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

Masyhuri

Professor of Agricultural Economics and Agribusiness, Center for World Trade Studies. Universitas Gadjah Mada , Yogyakarta. Indonesia

Saktyanu K. Dermoredjo

Researcher of Center for World Trade Studies and Center for Agro-socio Economics and Policy Studies, Bogor, Indonesia

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 increase trade and finally increase income.
* To increase the benefit of the regional cooperation, trade facilitation has been improved. Therefore it is a need to know the relationship between trade facilitation to the value of trade especially in food product and rice in particular. To complete the analysis, the value chain of the product will be traced

Objectives of the study are:

* To know the relationship between trade facilitation factors and the volume of food trade in ASEAN and Indonesia. The increase of trade will increase farmers income and hopefully reaching out to the poor.
* In this context, the purpose of this paper was to find out the factors , part of trade facilitation, that affect agricultural (food product) trade in Indonesia and Southeast Asia countries, especially rice. The value chain was done to add the analysis.

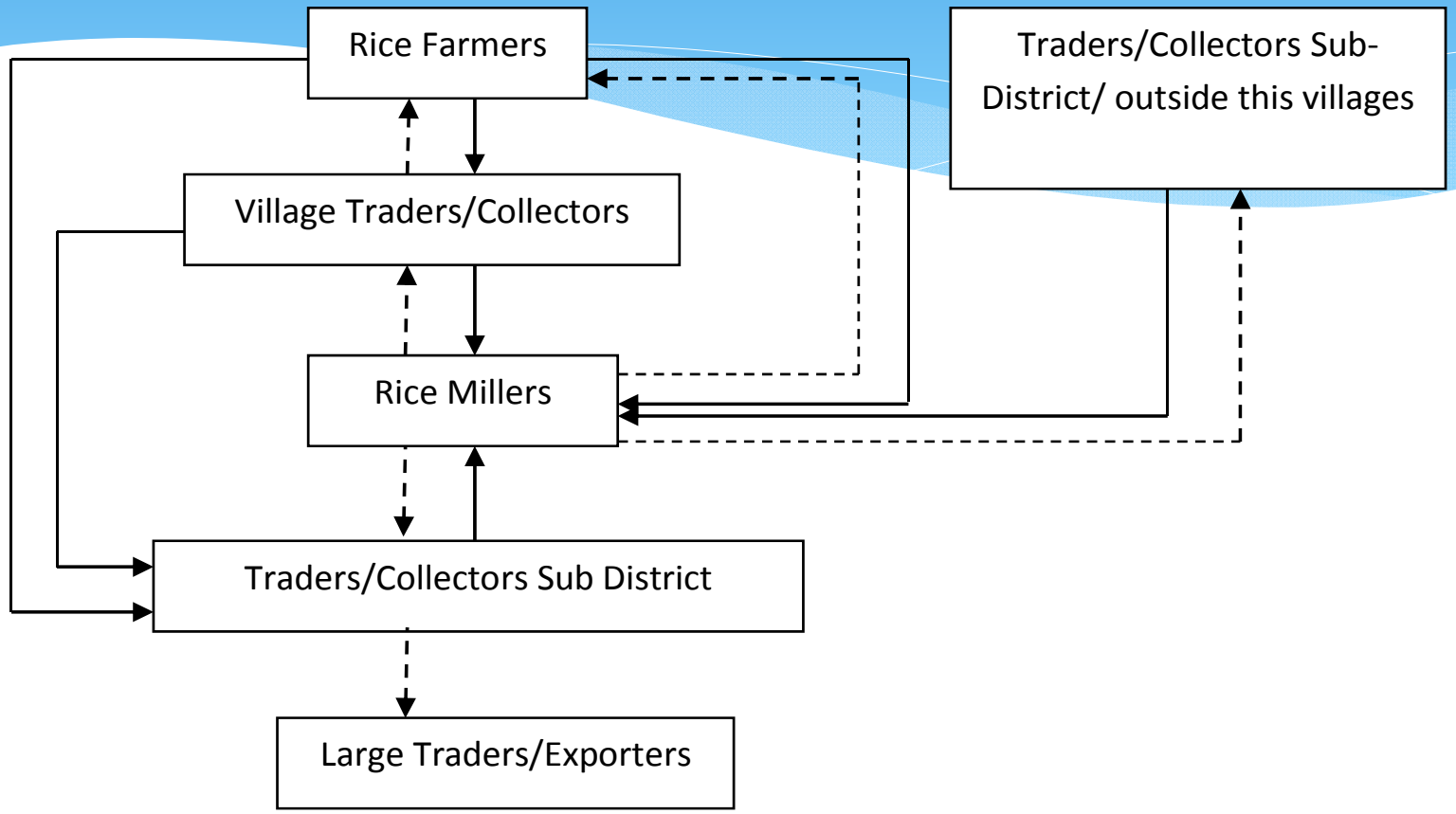
Methodology

* Focusing on the role that center of rice production can play as a source of dynamic gains from trade. The relationship between trade facilitation and the value of trade will be analyzed using regression model.
* 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

Method (cont.)

* The general model was specified as follow
* Ln Exports = $\beta_0 + \beta_1 \ln X_1 + \ldots\ldots + \beta_n \ln X_n + \varepsilon$
* Exports are the value of bilateral exports of agricultural commodities between two countries. $X_1, \ldots, X_n$ are the variables that affect Value of trade, that are GDP, international tax, transport service, and internet

Methodology(cont.)



Flow of the value chain of Rice in Indonesia

Analysis Tools

Ln Exports = $\beta 0 + \beta 1 \ln X1 + \ldots\ldots + \beta n \ln Xn + \varepsilon$

The value chain diagram

ITEMS	INBOUND LOGISTICS	OPERATIONS	OUTBOUND LOGISTICS	MARKETING & SALES	SERVICES
HUMAN RE-SOURCE MANA GEMENT	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

selected Trade Facilitation in Indonesia and ASEAN

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Analysis Output to Indonesia's Rice Export

Regression Summary for Dependent Variable: Rice Export (Tons)
R= .79396702
R^2= .63038363
Adjusted R^2= .50717818
F(4,12)=5.1165 p<.01219
Std.Error of estimate: 1.6233

	Coeffcients	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 (□=1%)

Analysis Output to ASEAN's Rice Export

Regression Summary for Dependent Variable: Rice Export (Tons)
R= .91231685
R^2= .83232203
Adjusted R^2= .77642938
F(4,12)=14.891 p<.00013
Std.Error of estimate: .09237

	Coeffcients	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 (□=1%)

Analysis Output to Indonesia's Food Export

Regression Summary for Dependent Variable: Export-Food Excl Fish Export (000 US$)
R= .95483828
R^2= .91171615
Adjusted R^2= .87961293
F(4,11)=28.400 p<.00001
Std.Error of estimate: .20107

	Coeffcients	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 □=1%)

Analysis Output to ASEAN's Food Export

Regression Summary for Dependent Variable: Export-Food Excl Fish Export (000 US$)
R= .98338411
R^2= .96704431
Adjusted R^2= .95506042
F(4,11)=80.695 p<.00000
Std.Error of estimate: .05448

	Coeffcients	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 (=1%), *=not significant at = 5%, but it is significant at = 10%

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

observation	Issues and chalanges
HRM: small land holding Laborous Technological skill is limited	How to increase access to land, to organize farmers group Mechanized Extension and training
Technological development: new technology in irrigation	More research
Procurement: difficulty for prod cost and it is assisted by private(exporter)	Grouping and credit system

Supply Chain Management Commodity Rice in Indonesia to production in land farming

observation	Issues and challenge
HRM: managerial skill is limited	Training and extension
Technology development: new farming technology (organic farming)	More research and infrastructure provision
Procurement: a need fund for buying harvest equipment	credit system, group, cooperation to private sector

Supply Chain Management Rice in Indonesia to processing and marketing of rice(outbound logistic)

observation	Issues and challenge
HRM: no perfect information regarding prices, depend on exporter	Disseminate the information
Technology development: farmer use plastic bag, need to improve	Farmers should to know post harvest tech.
Procurement: lacking post harvest tech	Relationship exporter and farmers continue

Supply Chain Management Commodity Rice in Indonesia to marketing and sales

observation	Issues and challenge
HRM: informed about quality	How do farmers meet the quality
Technology development: using mobile phone	Need continued cooperation between farmers and exporter
Procurement: the tool owned by farmers group	Need continued cooperation among farmers

Supply Chain Management Commodity Rice in Indonesia:services

observation	Issues and challenge
HRM: exporter give organic rice clinic	continuity
Technology development: there is personal expert staying with farmers	continuity
Procurement: provided by exporter	Dependency become cooperation

A few things into consideration Trade Facilitation (TF) to increase export and hopefully can reduce poverty:

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. The rank of trade facilitation, Indonesia is in the middle among ASEAN countries.
* 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.


Thank you!

Curriculum vitae: Masyhuri PhD
dr_masyhuri@yahoo.com

* Ocupation:
* Professor in Agricultural Economics, UGM, Indonesia
* Senior researcher at Center for World Trade Studies, UGM (Universitas gadjah Mada), Indonesia
* Chairman of Doctoral Program in agricultural sciences, UGM, Yogyakarta, Indonesia
* UGM Consortium Coordinator: South East Asian Graduate Studies in Natural Resources and Agriculture
* Vice President: Indonesian Agricultural Economic Society.