

The Impact of Agricultural Trade Facilitation For Agricultural Food Exports in Indonesia and Southeast Asia

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Introduction

- * ASEAN Free Trade Agreement (AFTA) is the main economic framework in the ASEAN region as one of the policy towards the ASEAN Economic Community or the ASEAN Economic Community (AEC)
- * 2009 : trade transactions between ASEAN and Others close to 1,536,843.3 US\$ million.
- * Close to 84 per cent of the trade value of ASEAN was accounted by 4 countries : Singapore, Thailand, Malaysia and Indonesia.
- * The main of Trader in Singapore had 515,617 US\$ Million
- * Indonesia only had 213,339 US\$ million. And then, the total GDP of Indonesia close to 36 per cent that is the largest of ASEAN's GDP.

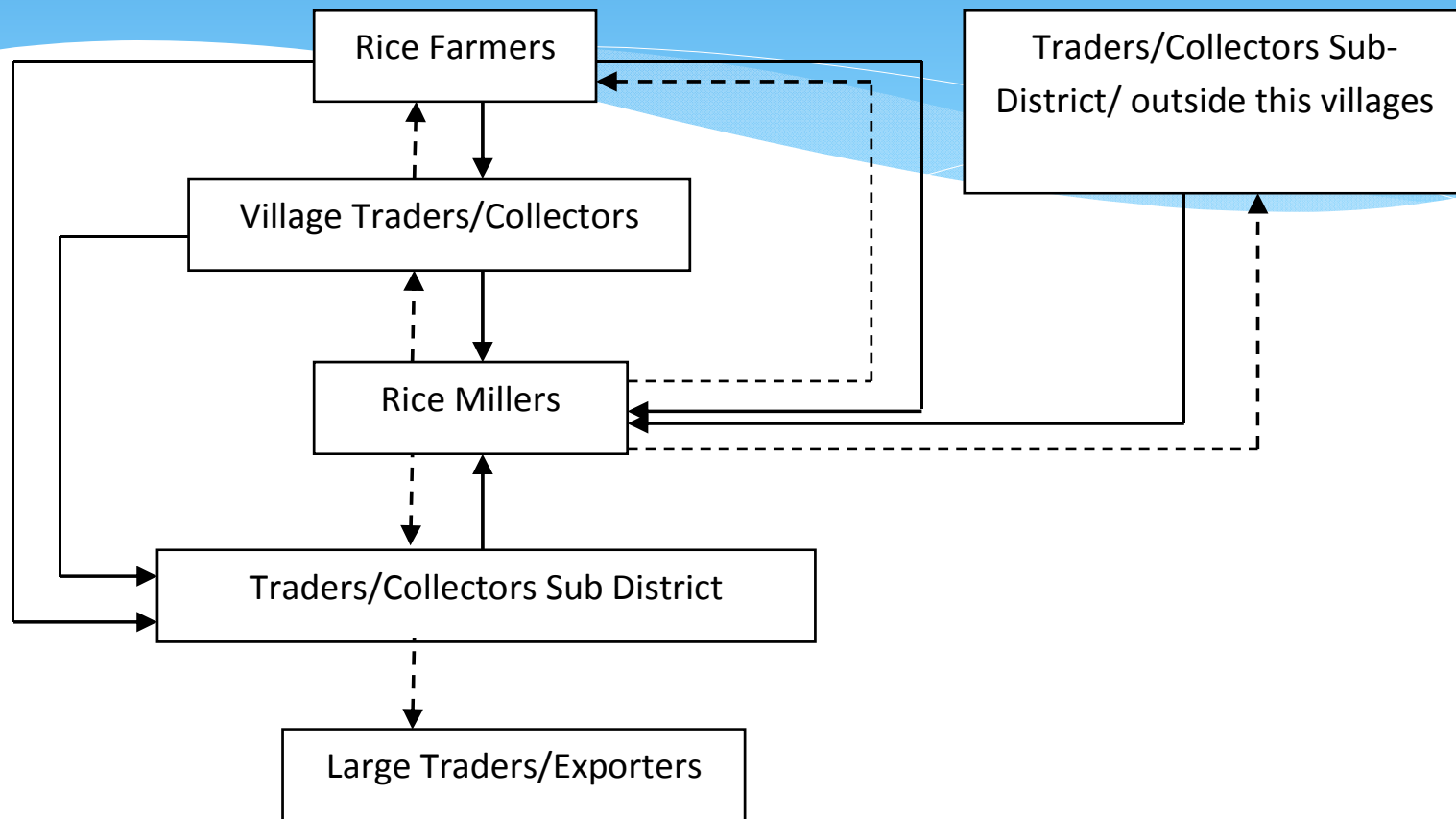
Introduction

- * The Indonesian economy has achieved a remarkable transformation from an agricultural economy to a modern economy where manufacturing and services account for 85 per cent of the gross domestic product (GDP) through government programs that led to a better macroeconomic management and liberalization of the economy.
- * From the viewpoint of the agricultural exports of Indonesia, the establishment of regional cooperation is an effort to provide more benefits for market access and increased income. Through this study required more in-depth information about the agricultural trade facilitation as a means to reaching out to the poor. In this context, the purpose of this paper was to find out the factors affect agricultural trade facilitation in Indonesia and Southeast Asia countries to support trade.

Methodology

- * Focusing on the role that center of rice production can play as a source of dynamic gains from trade. The relationship between productivity, network connections, and the probability of exporting is straightforward.
- * To obtain a clear and comprehensive view of facilitating trade in Indonesia, this study uses the value chain diagram, we chose the West Java province in Indonesia

Methodology



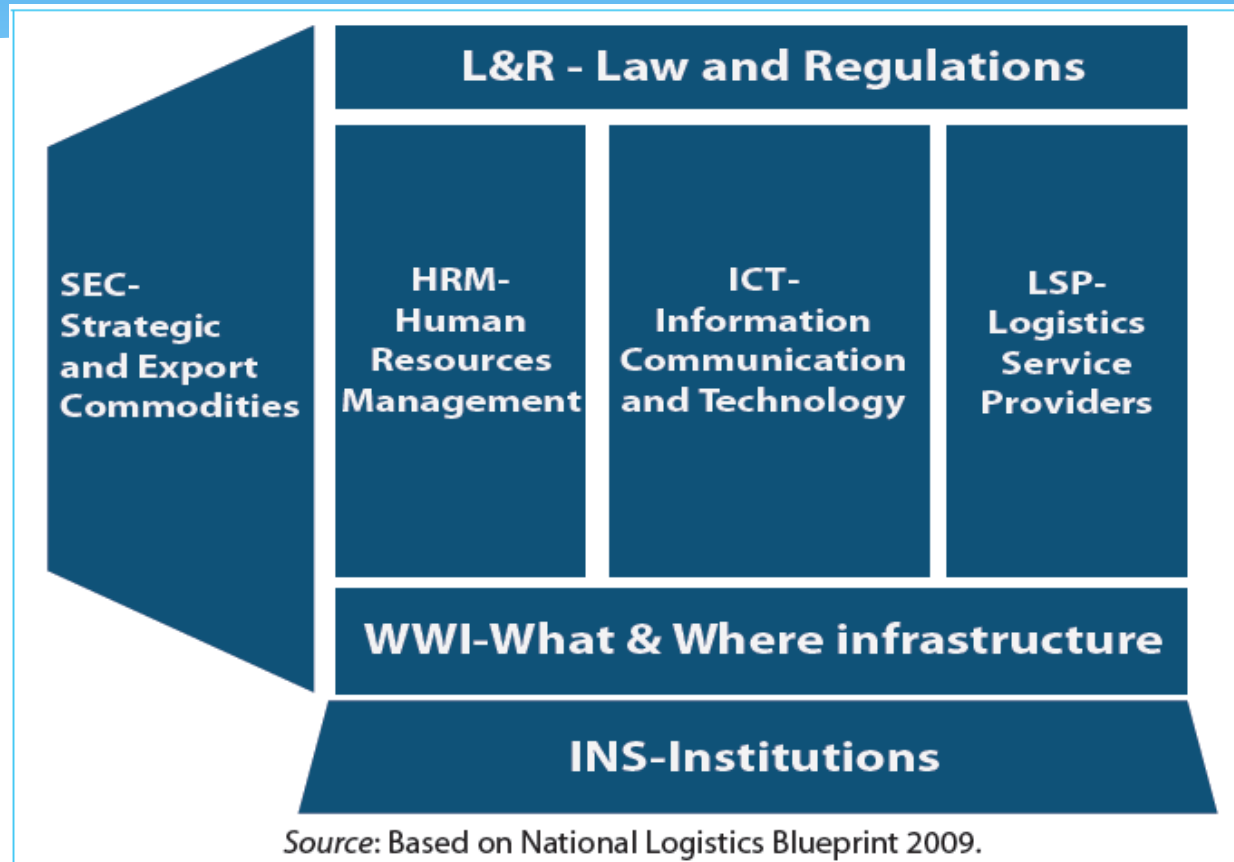
Flow of the value chain of Rice in Indonesia

Methodology

Indonesia have needs and priorities in Trade Facilitation for Indonesia Customs :

- *Ratifying the Revised Kyoto Convention (RKC)
- *Developing Single Window Customs Procedure System
- *Developing Electronic Data Interchange System (EDI) for Cargo Manifest
- *Developing Integrated IT system among Customs offices
- *Improving Customs Business Partnership
- *Enhancing risk management techniques
- *Improving cooperation with other customs administration

Methodology



National Logistics Blueprint main areas of action

* Analysis Tools

$$\ln \text{Exports} = \beta_0 + \beta_1 \ln X_1 + \dots + \beta_n \ln X_n + \varepsilon$$

* The value chain diagram

ITEMS	INBOUND LOGISTICS	OPERATIONS	OUTBOUND LOGISTICS	MARKETING & SALES	SERVICES
HUMAN RE-SOURCE MANAGEMENT	Availability of inputs, knowledge and abilities / skills of farmers to purchase inputs such as fertilizers, seeds, pesticides and other inputs.	Knowledge and expertise of farmers in farm management, post harvest and processing The availability and ability to access employment.	Knowledge and ability to deliver products to the collection and knowledge of the required product quality. Access to product pricing information.	Knowledge and selection of buyers and collectors. Knowledge of market demand for the requested product, the ability to interpret the price signals and the ability to create value-added	Knowledge of services required by farmers. An understanding of the industry will hand the importance of counseling for farmers and the problem of production.
TECHNOLOGY DEVELOPMENT	The quality of agricultural inputs. Investment and research will be the ability of access to inputs, especially the availability of inputs to increase production Availability of transport for the distribution of input	The technology in use in farming Quality of production facilities Availability of technology in production and post-harvest and the creation of added value.	The ability to access the mode of transportation from farmers to traders / collectors Infrastructure to the factory The ability to work among the farmers with a collector or dealer	Availability of technology-related information for collectors / traders The technology used to obtain a product to market top quality products.	agricultural extension services as a media to take advantage of technology package to farmers.
PURCHASE	The ability of farmers to purchase inputs	Timeliness for the acquisition of and access to input / production facilities.	Farmers' ability to efficiently execute a purchase transaction and the ability of parties to negotiate with the buyer.	Access to the buyer, the market and market information and processing facilities. The ability to supply product	The ability of farmers to acquire farming services including counseling, financial providers and production facilities.

Data and Data Sources

- *Using Variables in the model analysis and descriptive analysis is sourced from WITS : World Integrated Trade Solution, WDI : World Development Indicator, World Bank and FAOSTAT
- *To analyze the value chain, in this study took the sources of information from exporter, farmer groups associated with exporters, government agencies associated with this research

Result and Analysis

Year	Indonesia			ASEAN		
	Rice Export (Tons)	Rice Export (000 US\$)	Export-Food Excl Fish (000 US\$)	Rice Export (Tons)	Rice Export (000 US\$)	Export-Food Excl Fish (000 US\$)
1994	169141	27879	2205656	7947316	2221092	15721514
1995	5	6	1708493	8547770	2561621	15658139
1996	197	138	1852550	8562597	2879020	16382579
1997	64	67	2497772	9175539	3036032	16877438
1998	1981	1300	1913118	10398838	3147615	15548478
1999	2701	1447	2883179	11412750	2989982	18307672
2000	1190	306	3299274	9881768	2339712	18093730
2001	3952	793	3576300	12371093	2319099	21000791
2002	4154	1130	4375067	11393559	2458732	21127503
2003	699	320	4191418	12615003	2608013	23433033
2004	905	456	5588895	14294275	3697558	26230839
2005	42285	8657	6790369	13100568	3811691	26339207
2006	940	531	7574324	12226732	3897223	28146429
2007	1194	472	6185274	14194133	5081852	28017634
2008	1867	865	8765737	15016586	9042955	30726562
2009	2395	1814	9968624	12122398	6719696	31271500
2010	345	452	- *)	9646572	8871322	- *)
Average	13022	2637	4586003	13469339	5246146	22055191
Growth (%/year)	-20.94	-15.51	10.48	6.87	13.04	4.96

Description of Rice and Food Export in Indonesia and ASEAN

Description of Trade Facilitation in Indonesia and ASEAN

Items	Indonesia		ASEAN	
	Average	Growth (%/year)	Average	Growth (%/year)
Taxes on international trade (% of revenue)	3	-5.72	9	-1.70
Cost to export (US\$ per container)	594	4.98	719	1.52
Documents to export (number)	4	0.00	6	-1.85
Time to export (days)	19	-4.73	23	-5.90
Average time to clear exports through customs (days)	3	-6.56	3	-7.58
Internet users	6932731	20.05	32715371	18.23
Lead time to export, median case (days)	2	-2.53	3	-5.40
Logistics performance index: Efficiency of customs clearance process (1=low to 5=high)	3	-1.83	3	-0.38
Logistics performance index: Quality of trade and transport-related infrastructure (1=low to 5=high)	3	-1.71	3	0.14
Logistics performance index: Ease of arranging competitively priced shipments (1=low to 5=high)	3	-1.26	3	0.70
Logistics performance index: Competence and quality of logistics services (1=low to 5=high)	3	-2.47	3	-0.42
Logistics performance index: Overall (1=low to 5=high)	3	-1.38	3	0.42
Logistics performance index: Frequency with which shipments reach consignee within scheduled or expected time (1=low to 5=high)	3	0.91	3	1.07
Logistics performance index: Ability to track and trace consignments (1=low to 5=high)	3	-2.68	3	0.97
Agriculture, value added (constant 2000 US\$)	28433260356	2.77	72241801313	2.44
GDP (current US\$)	288773039611	9.46	881879572504	4.87
GDP (constant 2000 US\$)	194728311276	3.68	692581881108	3.73
ICT service exports (BoP, current US\$)	1213261394	2.58	5593316148	12.70
ICT service exports (% of service exports, BoP)	9	-1.73	7	3.03
Communications, computer, etc. (% of service exports, BoP)	19	15.14	31	-1.72
Insurance and financial services (% of service exports, BoP)	2	10.92	2	3.41
Transport services (% of service exports, BoP)	18	0.16	22	2.70

Analysis Output to Indonesia's Rice Export

Regression Summary for Dependent Variable: Rice Export (Tons)

R= .79396702

R²= .63038363

Adjusted R²= .50717818

F(4,12)=5.1165 p<.01219

Std.Error of estimate: 1.6233

	Coefficients	Std. Err	t	p-level
Intercept***	-799.690	286.0065	-2.79606	0.016162
GDP***	27.790	9.7597	2.84743	0.014693
Internet users***	-3.268	0.7915	-4.12826	0.001400
Transport services***	8.496	3.1428	2.70339	0.019189
Taxes on international trade	0.673	0.6608	1.01851	0.328531

Note: ***= very significant ($\alpha=1\%$)

Analysis Output to ASEAN's Rice Export

Regression Summary for Dependent Variable: Rice Export (Tons)

R= .91231685

R²= .83232203

Adjusted R²= .77642938

F(4,12)=14.891 p<.00013

Std.Error of estimate: .09237

	Coefficients	Std. Err	t	p-level
Intercept	-13.0576	23.82385	-0.548088	0.593681
GDP	0.9340	0.81925	1.140059	0.276506
Internet users	-0.0628	0.08019	-0.783073	0.448763
Transport services***	0.7807	0.26370	2.960527	0.011909
Taxes on international trade	-0.2517	0.25858	-0.973311	0.349611

Note: ***= very significant ($\alpha=1\%$)

Analysis Output to Indonesia's Food Export

Regression Summary for Dependent Variable: Export-Food Excl Fish Export (000 US\$)

R= .95483828

R²= .91171615

Adjusted R²= .87961293

F(4,11)=28.400 p<.00001

Std.Error of estimate: .20107

	Coefficients	Std. Err	t	p-level
Intercept***	-169.656	37.56725	-4.51606	0.000878
GDP***	6.224	1.27850	4.86847	0.000496
Internet users	-0.029	0.11127	-0.26178	0.798329
Transport services	-0.435	0.48568	-0.89531	0.389794
Taxes on international trade	-0.024	0.08309	-0.28718	0.779313

Note ***= very significant (at α =1%)

Analysis Output to ASEAN's Food Export

Regression Summary for Dependent Variable: Export-Food Excl Fish Export (000 US\$)

R= .98338411

R²= .96704431

Adjusted R²= .95506042

F(4,11)=80.695 p<.00000

Std.Error of estimate: .05448

	Coefficients	Std. Err	t	p-level
Intercept***	-64.3615	14.22295	-4.52519	0.000865
GDP***	2.6847	0.48967	5.48277	0.000191
Internet users*	-0.0930	0.04760	-1.95403	0.076590
Transport services*	0.3344	0.18301	1.82742	0.094866
Taxes on international trade	-0.0213	0.15252	-0.13966	0.891453

*** very significant ($\alpha=1\%$), *=not significant at $\alpha=5\%$, but it is significant at $\alpha=10\%$

Supply Chain Management Commodity Rice in Indonesia to input/production facilities and production in land farming

INBOUND LOGISTICS (ACCESS TO INPUT / PRODUCTION FACILITIES)		
Observation	Issues and Challenges	Strategic recommendations
<p>Human Resource Management</p> <p>Rice is the main source of family income</p> <p>Labor used to use more human labor. Pattern made farmers to work in groups.</p> <p>Farmers have not fully mastered the technology according to environmental conditions, especially water</p> <p>Technology Development Optimal use of the technology input is not maximized</p> <p>PROCUREMENT Farmers are facing difficulties to keep production costs</p>	<p>Difficulties farmers increase income families because traditional farming</p> <p>Dependence of availability of labor in the group is high, where the farmer as an institution in the production system will greatly assist in paddy production centers.</p> <p>Knowledge to be able to take advantage of savings of the use of land and water</p> <p>Using input into consideration when using organic rice</p> <p>Procurement of rolling machines conform to organic rice production would reduce loss and increase production efficiency</p>	<p>Improved technology is the responsibility of the government followed by an increase in the ability of farmers to make improvements to the technology faces market demand</p> <p>Groups should be empowered and used government as rural institutions that can help farmers to access production facilities</p> <p>Governments in the region should be able to develop a production center for water-saving farming activities at the local level</p> <p>Utilization of organic farm inputs can be disseminated at the level of farmers' groups and government concern.</p> <p>The provision of production facilities should be the responsibility of the government. Private sector involvement should be a partner of the government in an effort to meet the needs of production facilities</p>

Supply Chain Management Commodity Rice in Indonesia to input/production facilities and production in land farming

OPERATIONS (PRODUCTION ACTIVITIES IN LAND FARMING)		
Observation	Issues and Challenges	Strategic recommendations
<p>Human Resource Management</p> <p>Especially for organic farmers, growers generally have applied SRI technology yet still traditional post-harvest processes.</p> <p>Farmers still have the manual harvesting process so that more farmers choose to produce grain in accordance with the capabilities of farmers</p>	<p>Constraints faced the production generated by farmers is the lack of knowledge on organic standards</p> <p>Assisting farmers still not up, in addition to the organic rice market is very promising</p>	<p>Improved skills and knowledge of farmers should be improved, efforts to increase production through investment tools and systems in accordance with organic standards</p> <p>Quality improvement can be implemented in the form of synergy between government and the private sector, if the quality improved organic rice production into alternative products selected by farmers and adapted to their abilities.</p>
<p>Technology Development</p> <p>Farmers' access to technology in general be accompanied by private</p> <p>The role of agricultural extension in the very least help farmers</p>	<p>Efforts to help the farmers to be able to access the latest technology in the production, post-harvest and marketing carried out independently by the private</p> <p>Institutional extension replaced almost entirely by the private sector</p>	<p>The government should serve to integrate the role of the private sector as the program managers from non-governmental .</p> <p>Through the program, developing a comprehensive food, extension should be integrated with a variety of technology assistance</p>
<p>PROCUREMENT</p> <p>Access of farmers to get harvesting equipment by a lack of capital</p>	<p>Procurement of more capital from the private sector along with access to the marketing of production</p>	<p>Quality farmers to carry out production and post-production should be trained regularly, so that capacity can be increased knowledge.</p>

Supply Chain Management Rice in Indonesia to processing and marketing of rice

OUTBOUND LOGISTICS (COLLECTING AND MOVEMENT OF PRODUCTS TO BUYERS)		
Observation	Issues and Challenges	Strategic recommendations
<p>Human Resource Management</p> <p>Farmers do not have perfect information about the commodity markets organic rice at a local and national level, prices tend to be dependent on the companion as an exporter</p>	<p>Organic rice prices are very good and the private sector was instrumental in delivering products of farmers</p>	<p>Private parties (buyers and traders) already have a very good networking with farmers. The government must monitor and collect data relating to the collection of rice or rice prices.</p>
<p>Technology Development</p> <p>Farmers use plastic bags as a container of rice to be traded</p>	<p>In the field of packaging technology has not been widely disseminated at the farm level</p>	<p>Post-harvest technology development program needs to be improved</p>
<p>Procurement</p> <p>The process of post-production is a very important step in maintaining the quality of products</p> <p>Farmers are currently very dependent on the buyer's position as companion</p>	<p>Farmers are facing limitations in creating a system of procurement of organic products</p> <p>The negotiation process remains a primary goal along with improving the quality of farmers</p>	<p>Required fields post-harvest technology in organic-oriented</p> <p>Understanding the process of negotiating the price farmers will be more effectively directed. Socialization should not always directed to the increase of production, non-farm aspects are also required.</p>

Supply Chain Management Rice in Indonesia to processing and marketing of rice

PRODUCT MARKETING AND SALES		
<p>Human Resource Management</p> <p>Farmers fully understand the quality criteria demanded by the buyers and where to sell.</p>	<p>Difficult for farmers to meet the quality required by the buyer (merchant) moreover the quality standards of the buyer (overseas buyers) because memerlukan tool for vacuum packing</p>	<p>Improvements to the quality of the main prerequisites to do farmer, needed program peningkatan rice quality according to market demand</p>
<p>Technology Development</p> <p>Farmers make full use of mobile technology in the service of communication with traders both asking prices and continued farming information</p>	<p>The current pattern is quite effective.</p>	<p>The government can support a more facilitating existing institutional partnerships that provide rice farming facilities</p>
<p>Procurement</p> <p>Processing facilities are generally owned by farmer groups</p>	<p>In general, farmers are free to process grain. Currently, when using organic rice will require cooperation in constructing production centers in order to facilitate processing</p>	<p>The government should establish a pattern of marketing-oriented processing</p>

Supply Chain Management Rice in Indonesia to processing and marketing of rice

SERVICES (INDUSTRIAL SERVICES OF FARMERS)		
<p>Human Resource Management</p> <p>International merchant processing company and provide training to farmers either by going "organic rice clinics" that facilitate farmers with the latest technology in the production, post-harvest and price information (marketing).</p> <p>The processors, traders really understand what is needed by the farmer's expertise in production, the need for price information and others.</p>	<p>The pattern of assistance made by the merchant processing industry and help farmers, and is expected to continue in the future</p>	<p>If the processing industry has been instrumental in the mentoring process, the government should support in the form of the other, or contribute to an existing activity.</p>
<p>Technology Development</p> <p>In an effort to tie the farmers to sell their products to facilitate international traders many farmers by providing personnel who understand the specialized field of production engineering, quality and market information</p>	<p>Longstanding involvement makes the buyer knows well the needs of farmers.</p>	<p>The government's duty to synergize and support the participation of the private sector</p>
<p>Procurement</p> <p>Farmers in the production centers are very easy to access services provided by the private sector, and other stakeholders</p>	<p>The role of extension is very limited, more technology transfer involving agriculture office staff, the college or field personnel provided by private parties</p> <p>The private sector and other stakeholders are competing to provide education facilities and some often overlapping</p>	<p>The government is expected to design the extension can synergize with existing private mentoring to farmers</p> <p>The government should support the efforts of the private sector and other stakeholders to further enhance the skills of farmers</p>

A few things into consideration Trade Facilitation (TF) to reduce poverty related to export of rice:

- 1) TF directed effort to obtain the 'comfort' biggest international trade through simplification of economic activities such as the movement of goods and services. Organic rice farmers started in 1999, has a pretty good chance to improve production quality. Good production quality in this case is in line with export quality organic desired by the country of destination. The existence certificate of IMO (from Switzerland) to guarantee that this will facilitate the stages through delivery rules (customs) and also passed quarantine. Therefore, using the discipline of international certification gives farmers access to improved production and will further enhance employment opportunities around the land.
- 2) The exporters are concerned with the development of organic rice indicates that a transfer of knowledge to understand the extent to which farmers export stage, so that farmers remain disciplined in carrying out cultivation in accordance with the rules of international standards.
- 3) At the end, the price from the organic farm level higher than non-organic farmers, organic grain which is to Rp 6000/kg than non-organic price Rp 5000/kg. Meaning occurs income that will ultimately improve the quality of life for the basic needs and other needs.
- 4) The combination of these farmer groups, treatment monitoring of exports of goods easier and level faster and simpler process.

Conclusions

- * Export of food from Indonesia and ASEAN have positive trend. While rice export of ASEAN enjoy positive trend, rice export from Indonesia decline. On the average, Indonesia trade facilitation has better than ASEAN have.
- * Indonesian rice export increase is influenced by GDP of importer, transportation services and international taxes. ASEAN rice export is influenced by transport services and GDP of importing countries.
- * Indonesia food export is mainly influenced by GDP of importing countries while ASEAN food export is influenced by GDP of importing countries and transport services.
- * The ability of farmers with both private and government assistance in the development of the product are a major factor to influence rice export. On this occasion, the private sector take the lead in developing rice exports, as did the organic rice.

