

ENVIRONMENTAL IMPACTS OF ECONOMIC INTEGRATION ON ASIAN AGRICULTURE

POLICY OPTIONS, CHALLENGES AND OPPORTUNITIES FOR ORGANIC AGRICULTURE

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Implications of future economic integration on agriculture

- Economic integration would magnify expected increase in growth of agricultural production (Table 1).
- Negative: Would expand export-oriented and large-scale monoculture; lead to increased water pollution, land degradation, and GHG emissions
- Positive potential: Would encourage environmentally friendly organic agriculture (OA) if it could be classified under environmental goods and services (EGS), but policy intervention would be necessary.

Table 1: Projection of growth of the agriculture sector in selected Asian countries

	China	ROK	Indonesia	Thailand	Japan
2001 (baseline)	100%	100%	100%	100%	100%
2020 under business as usual scenario	291%	157%	226%	174%	97%
2020 under deeper economic integration	299%	117%	239%	225%	84%

Potential environmental benefits of OA

- Potential increase in the share of OA area in Asia towards 2020 is projected in the range of 1-5% on average, comparable increase observed in EU between 1991 and 2004.
- Even a moderate increase in OA share can achieve considerable reduction of negative impacts (Table 2)
- Benefits will become greater with avoidance of costs to correct the damages and other positive impacts (reduction of health risks and rural development, etc.) are considered.

Table 2: Potential environmental benefits from hypothetical increase in organic farming in Asia

Increased share of organic farming area in Asian countries (hypothetical)	Total volume of fertilizer reduced applied in arable land in seven selected Asian countries ¹ [ton]	Equivalence to ROK's annual fertilizer use in 2001 [%]	Total volume of pesticides reduced applied in arable land in five selected Asian countries ² [ton]	Equivalence to ROK's annual pesticide use in 2004 [%]	Volume of N ₂ O emissions from crop land reduced ³ [ton]	Equivalence to ROK's annual N ₂ O emissions from agricultural soil ⁴ in 2001 [%]
Base	(19,338,251) ⁵	-	(159,199) ⁶	-	-	-
1 %	193,383	55%	1,885	7%	1,934	18%
5 %	966,913	273%	8,427	34%	9,669	88%

Notes: 1: Indonesia, Japan, Malaysia, Philippines, Republic of Korea (ROK), Thailand, and Viet Nam; 2: Malaysia, Philippines, Republic of Korea (ROK), Thailand, and Viet Nam; 3: Tier 1 emission factor (0.01 [kg N₂O-N/kg N], default value) was used (IPCC 2006); 4: Converted from CO₂ equivalent (UNFCCC 2008); 5: Total volume of fertilizers use in selected countries; 6: Total volume of pesticides use in selected countries

Challenges for OA promotion

- High transaction costs and poor credibility of OA products
- Low priority of OA as a policy and limited capacity to implement OA

Opportunities for OA promotion

- Can be promoted by market-based measures (e.g. eco-labeling), cleaner production (upstream measure)
- Economic gains from value-added/ differentiated products

Recommended OA policy

At the national level

- Development of eco-labelling systems according to priorities
- Adoption of a harmonized system in a gradual manner
- Strengthening the control of pesticide use and implementation of IPM to reduce health risks
- Contract farming to help and organize small-scale farmers
- Coordination with livestock industry to recycle organic wastes and reduce dependency on fertilizers
- Green procurement to increase domestic demand
- Development of strategies to increase OA products export

At the regional/ global level

- Harmonization of eco-labeling systems to reduce transaction costs and expand global market (equivalence, mutual recognition)
- Efforts to create a level playing field for organic products by reducing non-tariff barriers and giving a preferential treatment (preferential tariffs, environmental goods and services)

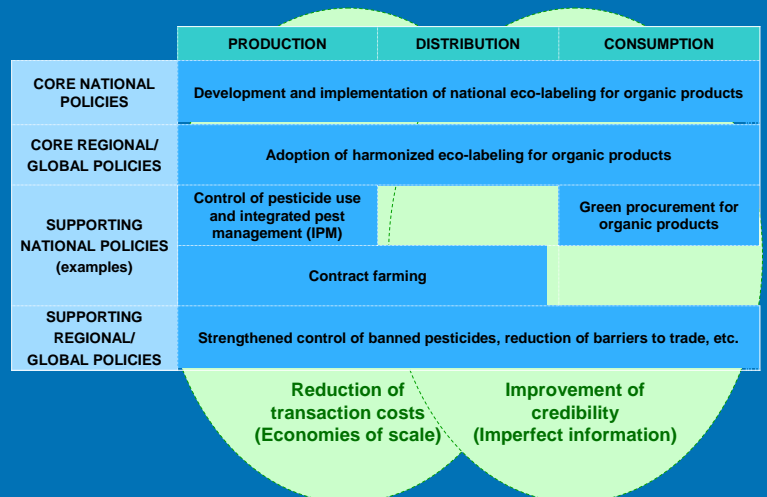


Figure 1: Recommended policy mix for the promotion of OA

Conclusions

- Economic integration is an important opportunity for OA to benefit as environmental goods and services.
- Emphasis on environmental and social benefits can help increase political support for OA.
- OA should be coordinated with environmental and trade-related policies (harmonization of eco-labeling systems and others).
- To do so, more national capacity building is needed and thus more government assistance/ prioritization of OA is required in Asia.