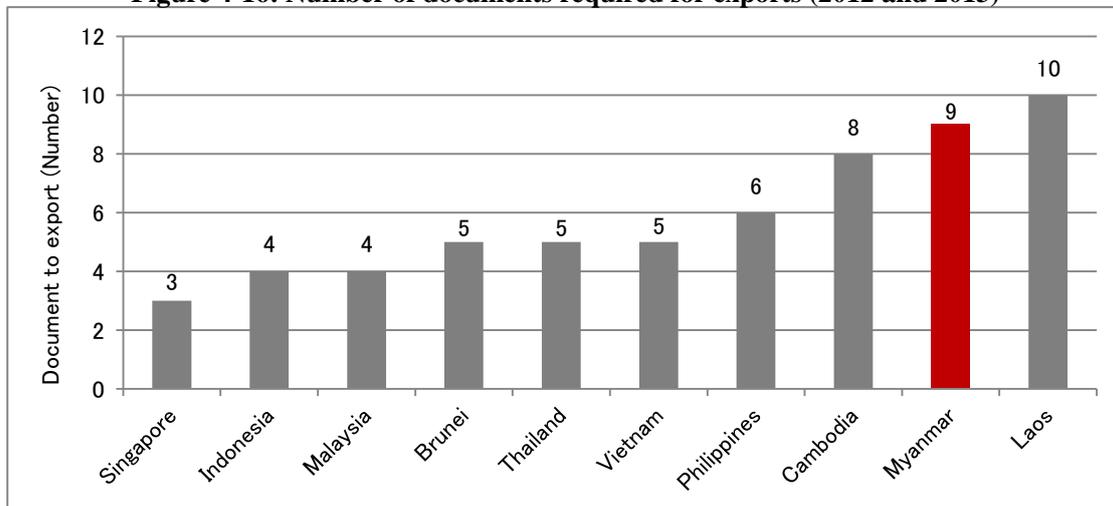
If Trading Across Borders is taken as one example, the number of documents required to complete customs in Myanmar is three times that of Singapore, which scores highest on the ease of doing business in this area (Fig. 4-16). Delays in clearing customs result in increased logistics costs and reduce Myanmar’s competitiveness as a trading nation. Therefore, for reasons including breaking out of dependence on natural resources exports, Myanmar needs to develop legal frameworks, including in the area of customs that will establish an environment for trade and investment.

Figure 4-15: Doing business general ranking

	Indicator	2014	2013
1	Starting a Business	189	189
2	Dealing with Construction	150	140
3	Getting Electricity	126	123
4	Registering Property	154	149
5	Getting Credit	170	167
6	Protecting Investors	182	182
7	Paying Taxes	107	113
8	Trading Across Borders	113	114
9	Enforcing Contracts	188	188
10	Resolving Insolvency	155	153

(Source: World Bank and International Finance Corporation (2013) /“Doing Business 2014 Economy Profile Myanmar.”)

Figure 4-16: Number of documents required for exports (2012 and 2013)



(Source: World Bank (International Finance Corporation (2013)“Doing Business 2014 Economy Profile Indonesia.”)

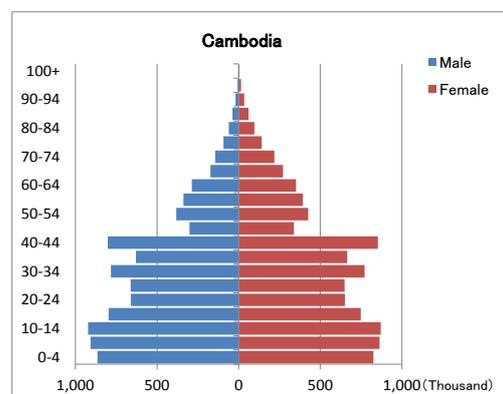
Proposed Measures

- Accept support from overseas legal experts to establish legal systems and train domestic legal experts.
- Simplify customs procedures, improve work practices and train officials to boost work efficiency, build systems for monitoring work processes and implementation.

(2) CLMV: Cambodia

【Basic information: Projection for 2025】

- **Total GDP:** \$38.33328 billion (8th in the region)
- **GDP per Capita:** \$2,172 (9th in the region)
- **Total population:** 18 million (7th in the region)
- **Working-age population rate:** 63%
- **Population aging rate:** 7.6% (Aging society)



■ Most Realistic Scenarios for 2025

【Participation in production networks of neighboring countries】

<Geographic advantage>

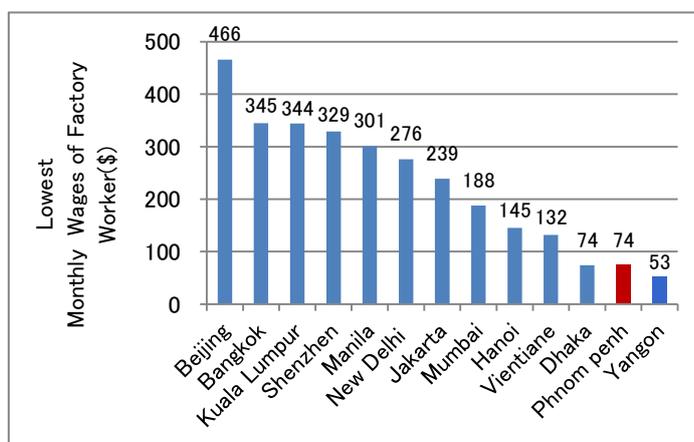
Cambodia has an advantage in its location, where it shares borders with Thailand, Lao PDR, and Viet Nam. The Southern Economic Corridor runs from Bangkok, Thailand, through Phnom Penh, Cambodia, to Ho Chi Minh City in Viet Nam, and in 2012, customs procedures began to be implemented under the Thailand-Cambodia Cross Border Transport Agreement (CBTA).¹ Based on those progress, the routes between the two countries [Bangkok (Thailand)—Aranyaprathet (Thailand)—Poipet (Cambodia)—Siem Reap (Cambodia) and Bangkok (Thailand)—Aranyaprathet (Thailand)—Poipet (Cambodia)—Phnom Penh (Cambodia)], cross-border transport permits are issued for trucks and buses, which shortens the transshipment time at the borders. Under the CBTA signed by six countries—the five Mekong countries (Cambodia, Laos, Myanmar, Thailand, and Vietnam) and China—progress is being made both on the physical and systemic fronts for the transport of people and goods. Through the simplification of procedures related to the transport of people and goods by such means as the single window, which unifies the procedural window at the border, and the single stop, through which border inspection tasks are carried out jointly by the two countries, the positive geographical conditions that Cambodia enjoys can be further utilized, and it is therefore anticipated that its advantage as a production site will continue to grow.

¹ The Greater Mekong Subregion Transport & Trade Facilitation (GMS TTF), <http://www.gms-cbta.org/cambodia>, accessed April 19, 2014.

<Cheap labor>

Against a backdrop of rising wages in Thailand, there has been an increase in the construction of new factories in Cambodia to manufacture auto parts for export to Thailand. This trend is not limited to Thailand—similar construction for export to China and other neighboring countries is expected to accelerate in the future. According to the Japanese Business Association of Cambodia (JBAC), its membership has grown dramatically in recent years, nearly tripling from 34 Japanese companies in 2007 to 101 companies in 2012. Of those 101 companies, 30% are manufacturers, and while in the past most companies were in the sewing or shoemaking industries, in recent years the companies have become more diverse, including those that make small motors and wire harnesses, for example. Also, many of the Japanese companies that have already entered Cambodia have manufacturing sites in China, Thailand, and Vietnam, and so their Cambodia operations are viewed as supplementary manufacturing sites.

Figure 4-17: Wage Level at Japanese-owned companies (2013)



(Source: Created by the study team based on JETRO, New Industrial Accumulation in Asia (September 2013))

<Development progressing in Special Economic Zones>

Not only does Cambodia offer cheap labor, but its Special Economic Zones (SEZs) situated along the country's borders with Thailand and Vietnam have made greater progress than those in Laos and Myanmar. There are 25 SEZs including those now under development. The fact that customs procedures can be handled within the SEZ makes them extremely convenient, and the Tai Seng SEZ and Manhattan SEZ, which are located on the Vietnam border, allow shipping from the Ho Chi Minh City port.

Looking at countries where the wage level is close to that of Cambodia, Myanmar's Thilawa SEZ will be completed in 2015, and in addition there are 32 industrial zones,² but the basic infrastructure is weak and little progress has been made on investment procedures.³ In Laos, in addition to the existing SEZs in the capital city of Vientiane and in the western part of the country, there are currently approved plans to develop 10 additional SEZs,⁴ of which 5 are expected to be completed by 2015.⁵ Because the development of SEZs takes time, the fact that Cambodia has SEZs already in place and has plans for future development as well gives it an advantage as a production site compared to countries such as Myanmar and Laos that are just starting to develop SEZs, and looking ahead to 2025, we expect to see Cambodia grow as an important site that is participating in the production networks of neighboring countries. Also, as the number of companies moving into the SEZs increases, the

² ASEAN-Japan Centre, "Myanmar no kogyo danchi risuto" (List of Myanmar's industrial zones), http://www.asean.or.jp/ja/invest/about/country_info/myanmar/invest_info/industrialestate, accessed April 21, 2014.

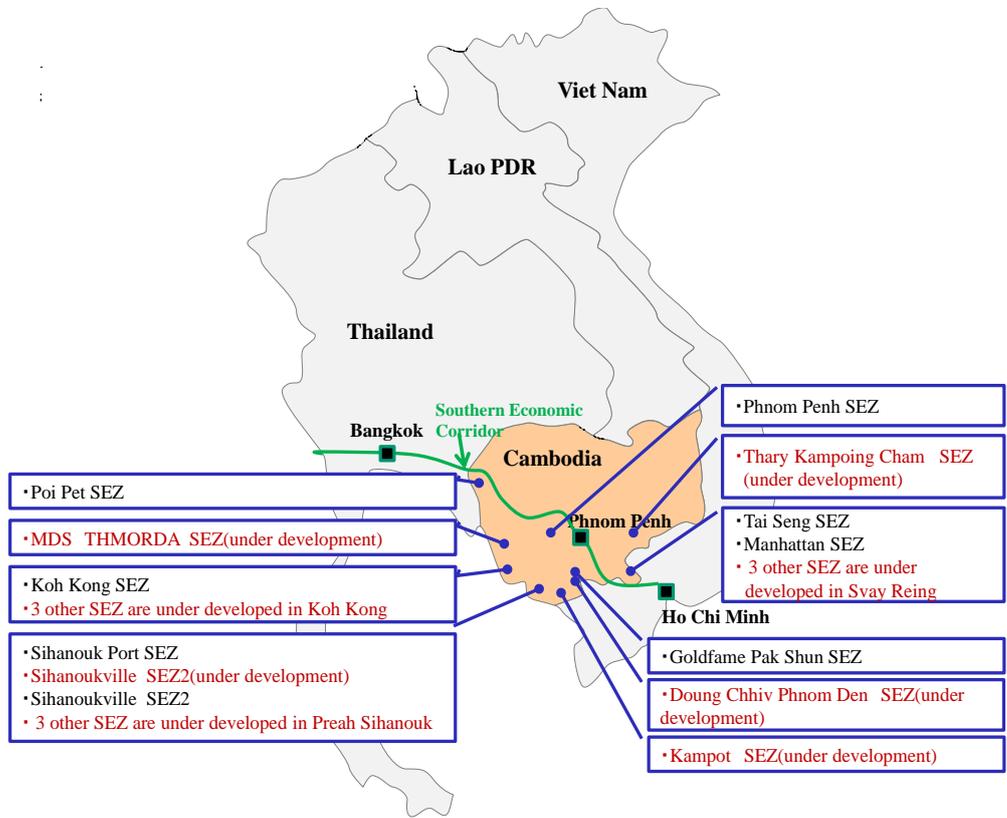
³ JETRO (2013), "Myanmar kogyo danchi chosa hokokusho" (Report on survey of Myanmar's industrial zones).

⁴ The types of SEZs include: Industry-based Logistics, Tourism-based, Agro-Forest Process, Border Trade-Service.

⁵ Bouatha Khatthiya, Director General, Lao National Committee for Special Economic Zone, Prime Minister's Office, Lao PDR (2011), "Special Economic Zone (SEZ) Development and Management in Lao PDR."

employment opportunities are expected to expand and incomes should increase in the SEZ development regions. There will be a further shift in the workforce from agriculture to labor-intensive industries, and if this workforce can be absorbed by the SEZs, we can expect that it will lead to a correction in the disparities within the region.

Figure 4-18: Major SEZs in Cambodia

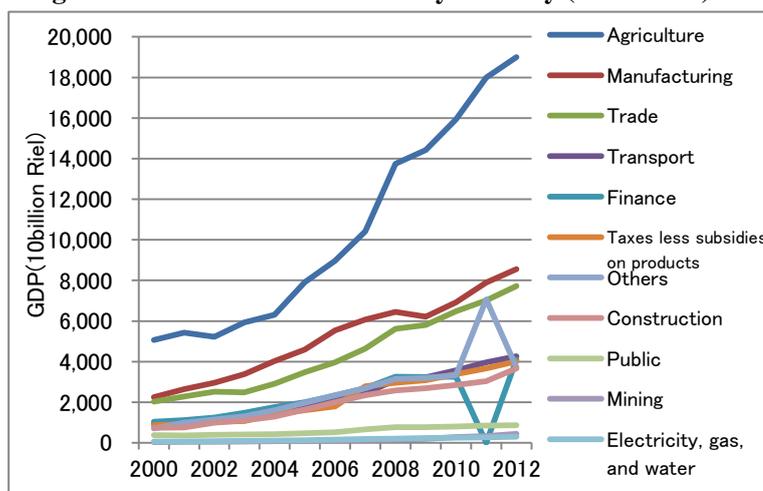


(Source: Compiled by the Study Team from information and maps from the Council for the Development of Cambodia (CDC) and JETRO’s Cambodia SEZ Map.)

【Increasing growth potential of agriculture】

Agriculture is one of Cambodia’s primary industries, with the agricultural sector accounting for 30% of the country’s real GDP, and from 2000 to 2012 it grew 370% (Fig. 4-19). The sewing industry is the primary export industry in Cambodia, representing 77% of the country’s total exports (\$5.504 billion as of 2012),⁶ but in light of what is anticipated to be increasingly strong competition from neighboring countries, the government is promoting the diversification of exports. As part of that initiative, the Cambodian government adopted a policy in

Figure 4-19: Trends in real GDP by industry (2000–2012)



(Source: Asian Development Bank, “Key Indicators 2013.”)

2010 of promoting the manufacture and export of rice as a primary crop, setting a target of achieving annual milled rice exports of 1 million tons by 2015. To do so, the government objective is to maintain an annual rice surplus (wet-field cultivation) of 4 million tons and to raise the international reputation of Cambodian rice.⁷

Along with this policy, the Cambodian government has been promoting the mechanization of rice farming and improved irrigation, and as a result, in 2013 the country exceeded its 2015 target, producing a surplus of 4.82 million tons of rice.⁸ On the other hand, the 2012 figure of 205,717 tons of rice exported (a 1.9% increase over the previous year) remained far from the 2015 export target of 1 million tons, and it was reported that officials at the Ministry of Agriculture, Forestry and Fisheries are of the opinion that the target would be extremely difficult to achieve.⁹ Global awareness of the quality of Cambodian rice is growing, as seen in the fact that the country’s fragrant rice took top honors for two consecutive years (2012 and 2013) at the World Rice Conference (WRC).¹⁰

The government’s 2015 target for surplus rice has already been met, and it is likely that its target for global recognition will be met as well, but they would need to increase exports by about 800,000 tons in the remaining two years to meet the export volume target. Moreover, the sector faces numerous challenges, such as the price competition for Vietnamese rice and the low productivity levels, which make it unrealistic that the 2015 target will be met. However, if we focus ahead on 2025, we expect to see an expansion in exports due to the bilateral treaties signed with the Philippines and Thailand in 2013, assistance to the agricultural sector, and increased production output due to increased investment. In its drive to shift the country to becoming a milled rice exporter, the Cambodian government has emphasized four areas, “the expansion of wet-field rice production,” “rice

⁶ National Bank of Cambodia (2012), “Annual Report 2012.”

⁷ Royal Government of Cambodia, “Policy Document on Promotion of Paddy Rice Production and Export of Milled Rice,” <http://www.foodsecurity.gov.kh/sites/default/files/Rice-Policy-Eng.pdf>.

⁸ Chea Vannak, “Cambodia Has Milled Rice Surplus of Three Million Tons in 2013,” *Agence Kampuchea Presse*, March 31, 2014, <http://www.akp.gov.kh/?p=43708>, accessed April 19, 2014.

⁹ Rann Reuy, “Cambodian Milled Rice Exports Rise Slightly,” *Phnom Penh Post*, January 3, 2013, <http://www.phnompenhpost.com/business/cambodian-milled-rice-exports-rise-slightly>, accessed April 19, 2014.

¹⁰ The World Rice Conference is an international rice fair held by the US-based organization The Rice Trader (TRT), which publishes analyses and reports on the global rice market.

harvesting/processing,” “distribution,” and “marketing,” coming up with short-term and medium- to long-term strategies. In terms of investment as well, the government has introduced investment incentives for agriculture as a specially designated industry. In addition, the Rural Development Bank (RDB), which is a financial institution affiliated with the Cambodian government, provided \$64 million in financing to the agricultural sector in 2014, the majority of which was specifically for rice,¹¹ and measures are being taken to expand output. If we assume that milled rice exports reach 3 million tons, the total value of exports would be \$2.1 billion (20% of total GDP), and the estimated economic effect would be \$600 million (5% of total GDP).¹² Thus it is believed that by steadily implementing this initiative to expand output and exports, Cambodia’s agricultural sector can achieve further growth and be a primary industry that drives the country’s economy forward.

¹¹ Alliance of Rice Producers & Exporters of Cambodia (ARPEC), “Rice Sector Credit Boost,” April 7, 2014, <http://cambodiariceexporters.org/en/news/rice-news/1261/.html>, accessed on April 19, 2014.

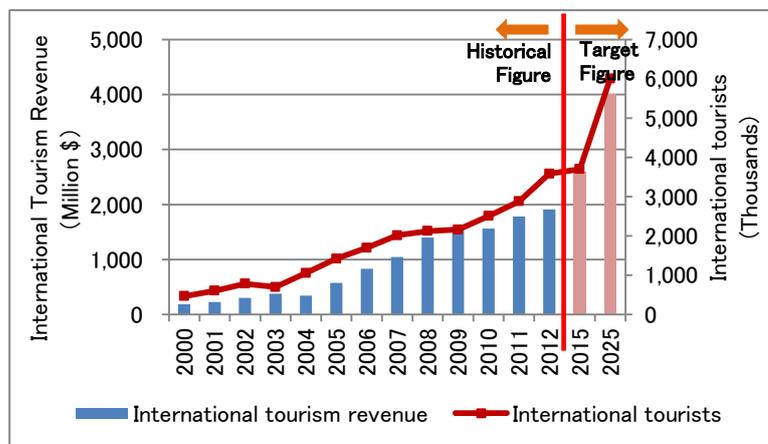
¹² Royal Government of Cambodia (RGC), “Policy Document on Promotion of Paddy Rice Production and Export of Milled Rice,” <http://www.foodsecurity.gov.kh/sites/default/files/Rice-Policy-Eng.pdf>.

【Growth potential of service industry】

<Abundant tourism resources>

Cambodia has an abundance of natural and historical tourism resources, and the tourist industry is positioned as a growth industry. The Cambodian government has deemed the tourist industry to be “Green Gold,” and it has set a target of doubling the 2012 figures for both international tourist income and the number of tourists by 2020. In fact, from 2000 to 2012, the income from international tourism and the number of tourists visiting Cambodia showed positive growth, with income increasing tenfold and the

Figure 4-20: Trends of international tourists and related revenue



(Source: Statistics and Tourism Information Department, Ministry of Tourism.)

number of tourists increasing by a factor of seven (Fig. 4-20). In addition, the Cambodian government has proposed a policy to diversify tourist attractions in the future, and while the primary destinations for international visitors in 2011 centered on Phnom Penh (43%) and Siem Reap, site of the ruins of Angkor Wat (57%), the northeast and southwest regions of the country are being promoted as destinations for the future.

In addition to the country’s abundant tourism-related resources and the positive growth in the number of tourists visiting Cambodia, as the diversification of tourist sites progresses, there will be an increase in revenues, and the tourism industry is expected to grow as an important industry that can help move Cambodia’s economy forward.

<Investment environment open to foreign capital and a young population>

Compared to other ASEAN countries, Cambodia’s restrictions on foreign investment are relatively loose and the barriers to entry for foreign companies are low. Particularly in the service industry, because in other ASEAN countries there are regulations on the wholesale industry, retail industry, and transport industry, it can be said that Cambodia has a comparative advantage. Also, while the scale of the Cambodian consumer market is not large compared to other ASEAN countries, it is projected that it will grow from \$10.7 billion in 2010 to \$44 billion in 2025.¹³ Moreover, Cambodia’s population comprises a large proportion of youths, and according to forecasts, in 2025 those between the ages of 10 and 29 will make up 33% of the population, while those in their 30s and 40s will make up another 28%.¹⁴ These consumers who are in the prime of their working years are also appealing as a market, and so we expect to see growth in the service industry through the entrance of foreign corporations.

Figure 4-21: Cambodia’s investment environment (Incentives/Investment ratio regulations)

Incentives	
1	Corporate taxes are waived until the company shows earnings. Even after that time, the company is exempt for a period of 3 years, and depending on the type of business, an additional 2–5 years may be added to the exemption period.
2	Special depreciation measures are applied when earnings are reinvested.
3	Tax exemption or reduction on imported capital goods and raw materials.
4	100% exemption of export tax.
5	Simplification of application for permits and licenses.
Investment ratio regulations.	
1	100% foreign ownership is possible.

(Source: ASEAN-Japan Centre)

¹³ Euromonitor Consumer Expenditure Data.

¹⁴ Population Division of the United Nations Department of Economic and Social Affairs of the United Nations Secretariat, “World Population Prospects: The 2012 Revision.”

■ Challenges and Proposed Measures for the Realistic Scenario

Looking ahead to 2025, in order for Cambodia to achieve growth in its agricultural sector, participation in production networks, and an expansion of its service businesses, it will need to implement measures to deal with such challenges as productivity, infrastructure (electricity and the highway network), and improved access to and systems of education.

Challenge ①: Low Agricultural Productivity

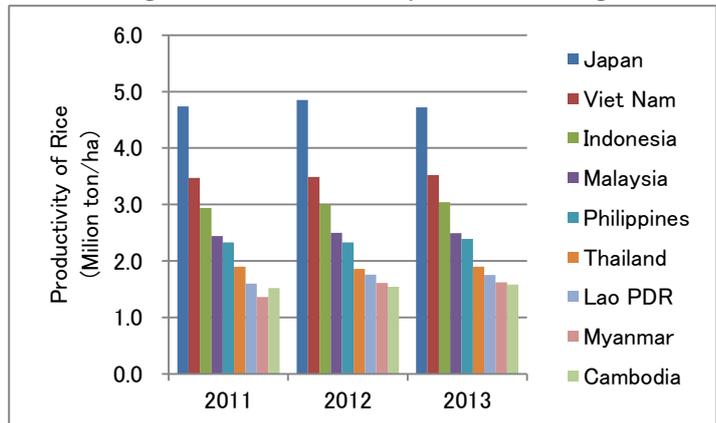
When you look at the employed population by industry, those working in agriculture represent 70% of the total, but when you look at the productivity in the farming of rice, the staple crop, it was the lowest of all ASEAN nations up until 2013 (Fig. 4-22).

According to ADB forecasts, by 2022 Cambodia's productivity will rank sixth after Vietnam, Indonesia, the Philippines, Malaysia, and Laos, and will surpass the productivity of Thailand and Myanmar (see Chapter 3 (6) Food supply), and points out that the main factors behind the low productivity of rice are the low rate of irrigation and the quantitative losses that occur in the postharvest process.

Figure 4-23 shows that the rate of irrigation in Cambodia is the lowest of any country in ASEAN, and the rate is approximately one-seventh that of Vietnam and one-fifth that of Thailand, making it an environment that is susceptible to the impact of flooding and droughts. In fact, the damage sustained in 2011 due to drought (168 tons) and flood damage (846,973 tons) destroyed roughly 10% of the total yield.¹⁵

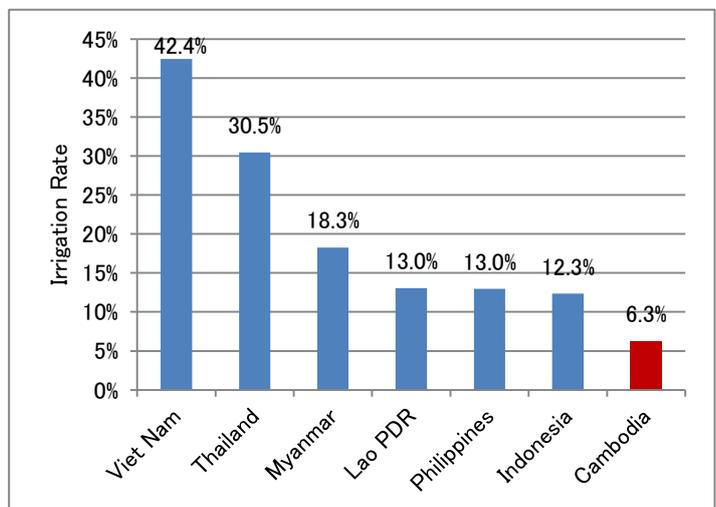
In addition, the postharvest losses reach 35.6% when all processes are included in the calculations,¹⁶ and the losses in the storage and milling processes are particularly large (Fig. 4-24). Those large losses in the storage and milling processes are caused by the lack of facilities (capital) and the insufficient technology for each process. That applies to not only the farmers but to those in the milling business as well, and it is said that this is tied to the

Figure 4-22: Productivity of rice farming



(Source: ADB (2012), "ASEAN and Global Rice Situation and Outlook.")

Figure 4-23: Irrigation rate (2011)



(Source: Created by the study team based on FAO statistics.)

¹⁵ CARDI (Cambodian Agricultural Research and Development Institute) (2013), "Sustainable Agricultural Production—Focus on rice production in (Cambodia)."

¹⁶ ADB (2012), "Technical Assistance Consultant's Report—The Rice Situation in Cambodia."

spoilage of rice due to inadequate storage technologies and facilities or to broken grains of rice due to the use of poorly maintained or outdated milling equipment.¹⁷

Since agriculture sector employs 70% of the working population, it is essential to promote further growth in the agricultural sector. The following measures must be taken to address the “low irrigation rate” and “quantitative losses in the postharvest processes,” which are the causes of low productivity for rice, the country’s staple crop.

Proposed Measures

- By encouraging the building of irrigation facilities and shifting from rain-water-based agriculture to primarily irrigation-based agriculture in rice production, damage caused by climatic conditions can be reduced.
- In order to improve technology and acquire capital in the postharvest processes (in particular storage and milling), strengthen cooperation with foreign experts and companies and undertake efforts to attract foreign direct investment.

Figure 4-24: Rice quantity losses in postharvest processes (2000–2009)

Postharvest Stage	Mean(%)	Range(%)
Cutting	3.0	2.2–3.8
Transportation	3.6	2.0–5.2
Threshing	1.6	1.0–2.2
Drying	2.0	1.0–2.0
Storage	10.7	3.5–18.0
Milling	14.7	7.5–22.0
Total	35.6	17.2–53.2

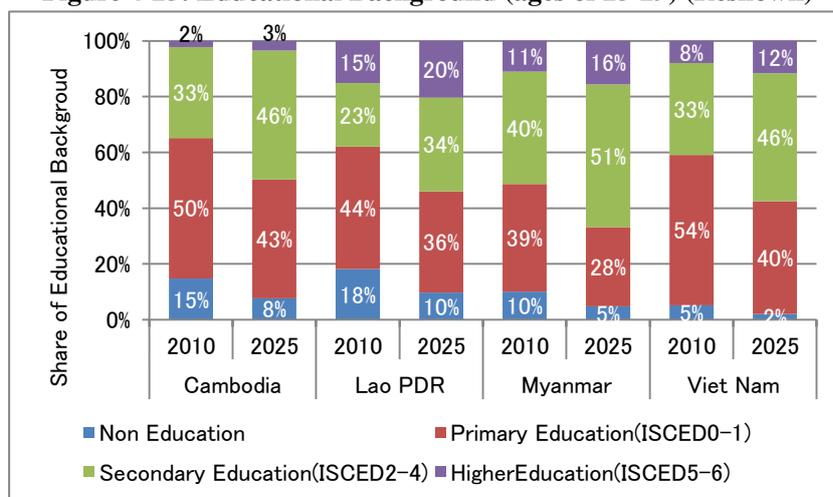
(Source: Created by the study team based on ADB [2012], “Technical Assistance Consultant’s Report—The Rice Situation in Cambodia.”)

¹⁷ Ibid.

Challenge ②: Low Levels of Education

Looking at the highest level of education completed by Cambodians aged 25 to 29 in 2010, half reported that they had only an elementary school education, and just 2% had completed high school, making Cambodia the country with lowest level of education among the CLMV countries (Fig. 4-25). Looking at literacy rates as well, in 2011 Cambodia posted a low ratio of 73.7% (Fig. 4-26). Although the 2025 forecast shows an overall improvement in the educational level completed, a decrease in the number of people with no education or only an elementary school education, and an increase in those completing middle school, Cambodia's position within the CLMV group will not change.

Figure 4-25: Educational Background (ages of 25-29) (Reshown)



(Source: Created by the study team based on IIASA "Projection of populations by level of educational attainment, and age and sex for 120 countries for 2005–2050," September 2010.)

Figure 4-26: Adult literacy rates in selected countries(2011) (Unit: %)

Singapore	Brunei	Thailand	Philippines	Malaysia	Myanmar	Indonesia	Cambodia	Lao PDR
95.9	95.0	94.1	93.6	93.1	92.3	90.4	73.7	72.7

(Source: Created by the study team based on ASEAN Secretariat (2012), "ASEAN Statistics Leaflet: Selected Key Indicators.")

Among the reasons given for the low educational levels are, in particular, the historical background and the inadequate access to education in rural areas. According to the World Bank's poverty assessment published in 1999, about 50% of the rural population in Cambodia lived in an area where there were no elementary schools, and approximately 90% had no access to middle schools or high schools. Also, if the poverty levels are divided into five groups and we look at the poorest level, the cost of sending one child to elementary school would require one-fourth of a family's annual budget for all living expenses other than food,¹⁸ and thus the significant financial burden on the household has been a factor in people not receiving an education or not being able to complete the required educational program. At that time, more than 50% of Cambodians were living in poverty, but as of 2011,

¹⁸ World Bank (1999), "Cambodia Poverty Assessment."

that number had decreased to 20.5%.¹⁹ For that reason, there is expected to be improvement in terms of the number of schools and the financial burden of an education for the generation that will be the core of the workforce in 2025, but the fact that children in rural areas still represent valuable labor²⁰ remains an obstacle to accessing education. Also, the mainstream in Cambodia’s primary education system is to divide the students into two separate groups, those who attend a morning session and those who attend in the afternoon, so the actual time spent in class is inadequate and it is difficult to maintain the quality of the coursework.

In order for Cambodia to be able to take advantage of its geographic advantage, its cheap labor, and its continually advancing SEZs to grow as a manufacturing base, and in order to develop the service industry within the country, it is essential that they improve the access to and quality of education for the generation of youths who will be the core of Cambodia’s workforce in the future.

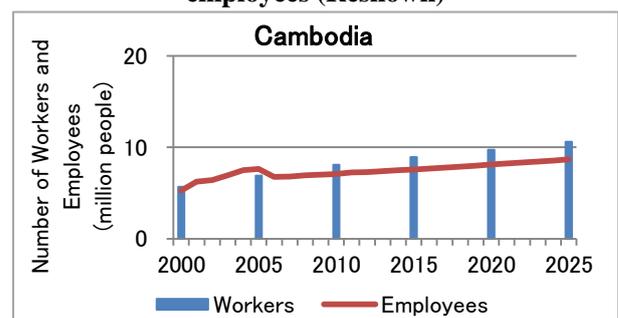
Proposed Measures

- In order to improve access to education for those living in poverty and those in rural areas, establish a scholarship system²¹ using not only public funds but also funds from private businesspeople, and create incentives for corporate participation (tax deductions or other tax incentives).
- In order to improve the limited instructional time and content, work to attract the educational service industry and expand educational choices and opportunities. In addition, an assistance program specifically designed to promote education should be implemented (a World Bank financial assistance program for poor farmers, similar to the Bolsa Familia program in Brazil).
- Expand and improve teacher-training programs to improve the number and quality of teachers.

Challenge ③: Lack of Employment Opportunities

In 2025, 63% of Cambodia’s population will be of working age, and this abundant, cheap labor force is one of the country’s competitive strengths. However, the number of employers in 2010 was less than the number of workers, which can be taken to mean that there is an inadequate number of jobs (Fig. 4-27). Also, if employment continues to increase until 2025 at the same pace as it did during the 2008–2012 period, then it is forecast that there will continue to be a job shortage in 2025.

Figure 4-27: Balance of numbers of labors and employees (Reshown)



(Source: Created by the study team based on the Population Division of the United Nations Department of Economic and Social Affairs of the United Nations Secretariat; ADB, “Key Indicators for Asia and the Pacific 2013”; and the UNESCAP database.)

¹⁹ World Bank, “World Development Indicators.”

²⁰ Ministry of Foreign Affairs of Japan, “Shogaikoku-chiiki no gakko joho” (Information on schools in various countries and regions; revised as of March 2012), http://www.mofa.go.jp/mofaj/toko/world_school/01asia/infoC10300.html, accessed May 2, 2014.

²¹ A similar initiative by a private company is the Aeon Scholarship. That program targets students at national universities and offers them financial assistance during a four-year period. It is already being carried out in Cambodia, as well as its ASEAN neighbors of Thailand, Vietnam, and Indonesia, <http://prtimes.jp/main/html/rd/p/000000088.000007505.html>, November 13, 2013.

Currently, 70% of the working population is in the agricultural sector, but if farm mechanization is pursued as a way to improve agricultural productivity, there will be a shift in the workforce from the agricultural sector to other sectors. In order to take advantage of the abundant workforce and position it to further attract manufacturing, not only is there a need to improve the business environment, but also to carry out initiatives such as matching local and foreign businesses, training and internationalizing SMEs, and so on, that can lead to an expansion of employment.

Proposed Measures

- Establishment of an institution or organizational framework to promote the matching of local and foreign businesses as a way to expand employment.
- Promotion of welcoming foreign experts on management methods and financial management to train Cambodian SMEs and help them internationalize as a way to create long-term employment.

Challenge ④: Lagging in the Creation of an Environment Conducive to Trade and Investment

According to “Doing Business 2014,”²² Cambodia ranks 137th out of 189 countries in terms of the ease of doing business. Its efforts are lagging behind, particularly in such areas as “Starting a Business” (184th), “Dealing with Construction Permits” (161st), “Enforcing Contracts” (162nd), and “Resolving Insolvency” (163rd) (Fig. 4-28). The category in which it scored the lowest, “Starting a Business,” is evaluated based primarily on the number of procedures involved, the time required, and the cost, and so it is necessary to simplify the process and make the work more efficient. Although progress is being made on the SEZs, delays in putting in place the necessary business-related laws and regulations will inevitably cost Cambodia its advantage as a site for investment, making it critical that the country address this issue right away.

Figure 4-28: Doing business rankings

Indicator	2014	2013
1 Starting a Business	184	181
2 Dealing with Construction	161	157
3 Getting Electricity	134	134
4 Registering Property	118	112
5 Getting Credit	42	52
6 Protecting Investors	80	80
7 Paying Taxes	65	65
8 Trading Across Borders	114	115
9 Enforcing Contracts	162	163
10 Resolving Insolvency	163	161

(Source: World Bank and International Finance Corporation [2013], “Doing Business 2014, Economy Profile, Cambodia.”)

Proposed Measures

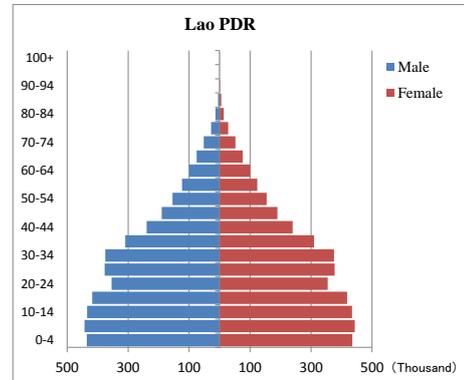
- In order to simplify the procedures related to starting up and conducting business in Cambodia, invite the involvement of foreign experts in preparing the system and carry out training for Cambodian experts.

²² A report on the business environment in each country, published by the World Bank and the International Finance Corporation (IFC).

(3) CLMV: Lao PDR

【Basic information: Projection for 2025】

- **Total GDP:** US\$24.5 billion (10th in the region)
- **GDP per Capita:** US\$3,088 (8th in the region)
- **Total population:** 8.25 million (8th in the region)
- **Working-age population rate:** 64.1%
- **Population aging rate:** 4.8%



■ Most Realistic Scenario for 2025

【Economic development led by mineral and power exports】

Lao PDR will still have the smallest population in ASEAN in 2025, and its GDP per capita will be eighth out of the ten countries. Without the benefit of abundant domestic demand to attract investment and grow its economy, it needs to achieve growth through foreign demand.

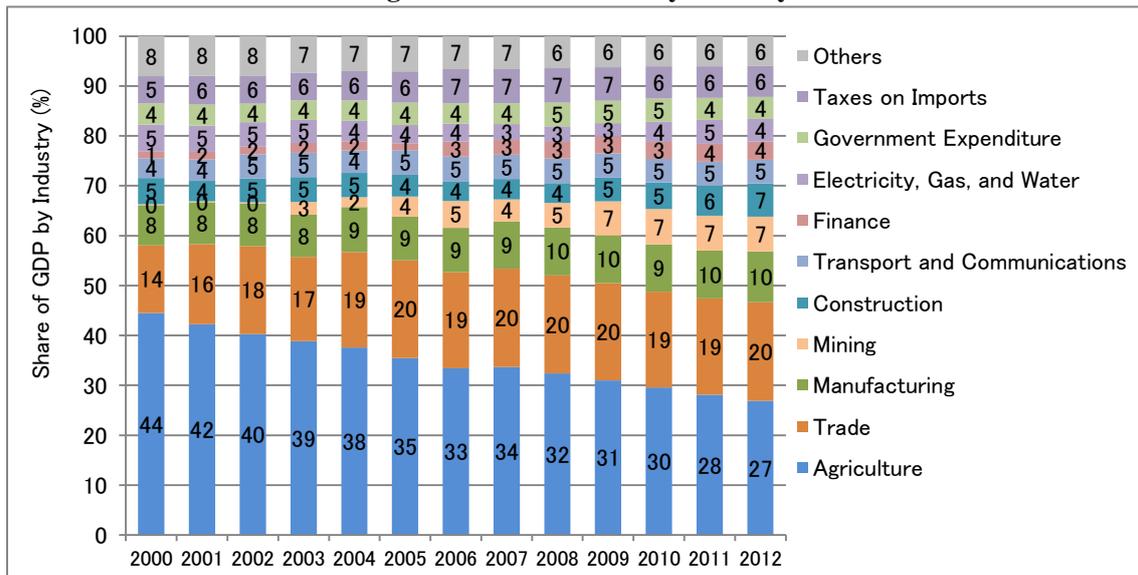
Looking at how its GDP breaks down by industry, the ratios for trade, manufacturing, mining, and finance have all increased. (Fig. 4-29) Exports of minerals (copper ore, refined copper, etc.) and power have increased since 2005, and in 2012 they made up about 58% of the value of all exports. (Fig. 4-30) The Laotian government has set increased production of minerals and power as its goal¹, and growth is forecast.

In the textile industry, there has been ongoing investment by Thai companies² since 1990's, taking advantage of Lao PDR's export ceiling under the Generalized System of Preference (GSP). Textiles are already being exported to North America, Japan and the EU, but their proportion of total exports has fallen because of the increase in mineral and power exports.

¹ Ministry of Planning and Investment (2011) "The Seventh Five-year National Socio-Economic Development Plan" (2011-2015)

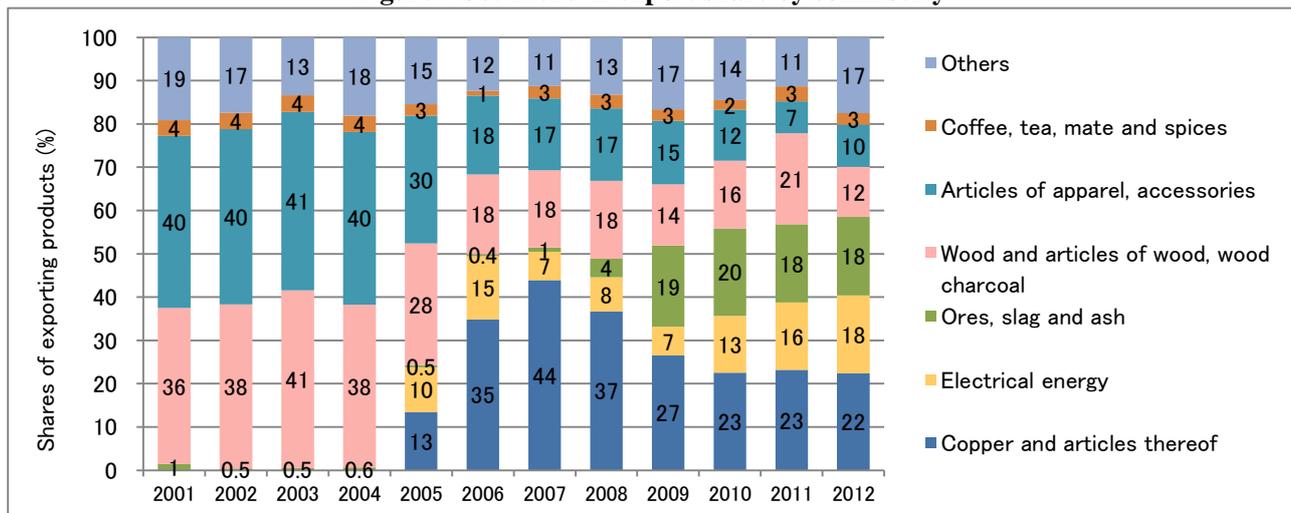
² Keola Souknilanh, Institute of Developing Economies (2010) "Focusing on Border Economies in the Mekong Region, Chapter 6: Is Laos's Trade Deficit Controllable?"

Figure 4-29: GDP share by industry



Source: ADB (2013) "Key Indicators for Asia and the Pacific 2013"

Figure 4-30: Trend in export share by commodity



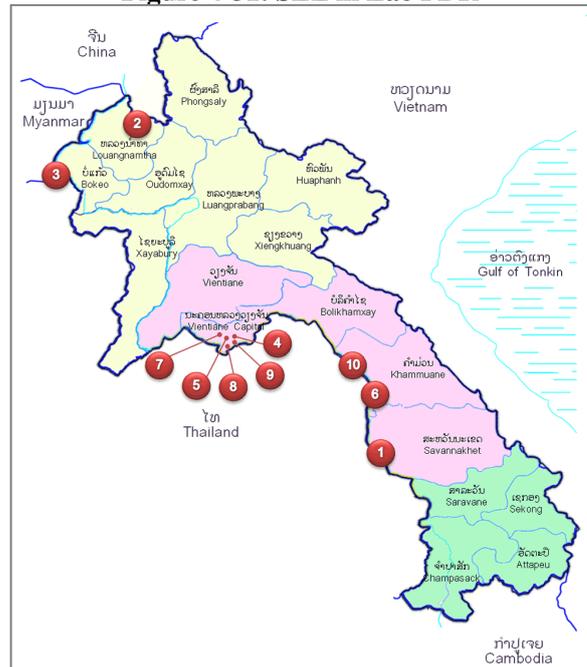
Source: Created by study team based on "International Trade Centre "International trade in goods - Exports 2001-2013"

[Development of manufacturing and service industry in urban areas close to SEZ]

Manufacturing bases of electrical and electronic parts, auto parts, etc. are expected to increase in Lao PDR toward 2025. In Thailand, industry accumulation is ongoing and expansion is forecast, but there is a shortage of workers and wage levels are rising sharply (see Chapter 3 Labour Environment). As a result, there is an increase in manufacturing bases (such as Nikon, Toyota Boshoku, and Asahi Tec from Japan)³ in Lao PDR’s special economic zones (SEZ) where labor is cheaper and transport costs are falling due to the development of economic corridors. The Laotian government has presented⁴ a plan to increase its SEZ from 10 locations (as of January 2013)⁵ to 25 locations ahead of 2020, so the influx of companies is expected to continue (Fig. 4-31). In the short term, minerals and power will drive economic growth, but the electrical/electronic parts and auto parts manufacturing industries will also play an increasing role in the mid-to-long term.

In addition, Lao PDR’s GDP per capita is predicted to rise from \$1,366 as of 2012 to \$3,088 in 2025⁶. In Vientiane and Savannakhet where companies continue to expand, incomes will greatly exceed the national average, and durables purchases and service consumption will increase.

Figure 4-31: SEZ in Lao PDR



Source: Lao National Committee for Special Economic Zone “Boten turns focus from casino to commerce” <http://www.sncsez.gov.la/index.php/ja/12-news/23-boten-turns-focus-from-casino-to-commerce> (accessed April 15, 2014)

³ JETRO (2013), “The Trend toward New Industry Accumulation in Asia”

⁴ Ministry of Planning and Investment, http://www.investlaos.gov.la/show_encontent.php?contID=27 (accessed April 15, 2014)

⁵ Lao National Committee for Special Economic Zone “Boten turns focus from casino to commerce” <http://www.sncsez.gov.la/index.php/ja/12-news/23-boten-turns-focus-from-casino-to-commerce> (accessed April 15, 2014)

⁶ Prediction using the Study Team-Uemura model

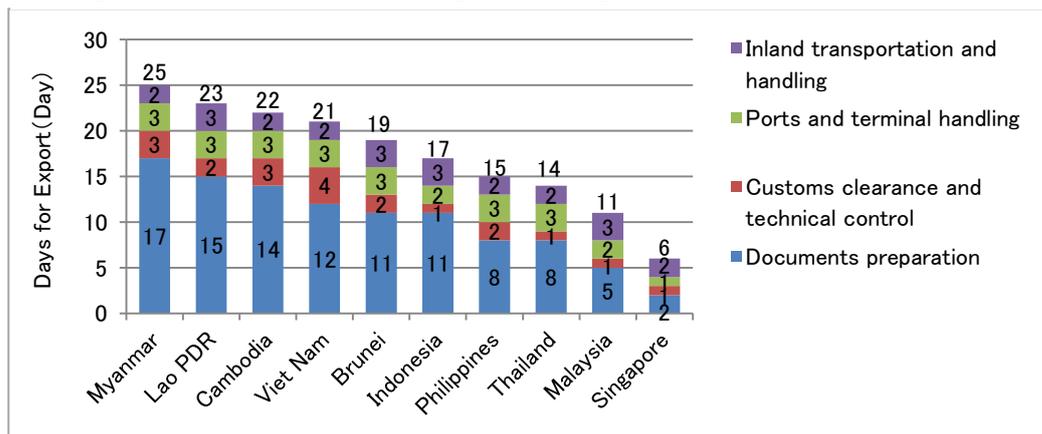
■ Challenges and Proposed Measures for the Realistic Scenario

In order to achieve further economic growth by 2025 by increasing its production and export of minerals and power, electrical and electronic parts, transportation equipment and parts, etc., Lao PDR needs policies that address the challenges of slow development of a trade and investment climate, low agricultural productivity, domestic income disparity, and domestic educational disparity.

Challenge ①: Delay in Development of Trade and Investment Climate

In recent years, Lao PDR has developed economic corridors connecting to Thailand and Viet Nam, which have become transportation service bases taking advantage of the fact that trucks registered in Lao PDR are permitted drive within both countries. However, due to policy formulation ability and the lack of communication between the central and regional governments⁷, the complexity of trade procedures at the national borders has become an issue⁸. According to the World Bank, the time required to export from Lao PDR is 23 days, the longest in the ASEAN region after Myanmar (Fig. 4-32). These complicated and slow trade procedures are an obstacle to corporate business and need to be improved.

Figure 4-32: Number of days required for exports (2012 and 2013) (Reshown)



Source: World Bank “Doing Business 2014”

Proposed Measures

- Establishment of a special body to supervise the creation of single stop windows and the maintenance of national single windows (NSW) at borders.
- Extending opening times of trade procedure counters at borders, or keep them open 24 hours.

⁷ World Bank (2012) “Country Partnership Strategy for Lao Peoples Democratic Republic FY12-16”

⁸ JETRO (2012) “Mekong Business Needs Survey 2012”

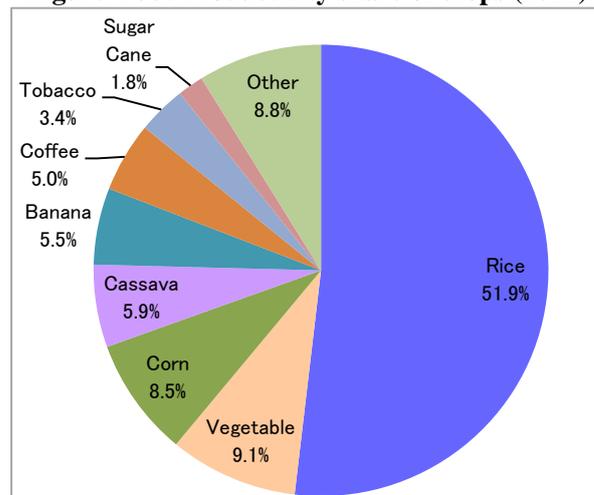
Challenge ②: Low Agricultural Productivity

Rice is the chief crop in Lao PDR, accounting for about 52% of agricultural production (Fig. 4-33). But comparing the predicted rice productivity of ASEAN countries in 2022, the figure for Lao PDR will be below the ASEAN average (Fig. 4-34). Supply chains for agricultural produce also need to be constructed⁹, and improving productivity in terms of both production and distribution is a challenge.

Proposed Measures

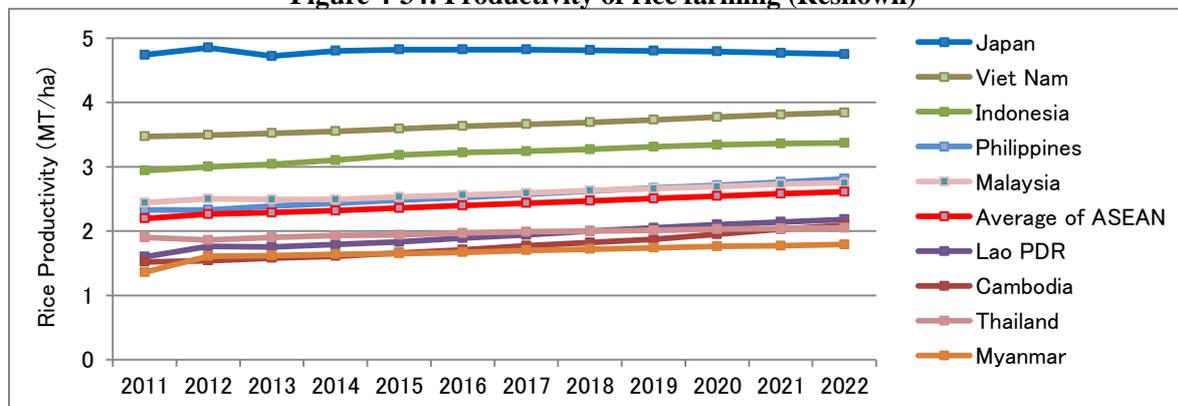
- Improvement of road environment connecting farm communities to consumer markets.
- Implementation of a system (wholesale markets, IT systems, etc.) in which agricultural produce is efficiently collected, traded, distributed, and exported.
- Provision of the financial support required for spreading strong breed cultivation methods, seed purchasing, etc.
- Development of agricultural land to support mechanization by farmland consolidation and irrigation maintenance.
- Promotion of contract farming between private businesses (food processors, retailers, restaurants) and farmers.

Figure 4-33: Productivity share of crops (2012)



Source: Created by study team based on FAOSTAT

Figure 4-34: Productivity of rice farming (Reshown)



Source: ADB (2012) “ASEAN and Global Rice Situation and Outlook”

⁹ World Bank (2012) “Country Partnership Strategy for Lao Peoples Democratic Republic FY12-16”

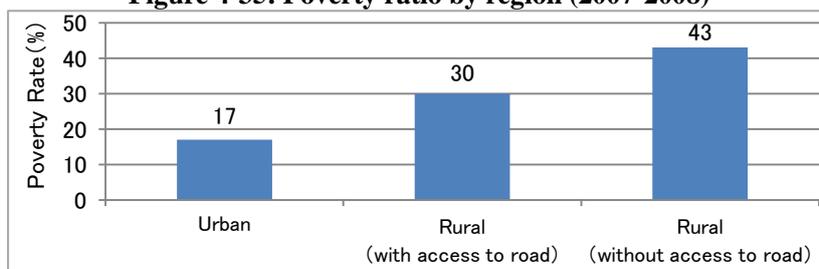
Challenge ③: Domestic Income Disparity and Domestic Educational Disparity

A wage disparity has emerged between urban and rural area, but there is a disparity even among rural area, between those that can be accessed by road throughout the year (even during the rainy season) and those that cannot (Fig. 4-35). For rural area accessible by road, trade with consuming regions is simple, whereas for rural area not accessible by road, either they cannot trade or they require additional time and costs¹⁰. Because of this, regional disparities within the country may arise depending on the development status of physical infrastructure.

Also, although educational levels will rise toward 2025, the layer of society receiving only primary education or less is predicted to remain above 40%. Meanwhile, with approximately 20% of Laotians being educated up to secondary school, the educational disparity is relatively large compared with other ASEAN countries (Fig. 4-36). According to 2012-2013 data, the rate of advancement to secondary school tends to be higher in the central part of the country where Vientiane is located and lower in the southern part, so more students probably advance to high school particularly in the central region (Fig. 4-38).

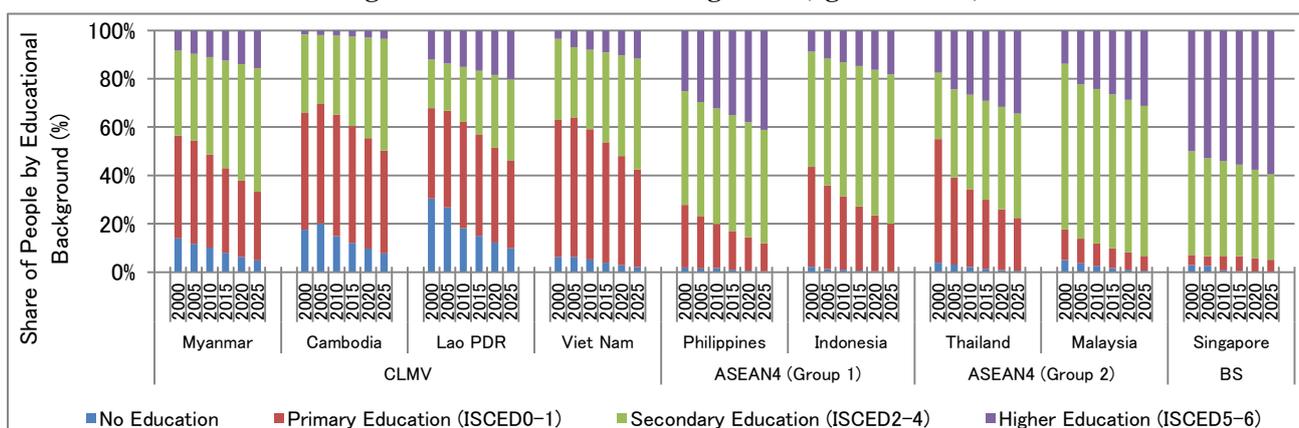
There is a fear that such disparities in earnings and education may grow further in future if industry develops mostly in the SEZ and urban areas.

Figure 4-35: Poverty ratio by region (2007-2008)



Source: Kyophilavong, P. (2011), ‘Impact of Cash Transfer on Poverty and Income Distribution’, in Oum, S., T. L. Giang, V. Sann and P. Kyophilavong (eds.), *Impacts of Conditional Cash Transfers on Growth, Income Distribution and Poverty in Selected ASEAN countries*. ERIA Research Project Report 2010-13, Jakarta: ERIA. pp.55-76.

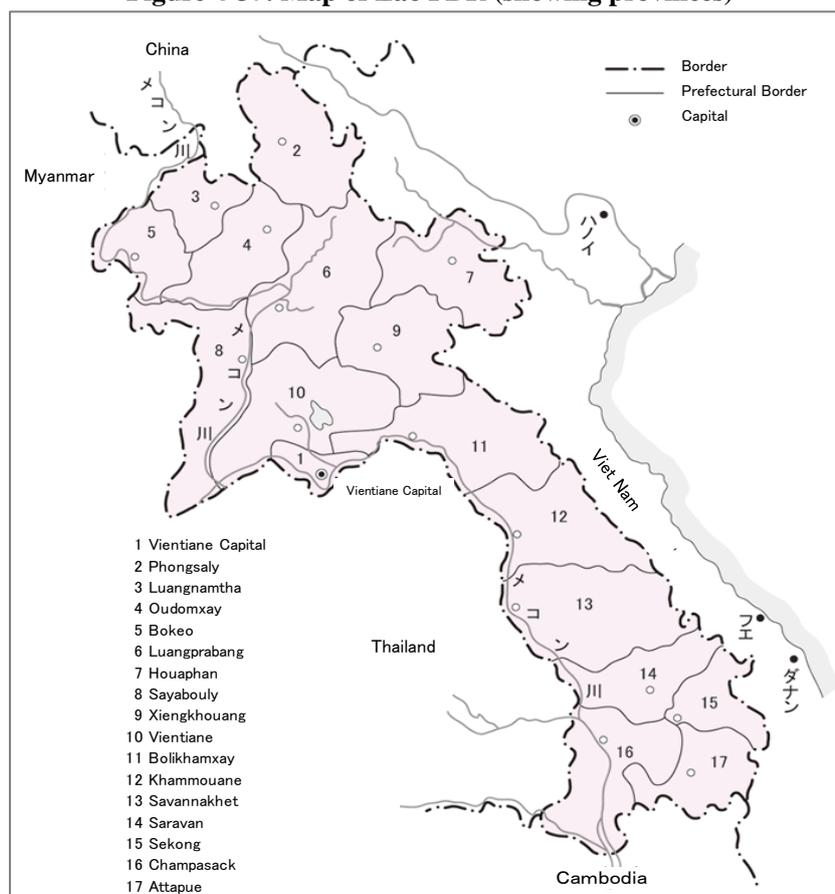
Figure 4-36: Educational Background (ages of 25-29)



Source: Created by study team based on IIASA(2010) “Projection of populations by level of educational attainment, and, age and sex for 120 countries for 2005-2050”

¹⁰ Nina Fenton, Jutta Krahn, Bjorn Larsen, and Magnus Lindelow (2010) “Lao PDR Development Report 2010”

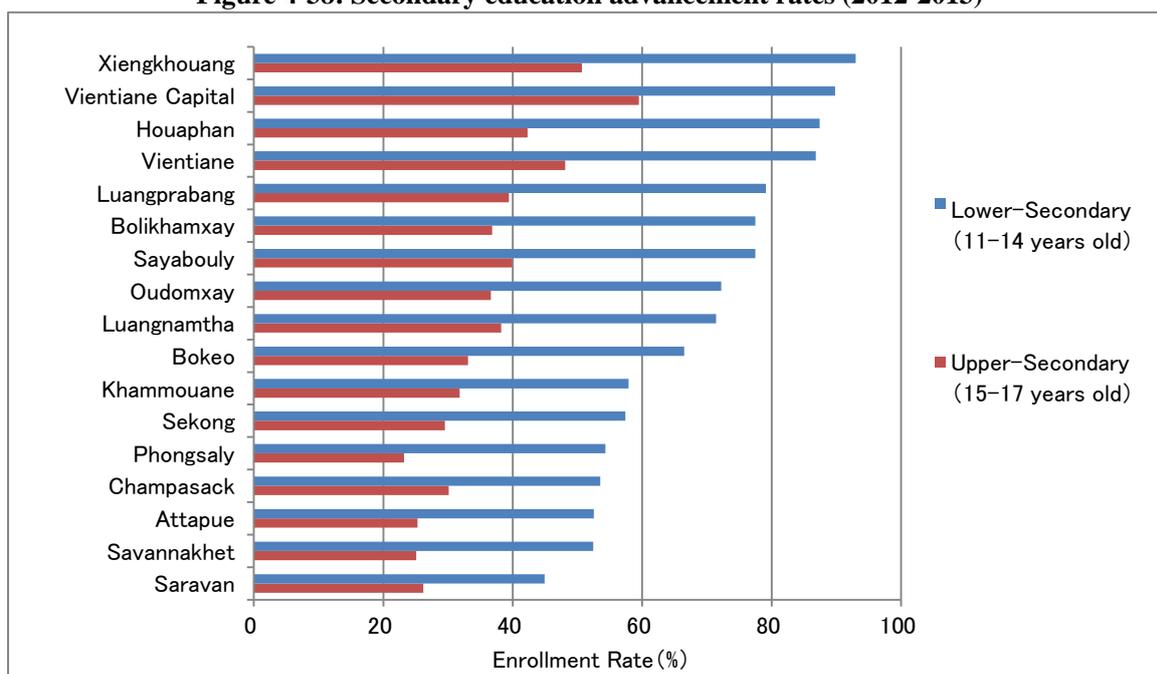
Figure 4-37: Map of Lao PDR (showing provinces)



Source: Institute of Developing Economies

<http://www.ide.go.jp/Japanese/Research/Region/Asia/Laos/> (accessed April 11, 2014)

Figure 4-38: Secondary education advancement rates (2012-2013)



Source: Created by study team based on Laotian Ministry of Education and Sports (2012) "Educational Statistics 2012-13"

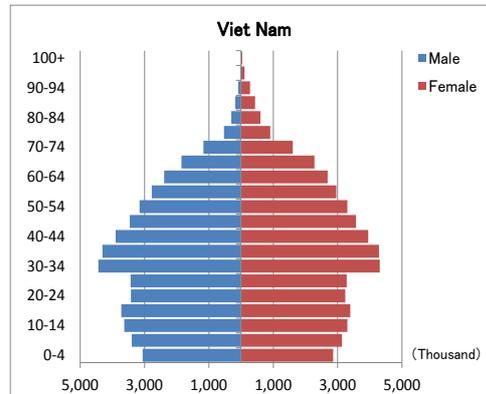
Proposed Measures

- Development of roads connecting economic corridors to surrounding farming villages.
- Promotion of large up-scaling and mechanization in order to streamline production in the agriculture, forestry and fisheries industry and food processing industry.
- Development of tourism resources and upgrade transport networks in the southern and northern areas of Lao PDR.
- Implementation of the development of education institutions in agricultural areas.
- Implementation of an IT environment in primary schools in regions where access to secondary schools is difficult, to enable students to study and graduate online.

(4) CLMV: Viet Nam

【Basic information: Projections for 2025】

- **Total GDP:** US\$346.4 billion (6th in the region)
- **GDP per Capita:** US\$3,509 (7th in the region)
- **Total population:** 99.8 million (3rd in the region)
- **Working-age population rate:** 70%
- **Population aging rate:** 10.4% (Aging society)

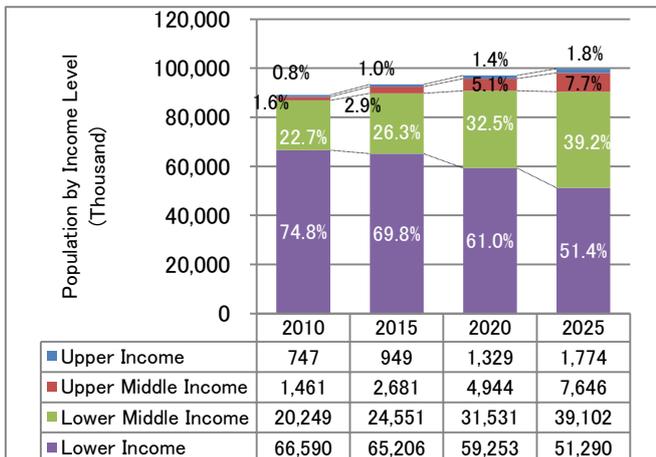


■ Most Realistic Scenario for 2025

【Expansion of consumer market due to growing middle-income tier and increased purchasing power】

GDP per capita will exceed \$3,000 by 2023 and reach \$3,509 by 2025¹ as general demand for durables expands. As movement from the low-income tier to the middle-income tier continues, the middle-income tier (upper middle-income and average middle-income tiers) will account for about 50% of the total population by 2025, compared with about 20% of the total in 2010 (Fig. 4-39). Furthermore, the consumer market is expected to expand as household disposable income is predicted to increase by 2025 to eight times its 2010 figure (Fig. 4-40).

Figure 4-39: Population trend by income level



Note: Household disposable incomes of income tiers are below.

Upper Income: \$35,000/year or above

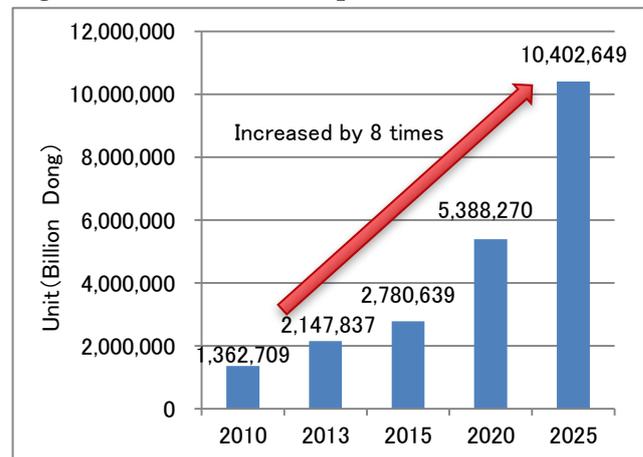
Upper middle-income tier: \$15,000-\$34,999/year

Lower middle-income tier: \$5,000-\$14,999/year

Low-income tier: \$4,999/year or below

Source: Created by study team based on Euromonitor International 2014

Figure 4-40: Household disposable income (2010-2025)



Source: Created by study team based on Euromonitor International 2014

¹ Predicted using the Study Team-Uemura model (Chapter 4 (1) Economics)

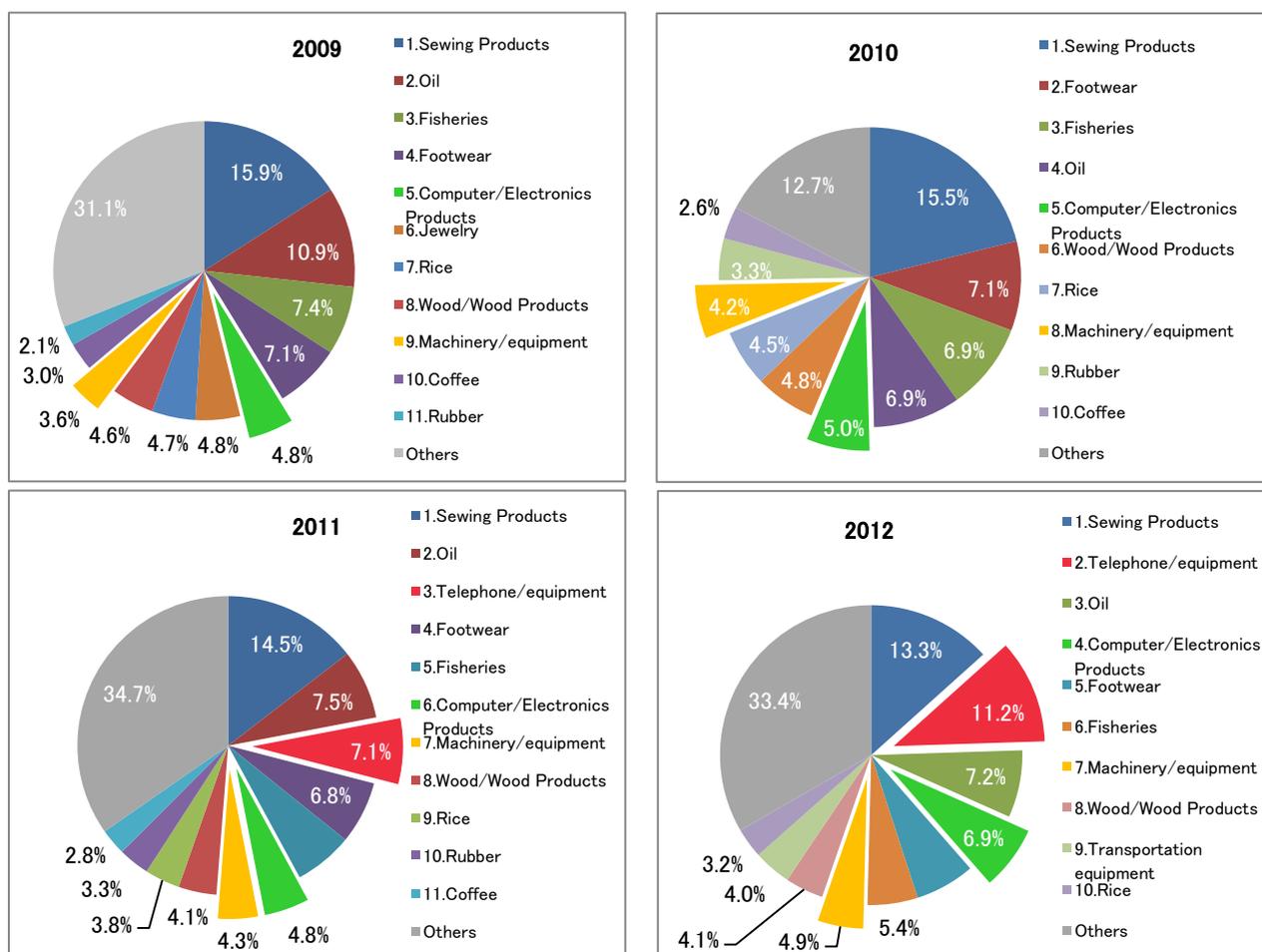
Since the lifting of a ban in 2009 on 100% foreign-owned retailers moving into the country, there has also been an ongoing influx of Japanese and other foreign convenience stores, department stores, and restaurant chains. In the context of an expanding middle-income tier, deregulation, and increased purchasing power, the consumer market can be expected to grow in the future too.

【Development of electrical and electronic machinery industry】

<Expansion of exports of electrical machinery>

The biggest export shares of Vietnamese goods belong to light industry products such as textiles and footwear, mineral fuels, and agricultural and fishery products such as marine produce, rice, and rubber, but the share of electrical and electronic products and parts and machinery is gradually increasing too (Fig. 4-41). Recent changes in export items include telephones and parts. In 2009, South Korean companies began production in Vietnam, making it a base for exporting their smart phones, and since 2011 telephones and parts have emerged as the country’s third-placed export category. This production is enabled by export-oriented foreign investment, while costs are cheaper than in China, tariff barriers have been removed by FTAs (ACFTA, AKFTA, and AFTA), and hard and soft aspects of distribution are being upgraded, all of which is promoting development

Figure 4-41: Component ratios by main export items (2009-2012)



Source: Created by study team based on JETRO (2013), “World Trade and Investment Report – Vietnam”

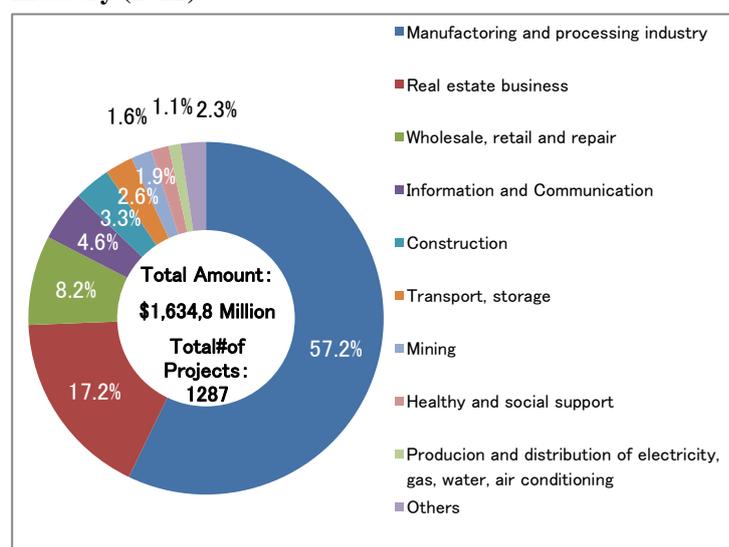
Vietnamese trade with leading exporter China used to be typical vertical specialization, exporting primary commodities and importing industrial goods, but from 2010 a decreasing trend was seen in this pattern and trade became more horizontal. The export share of mineral fuels fell from 65.2% in 2005 to 12.3% in 2010 while the share of electrical machinery rose sharply from 4.0% to 40.0%², and electrical machinery exports are expected to continue growing in future. Looking at electrical machinery alone, Vietnamese exports to China moved into the black in 2010, \$6.6 billion against imports of \$6.0 billion. Set against this background, Vietnamese production has increased due to Guangdong’s decline in competitiveness because of cost rises. Industrial networks are being formed between Vietnam and China (especially South China economic zones such as in Guangdong) because of things such as the ACFTA and the development of transport infrastructure. Leveraging its geographical advantage of being near the South China economic zones and its transport infrastructure, Vietnam will continue to form industrial networks with China in the future by keeping down trade barriers and service-link costs.

<Expansion of export-oriented investment>

Investment in the manufacturing and processing industry accounted for about 57% of all investment in 2012 (Fig. 4-42), and the influx of South Korean group companies into the electrical machinery field has sped up. One South Korean group of companies obtained permission in 2013 to invest \$1.2 billion in electronic device manufacturing. They also announced plans to produce parts for communication devices and mobile devices in four years, and released their policy of basing half of their global production in Vietnam in future. They have injected a further two billion dollars to start construction of a

complex facility for producing electronic devices such as smart phones, and their affiliate has signed a memorandum with the Vietnamese government on investing in an infrastructure project to support such production³. A major South Korean electronics company also announced in the same year that it would invest a maximum of \$1.5 billion over the following decade and expand its household appliance production in Vietnam. In addition, construction of a succession of factories for European and Japanese electrical makers has been underway since 2012⁴, and the large-scale investment in these production facilities and their surrounding infrastructure will drive not only the development of the electric and electronic machinery industry but also the Vietnamese government’s goal of industrialization⁵.

Figure 4-42: Direct inward investment (new, approved) by industry (2012)



Source: Created by study team based on General Statistics Office of Vietnam FDI data

² IMF (2012), Direction of Trade Statistics Yearbook

³ *The Wall Street Journal*, “Samsung Electro-Mechanics to Invest \$1.2 Bln in Vietnam” October 3, 2013 <http://jp.wsj.com/article/SB10001424052702304676604579112563258075186.html> (accessed October 4, 2013)

⁴ JETRO (2013), “Trends in New Industry Accumulation in Asia”

⁵ The Vietnamese government has stated in its “Socioeconomic Development 10-Year Strategy 2011-2020” that it will achieve

■ Challenges and Proposed Measures for the Realistic Scenario

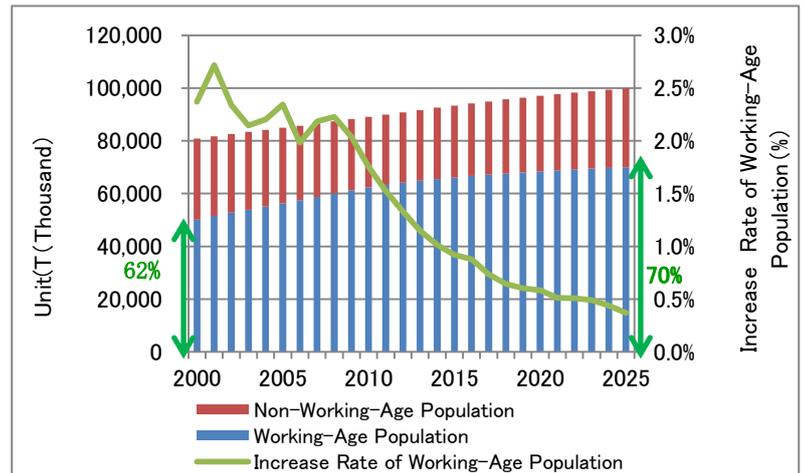
For Vietnam to achieve growth by 2025 utilizing its competitiveness as a consumer market and production base, it needs policies that address the challenges of lack of workers, lack of employment opportunities, slowdown in economic growth due to the declining birth rate and aging population, and securing financing for developing energy resources.

Challenge ①: Lack of Workers

The ratio of people of working age within the total population of Vietnam reached 70% in 2025, the second highest ratio in the region behind Myanmar. Furthermore, the size of the working-age population is forecast to grow to 70 million, behind only Indonesia (190 million) and the Philippines (76 million)⁶. Although Vietnam’s abundant workforce is expected to drive future economic growth, its working-age population has been growing at a slower rate since 2009 and is predicted to start declining in 2035 (Fig. 4-43). The concern is that a reduction in the working-age population will cause an

imbalance between workforce supply and demand. Fig. 4-45 shows the past and predicted numbers of workers⁷ and jobs from 2000 to 2025. The figures up to 2012 are from past records and those from 2013 onward are predictions. The job numbers are calculated on the assumption that they will increase at the same pace as between 2008 and 2012. According to trial calculation results, the number of jobs will overtake the number of workers in 2025, meaning there will be an insufficient workforce size, while in the background will be a substantial decline in the growth rate of the working-age population. Production efficiency therefore needs to be increased by promoting the mechanization of the manufacturing industry, which requires a large workforce.

Figure 4-43: Trends in working/non-working age populations and growth rates



Source: Created by study team based on UN DESA Population Division, “World Population Prospects: The 2012 Revision”

industrialization by 2020.

⁶ UN Department of Economic and Social Affairs, Population Division, “World Population Prospects: The 2012 Revision”

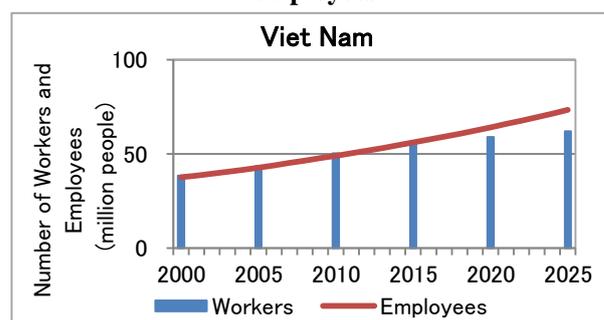
⁷ Calculated by applying the 2012 labour force participation rate (ADB Key Indicator) to the population aged 15 years or more (UN Population Division median estimate).

Figure 4-44: Working age population (Unit: Thousand)

	2025	2026	2027	2028
Viet Nam	70,001	70,236	70,419	70,559
	2029	2030	2031	2032
	70,674	70,767	70,827	70,866
	2033	2034	2035	2036
	70,872	70,827	70,724	70,580
	2037	2038	2039	2040
	70,386	70,145	69,862	69,540

Source: Created by study team based on UN DESA Population Division (2012), “World Population Prospects: The 2012 Revision”

Figure 4-45: Balance of numbers of labors and employees



Source: Created by study team based on UN DESA Population Div., ADB “Key Indicators for Asia and the Pacific 2013”, UN ESCAP database

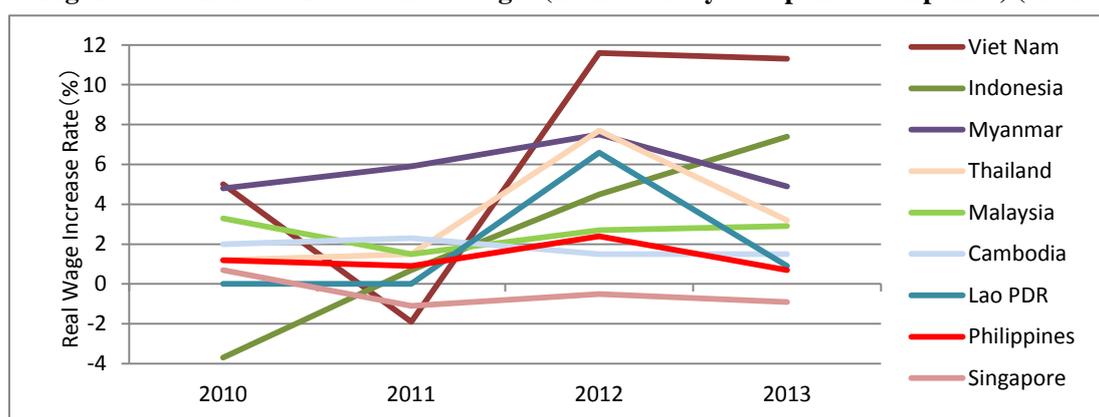
Proposed Measures

- Promotion of mechanization in the manufacturing industry by developing a preferential treatment system for companies that introduce mechanization.
- Development of a work support system for women and the elderly, and offer incentives to private companies.

Challenge ②: Sharp Wage Rises and Low Educational Standards

The monthly wages of employees of Japanese manufacturers in Vietnam (Hanoi) are at a relatively low level, \$145⁸, around half of the \$318 average wage in the nine ASEAN cities⁹. At the same time, the wage growth rate is the highest within the surrounding area (Fig. 4-46), and the increased cost of this is a concern for labour-intensive manufacturing industries. The Communist Party of Vietnam has set itself the goal of raising the minimum wage to 3.1 million dong (US\$155¹⁰) by 2015, so wages are expected to go up in future. If Vietnam does increase wages, it will need human resources worthy of those wages in order maintain the competitiveness of its labour market, which means education will be vital for the generation who will become the core of the workforce in 2025.

Figure 4-46: Increase Rate of Real Wages (from a survey of Japanese companies) (Reshown)



(Source: prepared by the survey team from JETRO (2013). Status of new industrial agglomerations in Asia)

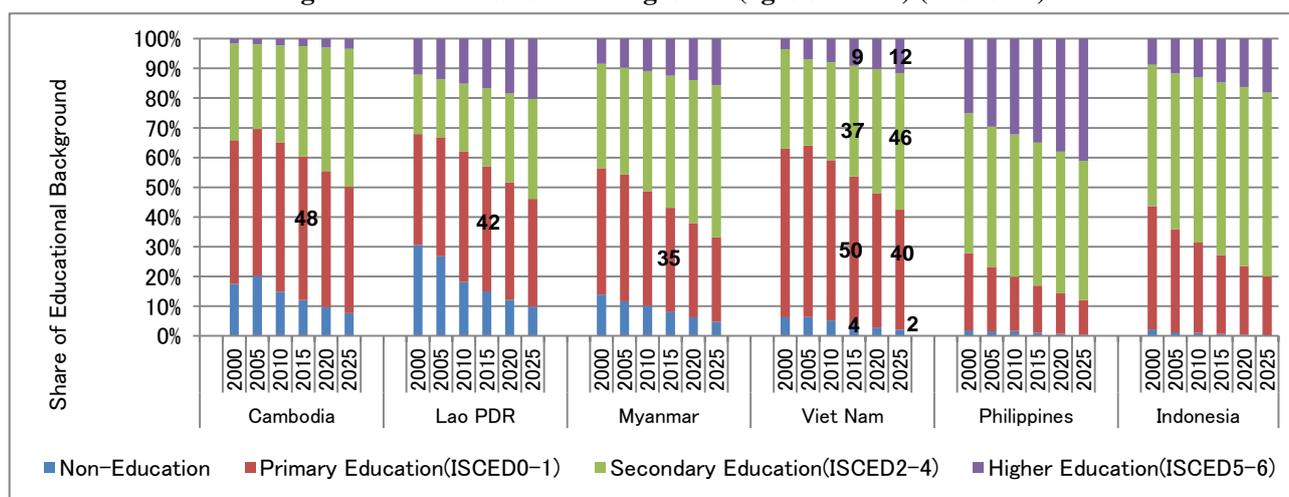
⁸ JETRO (2013), “The State of New Industry Accumulation in Asia”

⁹ Singapore, Bangkok, Kuala Lumpur, Manila, Jakarta, Hanoi, Vientiane, Phnom Penh, Yangon

¹⁰ 1 dong = US\$0.00005 (as of November 2013)

Fig. 4-47 shows the predicted levels of educational attainment among the 25- to 29-year-old age group up until 2025. (Figures up to 2000 are actual results.) A characteristic of Vietnam is that, among all ASEAN countries, and even among the CLMV countries, it has a high proportion of pupils in primary education but a low proportion that finish high school. In 2015 when wage rises are planned, 50% of 25- to 29-year-olds will have attained only primary level education, a higher ratio than in the other CLM countries in the same year, which means Vietnam’s educational standards will be lower than in other countries where wages are cheaper. If there is no change in the educational standards of this age group for another ten years, and if wages in the other CLM countries remain lower, Vietnam could lose the relative advantage of its labour market.

Figure 4-47: Educational Background (ages of 25-29) (Reshown)



Source: Created by study team based on IIASA (2010), “Projection of populations by level of educational, attainment, and age and sex for 120 countries for 2005-2050”

Proposed Measures

- Building of ties outside the ASEAN region and aim to raise the quality of university education to that of top-level educational institutions worldwide.
- Aiming to set wage levels that maintain Vietnam’s competitiveness as well as the livelihood of its workforce.

Challenge 3: Lack of Job Opportunities

Mismatch Between the Labour Market and Industry's Needs

The unemployment rate among Vietnamese university graduates in the country's urban areas has been increasing in recent years. According to the General Statistics Office of Vietnam, around 60,000 university graduates aged from 21 to 29 years were unemployed as of 2010¹¹, which was about 5% of 1.3 million, the total urban unemployed that year¹².

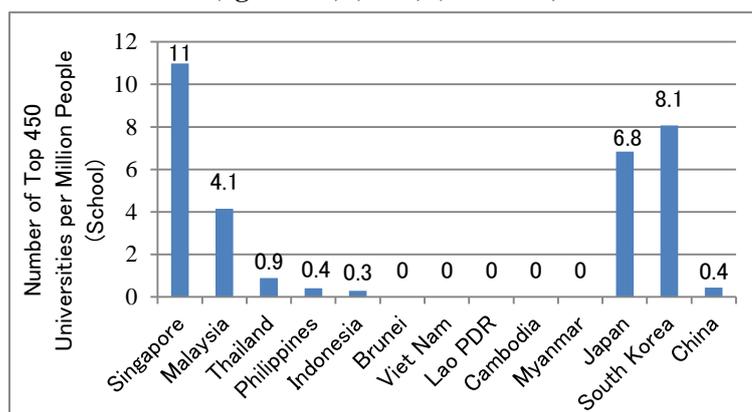
In Ho Chi Minh City, the quota of new jobs offered during 2010 recruitment was 265,000, but only 34,540 of these were for university graduates, making competition increasingly intense (Fig. 4-48). For labourers and factory workers, on the other hand, it is clear that work is easy to find. While we can understand the high demand for labour-intensiveness to meet industry needs, there are not enough progressive industries that are receptive to highly educated people.

Figure 4-48: Recruitment quotas in Ho Chi Minh City (2010)

Positions available for new hire	Positions available for university graduates	university graduates	Unemployed university graduates
265,000	34,450	70,000	35,550

Source: Created by study team based on Thanhniem News "One in 10 Vietnamese university graduates jobless"

Figure 4-49: Number of top universities per million people (age 15-19) (2013) (Reshown)



Source: Created by study team based on Quacquarelli Symonds Limited, UNESCAP

Furthermore, there are insufficient human resources to develop knowledge-based industry. According to a comparison among Asian countries of the number of globally ranked top 450 universities¹³ they have per million people (aged 15-19 years), Vietnam still has no internationally recognized universities (Fig. 4-49). It is therefore necessary to cultivate a knowledge-based industry that takes on people with an advanced education, but also to improve the quality of universities and develop advanced human resources with high ability and qualifications.

Proposed Measures

- Facilitation and development of knowledge-based industry that will take on people with an advanced education.

¹¹ "One in 10 Vietnamese university graduates jobless" *Thanhniem News*, 26 Dec, 2013 <http://www.thanhniemnews.com/index/pages/20131226-one-in-10-university-graduates-jobless-in-vietnam-statistics.aspx> (accessed February 8, 2014)

¹² ADB "Key Indicators for Asia and the Pacific 2013"

¹³ Quacquarelli Symonds Limited, "QS World University Rankings 2012/2013"

Challenge ④: Delay in Development of Trade and Investment Climate

Underdevelopment of business procedures

In a ranking that evaluates how easy it is to launch a new business in each country, Vietnam has shown a downward trend in recent years, placing 87th in 2008¹⁴, 90th in 2011¹⁵, and 99th in 2014¹⁶. In the 2014 evaluation, it was ranked low for use of electricity (156th), investor protection (157th), payment of taxes (149th), and resolution of insolvency issues (149th), leading to low evaluations for lengthy times required for procedures, high costs, and delays in the development of systems. While Vietnam can expect future growth as a consumer market and production base, delays in initiatives in these fields could become a limiting factor on growth. Even among CLM and ASEAN (group 1) countries, Vietnam ranked low in these fields (see Chapter 3, (1) Economics) and needs to improve in order to make itself a more attractive investment.

Figure 4-50: Doing business ranking

	Indicator	2014	2013
1	Starting a Business	109	107
2	Dealing with Construction	29	29
3	Getting Electricity	156	155
4	Registering Property	51	48
5	Getting Credit	42	40
6	Protecting Investors	157	169
7	Paying Taxes	149	145
8	Trading Across Borders	65	66
9	Enforcing Contracts	46	46
10	Resolving Insolvency	149	150

Source: World Bank, International Finance Corporation (2013), "Doing Business 2014, Economy Profile Vietnam"

¹⁴ Ranking among 181 countries

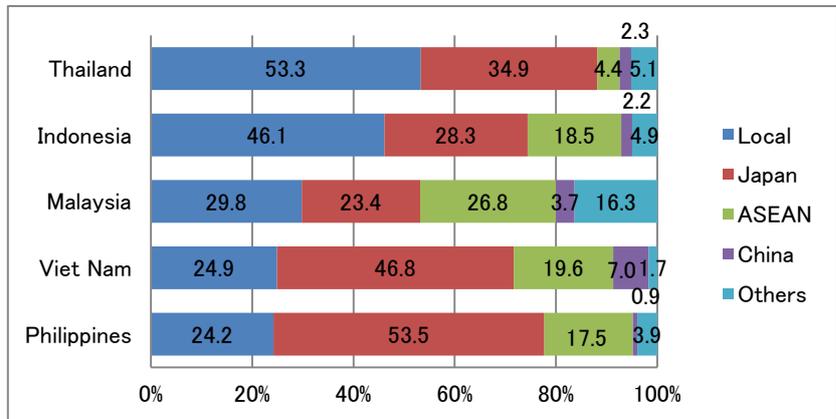
¹⁵ Ranking among 183 countries

¹⁶ Ranking among 189 countries

<Underdeveloped supporting industries>

Vietnam needs to develop supporting industries in order to maintain its edge as a production base and investment. However, looking at the local supply rates for Japanese companies operating in ASEAN (in the transportation equipment field) in five countries, Vietnam has the lowest rate behind Thailand, Indonesia, Malaysia, and the Philippines. First-placed Thailand has a rate of 53.3% while Vietnam has a low rate of 24.9%¹⁷.

Figure 4-51: Parts suppliers for Japanese companies operating in ASEAN (transportation equipment field)



(Source: Created by study team based on JETRO “Status Survey on Activities of Japanese Companies Operating in Asia and Oceania”)

Looking at the case of the auto industry, Vietnam currently protects its own auto industry by imposing a tariff of 60% on passenger cars imported from within the region. But this tariff will be abolished in 2018 under the ASEAN Free Trade Area (AFTA) agreement, and if Vietnam maintains its low local supply rate without developing supporting industries, its cost competitiveness will remain low after market liberalization, which means imported vehicles from Thailand and Indonesia are likely to supplant domestically produced vehicles. It may also lose the edge of having a cheap workforce because of its high wage growth rate, so it needs to develop its supporting industry in order to maintain its edge as a production base and investment area. Meanwhile, Vietnam’s state-owned companies account for a significant 33.1% of GDP and 37.8% of investment, which is not a conducive environment for market competition. However, these uncompetitive industries will probably be unable to sustain their comparative advantage after the markets are liberalized through the AEC establishment, FTAs conclusion, and so on, and domestic market competition needs to be intensified in order to enable Vietnam’s economy to compete internationally in future. At that time, attention will be on the Trans-Pacific Partnership (TPP) of which Vietnam is a participant. One point of question in the TPP is whether private and state-run companies should compete under the same competitive conditions, and the TPP is expected be used as leverage to promote an even playing field for them both. It is also vital to enhance competitiveness in the lead-up to the expansion of liberalization by encouraging the discovery and development of industries that will have a comparative advantage.

Proposed Measures

- Streamlining work by simplifying business-related procedures, and develop the appropriate human resources
- Prioritization of the development of supporting industries, select the areas to be developed, and offer incentives to lure investment.
- Enhancement of collaboration between foreign and regional companies in order to develop regional companies into a supporting industry and promote the self-reliance of their manufacturing and sales.

¹⁷ "Status Survey on Activities of Japanese Companies Operating in Asia and Oceania" by JETRO (2012)

- Promotion of the deregulation of domestic industry and the reform of state-owned companies through the TPP, and create an environment of equal competition among private and state-run companies.
- Promotion of the discovery and development of industries that could have a comparative advantage, and reinforce the international competitiveness of manufactured goods.

Challenge ⑤: Slowdown in Economic Growth due to Demographic Aging

With the lowest birth rate in the region behind Singapore and Thailand, Vietnam’s replacement-level fertility already dropped below 2.1 in the period from 2000 to 2005 and shows little prospect of increasing above this figure by 2025. It is predicted to transform into an aged society between 2015 and 2025, with one in ten of its citizens being 65 years old or more in 2025¹⁸. A feature of aging in Vietnam is how quickly it will occur.

Compared with Japan, which took 25 years to change from an aging society¹⁹ to an aged society²⁰, Vietnam will turn into an aged society eight years sooner (Fig. 4-52).

It would be good to have installed a universal healthcare system before being an aging society, but Vietnam’s social security system is currently at the development stage. The system needs to be upgraded in order to increase those covered by social security in future and secure the financial resources, but such an upgrade takes time and so it is important to immediately develop a policy and mechanism to prevent the elderly from slipping into extreme poverty.

Figure 4-52: Year of Transition from Aging to Aged Society (Reshown)

	(A)Aging Society	(B)Aged Society	Doubling Time (B)-(A)
Japan	1970	1995	25
Singapore	1999	2021	22
Thailand	2002	2022	20
China	2001	2026	25
Viet Nam	2016	2033	17
Brunei	2020	2032	12
Malaysia	2021	2045	24
Myanmar	2022	2046	24
Indonesia	2023	2045	22
Cambodia	2022	2048	26
India	2024	2055	31
Philippines	2035	2070	35
Lao PDR	2038	2057	19

Source: Created by study team based on the United Nations Population Division. “World Population Prospects: The 2012 Revision” Medium Fertility)

Proposed Measures

- Formulation of protective policy for the elderly population not covered by insurance or social security and prevention of the elderly from falling into poverty.
- Promotion of employment support for women and the elderly, and increase of the utilization and earnings of the workforce.

¹⁸ Created by the study team based on UN DESA Population Div., “World Population Prospects: The 2012 Revision” median estimates

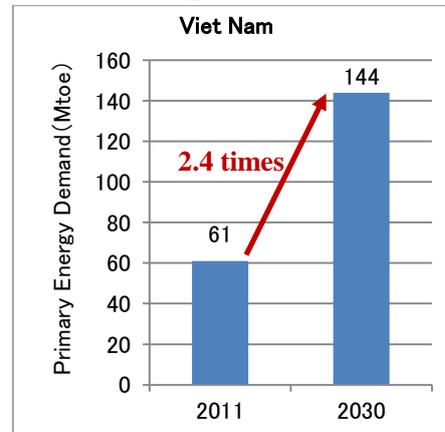
¹⁹ Aging rate: 7% or more

²⁰ Aging rate: 14% or more

Challenge ⑥: Financial Burden of Energy Subsidies

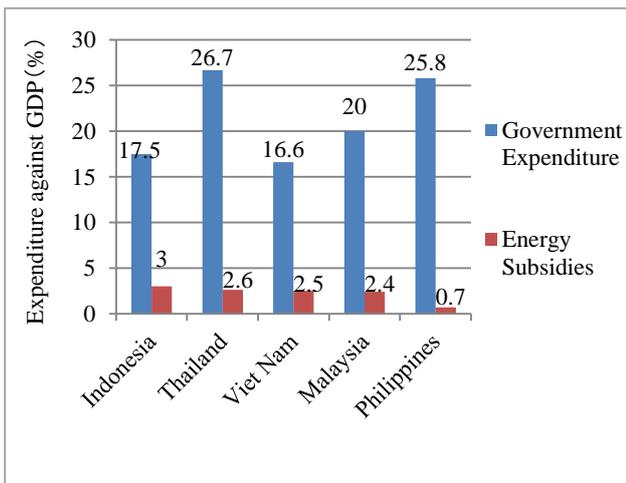
It has been predicted that Vietnam’s energy demand will increase by 2.4 times from 2011 to 2030 (Fig. 4-53). To ensure a sufficient power supply to meet this future increased demand, the Vietnamese government has brought into effect its Power Development Master Plan (PDP7), in which it is promoting the development of renewable energy and planning the development of thermal power stations and a power grid. The total investment required by this master plan between 2011 and 2030 is estimated at US\$1,238 billion, but given the increasing demand for electricity in Hanoi and Ho Chi Minh City and an increase in reparation, the actual required funding will be higher than in this initial plan²¹. According to the Viet Nam Electricity Association, because Electricity of Viet Nam (EVN), the country’s public power corporation, can only bear around 20-30% of the estimated amount²², it is having to rely for the rest on domestic and overseas investment, power generating cost reductions, and electricity charge increases. Electricity charges have gone up five times since 2011, and the government has already authorized a further rise in 2014. But because these rising charges not only lead to higher costs for industry but also increase the strain on ordinary people’s lives, which could lead to growing social unrest, a clear and highly transparent explanation is required. The government has introduced energy subsidies, the sum of which accounts for 2.4% of GDP expenditure (Fig. 4-54). Electricity prices have been kept low by these subsidies, and as of 2013 business power prices are the lowest in the ASEAN region (Fig. 4-55), but there are concerns about the stress of the financial burden that will come as demand for electricity increases.

Figure 4-53: Primary energy consumption forecasts



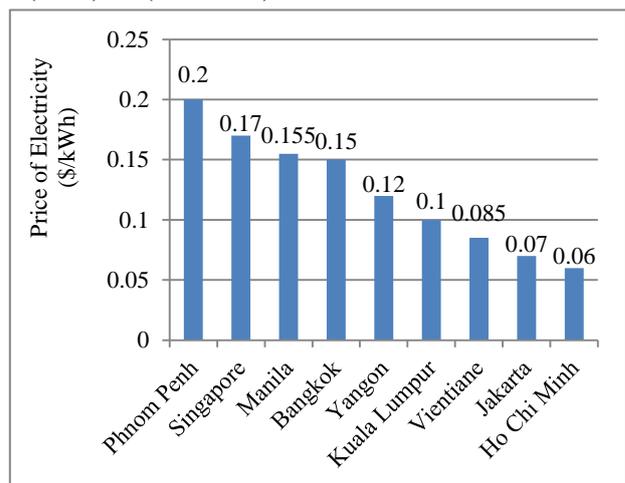
(Source: Prepared by study group based on Asia/World Energy Outlook 2013, The Institute of Energy Economics, Japan (2013))

Figure 4-54: Status of energy subsidies (2012) (Reshown)



(Source: Prepared by study group based on IEA's (International Energy Agency) "World Energy Outlook" ADB Database)

Figure 4-55: Electricity price for commercial use (2013) (Reshown)



(Source: Prepared by study group based on JETRO Country / Region-specific Information (J-FILE))

²¹ Trinh Thanh Thuy. "Electricity industry seeks more investment capital" *Viet Nam News*. 21 Jan. 2014 <http://vietnamnews.vn/economy/250430/electricity-industry-seeks-more-investment-capital.html>, accessed May 7, 2014
²² Trinh Thanh Thuy. "Electricity industry seeks more investment capital" *Viet Nam News*. 21 Jan. 2014 <http://vietnamnews.vn/economy/250430/electricity-industry-seeks-more-investment-capital.html>, accessed May 7, 2014

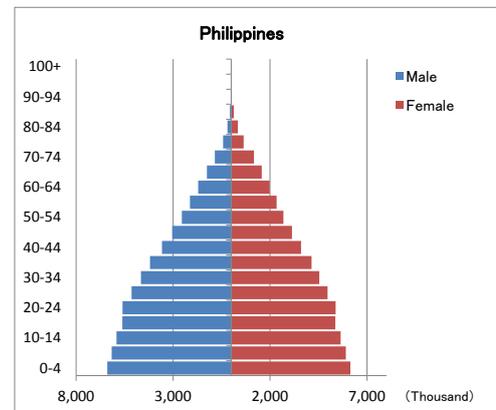
Proposed Measures

- Promotion of investment in the power development field and conduct a systematic revision of electricity charges in order to faithfully implement the Power Development Master Plan (PDP7).
- Encouragement and offer of incentives for the installation of energy-saving mechanical equipment in power-intensive industries.
- Promotion of the modernization and upgrade of equipment and develop engineers and supervisors in order to reduce costs in the fields of power generation, transmission, and distribution.

(5) ASEAN4 (Group1): the Philippines

【Basic information: Projections for 2025】

- **Total GDP:** 535.2 billion dollars (3rd in the region)
- **GDP per Capita:** 4,493 dollars (6th in the region)
- **Total population:** 119.22 million people (2nd in the region)
- **Working-age population rate:** 64.0%
- **Population aging rate:** 5.6%



■ Most Realistic Scenario for 2025

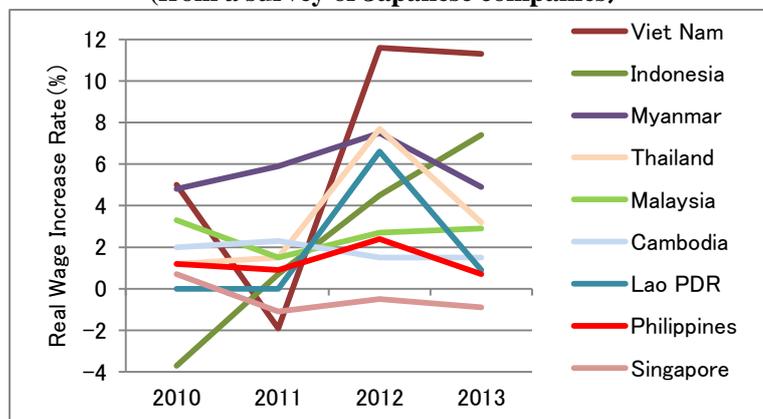
【Expansion of the electric and electronics industry agglomerations】

In the Philippines, it is predicted that a situation of demographic bonus will continue until 2049¹, as will its situation of having an abundant labor force. In addition, as the Philippines' unemployment rate is high, at 7% (2012)² so the rate of increase of real wages will trend at a low value (Fig. 4-56). Also, communications are facilitated by the fact that English is used as an official language and it is highly appealing to companies as an investment destination.

In actuality, while there are differences in foreign direct investment (FDI) in the Philippines according to year, it is trending upwards (Fig. 4-57). Within this trend, the Philippines Economic Zone Authority (PEZA) is the institution that receives investment and the amount of the investment by companies advancing into the export processing zone (EPZ) is considerable, and in 2013 constituted approximately 54.4% of the total FDI (Fig. 4-58). Recently, companies such as Seiko Epson (2011), Canon (2011), and Brother

Industries (2011) have strengthened or built new facilities at their production bases, and the electric and electronic industries are important industries in the Philippines, providing about 60% of the total value of exports. Also, from 2012 the Board of Investment (BOI) has functioned as an institution accepting investments and there has been an

Figure 4-56: Increase rate of real wages (from a survey of Japanese companies)



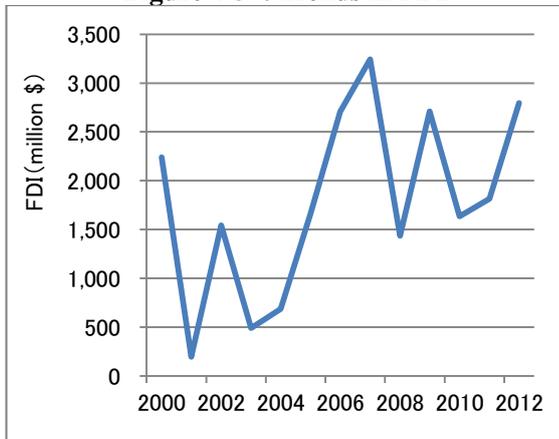
(Source: Created by study team based on JETRO (2013). Status of new industrial agglomerations in Asia)

¹ United Nations Department of Economic and Social Affairs, Population Division “World Population Prospects: The 2012 Revision” survey team estimates from median estimates

² ADB(2013) “Key Indicators for Asia and the Pacific 2013”

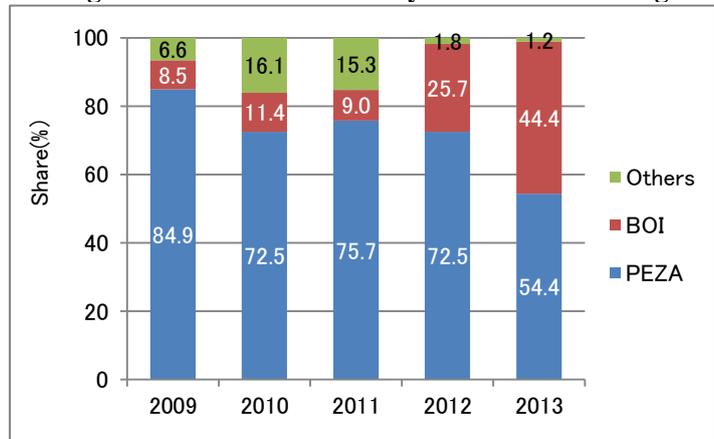
upward trend in investments in investment-priority sectors³, and if the investment environment improves, it is considered that the inflow of FDI will continue.

Figure 4-57: Trends in FDI



(Source: World Bank “World Development Indicators”)

Figure 4-58: Trends in FDI by institution receiving



(Source: Created by study team based on the Philippine National Statistical Coordination Board <http://www.nscb.gov.ph/fiis/DataCharts.asp> (accessed April 25, 2014))

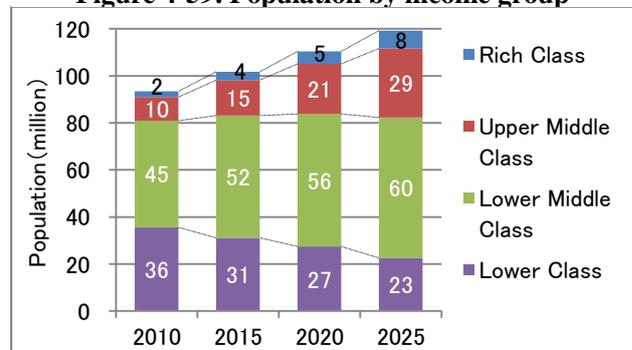
【The expansion of the IT/BPO industry】

In recent years, the Philippines has been utilizing one its strengths, that English is its mother tongue, and rapid growth is expected in its IT/BPO (Business Process Outsourcing) related industry⁴. Profits from the IT/BPO-related industry, which is a BOI investment-priority sector, may grow from being worth 9 billion dollars in 2010 to 25 billion dollars by 2016 (about 9% of GDP), and to be an industry that employs 1.3 million people⁵. The background to the growth of this industry are orders other than for core businesses and demand from companies aiming to reduce their costs, and the scope of orders being accepted is tending to expand toward territories that are close to the core business. As a result, it is thought that this market will not shrink up to 2025. If the Philippines is able to progress its training of human resources who are able to work in this high-value-added IT/BPO-related industry, it is possible that this industry will sustain its growth.

【The consumer market to expand by about 2.7 times】

The Philippines’ middle class is expected to increase from around 55 million people in 2010 to about 89 million people in 2025 (Fig. 4-59), and compared to 2013, the scale of its consumer market is expected to grow by 2.7 times (Fig. 4-60). This means that it will overtake Thailand and become the second largest market in terms of scale in ASEAN, after only Indonesia. Its durable consumer goods market is also forecast to grow, while the

Figure 4-59: Population by income group



(Source: Created by study team based on Euromonitor)

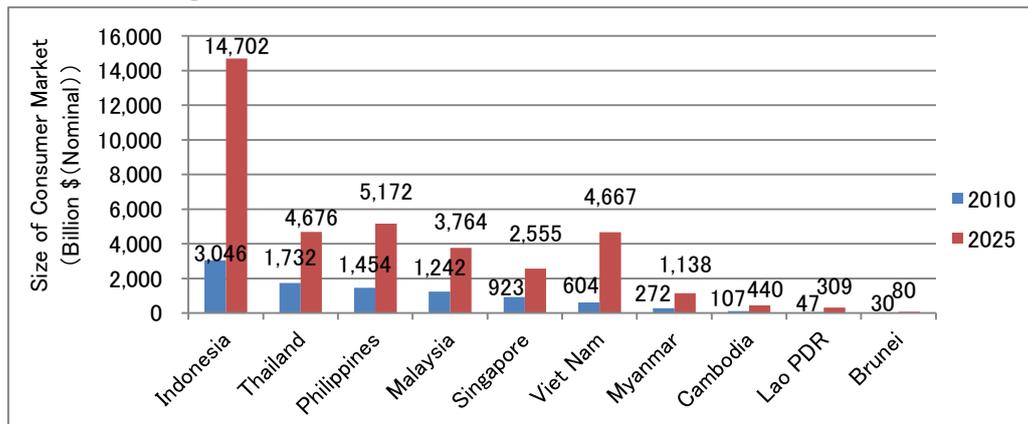
³ Each year, the BOI determines the priority fields within the “Investment Priorities Plan” and 13 fields were selected in 2013

⁴ In business conditions that represent one part of a company’s operations, for example, call centers, software development, etc.

⁵ BPAP (2011)“The Philippines IT/BPO Road Map 2011-2016”

percentage of households owning vehicles is expected to increase from 11.4% in 2013 to 14.1% in 2025.

Figure 4-60: Sizes of domestic consumer markets (Reshown)



(Source: Created by study team based on Euromonitor)

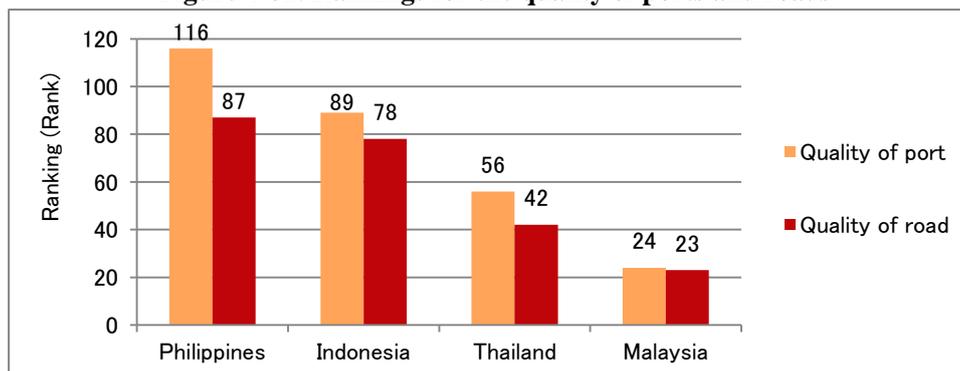
■ Challenges and Proposed Measures for the Realistic Scenario

By 2025, in order for the Philippines to have developed its manufacturing industry, IT/BPO industry, and consumer-related industries, and to have achieved further economic growth, it must address its problems of, “lack of employment opportunities,” “traffic congestion in urban areas,” “power-supply shortages,” “domestic income disparities,” and “delays in improving its trade and investment environment.” To address these problems, it must implement the following measures.

Challenge ①: Lack of Employment Opportunities

If the rate of increase of employers rises at the same pace as between 2008 and 2012, the increase in the number of job opportunities will be less than the increase in the number of workers, (please refer to Chapter 3 “Labor environment”), and so the already high unemployment rate of 7.5% (as of January 1, 2014)⁶ may climb higher. In order to increase employment, the Philippines must progress improvements to the business environment and encourage investment and the Aquino administration has positioned infrastructure improvements as the central pillar of its policies⁷. However, in the rankings of the World Economic Forum, the Philippines’ evaluation is particularly low for the quality of its infrastructure, such as its ports and roads (Fig. 4-61), and the percentage of GDP that the Philippines government allocates to infrastructure investment is low compared to that of other ASEAN countries⁸. Moreover, incomplete implementation plans and delays in executing plans have been pointed to⁹ and there are high hurdles to be cleared if improvements to the investment environment for companies are to be smoothly advanced.

Figure 4-61: Rankings for the quality of ports and roads



(Source: Created by study team based on the World Economic Forum (2013) “The Global Competitiveness Report 2013-2014”)

⁶ The Philippines Statistics Authority <<http://www.census.gov.ph/statistics/survey/labor-force>> (accessed April 18, 2014)

⁷ Japan Bank for International Cooperation (2012), Infrastructure Overseas Development ⑥ This year is the moment of truth for the Philippines PPP

⁸ IMF (2013) “STAFF REPORT FOR THE 2013 ARTICLE IV CONSULTATION”

⁹ Urata, Shujiro et al. (2013), The ASEAN economy and the trap for middle-income countries, Japan Center for Economic Research

Proposed Measures

- Development and training of human resources capable of creating and implementing infrastructure improvement plans.
- Implementation of system reforms in order to carry out infrastructure improvements that utilize private-sector capital (PPP schemes, etc.)

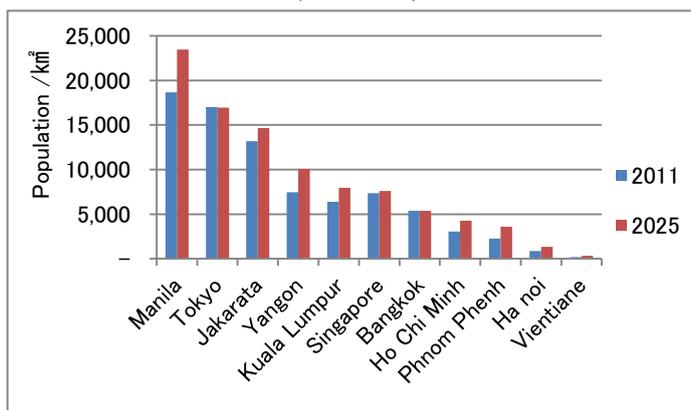
Challenge ②: Traffic Congestion in Urban Areas

As of 2011, Manila’s population density of 18,650 people/km² was higher than that of Tokyo (17,010 people/km²) and by 2025 it will have increased by 1.3 times to 23,453 people/km², meaning it will be the city in ASEAN with the highest population density (Fig. 4-62).

Going forward, vehicle ownership will become over more widespread in conjunction with the increase of the middle class, and the percentage of households owning vehicles is set to increase from 11.4% in 2013 to 14.1% in 202¹⁰. In particular, there are many high-income households in the area

surrounding Manila, so the increase in the number of vehicles in this area will be above the ownership rate for Manila itself. As a result, the importance of the city’s transit system is increasing. But Manila’s LRT and MRT consists only of three lines with a total length of 48km¹¹ (total for LRT and MRT) (Fig. 4-63).

Figure 4-62: Changes in population densities (2011-2025) (Reshown)



(Source: Created by study team based on UNHABITAT “State of the World’s Cities 2012/2013, and each city’s homepage)

Proposed Measures

- Promotion of improvements to Manila’s mass transit (LRT, monorail, subway).
- Extension of railway lines to the suburbs and expand the sphere in which commuting is possible.
- Promotion of the mass transit use by developing commercial facilities and residential areas centered on their stations.

Figure 4-63: Manila’s LRT and MRT network



(Source: Philippine Maps <http://www.maps.nfo.ph/manila-lrt-mrt-map-2/>(accessed on May 7, 2014)

¹⁰ Euromonitor

¹¹ JBIC (2013), The Philippines investment environment

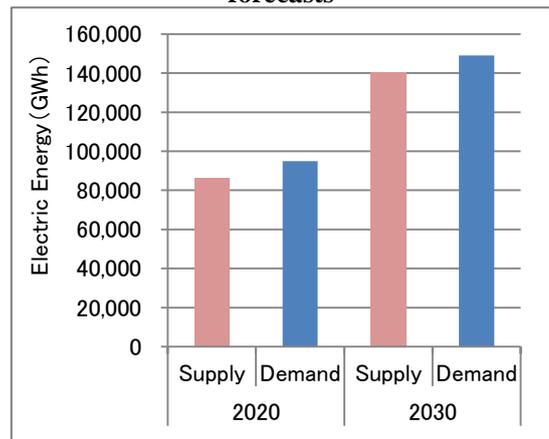
Challenge ③: Power Supply Shortage

Based on present generating capacity, it is forecast that the Philippines will have a power-supply shortage from 2016 onwards¹². Therefore, it is estimated that by 2030 it needs to invest 7.268 trillion yen (which is 1.6 times its national budget of 2013)¹³. Also, ERIA has forecast that up to 2020 and 2030, the demand for power will exceed its supply (Fig. 4-64).

Proposed Measures

- Promotion of increasing energy efficiency by newly constructing highly efficient thermal power plants and upgrading existing ones.
- Promotion of price reductions of retail power prices by creating a competitive environment.

Figure 4-64: Electric power supply / demand forecasts



(Source: Created by study team based on ERIA(2013), “Study on Effective Investment of Power Infrastructure in East Asia Through Power Grid Interconnection”)

Challenge ④: Domestic Income Disparities

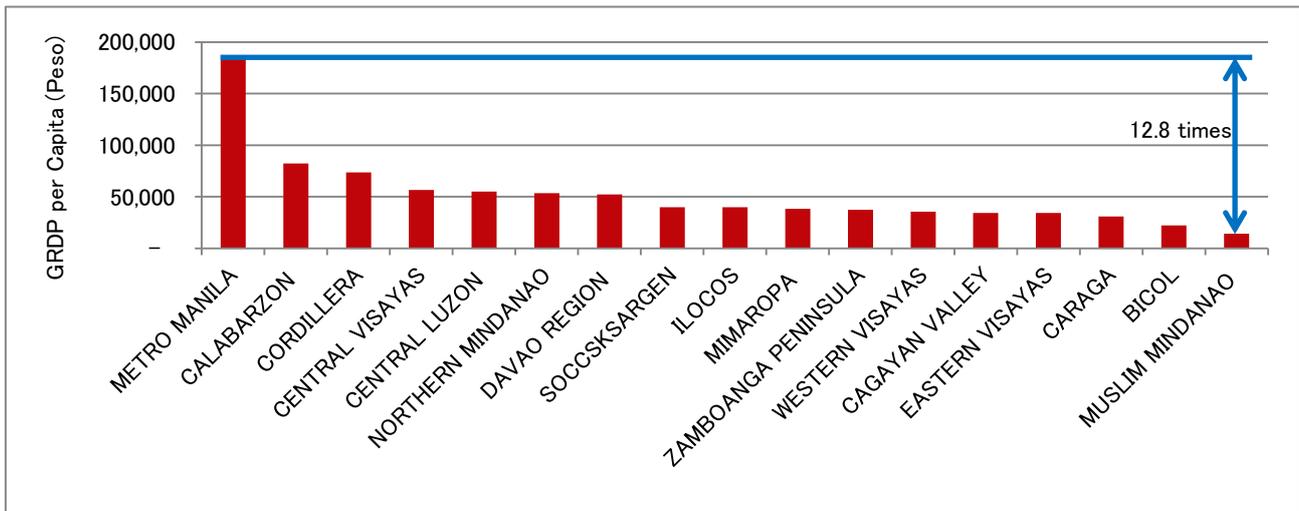
There are major income disparities within the Philippines, and in the GRDP (Gross Regional Domestic Product) data, which is GDP according to region, the total of Manila, which is the highest, is approximately 12.8 times that of Mindanao, which is the lowest (Fig. 4-65). Furthermore, as this rate was 11.8 times in 2010, we can see that the extent of the disparity is further increasing (Fig. 4-66). If industries are not promoted and a safety net put in place in regions of relatively low income, then the disparities will further increase and it might become a factor behind social instability.

In Mindanao, there have been concerns that the security situation would deteriorate due to a conflict that has gone on for many years and investment by companies has slumped. But in January 2014, the Philippines government and the Moro Islamic Liberation Front (MILF) reached an agreement in peace talks. In 2016, when a new autonomous government is inaugurated in Mindanao, it is possible that the investment environment will improve and the regional disparities will shrink.

¹² Philippine Energy Plan 2012-2030

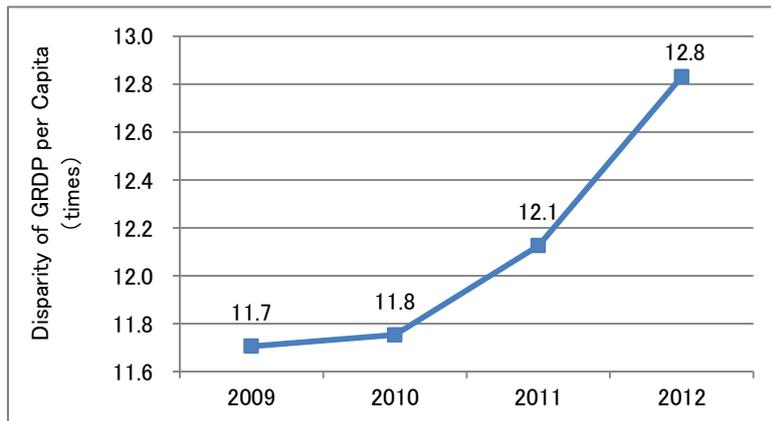
¹³ Calculated by the survey team from Sankei Biz March 7, 2013, Department of Budget and Management STATUS OF CY 2013 ALLOTMENT RELEASES As of August 31, 2013

Figure 4-65: Disparities within the Philippines (2012)



(Source: Created by study team based on the Philippine Statistics Authority)

Figure 4-66: Domestic disparities (between Manila and Mindanao)



(Source: Created by study team based on National Statistical Coordination Board "GRDP by region")

Proposed Measures

- Attracting production bases for vehicles and consumer electronics industries, where demand is expected to increase due to the growth of the middle class, and employ workers flowing into urban areas from rural areas.
- Provision of incentives for cultivating agricultural products for which demand is increasing, and develop the food processing industry in order to create employment in rural areas.
- Ensuring the peace agreement on Mindanao Island in order to improve investment environment on the island for the regional development.

Challenge ⑤: Delays in Improving the Trade and Investment Environment.

According to “Doing Business 2014,” the evaluation of the Philippines was particularly low for “Business start-up procedures” for which it was ranked 170th out of 189 countries (Fig. 4-67). In the Philippines, to start-up a business you must complete 15 procedures taking 35 days. It is clear to see how inconvenient this is when it is compared to the situation in 3rd ranked Singapore, which requires only 2.5 days.

Elsewhere it received a low evaluation for items such as “Tax payments,” “Protection of investors,” and “Registering of assets” and in order to create employment, the Philippines needs to simplify its procedures and improve its systems in order to attract investment from companies.

Figure 4-67:
Doing business rankings

	TOPICS	2014	2013
1	Starting a Business	170	166
2	Dealing with Construction Permits	99	95
3	Getting Electricity	33	33
4	Registering Property	121	119
5	Getting Credit	86	126
6	Protecting Investors	128	127
7	Paying Taxes	131	144
8	Trading Across Borders	42	41
9	Enforcing Contracts	114	112
10	Resolving Insolvency	100	164

(Source: World Bank and International Finance Corporation (2013) “Doing Business 2014 Economy Profile Philippines”)

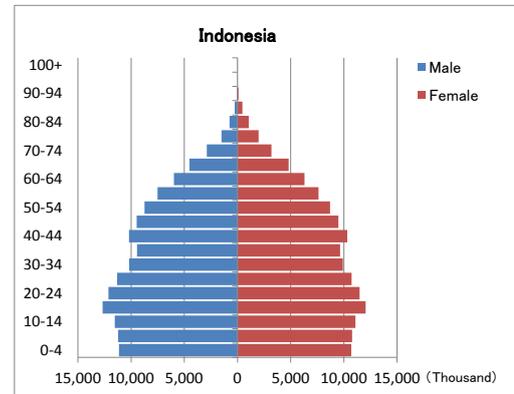
Proposed Measures

- Training of human resources who are able to simplify and improve government procedures and systems.
- Implementation of electronic administration process systems in order to increase the administration efficiency.

(6) ASEAN 4 (Group 1): Indonesia

【Basic information: Projections for 2025】

- **Total GDP:** \$1.8823 trillion (1st in the region)
- **GDP per Capita:** \$6,713 (5th in the region)
- **Total population:** 200.082011 million (1st in the region)
- **Working-age population rate:** 69%
- **Population aging rate:** 7.7% (Aging society)

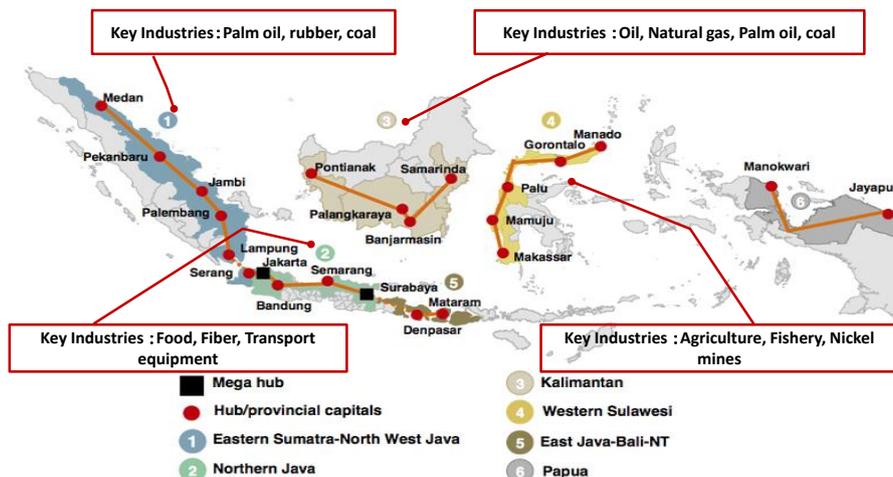


■ Most Realistic Scenarios for 2025

【Regional economic development through the growth of six economic corridors】

In 2011, Indonesia announced the Master Plan for the Acceleration and Expansion of Indonesian Economic Growth (MP3EI), a long-term growth plan designed to transform Indonesia into one of the world's top 10 economies by 2025. The core of this plan is to establish strategic access to the world's distribution networks by creating six economic corridors in the archipelago (1. Sumatra, 2. Java, 3. Kalimantan, 4. Sulawesi, 5. Bali / Nusa Tenggara 6. Papua / Maluku), and then investing in infrastructure to drive regional economic growth. The minimum proposed amount of investment in infrastructure projects over the 15 years from 2011 through 2025 is 4,000 trillion Indonesian rupiah's (US\$435.0 billion). If this large-scale investment plan is carried out as projected, Indonesia can be expected to achieve rapid economic growth as a result of increases in productivity, supported by its large population of working age, and solid internal demand.

Figure 4-68: Vision for six Indonesian economic corridors



(Source: Japanese Ministry of Economy, Trade and Industry: "Long Run Development Plan for Six National Economic Corridors.")

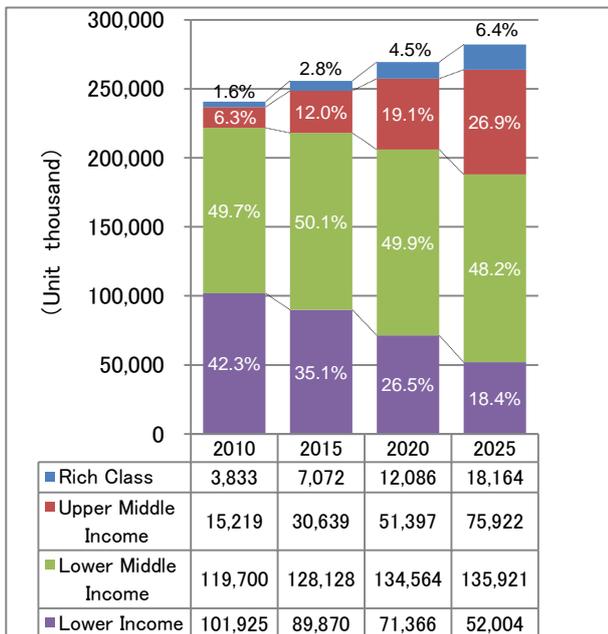
【Growth of service industry】

<Expanding the scale of consumption and achieving more sophisticated consumption>

In 2025, more than 70% of the population of Indonesia will be in the middle income bracket (lower-middle-income and upper-middle-income), with a particularly dramatic increase in the upper-middle-income population (Fig. 4-69). A movement from the low income brackets through to the lower-middle-income bracket is also projected, raising average incomes and contributing to the dramatic increase in consumption.

In addition to the great consumption, the increase in upper-middle-income population is also expected to increase the market for high-value-added products with superior functionality and high-value consumer durables as well as the market services. Fig. 4-70 shows the gross regional domestic product (GRDP) for Indonesia's top 10 regions. Growth is particularly noticeable in major cities in DKI Jakarta and the island of Java where the population is concentrated and average incomes are highest. Generally speaking, income rises not only raise living standards and improve purchasing power, but also bring about changes in consumer needs. In 2010, the low income bracket accounted for approximately 40% of the population, but the proportion was expected to half by 2025, and the upper-middle-income bracket, which accounted for less than 10% of the population, is expected to increase by 4.2 times. As a result of this income changes, consumption patterns are expected to become more sophisticated with a transition from basic products and services to products and services that fulfill the need for convenience and comfort.

Figure 4-69: Population by income sector (2010–2025)

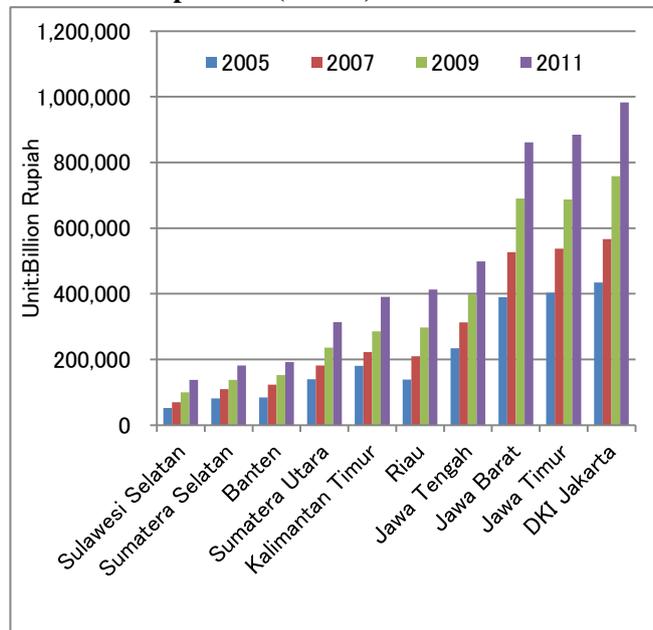


(Note: The figures below are disposable household income of each income sector.)

- High income: more than \$35,000 a year
- Upper-middle income: \$15,000–\$34,999 per year
- Lower-middle income: \$5,000–\$14,999 per year
- Low income: less than \$4,999 per year

(Source: Created by study team based on Euromonitor International 2014.)

Figure 4-70: Gross regional domestic product (GRDP) in Indonesia



(Note: GRDP for Indonesia's top 10 regions)

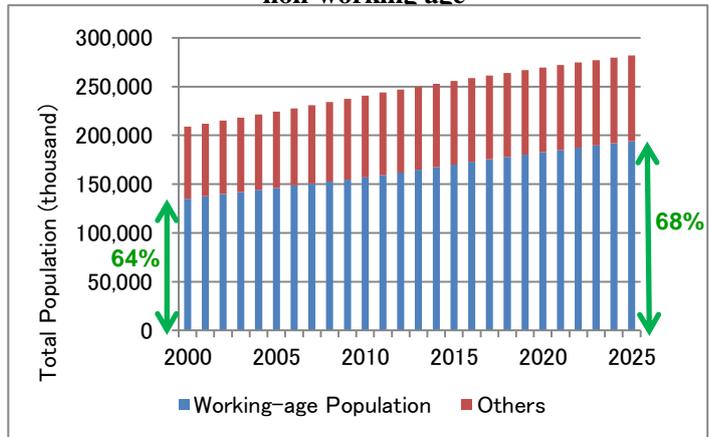
(Source: Created by study team based on data from Statistics Indonesia.)

【Development as a center for the production and consumption of automobiles】

<Adundant labor force supports role as production center>

In 2025, the population of Indonesia is expected to reach approximately 280 million people, which will account for approximately 40% of the population of ASEAN. Indonesia’s demographic window of opportunity began in the 1970s, and it is expected to continue until 2026, and therefore the country should, for well in excess of another 10 years, be able to maintain economic growth by effectively harnessing its abundant labor force. In addition, 68% of total population is of working age. Indonesia has the largest population of working age in ASEAN (approximately 193 million people), which gives Indonesia advantage as a manufacturing center.

Figure 4-71: Changes in population of working age and non-working age

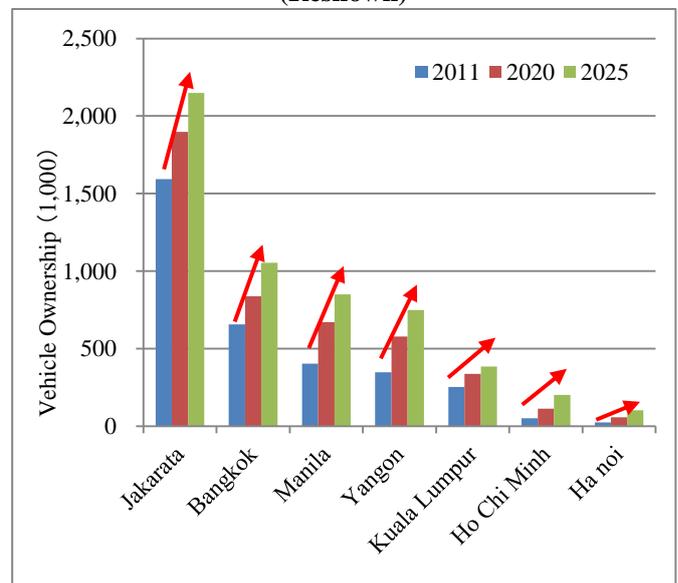


(Source: Created by study team based on the Population Division of the United Nations Department of Economic and Social Affairs of the United Nations Secretariat (2012).“World Population Prospects: The 2012 Revision.”)

<Automobile market growth>

In 2025, more than 70% of Indonesia’s total population is expected to belong to the middle-income sector, and this is projected to lead to an expansion in the automobile market due to the larger population of people in a position to purchase automobiles. Projections of vehicle ownership for major cities in ASEAN show that from 2011 through 2025, the number of automobiles in Jakarta is expected to increase by 550,000 units, which is equivalent to the number of vehicles on the road in Manila in 2011 (Fig. 4-72).

Figure 4-72 Forecasts for vehicle ownership by city (Reshown)



(Source: Created by study team based on UNHABITAT "State of the World's Cities 2012/2013" and the United Nations Department of Economic and Social Affairs, Population Division" World Population Prospects: The 2012 Revision", The Institute of Energy Economics, Japan, "Asia/world energy outlook 2013")

Furthermore, since 2013, the Indonesian government has been rolling out its Low-Cost Green Car (LCGC) tax benefit policy, and the Association of Indonesian Automotive Industries (Gaikindo) expects sales of LCGCs to increase from 51,180 in 2013 to more than 100,000 in 2014.¹ Various automobile manufacturers already decided to install new production lines in Indonesia, and among Japanese manufacturers, which have 95% share of Indonesia’s

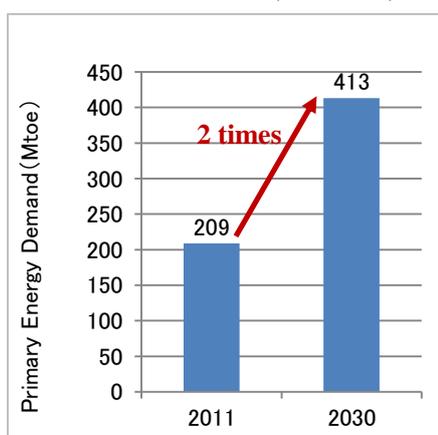
¹ <http://www.gaikindo.or.id/>, accessed February 6, 2014.

automobile market, Honda and Suzuki will start operations at new plants during 2014, Daihatsu is scheduled to introduce a new production line during 2015, and Toyota plans to start operations at the new engine plant during 2016.² Indonesia's automobile market is expected to show further growth, in terms of both automobile consumption and production, driven by the expansion in the middle income bracket leading up to 2025, the development of motorization, tax benefit policies and other factors.

【Transition to energy structure that prioritizes the low burden on the environment】

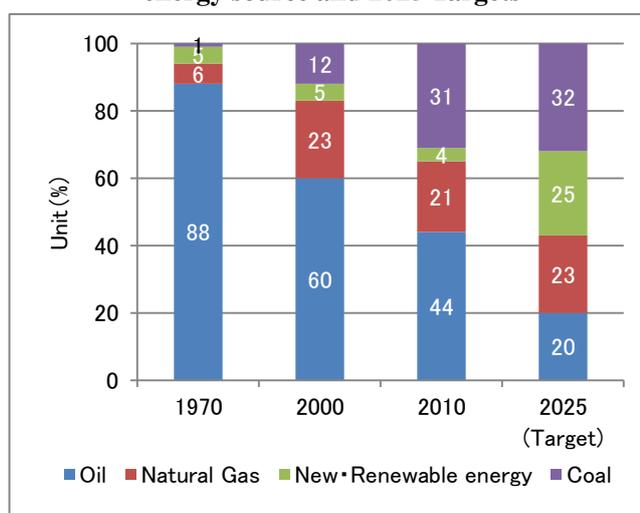
As internal demand expands, Indonesia's energy demand is expected to roughly double by 2030 (Fig. 4-73). Under its Vision 25/25, Indonesia's government is also calling for the expanded use of new and renewable energy sources to break away from dependence on oil which Indonesia has begun importing. Specifically, the government has set numerical targets aiming to expand the proportion of new and renewable energy sources in the energy mix, which was 4% in 2010, to 25% by 2025, while reducing the 60% contribution of oil by one third to 20%. In the renewable energy field, Indonesia is particularly keen to adopt capital and technology from overseas for the development of geothermal energy, and has already secured \$400 million in financial support³ from the World Bank's Clean Technology Fund. By encouraging further overseas investment in the run-up to 2025, Indonesia is expected to continue modifying its energy mix to achieve a balance that places a low burden on the environment.

Figure 4-73: Electric power supply / demand forecasts (Reshown)



(Source: "Asia/World Energy Outlook 2013," The Institute of Energy Economics, Japan.)

Figure 4-74: Changes in Indonesia's Primary energy source and 2025 Targets



(Source: Created by study team based on Energy Efficiency and Conservation Clearing House Indonesia, Vision25/25.)

² See various media reports.

³ Climate Investment Funds (2010) Clean Technology Fund Investment Plan for Indonesia.

■ Challenges and Proposed Measures Related to the Most Realistic Scenarios

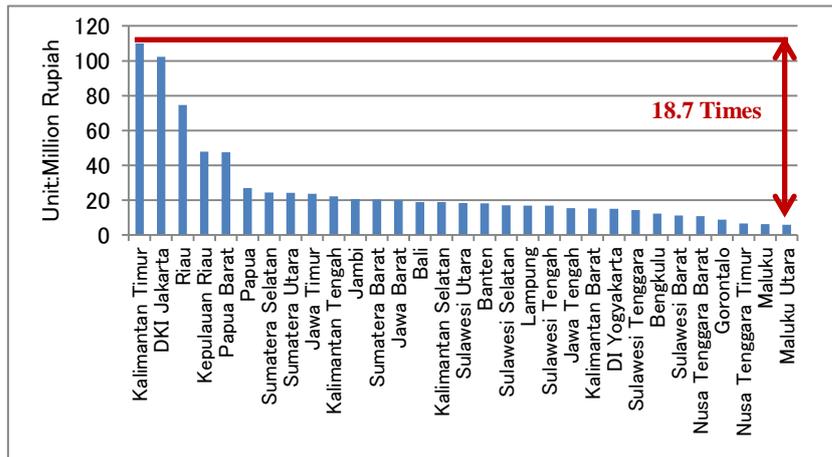
For Indonesia to achieve future stable economic growth, the country needs to address various issues including domestic income disparities, traffic congestion in urban areas, extremely low wage rates and education standards and the lagging development of physical infrastructure and infrastructure systems.

Challenge ①: Domestic Income Disparity

While strong domestic demand is driving the Indonesian economy, domestic income disparities are widening and it may also lead to the development of social instability. The comparison of GRDP per capita shows that there is a difference of 18.7 times between Kalimantan Timur and Maluku Utara (Fig. 4-75).

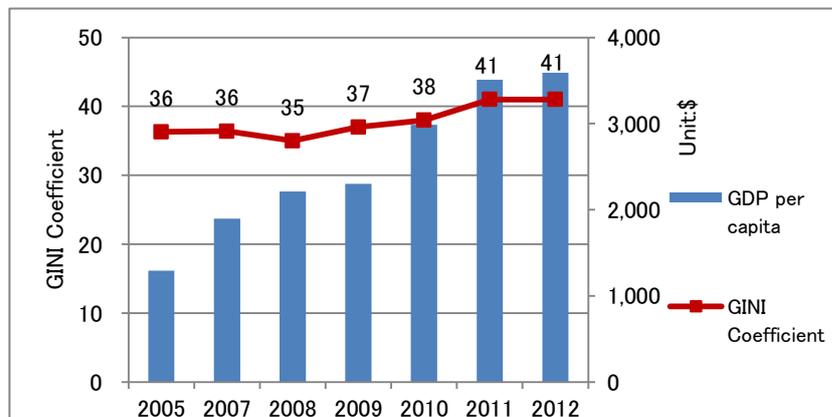
Furthermore, the Gini coefficient in Indonesia has been rising since 2008, and has exceeded 40 since 2011, when GDP per capita reached \$3,000, the level at which consumer durables begin to sell (Fig. 4-76). A Gini coefficient of 40 is recognized as a warning line above which social unrest starts to occur. If economic disparities in Indonesia widen still further, there is a possibility of demonstrations, strikes and riots occurring and therefore action is required, such as strengthening the connectivity between urban and rural areas and stimulating regional industries, to ensure that certain regions are not left behind by the country's economic development.

Figure 4-75 GRDP per capita in Indonesia (2012)



(Source: Created by study team based on Statistics Indonesia data)

Figure 4-76 GDP per Capita/Domestic Gini Coefficient



(Source: Created by study team based on Statistics Indonesia data [Gini coefficient] and IMF data [GDP per capita])

Proposed Measures

- Enhancement of connectivity between metropolitan areas and the regions. Incorporate the country's regions into the production networks in metropolitan areas by constructing trunk roads between metropolitan and regional areas and improving other infrastructure (such as electric power infrastructure and encouraging the development of industrial parks).

- Utilization of expenses saved on energy subsidies to stimulate industry and construct infrastructure in regions with low GRDP per capita.

Challenge ②: Traffic Congestion in Urban Areas

As Jakarta and other metropolitan areas in Indonesia are plagued by chronic traffic congestion, urban traffic management plans to address this issue are being put into place, but it remains possible that these plans will fail to keep up with the development of urbanization and the increase in automobile ownership.

In 2025, the proportion of Indonesia's population living in urban areas expected to be 58%, with this population concentration leading to a greater urban than rural population. Furthermore, as Indonesia's GDP per capita in 2011 reached \$3,000, the level at which sales of consumer durables tend to accelerate, the increase in income is expected to lead to further increases in automobile ownership from the level of one vehicle per every four persons recorded in 2011.⁴

However, one reason for the ongoing chronic traffic congestion is that as traffic volumes increase, there is a shortfall of traffic demand management know-how and qualified personnel,⁵ and distribution inefficiencies in urban areas resulting from the congestion may obstruct further industrial development.

In addition, logistic insufficiencies in urban areas also prevent consumers from consuming products and services. Many foreign companies, including Japanese companies are entering Indonesian service industries such as the restaurant and the convenience store industry, but the slow pace in the development of refrigerated storage and transportation facilities (cold chain facilities) is proving to be a serious problem.⁶ The Indonesian diet is becoming increasingly diverse and sophisticated, principally in urban areas, and in future years, we expect to see an increase in demand for fresh produce and further consumer interest in food safety as income levels rise. Currently, there is no single logistics company with cold chain operations extending throughout Indonesia and each company has to build their own cold chain,⁷ and this not only obstructs the participation of foreign retail companies in the Indonesian market but may also make it difficult to meet growing consumer needs.

For Indonesia to harnesses internal demand and achieve further growth, the following measures need to be implemented to combat traffic congestion in urban areas.

Proposed Measures

- Introduction and expansion of the usage of traffic demand management and train appropriate personnel.
- Provision of alternative methods of transportation through measures such as an expanded public transportation network.

⁴ Japan Automobile Manufacturers Association, Inc. (JAMA)

⁵ METI (2011) Fiscal 2011, Survey on Private Sector Infrastructure Projects.

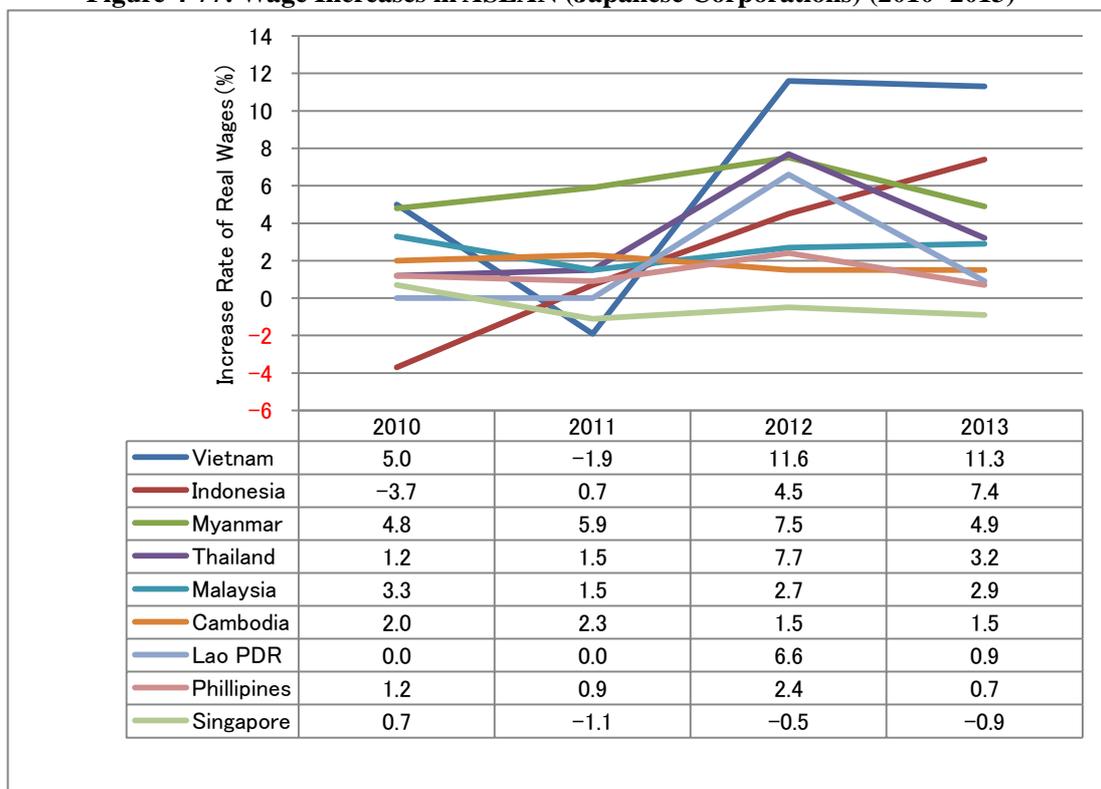
⁶ Expert committee meeting: Major convenience store executive, October 23, 2013.

⁷ JETRO Logistics surveys: Indonesia logistics reports.

Challenge ③: Sharp Increase of Wage Level and Educational Standards

Within ASEAN, we are observing an increasing international spread of the distribution of production as companies harness differences in wage levels and risk hedge their Thailand operations. Indonesia is competitive as an alternative production and export location due to its low wage levels. Fig. 4-77 summarizes minimum wages paid by Japanese corporations with operations in ASEAN. Wages in Indonesia have been rising since 2012 and further rises during 2014 have already been finalized. In DKI Jakarta, where the minimum wage is highest, minimum wages rose from approximately 2.2 million rupiah in 2013 to approximately 2.4 million rupiah in 2014, a year on year increase of 11%.⁸ In 2013, a federation of labor unions took the lead in staging large-scale demonstrations across the country calling for a 50% year on year rise in wages. Such developments may result in further upward wage pressure.

Figure 4-77: Wage Increases in ASEAN (Japanese Corporations) (2010–2013)

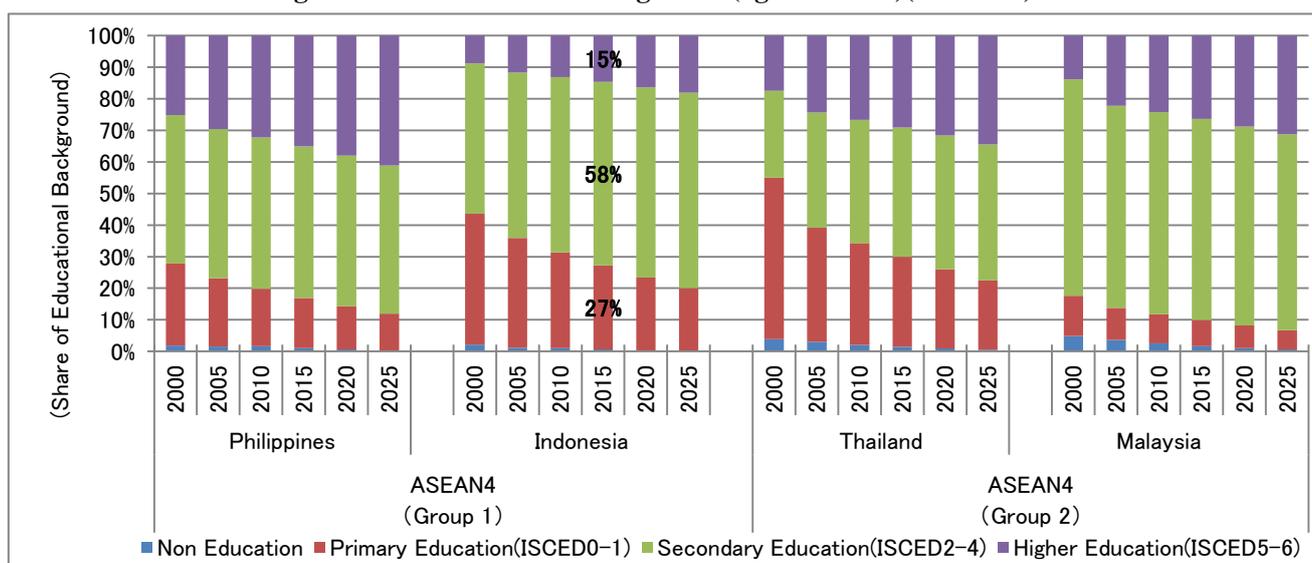


(Source: Created by study team based on JETRO’s “New Industrial Accumulation in Asia, September 2013.”)

⁸ JETRO Hideki Fujie, *Tsusho Koho* (World Business News), November 12, 2013.

It will be impossible to avoid future wage rises, and a key issue for Indonesia in maintaining international competitiveness in its labor market will be securing a quality of labor commensurate with those higher wages. However, one characteristic of Indonesia is that the proportion of young people entering higher education is the lowest of the ASEAN 4 nations, and predictive data from the International Institute for Applied Systems Analysis (IIASA)⁹ suggests that there will be a future shortage of personnel required for the managerial class and high-level processes. As of 2015, the percentage of Indonesians aged between 25 and 29 who have finished tertiary education will be 15% (Fig. 4-78), and predictive data suggests that 10 years later in 2025 when this generation is between 35 and 39, workers in the managerial class and workers involved in high-level processes will account for less than 15% of the workforce. As 2015 data shows that those who have completed only secondary education account for approximately 85% of the workforce, this will, in 2025, become the percentage of the population aged between 35 and 39 who did not complete tertiary education. Since this projected data is calculated using global averages for increases in educational standards, we need to consider that future increases in educational standards in Indonesia may differ to some degree, but since wages are expected to continue rising, Indonesia needs to improve access to education, improve the quality of education and educate a high-quality workforce if it is to maintain its competitiveness as a production and export center.

Figure 4-78: Educational Background (ages of 25-29)(Reshown)



(Source: Created by study team based on IIASA “Projection of populations by level of educational attainment, and, age and sex for 120 countries for 2005–2050,” September 2010.)

Proposed Measures

- Promotion of computer-enabled distance-learning and the necessary ICT infrastructure in order to improve access to education among less affluent communities, in rural villages and more isolated islands.
- Encouragement of the preparation and introduction of programs to raise the standard of basic education and accept domestic and overseas experts in order to boost overall educational standards.

⁹ Educational standards for people between 25 and 29 expressed in terms of final completed level of education up to 2025; data up to 2000 is actual data.

- Promotion of coordination with overseas educational institutions in order to improve the quality of tertiary education.

Challenge ④: Delay in Development of Trade and Investment Infrastructure

Since 2010, the Indonesian government has, in response to requests from Indonesia’s business community to take action over the increasing volume of imports, introduced various protectionist policies such as the introduction of various trade relief measures (on products such as cold-rolled steel plates), stronger restrictions on imports by requiring importers to reapply for their import license, and introduction of various mandatory standards. There is growing concerns regarding FTAs, and, unlike other major countries in ASEAN, the Indonesian government says that it will not participate in the TPP. This conservative attitude towards trade liberalization is one factor reducing the desire of companies to invest in Indonesia and this could serve to hamper Indonesia’s future growth as a production and export center. Furthermore, various problems with Indonesia’s trade procedures have been pointed out including slow customs procedures and over-reliance on specific individuals (failure to standardize).¹⁰ Slow customs procedures lead to increased logistics costs and reduce Indonesia’s competitiveness as a trading nation.

Proposed Measures

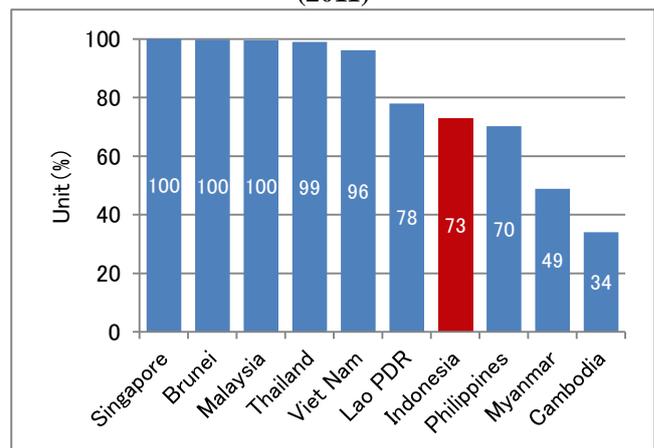
- Encouragement of investment by foreign companies through the creation of a favorable investment environment that is more attractive than countries participating in the TPP.
- Modification of workflow processes to improve the efficiency of customs procedures, education of staff and building systems for monitoring the progress of work.

Challenge ⑤: Lack of Physical Infrastructure

If infrastructure development is slow-paced, it raises distribution costs which may reduce the motivation of companies to invest. In future, if Indonesia is to develop further as a production and export center, it needs to address various obstacles to economic development including the low rate of connection to the electricity grid, problems with procedures required to conclude electricity contracts (these procedures are very time-consuming and rated 121st out of 189 countries according to Doing Business 2014), as well as the lack of road and port infrastructure.

Rates of access to grid electricity are lower in Indonesia than in Laos and Vietnam, which have lower GDP per capita than Indonesia. The rate was just 73% in 2011.

Figure 4-79: Access to electricity grids by country (2011)



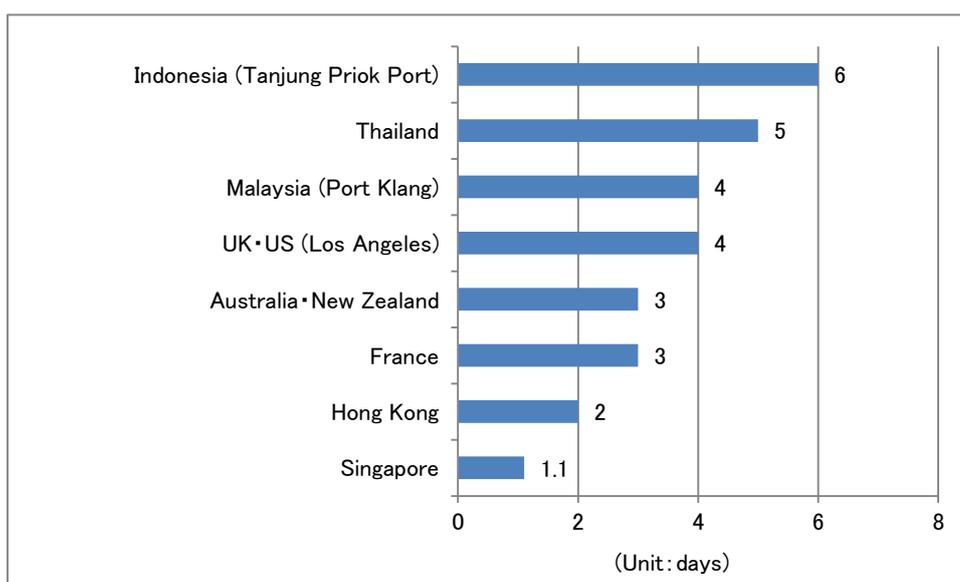
(Source: Created by study team based on the World Bank “World Development Indicators.”)

¹⁰ JETRO (2013) “Recent Developments in Distribution and Customs in the ASEAN / Mekong Region.”

Furthermore, as there is only a limited network of highways linking Indonesia’s major cities, trucks carrying goods, buses and passenger cars all converge on the same roads. The lack of development in Indonesia’s road network is due to legal issues connected to the requisition of the land required for road construction, and problems with negotiations over compensation payments to residents. The planned construction of a highway costing 6 trillion rupiah (approximately 50 billion yen) and linking Soekarno-Hatta International Airport on the outskirts of Jakarta with residential areas is seen as a potential means of reducing traffic congestion, but this project has also been hampered by land requisition issues.¹¹ The plan to develop six economic corridors also calls for the investment of 4,000 trillion rupiah during its first phase, of which 60% is to be provided by the private sector, including by foreign capital, but since investor incentive systems remain weak, the plan may be delayed by the failure to build an environment conducive to attracting foreign investment.

There are also problems relating to insufficient facilities at Indonesia’s largest international port facility of Tanjung Priok. In Indonesia, cargo is held in port for an average period of six days, longer than in other nations (Fig. 4-80). In addition, the port suffers from other problems including a lack of depth, a lack of wharfs and cargo handling facilities, and chronic problems with port congestion due to irregular connection plans [unplanned road development].¹² Unless the status quo changes, it is clear that port infrastructure will hamper economic growth.

Figures 4-80: Comparison of time taken to clear international cargo ports (2011)



(Source: Prakarsa, No10, April 2012)

Given the current situation, the following measures are proposed for Indonesia to harness its expanding internal demand and its abundant labor market to achieve further growth.

¹¹ Nikkei Shimbun, October 29, 2012.

¹² JETRO (2013) “Recent Developments in Distribution and Customs in the ASEAN / Mekong Region.”

Proposed Measures

- Improvement of the legal environment connected with land requisition.
- Creation of investment plans that can encourage private-sector investment, expansion of investment incentives and development of a favorable investment environment.
- Creation of operational guidelines and standardization of documentation for the sustainable procurement of capital that harnesses PPP.

Challenge ⑥: The Financial Burden on the Government of Energy Subsidies

Demand for energy in Indonesia is expected to approximately double between 2011 and 2030 (Fig. 4-81).

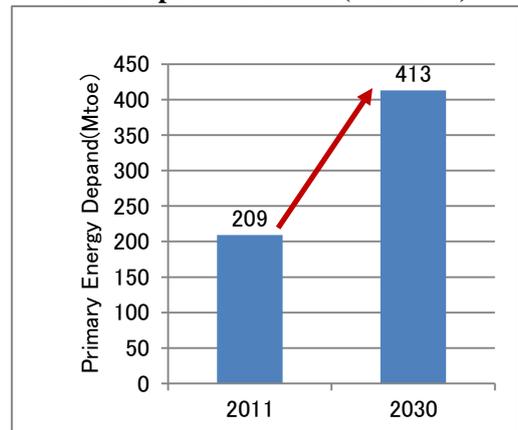
To meet this increasing demand for energy, not only does more energy needs to be generated, but energy efficiency must also be improved. However, Indonesia currently lacks the technology and incentives and subsidies systems required to promote energy conservation.

In addition, since Indonesia has kept down the retail price of fuel by providing subsidies to make up the difference between the fixed retail price and the actual cost of fuel, Indonesia spent approximately 30% of its GDP in 2012 on such electricity and energy subsidies (Fig. 4-82). However, it was pointed out that the

increasing demand for energy as a result of the increasing population and rising income levels was placing increasing pressure on government finances. Therefore, in June 2013, in order to reduce the annual amount of subsidies by \$20 billion (approximately 2.1 trillion yen), the Indonesian government increased the price of gasoline by 44%. Although this is to be welcomed over the long term as a means of achieving sound fiscal management, in the short term, this could lead to increased distribution costs and demands from employees for higher wages. Furthermore, raising the price of fuel may place a large burden on lower income people. Therefore, it may become difficult for the government to continue with this policy in the face of domestic pressure and opposition.

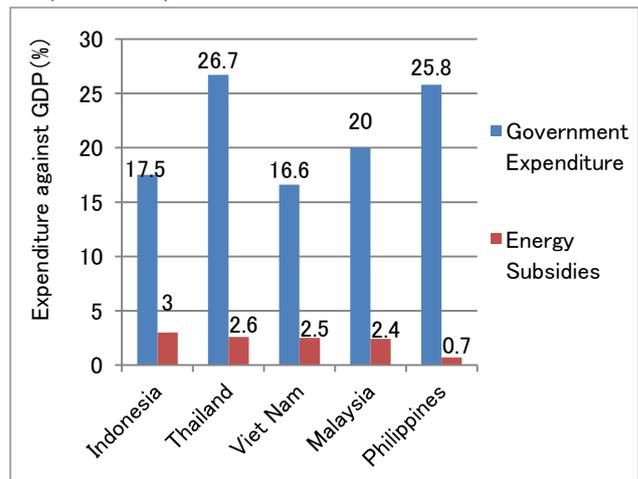
To achieve continued economic growth, the government needs to implement the measures below to address the issues of energy efficiency and continue its policy of reducing money spent on energy subsidies.

Figure 4-81: Primary energy consumption forecasts (Reshown)



(Source: Created by study team based on Asia/Global Energy Outlook, 2013, the Institute of Energy Economics, Japan)

Figure 4-82: Status of energy subsidies (2012) (Reshown)



(Source: Created by study team based on IEA's (International Energy Agency) "World Energy Outlook" ADB Database)

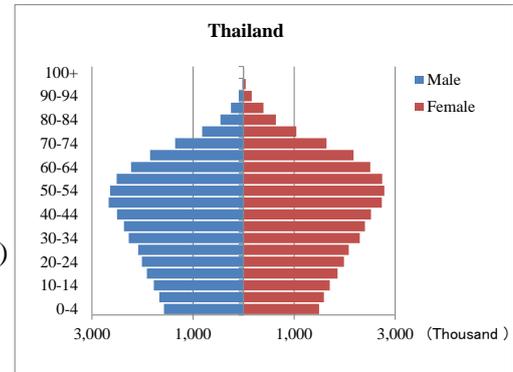
Proposed Measures

- Development of systems and introduction of incentive systems for investment in energy-saving and the introduction of energy-saving technology in industries consuming large amounts of energy (such as industrial production).
- Continuation of the policy of reducing funds spending on energy subsidies and utilization of the saving for public expenditure that will stimulate growth, such as infrastructure and education projects.
- Development of social insurance systems that will reduce the burden on lower income households of the reduction in energy subsidies.
- Encouragement of investment in facilities for diversification of the energy mix and putting systems in place to accept engineers from overseas in order to develop stable domestic electricity supply systems that can cope with increases in electricity demand.

(7) ASEAN4 (Group2): Thailand

【Basic information: Projections for 2025】

- **Total GDP:** 690.8 billion dollars (2nd in the region)
- **GDP per Capita:** 9,734 dollars (4th in the region)
- **Total population:** About 67.9 million people (4th in the region)
- **Working-age population rate:** 69.4%
- **Population aging rate:** 16.1% (Aged society)



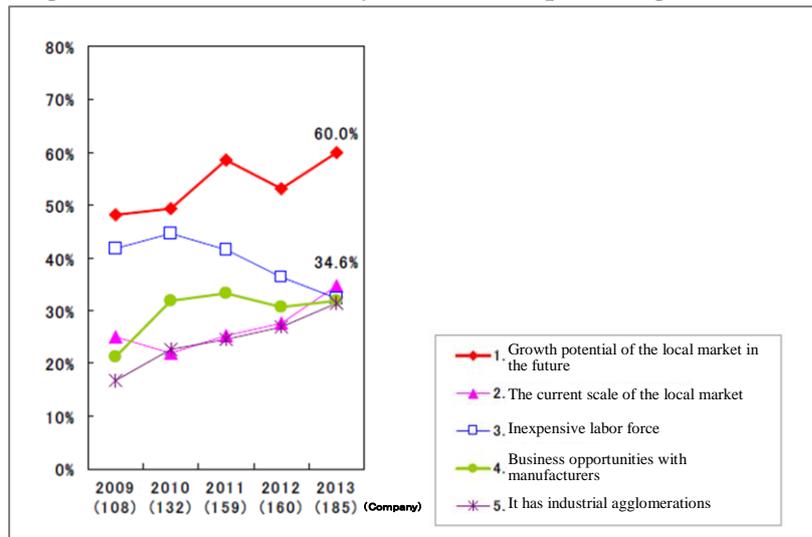
■ Most Realistic Scenario for 2025

【Expansion of industrial agglomerations into neighboring countries】

Thailand is the pre-eminent location for industrial agglomerations in ASEAN and ranks first for automotive production in the region¹

JBIC conducted a survey of Japanese companies², in which Thailand placed third after Indonesia and India among the most promising countries in which to develop business in the medium term (the next three fiscal years). Also, among the reasons given for considering it promising, even though expectations for its inexpensive labor force are declining, there was an increase in

Figure 4-83: The reasons why Thailand is a promising investment



(Source; JBIC (2013) Survey report on the development of overseas projects by Japan's manufacturing companies)

reasons such as “Growth potential of the local market in the future,” “The current scale of the local market,” and “It has industrial agglomerations”(Fig. 4-83). In other words, it is considered that Thailand is benefiting from a virtuous circle, in which the existence of the market and the industrial agglomerations attracts investment, which in turn leads to further expansions of the market and the industrial agglomerations.

In recent years, there has been an increase in R&D bases in order to localize products, and investment is expected to increase even in fields that demand high-level human resources.

¹ JETRO (2013), Trends in auto production and sales in the world's main countries 2012

² JBIC (2013), Survey report on the development of overseas projects by Japan's manufacturing companies

Thailand government's has demonstrated policies of supplementing its labor shortage by increasing its connectivity with neighboring countries (Laos, Cambodia, and Myanmar), expanding its industrial agglomerations, and accumulating more advanced industries within Thailand (Fig. 4-84). If it can avoid a destabilizing political situation or natural disasters, it is consider that it will expand its industrial-agglomeration areas through infrastructure improvements.

Figure 4-84: Wide-area infrastructure improvement plans in Thailand



(Source: NESDB (National Economic and Social Development Board) (2012) “Thailand’s Infrastructure Development Plan and Opportunities”)

【Expansion of the consumer market】

Thailand’s consumer market is expected to expand in conjunction with the increase in its citizens’ disposable incomes. According to forecasts by Euromonitor, incomes are set to increase by approximately 2.3 times between 2013 and 2025. Sales of durable consumer goods are also expected to increase. For example, the rate of vehicle ownership will increase from 16.8% in 2013 to 19.7% in 2025³. It also considered that consumer services (eating out, finance, health care, etc.) will grow.

³ Euromonitor

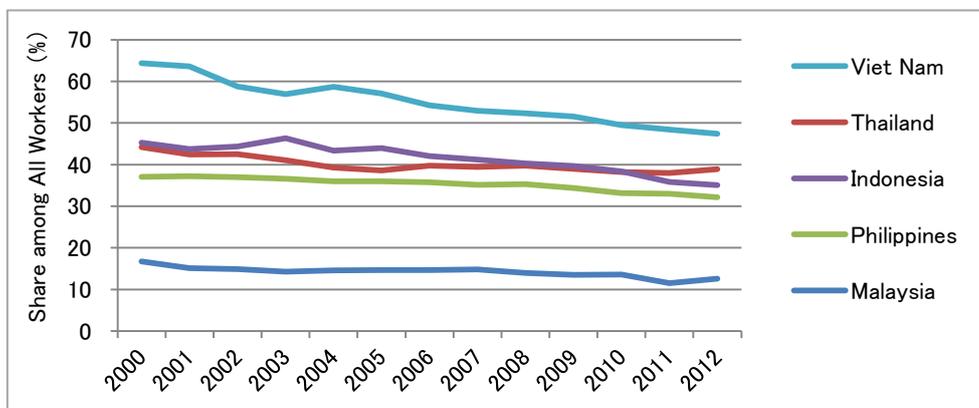
■ Challenges and Proposed Measures for the Realistic Scenario

By 2025, in order for Thailand to have achieved further growth as the central country for industrial agglomerations, it must address the following problems; “immobilization of its agricultural structure,” “low agricultural productivity,” “a labor shortage,” “sharp increase of wages,” “the burden on government finances due to energy subsidies,” “power-supply shortages,” “domestic income disparities” and “domestic educational disparities.” The following measures are required to overcome these problems.

Challenge ①: Immobilization of the Agricultural Structure and Low Agricultural Productivity

Generally speaking, in accordance with Petty-Clark’s law, there is a shift of the labor force from the agricultural sector to the manufacturing industry and the service industry in conjunction with economic growth. But in the case of Thailand, the percentage of the population engaged in agricultural work has trended at around the 40% level from 2005 onwards and it is not declining (Fig. 4-85). Thailand is the world’s fifth largest rice-producing country, after China, India, Indonesia, and Viet Nam⁴, but its rice productivity is low (Fig. 4-86). Conversely, its labor shortage has become a pressing issue⁵, particularly for companies in the manufacturing industry. Improvements to productivity would make the same level of agricultural production possible with a smaller labor force, which in turn would make it possible to transfer labor to the manufacturing and service industries. In the background to this problem are political elements that are not easy to resolve, but shifting workers to the manufacturing and service industries would solve the labor shortage problem faced by both industries and push-up the economic growth rate.

Figure 4-85: Percentage of workers employed in the primary industry

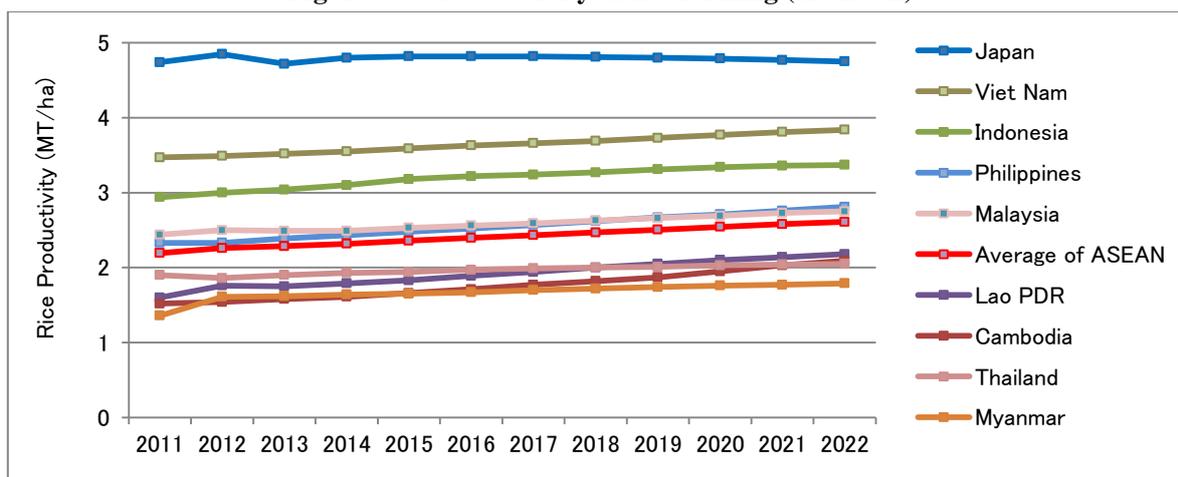


(Source: Created by study team based on ADB (2013) “Key Indicators for Asia and the Pacific”)

⁴ FAOSTAT

⁵ JETRO(2013), The rapidly fluctuating labor and employment environment in East Asia and government and industry responses

Figure 4-86: Productivity of rice farming (Reshown)



(Source: ADB (2012), “ASEAN and Global Rice Situation and Outlook”)

Proposed Measures

- Promotion of switching crops with high demand or expected to increase the demand, instead of providing financial support in agricultural sector through the purchase of agricultural products. It in effect encourages the shift of the resulting surplus labor force to growth sectors.

Challenge ②: Labor Shortage and Sharp Increase of Wages

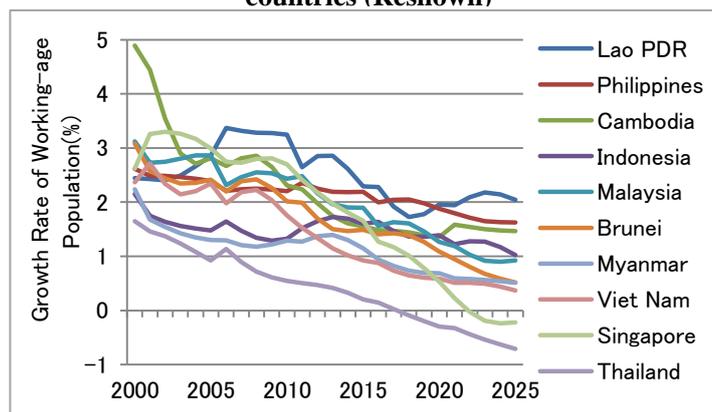
Thailand’s productive-age population is forecast to decrease from 2018 (Fig. 4-87). Supposing that employers increase at the same pace as between 2008 and 2012, this increase would not keep pace with the rise in the number of workers⁶, and therefore a labor shortage can be expected (Fig. 4-88). This labor shortage would tighten demand-supply conditions in the labor market, which may put upward pressure on wages.

Also, because in Thailand economic growth cannot be expected from an input of labor, the Thai government is targeting economic growth through improving total factor productivity (TFP)⁷. However, ADB has forecast that from 2011 onwards, the TFP growth rate will decline compared to its rate between 2000 and 2007 (Fig. 4-89). If Thailand does not implement measures to promote the growth of TFP, its economic growth rate may slowdown.

⁶ Calculated from labor-participation rate of population aged 15 and above in 2012 (median estimates by the U.N. Population Divisions) (ADB Key Indicators).

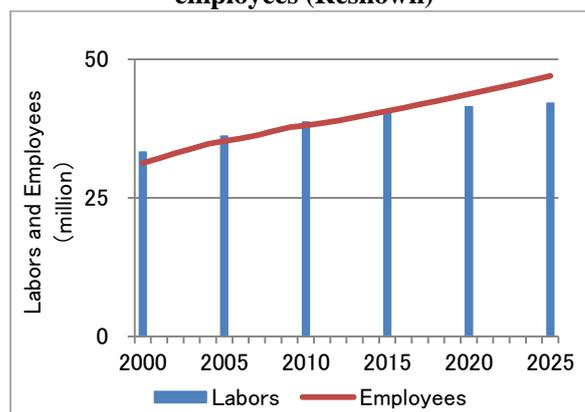
⁷ The National Social and Economic Plan. No.11

Figure 4-87: Working-age population growth rate by countries (Reshown)



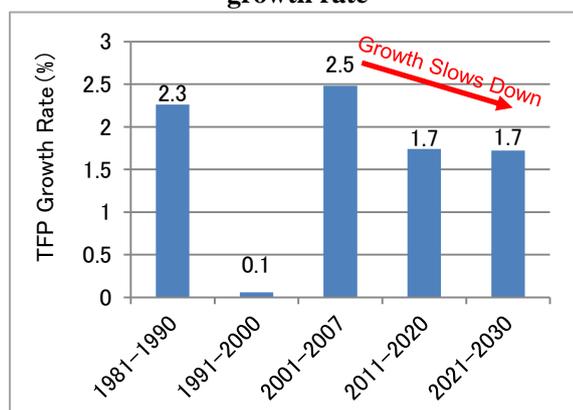
(Source: Created by study team based on United Nations Department of Economic and Social Affairs, Population Division; “World Population Prospects: The 2012 Revision”)

Figure 4-88: Balance of numbers of labors and employees (Reshown)



(Source: Created by study team based on United Nations Department of Economic and Social Affairs, Population Division; ADB “Key Indicators for Asia and the Pacific 2013”, UN ESCAP database)

Figure 4-89: Forecast total factor productivity growth rate



(Source: Created by study team based on ADB (2010) “Economic Growth in Asia: Determinants and Prospects”)

Proposed Measures

- Promotion of collaborations between business and academia and create and manage facilities to educate and train professional human resources.
- Easing business regulation for foreign companies in the industries categorized as it would result in an improvement in TFP.
- Expansion and strengthening the Thai-Nichi Institute of Technology produce more graduates specializing in industrial technology.

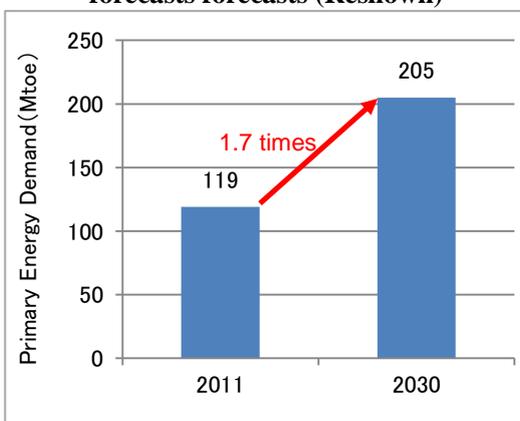
Challenge ③: Burden on the Government’s Finances from Energy Subsidies and Power-Supply Shortages

Thailand’s primary energy expenditure is forecast to increase by approximately 1.7 times between 2011 and 2030 (Fig. 4-90). In terms of energy sources, the percentages providing by natural gas and coal will increase (Fig. 4-91), but Thailand is a net importer of both resources so their import volumes will also trend upwards (please refer to

Chapter 4 “Energy”). According to EIA forecasts, the international prices of both of these resources will rise and therefore Thailand’s energy-procurement costs can be expected to increase (please refer to Chapter 4 “Energy”). In order to keep down domestic energy prices, the Thai government pays subsidies. Thailand’s energy subsidies as a percentage of GDP are the second highest after Indonesia, and when we compare government-spending items as a percentage of GDP, we find that energy subsidies constitute around 10% of the Thai government’s spending. Based on the increase in the energy demand that will occur in the future, there are concerns that the burden that energy subsidies place on government finances are set to further increase (Fig. 4-92).

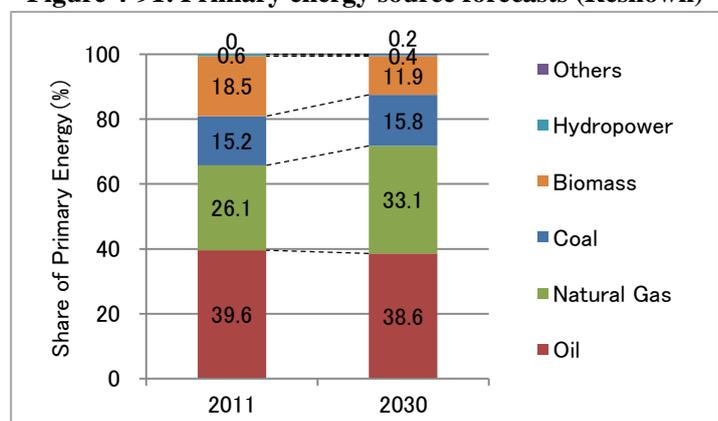
In addition, demand for electric power is forecast to exceed its supply and so Thailand needs to either import it from neighboring countries or increase facilities at its power stations, but there have been instances where the construction projects for large-scale power plants have run into difficulties due to campaigns protesting against their harmful impact on the environment⁸ (Fig. 4-93).

Figure 4-90: Primary energy consumption forecasts forecasts (Reshown)



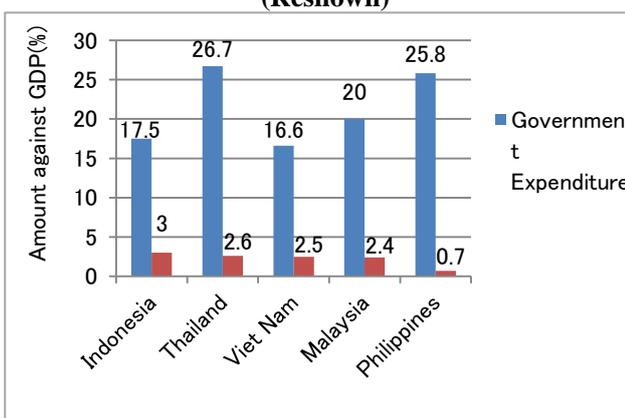
(Source: Created by study team based on The Institute of Energy Economics Japan (2013), Asia / World Energy Outlook)

Figure 4-91: Primary energy source forecasts (Reshown)



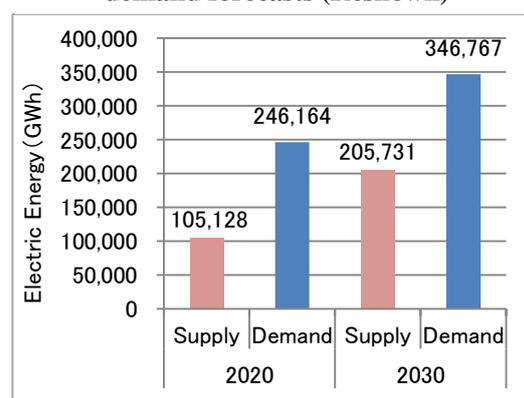
(Source: Created by study team based on The Institute of Energy Economics Japan (2013), Asia / World Energy Outlook)

Figure 4-92: Status of energy subsidies (Reshown)



(Source: Created by study team based on IEA (International Energy Agency) “World Energy Outlook” ADB Database)

Figure 4-93: Electric power supply / demand forecasts (Reshown)



(Source: Created by study team based on ERIA (2013) “Study on Effective Investment of Power Infrastructure in East Asia Through Power Grid Interconnection”)

⁸ JBIC (2012) J-POWER (power supply development), Further strengthening and expanding power-generation projects in Thailand: start of construction of the Nansen Gas Thermal Power Plant

Proposed Measures

- Reducing dependency on natural gas and coal by promoting the introduction of energy-saving techniques and renewable energy.
- Introduction of guidelines and measures to obtain the citizens consensus for the construction of large-scale power plant and promotion of complying the guideline by providing construction permit when the all items are complied.

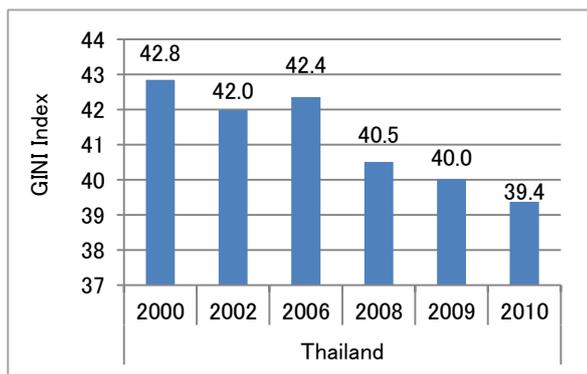
On the construction of a large-scale power plant, prescribe the measures required to obtain the citizens consensus and when the requirements are complied, provide acquire the rights to advance the construction.

Challenge ④: Domestic Income Disparities and Domestic Educational Disparities

While Thailand’s GINI coefficient is trending downwards (Fig. 4-94), its regional disparities have been increasing since 2009 (Fig. 4-95). While on the one hand the incomes of many Thais are increasing, it is considered that there are regions that have been left behind by growth. In particular per capita GRDP tends to be low in the North East region (Fig. 4-96).

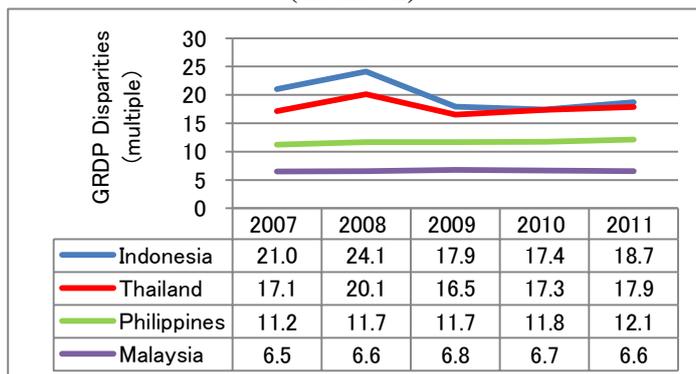
In education, specifically the percentages of the population according to educational background, we see that compared to the four main ASEAN countries, on the one hand it is forecast that Thailand will have the highest percentage of citizens with no education or only an elementary education, but on the other hand after the Philippines, it is expected to have the highest percentage of citizens with a higher education (in each year, data was extracted for the 25 to 29 year age group, for which it is thought that educational background is fixed). In other words, based on this data on educational background, it can be said that compared to other countries, Thailand is strongly divided between those with a low level of education and those with a high level of education (Fig. 4-97).

Figure 4-94: Trends in the GINI coefficient (Reshown)



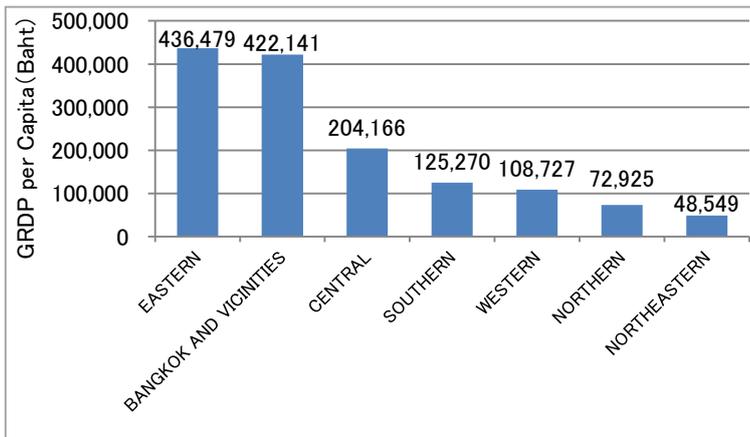
(Source: Created by study team based on the World Bank “World Bank Poverty and Inequality Database”)

Figure 4-95: Trends in domestic regional disparities (Reshown)



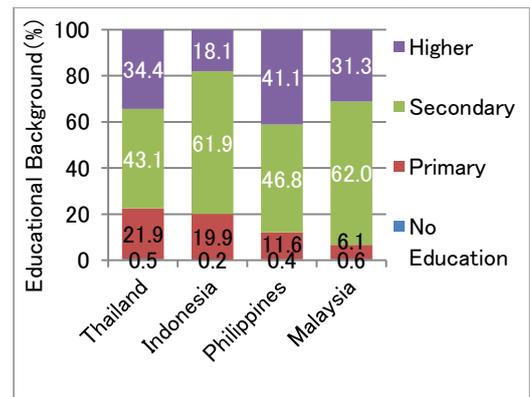
(Source: Created by study team based on each country’s department of statistics)

Figure 4-96: GRDP per Capita by region (2011)



(Source: Created by study team based on Office of the National Economic and Social Development Board (2013) “Gross Regional and Provincial Product”)

Figure 4-97: Educational background (2025)



(Source: Created by study team based on IIASA (2010) “Projection of populations by level of educational attainment, and, age and sex for 120 countries for 2005-2050”)

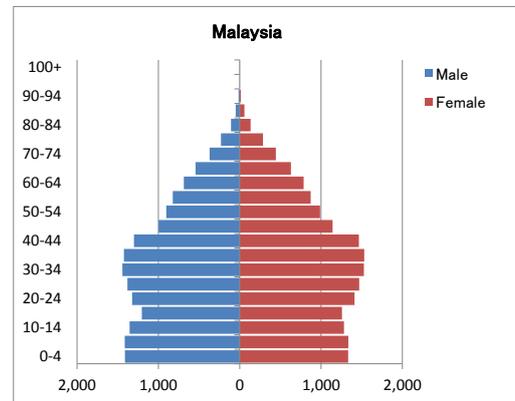
Proposed Measures

- Establishment and management of a system for redistributing income, such as through estate tax and property tax.
- Improvement of infrastructure in order to increase accessibility to the areas around Bangkok.
- Increasing value-added agricultural products to raise income of agricultural workers by promoting sixth-sector industrialization of agriculture
- Promotion of exports through the acquisition of international certification for agriculture and food processing.
- Establishment and improvement of the IT environment in elementary educational institutes in regions where it is difficult for students to access secondary educational institutions and enable them to take classes and to graduate online.

(8) ASEAN 4 (Group 2): Malaysia

【Basic information: Projections for 2025】

- **GDP total amount:** 530 billion dollars (3rd in the region)
- **Per capita GDP:** 15,056 dollars (3rd in the region)
- **Total population:** 34.956 million people (6th in the region)
- **Productive age population rate:** 68%
- **Rate of aging:** 8.3% (Aging society)



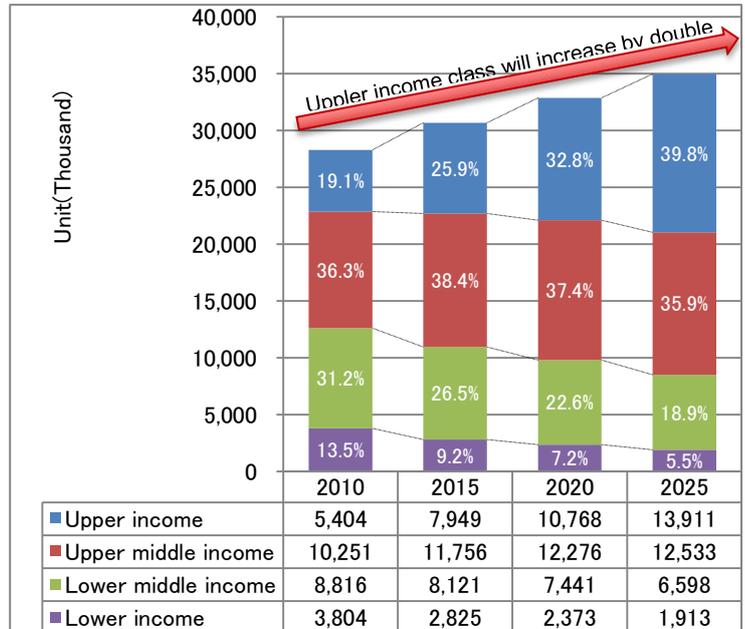
■ Most Realistic Scenario for 2025

【The development of high-level consumption】

In Malaysia, the forecast is for the consumer market to expand and consumption to move to a higher level through the advance of the middle income group into the upper income class.

It is forecast that consumer spending will increase by about three times between 2010 and 2025, and that by 2025, the upper income class will have doubled in size¹. In addition to the increase in incomes, regulations for foreign capital for the 17 categories within the service industry (private hospitals, medical and dental specialist services, construction, engineering, accounting and financial services, legal services, courier services, education and training, telecommunication services, etc.) will be gradually abolished from 2012², so it is considered that in the future, consumption of not only of products, but also of services will shift to a higher level.

Figure 4-98: Changes in population by income group (2010-2025)



(Note: the income groups below are based on disposable income. Upper middle income group: from 15,000 dollars to 34,999 dollars, Lower middle income group: from 5,000 dollars to 14,999 dollars, Low income group: below 4,999 dollars).

(Source: Created by study team based on Euromonitor International 2014)

¹ Euromonitor International 2014

² JETRO Business News <http://www.jetro.go.jp/world/asia/my/biznews/4f308ae68f8e0> 2012/2/28

【Electric and electronics industry agglomerations will be sustained, and the shift to high value-added industries will be advanced】

Since the 1980s, restrictions on foreign capital have been relaxed and it is considered that the current situation, in which the electric and electronics industries that have been promoted through attracting foreign capital and that play the role of Malaysia's key industries, will not have changed by 2025. However, against the backdrop of "a reduction in the rate of increase of foreign direct investment (FDI)," "the introduction of a minimum wage in all industry categories," and "a relaxation of regulations for foreign capital contributions to the tertiary industry," it is considered that the shift to high-added-value industries will be advanced.

Malaysia's electric and electronic industrial agglomerations have acquired the position of the export production bases of advanced nations, and in 2012, electric and electronic products constituted 30% of the total value of its exports³. In addition, within the Iskandar Development Region (IDR) Project that is being advanced jointly with the Singapore government, the electric and electronics industries are being strengthened as existing industries.

On the other hand, according to the Malaysia's Department of Statistics, the rate of increase of FDI in the relevant sectors has been trending downward in recent years. Also, through the January 2013 introduction of a minimum wage for all industry categories, wages have significantly increased. While on the one hand it is difficult to envisage a scenario in which companies immediately withdraw from industrial agglomerations that are already formed, on the other hand the decrease in investment and the increase in wages will restrict industrial growth. Therefore in the future, it can be said that the opinion that the existing agglomerations will retain their scale is a realistic one.

In its Third Industrial Master Plan (IMP3) (2006-2020), the Malaysian government has set the target of having its tertiary industry provide 59.7% of GDP by 2020, which it is aiming to achieve by relaxing the regulations on foreign investment and by actively working to attract companies in high-added-value sectors such as Islamic finance, information and communication technology (ICT), and the bio-industry. Malaysia's investment environment is highly regarded around the world and in the Doing Business 2014 survey published by the World Bank (WB) and the International Finance Corporation (IFC), it had an overall ranking of out of 189 countries 6th (up from 8th the previous year).

It was evaluated particularly highly for its institutional environment, being ranked first for "Use of credit" and fourth for "Protection of investors" and we can see it is making progress in terms of improving its institutional environmental. Also, in addition to this institutional aspect, one of the Malaysia's strengths is its infrastructure environment, such as its roads, railways, and ports. This sort of investment environment generates synergistic effects with the government's measures to attract foreign capital, and it is considered that it is making progressing in both attracting and shifting toward companies in high-added value sectors.

³ Malaysia's Department of Statistics

【The development of the Islamic financial market and the halal food industry in Asia】

<Islamic finance is growing rapidly>

The scale of Islamic finance in the world in Malaysia is only around 1% of the global Islamic financial assets worth 1 trillion dollars, but it is growing at a rate of between 15 to 25% each year, and expectations are growing for it as a growth market.

In order to establish the capital Kuala Lumpur as an international financial hub, the Malaysian government is developed an international financial district (Tun Razak Exchange, TRX) which is scheduled for completion in 2012. As a preferential treatment measure for TRX its fiscal 2012 proposed budget, it proposed a tax exemption of 100% for 10 years of income tax for companies with TRX status, an exemption from stamp duty for loan and service agreements, and a tax exemption for 5 years of income tax for TRX development real estate companies⁴. The government's goal is to attract 250 international financial institutions and create around 40,000 intellectual job opportunities, and it has established the International Centre for Education in Islamic Finance⁵ as a center of learning for Islamic finance. In addition to being politically stable and achieving remarkable growth in recent years, Malaysia is already implementing measures for institutional improvements and human-resources training, and therefore, it is expected that by five years-time, after the completion of TRX, it will be capable of playing the role of the hub of Islamic finance in Asia.

<Growth of the halal food market >

In Malaysia, the Halal Industry Development Corporation (HDC)⁶, which is a government body, authenticates foods as halal and the country has clear standards in this area. As a result, recently a number of overseas companies, including Japanese ones, have entered Malaysia's halal foods market.

Malaysia's population in 2025 will be about 34 million people and within this number, around 60% will be Muslims. So the scale of its domestic market is not extremely large, but based on its geographically advantageous position for the Islamic sphere of 1.6 billion people, which includes its neighboring country of Indonesia that has the largest Muslim population in the world, and that also extends to the Middle East and Africa, expectations are rising that Malaysia will be able to function as a gateway to this sphere and that it will play the role of driving forward the halal food market in Asia.

⁴ JETRO Encouragement of foreign capital http://www.jetro.go.jp/world/asia/my/invest_03/ Accessed on February 5, 2014

⁵ <http://www.inceif.org/> Accessed on February 2, 2014

⁶ HDC <<http://www.hdcglobal.com/publisher/alias/?dt.driverAction=RENDER&pc.portletMode=view&pc.windowState=normal&pc.portletId=Newlatest.newsPortlet>> Accessed on February 2, 2013

■ Challenges and Measures for the Realistic Scenario

In order for Malaysia, which is becoming a high-income nation, to sustain its economic growth to 2025, it needs to address the following problems; “labor shortage / sudden rise in wages,” “its energy policy,” “its reliance on electric and electronic products and resources,” “market competitive environment,” and “domestic disparities.” To address these issues, it needs to implement the following measures.

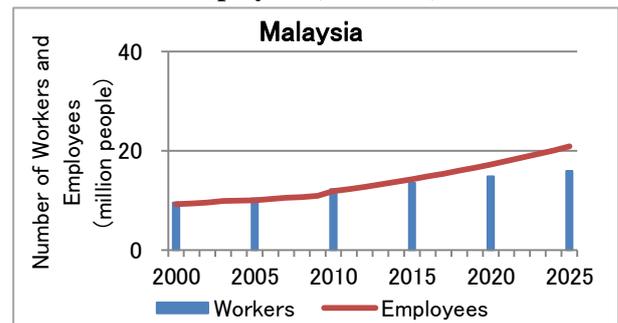
Challenge①: Labor Shortage / Sharp Increase of Wages

<The brain drain to overseas>

One of the problems directly facing Malaysia, which is progressing its shift to high-value-added industries, is “its shortage of engineers and skilled labor through a brain drain to overseas.” The outflow of its human resources to Singapore is particularly a problem, and 45% of Singapore’s non-residents⁷ are Malaysian (Chinese / Taiwanese 20%, Indian / Bangladeshi / Sri Lankan /14%, Indonesia 6%, others 15%)⁸. Also, within these non-residents, a high percentage of engineers are Malaysian, at 47% of the total⁹. Another feature of Malaysia is the high rate of skilled labor leaving the country for overseas¹⁰. If this brain drain out of Malaysia should continue in the future, there will be a shortage of the type of human capital that is needed to develop the high-value-added industries.

We must also pay attention to its demand-supply balance for labor. Fig. 4-99 shows the trail calculations for the balance between labor and employers in the event that employment increases at the same pace as between 2008 and 2012. Based on these calculations, it is forecast that by 2025, there will be a shortage not only of skilled labor, but also of non-skilled labor. A shortage of labor places upward pressure on wages and therefore Malaysia must implement the measures described below not only to prevent the outflow of its human resources to other countries, but also to mitigate its decline in competitiveness due to higher wages.

Figure 4-99: Balance of numbers of labors and employees (Reshown)



(Source: prepared by the survey team from United Nations Department of Economic and Social Affairs, Population Division; ADB “Key Indicators for Asia and the Pacific 2013”, UN ESCAP database)

Proposed Measures

- Promotion of foreign investment attraction into knowledge-intensive industries and create employment opportunities for people with a high academic qualifications, engineers, and professional human resources.
- Establishment of a system for accepting people with high academic qualifications, engineers, and professional human resources from overseas.
- Promotion of the development of industries that are not susceptible to the effects of rising wages (industries other than labor-intensive industries) and proactively attract FDI and human resources.

⁷ Non-residents: foreigners residing on short-term visas

⁸ World Bank (2011), “Malaysia Economic Monitor Brain Drain”

⁹ World Bank (2011), “Malaysia Economic Monitor Brain Drain”

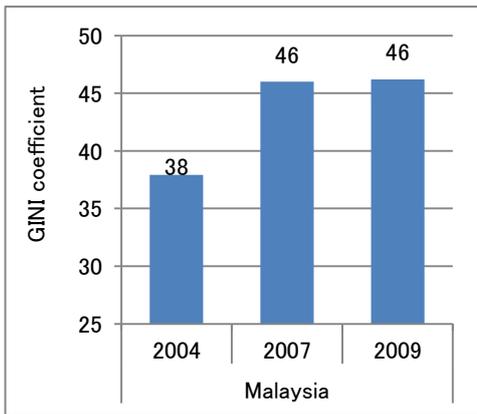
¹⁰ Japan Center for Economic Research(2013), “The ASEAN economy and the trap for middle-income countries”

Challenge② : Income Disparities

It is forecast that by 2025, Malaysia will become a high income country with per capita GDP reaching 15,056 dollars (please refer to “Chapter 4 (1) Economy”). Between 2010 and 2025, the upper income class will grow so that by 2025, it will have doubled and constitute approximately 40% of the total population, with the middle-income group constituting 50%, and the low-income group shrinking to no more than 10%¹¹. As incomes as a whole will increase, income disparities will appear to narrow from the viewpoint of the percentage distributions of the population according to income group.

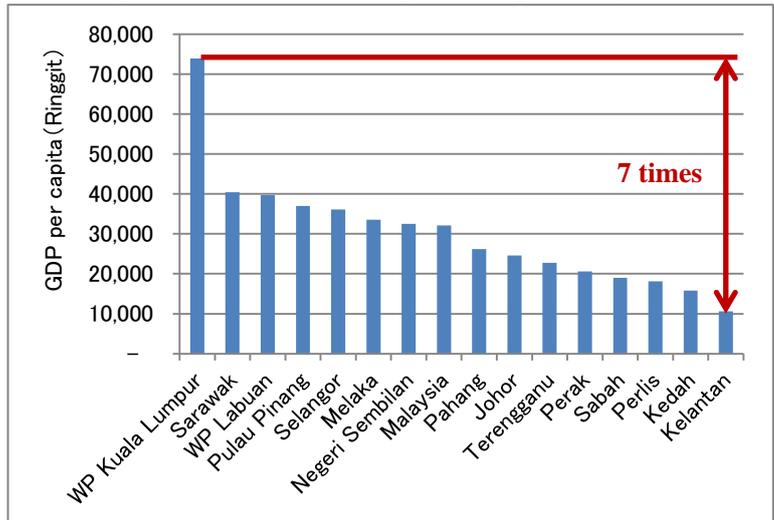
But on the other hand, as of 2009, Malaysia’s GINI coefficient not only exceeded 40, at which level it is said that the risk of society becoming unstable is high (Fig. 4-100), there are also major regional disparities; for example, the per capita income of Kuala Lumpur is seven times that of the state of Kelantan (Fig. 4-101). If we assume that the majority of the members of the upper income class are concentrated in cities, it is highly likely that regional disparities will further increase in the future, and Malaysia will need to promote industry in regions with low per capita GDP.

Figure 4-100: GINI coefficient



(Source: prepared by the survey team based on World Bank Poverty and Inequality Database)

Figure 4-101: Domestic regional disparities (2012)



(Source: Created by study tam based on the Department of Statistics, Malaysia Official Website)

Proposed Measures

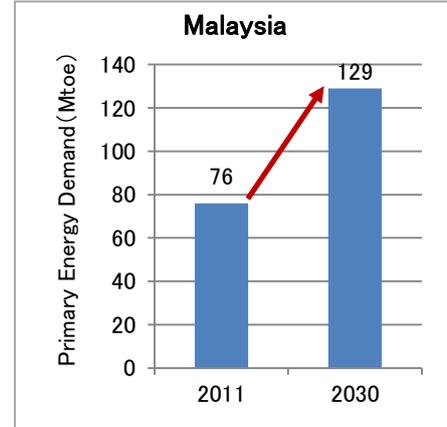
- Utilization of the reduced costs from the decrease in energy subsidies to promote industry and improve infrastructure in regions with low per capital GDP
- Creation of the incentives to invest in regions with low per capita GDP and aim to promote their industries.

¹¹ Euromonitor International2014

Challenges③: Burden on Government Finances from Energy Subsidies

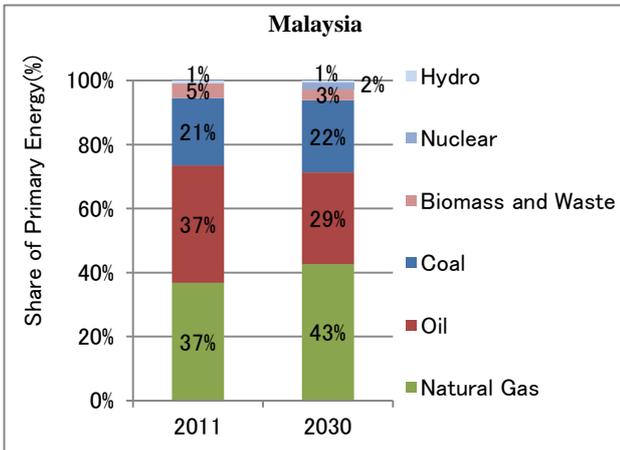
Malaysia's energy demand is forecast to increase by 1.7 times between 2011 and 2030, from 76 million tons to 129 million tons (Fig. 4-102). There will also be changes to its energy structure in terms of the advance of the shift from oil to natural gas (Fig. 4-103). As of 2012, the ratio of Malaysia's energy subsidies to its GDP was 2.4% (Fig. 4-104), which up to the present time has put pressure on its government finances. Therefore, the Malaysian government has announced that starting with the hike in the electricity rates in 2014, it will impose a nationwide hike of 15%.¹² Based on the fact that the extent of the previous hike in electricity rates in 2011 was just 7.1%¹³, what this hike signifies is that there will be a major transfer of financial burden from the Malaysian government on to the Malaysian people. Subsidies for the energy sector had grown to nearly 4.4 billion dollars in 2013, and it is thought that in the future, these funds will instead be allocated to improving infrastructure¹⁴. Up to the present, the pressure placed on government finances by these subsidies was a major problem, but going forward the Malaysian government will need to maintain its policy of reducing subsidies and to respond to address the issue of the increase in energy demand that will accompany the population increase and industrial development, and also the issue of the state of government finances.

Figure 4-101: Primary energy consumption forecasts (Reshown)



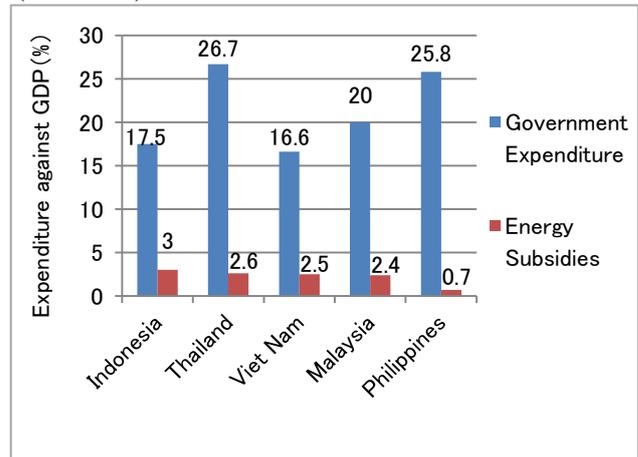
(Source: Created by study team based on The Institute of Energy Economics Japan, "Asia/World Energy Outlook 2013")

Figure 4-102: Primary energy source forecasts (Reshown)



(Source: Created by study team based on The Institute of Energy Economics Japan, Asian / World Energy Outlook 2013)

Figure 4-103: Status of energy subsidies (2012) (Reshown)



(Source: Created by study team based on JETRO Country / Region-specific Information (J-FILE))

¹² The Financial Times, Jeremy Grant, "Najib Razak cuts subsidies in effort to plug Malaysia deficit", 2013/12/31

¹³ The Bloomberg, Chong Pooi Koon and Manirajan Ramasamy, "Malaysia Raises Power Prices for First Time Since June 2011", 2013/12/2 <<http://www.bloomberg.com/news/2013-12-02/malaysia-to-raise-power-prices-for-first-time-since-june-2011.html>> Accessed on May 1, 2014

¹⁴ The Bloomberg, Chong Pooi Koon and Manirajan Ramasamy, "Malaysia Raises Power Prices for First Time Since June 2011", 2013/12/2 <<http://www.bloomberg.com/news/2013-12-02/malaysia-to-raise-power-prices-for-first-time-since-june-2011.html>> Accessed on May 1, 2014

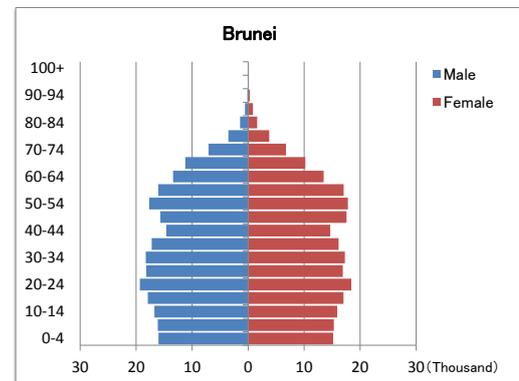
Proposed Measures

- Establishment of investment system for investment in energy saving and the introduction of technology, and create a system of preferential treatment measures for the introduction of technology, particularly for the energy-consuming sectors such as industrial sector.
- In the future, maintain the policy of reducing energy subsidies and allocate the funds obtained from the reduction of energy subsidies to R&D investment and infrastructure improvements in order to cultivate high-value-added industries.

(9) BS: Brunei

【Basic information: Projection for 2025】

- **Total GDP :** 27.7 billion dollars (9th in the region)
- **GDP per Capita:** 57,594 dollars(2nd in the region)
- **Total population:** about 480,000 people (10th in the region)
- **Working-age population rate:** 70.1%
- **Population aging rate:** 10.0% (Aged society)



■ Most Realistic Scenario for 2025

【Diversification of the oil and gas-related industries】

From its policies to escape from excessive dependence on oil and gas and to maintain resources, and as its new and oil and gas fields are in extremely deep oceanic regions, the Brunei government has set industrial diversification as a target within its national strategy of “Wawasan Brunei 2035.” The industries it is targeting for this goal are diverse, ranging from tourism through to foods, pharmaceuticals, and finance, while fields where development has already taken place include oil refining, the natural gas chemical industry, and methanol production.

For oil refining, the construction of a refining plant by a Chinese company (Zhejiang Hengyi Group) is underway and following the first phase of the project, it will be able to process approximately eight million tons of crude oil a year, and export it to China as products such as gasoline and jet fuel. In addition, an investment of 3.5 billion dollars is scheduled for the second phase of the project¹.

For the natural gas chemical industry, an alliance of Malaysian and German companies are investing 1.6 billion dollars in a project to build an oil-chemical complex, while Mitsubishi Corp. is also planning a project on the scale of 1.5 billion dollars to produce ammonia.

For methanol production, a joint-investment project with Japan has been operating since May 2010 and methanol constitutes 1.5% of Brunei’s total exports.

Going forward, government investment in and the recruitment of foreign capital for the expanding upstream and downstream sectors of oil and gas is expected to continue, and industrial diversification will be advanced centered on the above-described sectors.

¹ JPEC report, Brunei’s oil and gas industries

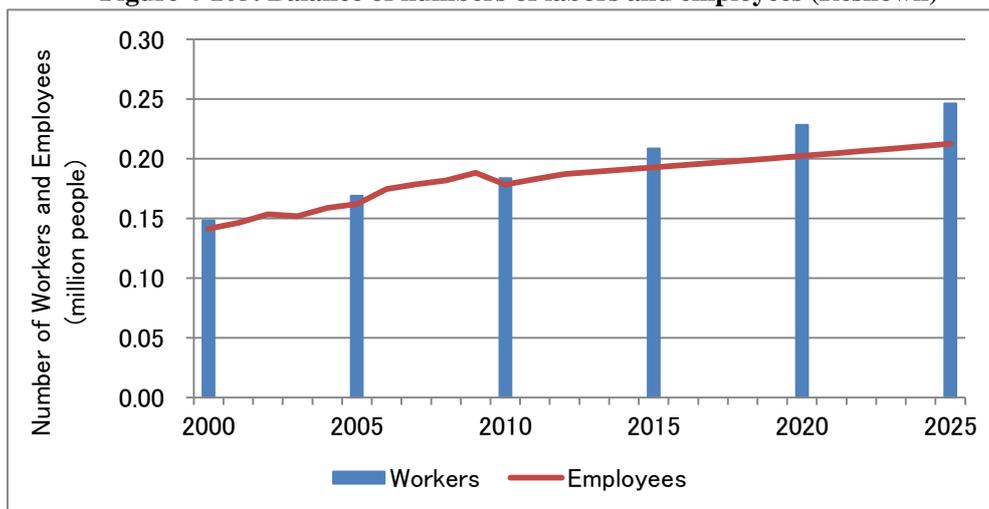
■ Challenges and Proposed Measures for the Realistic Scenario

By 2025, in order for Brunei to have made further progress in its industrial diversification, it needs to have implemented measures to address the problem of a “lack of employment opportunities”.

Challenge①: Lack of Employment Opportunities

When forecasting the number of workers in 2025² (aged 15 and above), if the increase in the number of employees up to 2025 continues at the same pace as between 2008 and 2012, then we can see that it is possible that Brunei will have a shortage of employment opportunities for its workers compared to the number of employees (Fig. 4-105). The background to this is the correlation between resource prices and the number of employees. As an example using resources prices, we can compare the trends in the price of WTI (West Texas Intermediate) crude oil between 2008 and 2012 and the number of employees during the same period. We see that following the sharp decline in the price of crude oil in 2009, the number of employees in 2010 decreased (employment is assumed to be a lagging indicator of economic conditions³) (Fig. 4-106). If in the future Brunei’s industrial structure of a dependence on resources such as oil and natural gas should continue, then it is highly likely that there will be a lack of employment opportunities.

Figure 4-105: Balance of numbers of labors and employees (Reshown)

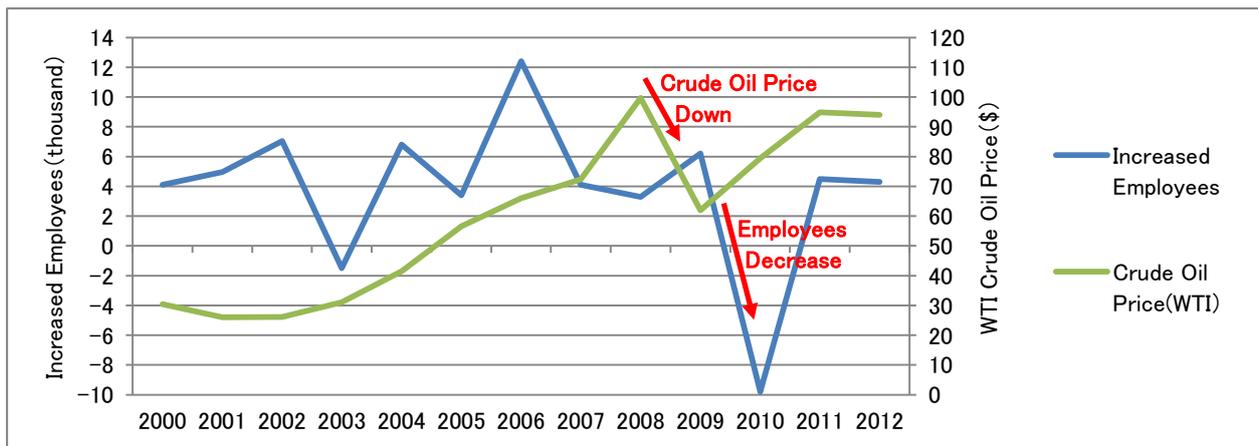


(Source: Created by study team based on the United Nations Department of Economic and Social Affairs, Population Division, ADB (2013) “Key Indicators for Asia and the Pacific 2013” , UN ESCAP database)

² Calculated from the labor participation rate of the population aged 15 and above in 2012, United Nations Population Division median estimates (ADB Key Indicator).

³ Cabinet Office, Guidelines for the use of indicators of economic trends

Figure 4-106: Changes to the crude oil price and to the increase in the number of employees



(Source: Created by study team based on the United Nations Department of Economic and Social Affairs, Population Division ADB (2013) "Key Indicators for Asia and the Pacific 2013." EIA (U.S. Energy Information Administration) Database)

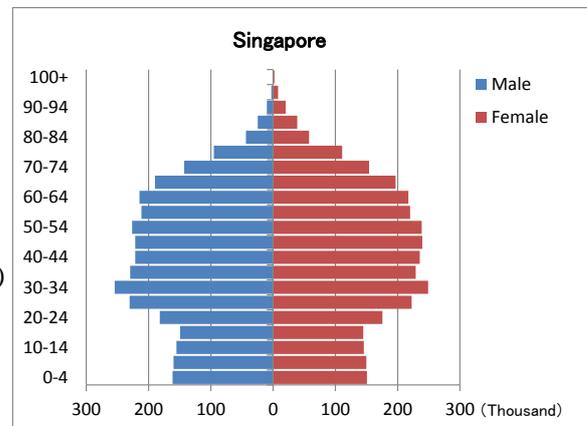
Proposed Measures

- Attraction of companies with the required technologies and expertise in order to further industrial diversification in the upstream and downstream of the oil and gas sectors.
- Establishment of educational environment to be able to train human resources capable of working in industries other than oil and gas (tourism, food, manufacture of pharmaceuticals, finance, etc.)
- Provision of incentives to encourage job seekers to find employment in industries other than oil and gas.

(10) BS: Singapore

【Basic information: Projection for 2025】

- **Total GDP:** 448.4 billion dollars (5th in the region)
- **GDP per Capita:** 70,350 dollars (1st in the region)
- **Total population:** 6.33 million people (9th in the region)
- **Working-age population rate:** 68.1%
- **Population aging rate:** 17.4% (Aged society)



■Most Realistic Picture for 2025

【Strengthening its function as the business hub of ASEAN】

In addition to its locational advantage, being as it is located at the center of Asia, Singapore has a number of advantages to attract multinational companies to it, including stable politics and society, a developed distribution infrastructure, a high level of freedom and transparency, and an enhanced preferential-treatment taxation system.

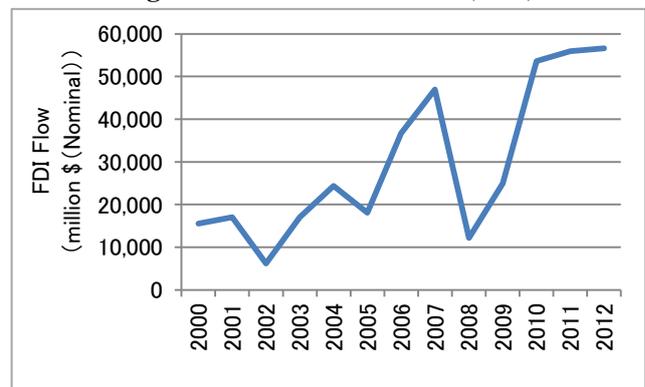
According to Doing Business 2014, which is the report that evaluates the business environments of each country by the International Finance Corporation (IFC), part of the World Bank Group, based on indicators of ten items, Singapore received an overall ranking of number one from among 189 countries of the world between 2011 and 2014 for “Ease of doing business.” In particular, from its rankings for “Trade that crosses national borders” (1st), “Protection of investors” (2nd), “Business start-up procedures,” (3rd), and “Acquiring a construction license (3rd),” we can see the strengths of Singapore on the institutional side (Fig. 4-107).

Figure 4-107: Doing Business rankings

	TOPICS	2014	2013
1	Starting a business	3	3
2	Dealing with construction permits	3	3
3	Getting electricity	6	5
4	Registering property	28	35
5	Getting credit	3	11
6	Protecting investors	2	2
7	Paying taxes	5	5
8	Trading across borders	1	1
9	Enforcing contracts	12	11
10	Resolving insolvency	4	5

(Source: World Bank and the International Finance Corporation (2013), “Doing Business 2014, Economy Profile Singapore”)

Figure 4-108: Trends in FDI (flow)



(Source: Created by study team based on UNCTADSTAT)

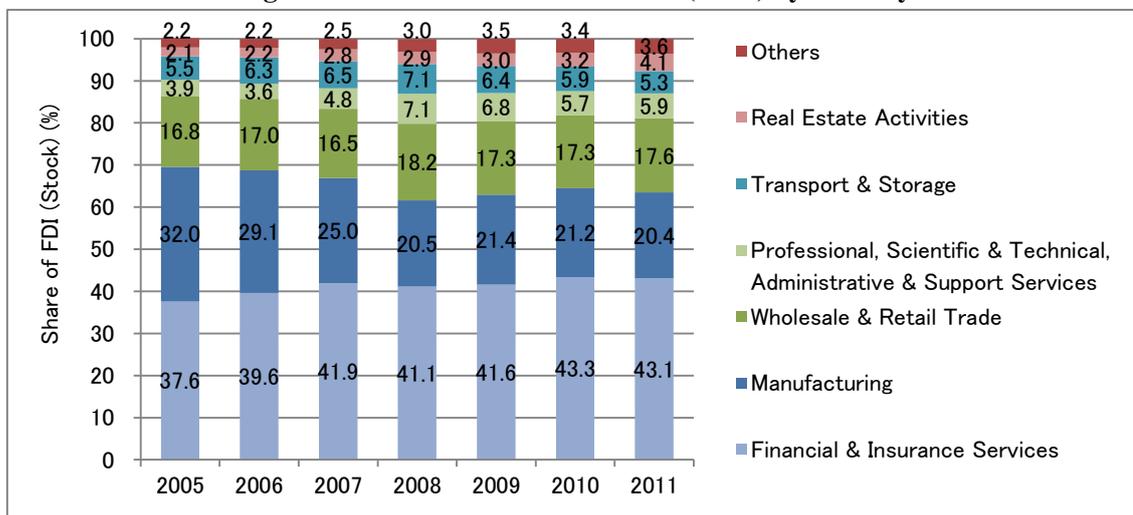
Also, in the Global Competitiveness Report (2013-2014) by the World Economic Forum, Singapore was ranked 2nd out of 148 countries. Within the evaluation items, it was ranked highly for all the evaluations of infrastructure improvements, including being ranked number 1 for quality of airport facilities, number 2 for port facilities,

number 7 for roads, and number 10 for railways.

Against the backdrop of these strengths for its business environment, foreign direct investment (FDI) in Singapore has trended upwards, apart from in 2008 and 2009 when it was affected by the Lehman shock (Fig. 4-108). In terms of specific fields, FDI has increased centered on the finance and insurance fields and it is considered that Singapore will continue to play a central role in these fields in ASEAN in the future (Fig. 4-109).

In addition, the Singapore government is encouraging research and development (R&D) in its country and has not only established a preferential tax system¹, but also through its protection and strengthening of intellectual property rights in its IP Hub Master Plan (announced March, 2013 by the Intellectual Property Office of Singapore)², it is advocating the expansion of an environmental infrastructure that will attract research laboratories to the country. By securing protection for intellectual property rights, it is forecast that it will increase the pull it exerts as an R&D hub for advanced manufacturing industries that are aiming to further modernize (bioelectronics, etc.)³.

Figure 4-109: Trends in share of FDI (stock) by industry



(Source: Singapore Statistics Bureau (2013), “Yearbook of Statistics Singapore 2013”)

¹ JETRO Incentives for foreign capital <http://www.jetro.go.jp/world/asia/sg/invest_03/> (accessed February 5, 2014)

² Intellectual Property Office of Singapore (2013). “Intellectual Property (IP) Hub Master Plan-Developing Singapore as a Global IP Hub in Asia”

³ Economic Strategies Committee (2010) “Report of the Economic Strategies Committee”

■ Challenges and Proposed Measures for the Realistic Scenario

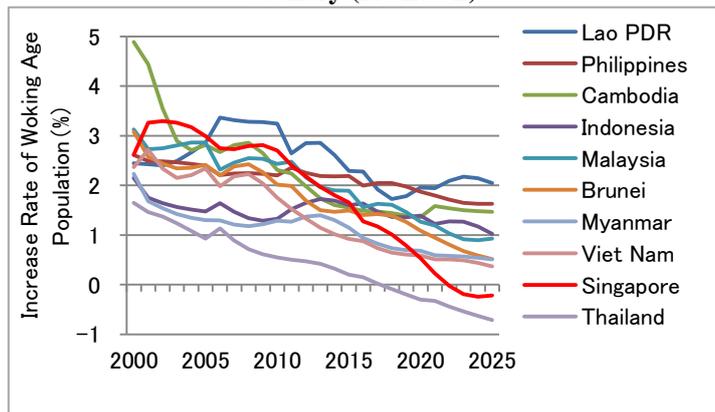
Singapore achieved an average economic growth of 5.7% between 2006 and 2012. But this growth rate has been slowing down and in order for maintaining high level of growth in the future, it needs measures to address its problems of “labor shortages” and “electric-power-supply shortages.”

Challenge①: Labor Shortage

In Singapore, it is forecast that the productive age population will start to decline in 2022 (Fig. 4-110). On the other hand, as a country it strictly limits its acceptance of immigrants and so in the future it is highly likely that it will experience a labor shortage, which is considered would put upward pressure on wages.

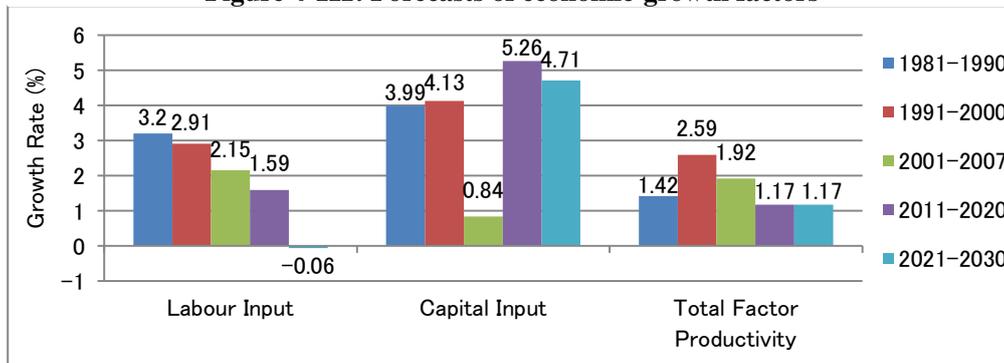
According to ADB, by 2021 the growth rate in labor investment will be negative, and it also forecasts that the total factor productivity growth rate will decline. This means Singapore’s economic growth will become susceptible to being controlled by increases and decreases in injections of capital (Fig. 4-111).

Figure 4-110: Growth rate of working-age population by country (Reshown)



(Source: Created by study team based on United Nations Department of Economic and Social Affairs, Population Division; (2012), “World Population Prospects: The 2012 Revision”)

Figure 4-111: Forecasts of economic-growth factors



(Source: Created by study team based on ADB (2010), “Economic Growth in Asia: Determinants and Prospects”)

Proposed Measures

- In the Singapore government’s Population White Paper (2013)⁴, against the backdrop of the increase in the number of people going on to higher education, it is forecast that by 2030 two thirds of its citizens will be employed in professional, executive, management, or technological positions. The human resources training that is required for those occupations will have to be advanced.

⁴ The Population Singapore (2013). “A Sustainable Population for Singapore Population White Paper”

- Connectivity will be increased with manufacturing bases outside of the country, such as the joint development of SEZ with neighboring countries, and it will offer incentives in order to promote the advance of Singapore companies.

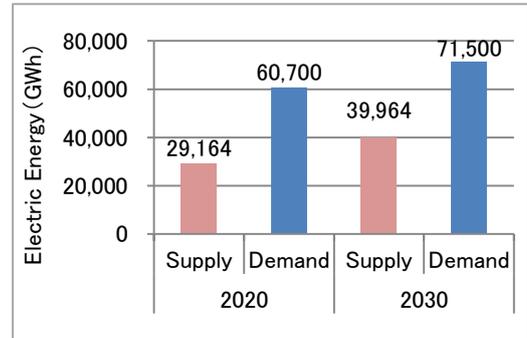
Challenge②: Power Supply Shortage

The demand for electric power in Singapore is forecast to become a situation of excess demand by 2020 and 2030 (Fig. 4-112). However, there are restrictions to the extent it can increase its power plants due to the limitations to the land it can build on domestically.

Proposed Measures

- Establishment of a power grid with neighboring countries (Malaysia, Indonesia) that it will need in order to import electric power.
- Increasing the efficiency of existing power plants and building new power plants.

Figure 4-112: Electric power supply / demand forecasts



(Source: Created by study team based on ERIA (2013), “Study on Effective Investment of Power Infrastructure in East Asia Through Power Grid Interconnection”)

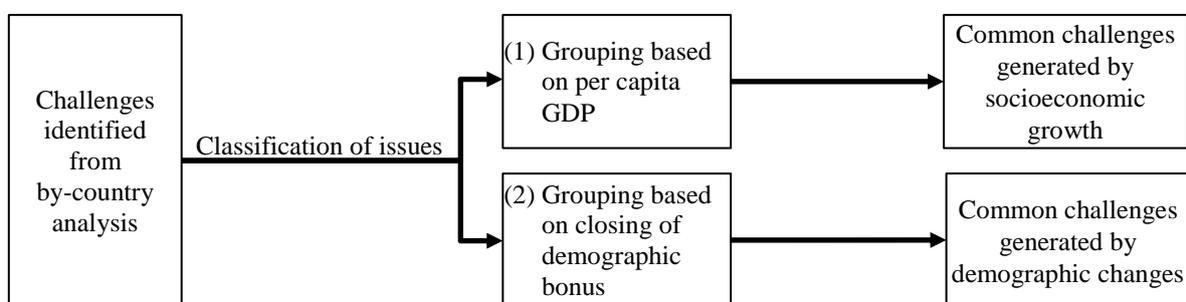
2. Common Challenges Shared by Multiple Member States

(1) Country groupings

Concerning the challenges discussed in Section 1 (By-Country Analysis) above, member states were grouped on the basis of common challenges. Two methods were used for the groupings: (1) classification based on the level of per capita GDP and (2) classification based on the closing of the demographic bonus.

As a result of the groupings, common challenges generated by socioeconomic growth were identified from (1) the GDP-based grouping and common challenges generated by demographic changes were identified from (2) the population-based grouping.

Figure 4-113: Groupings of Countries with Shared Issues



(2) Challenges shared by multiple member states

The common challenges of member states grouped on the basis of the two criteria can be mapped as shown in the figures below.

Figure 4-114: Per Capita GDP Based Grouping and Common Issues

Challenges	CLMV				ASESN4 (Group 1)		ASESN4 (Group 2)		BS	
	Myanmar	Cambodia	Lao PDR	Viet Nam	Philippines	Indonesia	Thailand	Malaysia	Brunei	Singapore
Industrial Structure Solidification				①						
Low Agricultural Productivity										
Delays in Preparing Trade/Investment Environment			②							
Complexity of Trade Procedures										
Incomplete Infrastructure										
Low Education Level			③						-	
Domestic Education Disparities									-	
Domestic Income Disparities	-				④				-	-
Urban Traffic Congestion							⑤			
Burdens from Energy Cost	-	-	-						-	-
Electric Power Supply Shortages										
Food Shortages	-	-	-							

[Common challenges generated by socioeconomic growth]

No major challenges were seen in Group BS other than Singapore’s power supply shortage. Challenges common to all eight of the remaining countries are industrial structure solidification and low agricultural productivity. Challenges common to CLMV are poor foreign trade and investment environments, complicated export/import procedures, low educational level, and domestic inequality. Challenges common to the ASEAN 4 are domestic income inequality, traffic congestion in urban areas, and increased energy costs.

Figure 4-115: Demographic Window-Based Grouping and Common Issues

Challenges	Closing Timing of Demographic Bonus									
	In or before 2015			2016-2025			2026-2035	In or after 2036		
	Thailand	Singapore	Viet Nam	Myanmar	Brunei	Malaysia	Indonesia	Cambodia	Philippines	Lao PDR
Sharp Wage Increase				⑥	-					
Aging Population and Declining Birthrate, Worker Shortage										
Insufficient Employment Opportunities										

Legend

	Challenges already emerged or expected to emerge by 2025
	Likely to be a challenge by 2025
	Low likelihood of becoming a challenge by 2025
-	Unable to verify due to insufficient data

[Common challenges generated by demographic changes]

Thailand, Singapore and Viet Nam will see their demographic bonus close in or before 2015. As their population ages, birthrates decline, and labor shortages increase, they will face various problems relating to the declining proportion of working age people.

A steep rise in wages is projected for many member states, and there are concerns that the competitive edge of labor-intensive industries will decline. Meanwhile, Cambodia, the Philippines, and Laos, whose demographic bonus will close in or after 2036, will need to create sufficient job opportunities for their large working age population.

Figure 4-116: Country Groups by Common Issue

Common Issue		Applicable Country Group	
(1)	Common challenges generated by socioeconomic growth		
	①	<ul style="list-style-type: none"> ▪ Low agricultural productivity ▪ Industrial structure solidification 	CLMV、 ASEAN4
	②	<ul style="list-style-type: none"> ▪ Delayed foreign trade and investment environment consideration ▪ Complicated export/import procedures 	CLMV
	③	<ul style="list-style-type: none"> ▪ Low educational level ▪ Domestic educational inequality 	CLMV
	④	<ul style="list-style-type: none"> ▪ Domestic income inequality 	ASEAN4
	⑤	<ul style="list-style-type: none"> ▪ Traffic congestion in urban areas ▪ Increased energy costs 	ASEAN4
(2)	Common challenges generated by demographic changes		
	⑥	<ul style="list-style-type: none"> ▪ Steep rise in wages ▪ Aging population coupled with declining birthrate ▪ Labor shortage 	Closing in or before 2015 (Thailand, Singapore, Viet Nam) Closing between 2016 and 2025 (Myanmar, Brunei, Malaysia) Closing between 2026 and 2035 (Indonesia)

3. Challenges and Proposed Measures Applicable to ASEAN Region-wide

To conclude this Report, the final section of this chapter discusses the key challenges that the study team believes should be tackled by ASEAN as a whole region-wide and by the respective member states acting as a single economic community. It also presents the study team's proposed measures to be implemented in response to those challenges.

(1) Challenges that should be tackled by ASEAN as an economic community

Further to the common challenges shared by multiple member states discussed in section two of this chapter, the challenges applicable to ASEAN region-wide focus on the following: (1) challenges that should be tackled by ASEAN as an economic community (from the view point of regional integration) and (2) challenges that must be resolved to strengthen ASEAN's international competitiveness (from the view point of global economy).

- (a) Challenges that should be tackled by ASEAN as an economic community owing to the fact that individual efforts of member states are likely to be limited in effectiveness (from the view point of regional integration)
- (b) Challenges that must be resolved to enable the achievement of the AEC's strategic goals and to strengthen ASEAN's international competitiveness in the face of the external environment projected for 2015 onwards (from the view point of global economy)

From the view point of regional integration, an overall goal of improvement measures would be to avoid huge disparities in economic development among member states; as such disparities can hinder regional integration. Another goal would be to strengthen the ASEAN organization's operational capacity, which is necessary for advancing from a free trade area (FTA) to a high-functioning single market.

From the view point of the global economy, the overall goals of improvement measures would be to create a competitive environment and to achieve international competitiveness, which are necessary for ASEAN's sustainable growth as a production center, export hub, and consumer market; to develop academic and business environments that can foster and retain within ASEAN laborers with world-class productivity and scholars, bureaucrats and businessmen with outstanding expertise; and to achieve long-term economic growth and environmental conservation by coping effectively with increased energy consumption and environmental burdens.

Figure 4-117: Improvement Goals from the View Point of Regional Integration

①	Avoid huge disparities in economic development among member states, as such disparities can hinder regional integration
②	Strengthen the ASEAN organization's operational capacity, which is necessary for advancing from a free trade area (FTA) to a high-functioning single market

Figure 4-118: Improvement Goals from the View Point of Global Economy

③	Create a competitive environment and achieve international competitiveness, which are necessary for ASEAN's sustainable growth as a production center, export hub, and consumer market
⑤	Develop academic and business environments that can foster and retain within ASEAN laborers with world-class productivity and scholars, bureaucrat and businessmen with outstanding expertise
⑤	Achieve long-term economic growth and environmental conservation by coping effectively with increased energy consumption and environmental burdens

(2) Overall goals of proposed measures

The overall goals of measures to be implemented by ASEAN and its member states to address challenges applicable to ASEAN overall region-wide or to specific groups were reviewed by the study team. Measures for the respective challenges were divided into five categories (physical infrastructure development, systemic infrastructure development, human resources development, private sector utilization, and finance utilization).

[Improvement goals from the standpoint of regional integration]

①	Avoid huge disparities in economic development among member states, as such disparities can hinder regional integration
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According to a macroeconomic forecast conducted by the study team, income inequalities within ASEAN are likely to gradually narrow thanks primarily to the rapid growth of the CLMV economies but will still remain substantial in 2025. The per capita GDP of the largest economy (Singapore at US\$70,350) is predicted to be 36 times greater than that of the smallest economy (Myanmar at US\$1,938). In addition, inequalities in opportunities for education, labor force participation and employment are likely to become entrenched.

The various types of disparities within the region will make it difficult to introduce uniform rules and standards. They may also weaken efforts toward regional integration, since they can lead to regional conflicts and/or political instability. Equitable economic development and stability in the region are prerequisites for maintaining ASEAN's cohesiveness within the global economy. For this reason, measures to avoid disparities within the region are believed to be necessary.

In view of the foregoing, the study team proposes such measures as creation of job opportunity by the liberalization of the investment and fostering foreign direct investment by the development of the capital market, at the same time the creation of industrial clusters by developing transport infrastructure and the deregulation of the free movement of people.

Challenges	Overall Goal ①	Category					Proposed Measure
		Physical Infrastructure Development	Systemic Infrastructure Development	Human Resources Development	Private Sector Utilization	Finance Utilization	
Small scale of industrial development in outlying areas throughout ASEAN <i>Related country-group specific issue:</i>	Avoid huge disparities in economic development among member states; as such disparities can hinder regional		○				<ul style="list-style-type: none"> Create job opportunity by the liberalization of investment and elimination of barriers Develop capital market (financial system, governance, etc.) to induce foreign direct investment

<p>① Low agricultural productivity / industrial structure solidification (common issue of CLMV and ASEAN-4)</p>	<p>integration.</p>	○					<ul style="list-style-type: none"> Foster the creation of industrial clusters by developing transport infrastructure that connects outlying areas with industrial or population centers.
<p>Loss of labor participation opportunities due to insufficient basic education coverage in low-income member-states <i>Related country-group specific issue:</i> ③ Low educational level / domestic educational inequality (common issue of CLMV)</p>				○			<ul style="list-style-type: none"> Promote the development of local products and tourist resources and solicit investments from overseas corporations. Improve financial access to help small and medium enterprises (SMEs) procure funds more easily. Educate the public on the importance of investing in education. Promote women’s entry into the labor market by providing better education to young girls and women.
<p>Loss of employment opportunities due to imbalances between labor supply and demand within ASEAN <i>Related country-group specific issue:</i> ⑥ Steep rise in wages / labor shortage (common issue of Thailand, Singapore, Viet Nam, Myanmar, Brunei, Malaysia, and Indonesia)</p>		○					<ul style="list-style-type: none"> Introduce strategic easing of restrictions on the free movement of unskilled laborers. Extend the coverage of mutual recognition agreement (MRA) on professional qualifications, which is currently limited to 8 industries. Improve the efficiency and the quality of medical and welfare services through IT utilization Reduce burden on the government and the people by implementation of medical and life insurance through private sector utilization

②	Strengthen the ASEAN organization’s operational capacity, which is necessary for advancing from a free trade area (FTA) to a high-functioning single market.
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As discussed in Chapter 2 in connection with the status of the AEC, only three of the planned measures for AEC are expected to be realized by the end of 2015, namely measures relating to the removal of trade tariffs, Rules of Origin, and economic relations with non-ASEAN countries. The implementation of all other measures is expected to remain incomplete. There are concerns that, given the current level of the ASEAN organization’s authority to enforce its policies, the level of integration may be low even in 2025. The 10 member-states, which have various differences in geopolitical conditions as well as economic development, face individual circumstances relating to trade and diplomacy with non-ASEAN countries, especially China and the U.S. The non-alignment of interest among member-states will serve to weaken ASEAN’s momentum toward regional integration and economic partnership.

A look at conditions outside the ASEAN region also shows that there are many reasons why ASEAN must maintain a solid cohesiveness. The expanding presence of China and India in non-ASEAN Asia, the “rebalancing to Asia” policy of the U.S., and progress in free trade are a few examples. In the face of such changes in the external environment, ASEAN must clearly define the common benefits of forming an economic community while giving simultaneous consideration to internal conditions in each member state. Furthermore, to allow the region to advance from a free trade area to a high-functioning single market, the Study Team believes an organizational reform of ASEAN is essential. Consideration should be given to the possibility of changing the current consensus-based decision-making process and of expanding the ASEAN Secretariat’s authority.

In view of the foregoing, the study team proposes such measures as clarification of the common benefit of ASEAN economic integration in AEC’s Post-2015 Vision, and granting greater authority to key ministerial meetings.

Challenges	Overall Goal ②	Category					Proposed Measure
		Physical Infrastructure Development	Systemic Infrastructure Development	Human Resources Development	Private Sector Utilization	Finance Utilization	
Delays in ratification of AEC agreements and their integration into national laws due to individual circumstances of each member-state <i>Related country-group specific issue: None (ASEAN issue)</i>	Strengthen the ASEAN organization’s operational capacity, which is necessary for advancing from a free trade area (FTA) to a high-functioning single market.		○				<ul style="list-style-type: none"> Clearly define the common benefits of ASEAN economic integration in AEC’s Post-2015 Vision. Strengthen the function of key ministerial meetings in order to enhance the role of ASEAN in the rule making of RCEP

<p>Over-reliance on a particular non-ASEAN country due to development assistance or long-term trade</p> <p><i>Related country-group specific issue:</i></p> <p>② Poor foreign trade and investment environments / complicated export/import procedures (common issue of CLMV)</p>			○				<ul style="list-style-type: none"> • Diversify trading partners by joining wider-area economic partnerships (RCEP, TPP, etc.) and expanding economic partnerships with developing countries in India, the Middle East and Africa, etc. in the West market. • Enhance CLM’s participation in the production network to improve the industrial competitiveness and self-reliance through regional economic cooperation
<p>ASEAN’s consensus based decision-making process underpinned by its founding principle of non-interference defined in the ASEAN Charter</p> <p><i>Related country-group specific issue:</i></p> <p>None (ASEAN issue)</p>			○				<ul style="list-style-type: none"> • Grant great authority to the ASEAN Summit, the Committee of Permanent Representatives (CPR), and the Secretary-General based on a reinterpretation of the ASEAN Charter.

[Improvement goals from the standpoint of the global economy]

③	Create a competitive environment and achieve international competitiveness, which are necessary for ASEAN's sustainable growth as a production center, export hub, and consumer market
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ASEAN's competitiveness in 2025 is likely to remain grounded in its superiority as production and export centers. In order to further solidify its strength as a single market in the face of expanding free trade with non-ASEAN Asia, the pan-Pacific region, the Middle East and Africa, it is vital that it build a production network based on a strategic industrial policy for ASEAN overall, in addition to building a supply chain through the development of hard and soft infrastructure. In addition, as the personal consumption market is anticipated to expand with the increase of middle-income households, efforts to encourage discretionary spending, such as accelerating the liberalization of trade in services and providing more accessible consumer finance, should be made to further boost the market.

In view of the foregoing, the study team proposes such measures as formulation of competitiveness strategies ASEAN overall and establishment of an entity to manage the sharing of knowledge.

As for the development of the consumer market, the study team proposes such measures as sophistication of consumption by the liberalization of service export, implementation of financial tools such as credit card and electronic payment, etc.

Challenges	Overall Goal ③	Category					Proposed Measure
		Physical Infrastructure Development	Systemic Infrastructure Development	Human Resources Development	Private Sector Utilization	Finance Utilization	
Lack of policies on industrial competitiveness in several member-states <i>Related country-group specific issue:</i> ① Low agricultural productivity / industrial structure solidification (common issue of CLMV and ASEAN-4)	Create a competitive environment and achieve international competitiveness, which are necessary for ASEAN's sustainable growth as a production center, export hub, and consumer market		○				<ul style="list-style-type: none"> Formulate competitiveness strategies for ASEAN overall and establish an entity to manage the sharing of knowledge.
Lack of transport logistic systems necessary for building a supply chain		○					<ul style="list-style-type: none"> Build a logistics network between rural areas and industrialized areas, and build linkage between sub-regions to strengthen connectivity

<p><i>Related country-group specific issue:</i> ① Low agricultural productivity / industrial structure solidification (common issue of CLMV and ASEAN-4) ② Poor foreign trade and investment environments / complicated export/import procedures (common issue of CLMV)</p>			○				<p>within ASEAN.</p> <ul style="list-style-type: none"> Accelerate the establishment of a legal framework for transport facilitation (ASEAN Framework Agreement on the Facilitation of Goods in Transit (AFAFGIT), ASEAN Framework Agreement on Multimodal Transport (AFAMT), ASEAN Framework Agreement on the Facilitation of Inter-State Transport (AFAFIST)).
<p>Lagging development of domestic industries due to an industrial growth model based on foreign investment <i>Related country-group specific issue:</i> ① Low agricultural productivity / industrial structure solidification (common issue of CLMV and ASEAN-4)</p>					○		<ul style="list-style-type: none"> Develop supporting industries and have local SMEs participate in the production network.
<p>Persistently low level of personal consumption <i>Related country-group specific issue:</i> ① Low agricultural productivity / industrial structure solidification (common issue of CLMV and ASEAN-4)</p>		○				○	<ul style="list-style-type: none"> Boost discretionary consumer spending by accelerating the liberalization of trade in services. Boost discretionary consumer spending by providing more accessible consumer finance (credit sales, electronic payment, etc.). Enhance consumption by implementing the financial tools such as leasing and insurance system.

④ Develop academic and business environments that can foster and retain within ASEAN laborers with world-class productivity and scholars, bureaucrat, and businessmen with outstanding expertise

In the midst of heightening international competition resulting from globalization, ASEAN needs to upgrade its economic activity and promote home-grown technological innovation. To do this, it is necessary to create the educational environment needed to produce the kind of people who will strengthen ASEAN’s competitiveness, as well as the business environment needed to promote the growth of industry.

In terms of the educational environment, during the developing stage of industry, the focus should be on producing large numbers of highly productive workers. During the transition period from a medium to high-income country, the focus should be on producing scholars and businessmen with the high expertise needed to support the growth of knowledge-intensive industries.

The business environment should be such that intellectual properties are protected, so that companies in the manufacturing and leading-edge industries can safely engage in production and R&D activities. It is also necessary to develop an information base and financial tools for supporting the economic growth of ASEAN overall via the growth of SMEs in member-states.

In view of the foregoing, the study team proposes such measures as diversification and the raise of the quality of education opportunities by forming partnership with overseas higher education institution.

The study team also proposes the increase of the education budget to promote R&D through university-industry linkage and the improvement of access to funds by expanding financial tools for small and medium-sized enterprises (SMEs).

Challenges	Overall Goal ④	Category					Proposed Measure
		Physical Infrastructure Development	Systemic Infrastructure Development	Human Resources Development	Private Sector Utilization	Finance Utilization	
Lagging provision of higher education in the fields of technology, engineering, business management, finance, and the arts <i>Related country-group specific issue:</i> ④ Domestic income inequality (common issue of ASEAN-4)	Develop academic and business environments that can foster and retain within ASEAN laborers with world-class productivity and scholars and businessmen with outstanding expertise				○		<ul style="list-style-type: none"> Diversify and raise the quality of educational opportunities by forming partnerships with overseas higher education institutions (business schools, art academies, etc.).
Underdeveloped legal systems for promoting knowledge acquisition and			○		○		<ul style="list-style-type: none"> Increase education budgets and promote R&D through university-industry linkage.
							<ul style="list-style-type: none"> Establish a government agency to manage the protection of intellectual properties.

<p>knowledge-intensive industry development <i>Related country-group specific issue:</i> ① Low agricultural productivity / industrial structure solidification (common issue of CLMV and ASEAN-4)</p>							<ul style="list-style-type: none"> • Produce legal experts with the capability to arbitrate intellectual property disputes.
<p>Lack of systems for fostering SMEs and promoting entrepreneurship <i>Related country-group specific issue:</i> ④ Domestic income inequality (common issue of ASEAN-4)</p>							<ul style="list-style-type: none"> • Gather information and create a data base concerning ASEAN SMEs. • Provide information to non-ASEAN investors and match partners. • Improve access to funds by expanding financial tools for SMEs.

⑤ Achieve long-term economic growth and environmental conservation by coping effectively with increased energy consumption and environmental burdens

ASEAN in 2025 is predicted to continue attracting investments as a global production hub. Further urbanization and consumer market expansion are projected for Indonesia (population: 280 million) and the Philippines (120 million). Primary energy consumption in ASEAN is expected to increase by 86% from 2011 to 2030, bolstered by vigorous economic growth. Energy prices in the international market are expected to rise hereafter in the face of expanding demand from other developing countries as well. In an age of massive energy consumption, all players will be required to give due consideration to potential negative effects on the environment, taking care to maintain a balance between economic growth and environmental protection.

The ASEAN Plan of Action for Energy Cooperation (APAEC) 2010–2015 calls for the promotion of coal and green technologies, energy efficiency and conservation, renewable energy, global energy policy and planning, and civilian nuclear energy, in addition to the ASEAN Power Grid (APG) and Trans-ASEAN Gas Pipeline (TAPG) projects. At present the APAEC for 2016–2020 is being drafted. Economic growth and environmental protection will become increasingly important in the years up to 2025 for ensuring ASEAN’s sustainable prosperity and achieving a higher standard of living. ASEAN’s overall energy policy should be to promote long-term cooperation among member-states, diversification of energy sources, development of environmentally friendly utilization of coal, and the use of information and communication technologies for energy conservation.

In view of the foregoing, the study team proposes such measures as reduction of reliance on fossil fuels by developing renewable energy to diversify the energy sources.

As for the inter-regional energy cooperation, the study team proposes to promote harmonization of regulations and technical standards and the capacity building of experts who deal with the infrastructure development in the public and private sector.

Challenges	Overall Goal ⑤	Category					Proposed Measure
		Physical Infrastructure Development	Systemic Infrastructure Development	Human Resources Development	Private Sector Utilization	Finance Utilization	
<p>Increased imports of primary energy and higher costs due to rise of international prices <i>Related country-group specific issue:</i> ⑤ Traffic congestion in urban areas / increased energy costs (common issue of ASEAN-4)</p>	<p>Achieve long-term economic growth and environmental conservation by coping effectively with increased energy consumption and environmental burdens</p>	○					<ul style="list-style-type: none"> Reduce reliance on fossil fuels (petroleum and natural gas) and develop other energy sources (renewable energy, shale oil and gas, nuclear power, etc.).

<p>Delay in achieving wide-area energy cooperation <i>Related country-group specific issue:</i> ⑤ Traffic congestion in urban areas / increased energy costs (common issue of ASEAN-4)</p>			○				<ul style="list-style-type: none"> Promote the harmonization of legal systems and technological standards among member-states.
				○			<ul style="list-style-type: none"> Develop capacity of experts dealing with infrastructure investment in public and private sector
					○	○	<ul style="list-style-type: none"> Take advantage of financial assistance, investment, and lending from private enterprises and international financial institutions.
<p>Increase in carbon dioxide emission due to heightened use of coal <i>Related country-group specific issue:</i> ⑤ Traffic congestion in urban areas / increased energy costs (common issue of ASEAN-4)</p>			○				<ul style="list-style-type: none"> Promote the development of clean coal technologies Conduct rehabilitation and enlargement of existing hydro power generation
			○				<ul style="list-style-type: none"> Promote energy conservation based on ICT such as the smart grid.
<p>Deteriorated urban environment due to motorization <i>Related country-group specific issue:</i> ⑤ Traffic congestion in urban areas / increased energy costs (common issue of ASEAN-4)</p>	○						<ul style="list-style-type: none"> Utilize the under-ground space for parking and commercial purposes
			○				<ul style="list-style-type: none"> Formulate and introduce transport regulations and action plans.
						○	<ul style="list-style-type: none"> Reduce complexity of fare collection by implementation of electronic payment system for public transportation