

POLICY BRIEF

By Sally Trethewie

**Would a Southeast Asian rice futures market
be feasible, and what of food security?**



In 2010, it was proposed that Singapore consider hosting an international rice futures market, with cited benefits being enhanced price discovery and price stabilisation. The RSIS Centre for Non-Traditional Security (NTS) Studies hosted an Expert Working Group Meeting in Singapore in March 2012 to discuss the feasibility of this proposal. The market conditions of the Southeast Asian rice sector are seen as an impediment to the operation of an international futures contract, although opinion is divided as to the degree to which the conditions would affect a contract. The proposal raises several issues related to the region's food security, in particular, the potential impact of futures trading on rice price volatility and the livelihoods of smallholder farmers. This NTS Policy Brief provides a summary of these issues and presents considerations for Southeast Asian policymakers.

Introduction

A regional rice futures market hosted in Singapore has been proposed as a tool for managing risks associated with rice prices and to incentivise improvements in market conditions. However, expert opinion is divided when it comes to the capacity of a rice futures market to meet these objectives. Ideally, significant policy reforms aimed at creating a trade environment supportive of a regional rice futures market at both domestic and regional levels should be pursued, but this is unlikely to happen given efforts in several countries to achieve self-reliance in rice.

This NTS Policy Brief draws from prevailing literature and the findings of an Expert Working Group Meeting in March 2012 hosted by the Centre for Non-Traditional Security (NTS) Studies at the S. Rajaratnam School of International Studies (RSIS). The meeting brought together 40 key rice sector stakeholders from Singapore, Malaysia, Thailand, Vietnam, the Philippines, Japan, India, Indonesia and the US.

The objective of this meeting, which was supported by Singapore's National Security Coordination Secretariat, was to discuss the prospect of Singapore becoming host to an international rice futures market. Key points for discussion included the feasibility of such a market given current international rice market conditions, the suitability of Singapore as potential host and the potential impact of an international rice futures market on regional food security. Speakers and participants included representatives of existing exchanges, potential host exchanges, governments, international organisations, major rice traders and other market participants.

Given the cross-sectoral challenges and the complexity of issues uncovered, there was no overarching conclusion drawn at the meeting on the feasibility of a rice futures market. At the risk of over-simplification, participants generally agreed that trade inefficiencies, diversity in the variety of rice produced and consumed,

and thin trade in the current cash market are factors that do not bode well for a successful regional rice futures market. There were varying opinions as to whether the challenges posed by the market are insurmountable, with exchange practitioners and participants the most optimistic about the prospect of operating in these conditions. Some advocated lowering the expectations of what a rice futures market could achieve and suggested a trial with a single rice futures contract on a small scale. Others questioned the need for a futures market at all, and some experts remained pessimistic about the potential benefits compared to the impact of a futures market on rice price volatility and the welfare of smallholder farmers. Many agreed that incremental steps could be taken in the form of research, particularly on which varieties would be more viable and the design of a contract which best reflected regional demand.

If an international rice futures market is to be launched, Singapore was widely seen as a legitimate and feasible host, given that it is a financial, shipping and trading hub in Southeast Asia. Access to financial markets, robust existing commodities exchanges, and sound legal infrastructure would be required by the host city; and Singapore is well-placed in this regard. While this NTS Policy Brief does not represent the group's views, it does draw heavily from the expertise of those who contributed to the meeting.

This brief provides an overview of the major points related to a proposal for a rice futures market in Southeast Asia. It first looks at the factors and key documents driving the proposal for a futures market. It then looks at central points for discussion, particularly how a futures market might impact food security. It also highlights the current gaps between government priorities, private sector interests and the requirements of a futures market. The brief concludes with an assessment of the issues raised and summarises key questions for the consideration of Southeast Asian policymakers.

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Why a rice futures market in Southeast Asia?

The market conditions often cited as obstacles or hindrances to the success of a rice futures market are the very same factors highlighted by those who have for years called for a more liberalised and efficient rice sector. Thus, it could be argued that one significant impact of a rice futures market in Asia may be its potential for encouraging market reform. However, given that market reforms could by themselves lead to greater efficiency, the question then arises: is there then still a need for a futures market?

Rice remains the single, most important dietary staple for the food and economic security of millions in Asia. Risks associated with the rice sector are increasing and uncertainty about future consumption patterns creates difficulties for planning decades ahead. In spite of the higher risks, Southeast Asian governments are mostly turning away from the international rice market or only using it to offset domestic vulnerabilities, and are attempting to achieve rice security by looking inwards.

The consequences of deep government intervention are reflected in many aspects of the regional market. Trade is hampered by a lack of information on rice prices and production, while the characteristically thin trade in rice weakens the market and allows for greater instability. There have long been calls for liberalisation and improved conditions in the rice sector in Southeast Asia, but lack of confidence and trust in the international rice market keeps governments from moving towards increased reliance on it.

The food price crisis in 2007–2008 should have provided sufficient impetus for greater cooperation in the rice sector, but instead it triggered a shift away from the international market. The Philippines, Indonesia and Malaysia are aiming for self-sufficiency at the cost of economic and resource inefficiency, and their departure from the international market would leave the market weaker and the countries more vulnerable to local supply shocks. Meanwhile, Thailand's rice mortgage scheme has led to challenges for its exporters. Given that the major food crisis did not incentivise cooperation, the question arises as to whether a market framework – such as an international futures market – could be a catalyst for essential reform. This question is examined in two recent documents.

Key documents on the proposed Southeast Asian rice futures market

The proposal for a regional rice futures market hosted in Singapore was first put forward in a 2010 report authored by a food security taskforce and published jointly by the Asia Society and the International Rice Research Institute (IRRI).¹ The authors suggest that a deep and robust regional rice futures market

Rice futures explained

A rice futures market is a trading platform (usually electronic) where standardised, regulated contracts for a specific quantity of rice are exchanged at a predetermined price. Unless it is a cash settlement contract, the buyer agrees to take delivery of the rice at a future date.

Participants

- Buyers and sellers of rice use rice futures markets to manage price risks. A key benefit of a rice futures market is seen as the ability of market participants to shift future price risk they currently take on themselves to a central clearing house.
- 'Outsiders' participate in futures markets purely for the purpose of speculative investment. Currently, outsiders are involved to a relatively minor degree in rice futures markets (compared to other food commodity markets), largely due to the thin trade in rice.

How it works

- Buyers can hedge against rising rice prices by taking a position (termed 'long') in the rice futures market, thereby securing the supply of a certain quantity of rice at a specific price for future delivery. If, at the time of delivery, the price of rice is higher than the futures price earlier committed to, the buyer has made a gain in the difference in price. If the price is lower, however, the buyer would have to pay the difference.
- Similarly, sellers may wish to hedge against a possible fall in rice prices by taking a position (termed 'short') in the rice futures market.

International and regional rice futures markets

- The Chicago Board of Trade (CBOT) trades rough rice and is regarded as the world's most sophisticated rice futures market model currently operating, in major part due to its openness and transparency.
- Within Asia, existing futures markets are small and cater mainly to domestic distribution requirements. Typically, they have low liquidity, and there have been concerns regarding excessive government involvement in some markets.

would add stability and transparency to formation of rice prices. Subsequent IRRI publications and communications material² suggest that an international rice futures market in Singapore could help simplify the formation of prices (price discovery) and would benefit farmers indirectly through the participation of market intermediaries and increased market price information.

The merits of the proposal was analysed in a March 2012 prefeasibility study commissioned by the Asian Development Bank (ADB).³ Authored by Andrew McKenzie, the report argues that the characteristics of the current regional rice market are not conducive to the development of successful rice futures contracts at the domestic or regional level. Even so, the study finds that a hypothetical futures contract based on the freight on board (FOB) price for Thai 5% white would provide a successful hedge against volatility in the FOB price of three rice varieties, namely, Viet Nam 5% white, Thai Hom Mali and Cambodia 5% white. Preliminary findings show that the contract would not successfully hedge against any other rice varieties in Southeast Asia.

Key points of discussion

Catalyst for reform

Rather than trigger market improvements in and of itself, a rice futures market typically reflects and intensifies market characteristics and activity. Thus, the lack of standardisation in rice quality and grading, restrictive trade policies, thin trade, lack of market information, and government price intervention could be detrimental to the success of a rice futures market.

Some market participants, however, argue that these market conditions are not necessarily a major impediment to the establishment of a rice futures contract. Practitioners involved in existing agricultural commodities exchanges – including rice – also point out that even the challenges governments impose on the market are not insurmountable. In particular, information on rice pricing and deals is typically not transparent, but, as Milo Hamilton highlights, there is a boom in rice advisory services, including news reports and price information available by subscription.⁴

Private sector actors also do not consider thin trade a major concern, as successful futures contracts represent a small percentage of overall volume. A great number of futures contracts fail or are underused, and there is little risk associated with this. There are a great many unused futures contracts at any one time and there is little expense to exchanges. Furthermore, Hamilton notes that it took 30 years for the US to develop a workable rice futures contract through trial and error.⁵ He further states that critics had been correct in their assessment of its weaknesses in the short term, but over time the contract became workable.

Increase in price volatility

The risk of increased price volatility is central to the debate on the feasibility of a rice futures market as a stabilising tool. It should be noted from the outset that an element of volatility is essential to the profitability of any market. However, there are concerns about the link between agricultural futures markets and excessive price hikes and instability.

Governments in Southeast Asia currently try to manage volatility in domestic rice prices through interventions, which impedes the effectiveness of domestic rice futures contracts. Risk at the domestic level is then transferred to the international market through the management of supply. This is one example of the complex reasons for rice price volatility in the international market, which a rice futures market alone will not address.

Contrary to the claims made in the Asia Society and IRRI report that a futures market would stabilise prices,⁶ the ADB study finds that a futures market would reflect current and expected future supply and demand conditions, thereby resulting in higher prices in the cash markets and increased price volatility.⁷ Should this be transmitted to domestic markets, the many millions of households in Asia who rely on rice as their dietary staple would be vulnerable to falling into poverty.

Risk of speculative activity

Major food commodities other than rice, including wheat, corn and soybeans, are already linked heavily to activity in the financial sector through futures markets. Even though rice is traded in futures markets, the volume of trade is much smaller than other staples. Speculative activity is a driver of futures markets, but its impact on agricultural commodity prices is a topic of much debate, particularly with respect to the US markets where the role of the financial sector has been extensively examined.

Studies have confirmed links between futures markets and increases in food prices, although economists cite the difficulties of undertaking such analysis given the complexity of linkages between the financial sector and futures markets. Furthermore, an analysis by A. Jason Windawi shows that the long-term viability of food commodities that are underpinned by financialised markets is jeopardised when food prices are embedded in broader speculative activity.⁸ It is assumed that an international rice futures market in Asia would need to be based on physical deliveries, which implies that rice traders would be more influential in the market than the financial sector. Nonetheless, the effects of speculative activity should be given serious consideration, particularly given that the financial sector is not at present heavily involved in the rice sector.

Impact on smallholder farmers

Some have claimed that a regional rice futures market would indirectly benefit smallholder farmers, particularly through the involvement of market intermediaries and the increased availability of market information. Other benefits demonstrated by existing domestic rice futures exchanges are the opportunity for farmers to plan production in response to the market, as well as the potential flow-on effects to farmers of transferring price risks to a futures market.

The distinct separation of domestic markets from the regional/international rice market is clearly disadvantageous to Southeast Asia's smallholder farmers. Due to heavy government intervention in the formation and management of domestic prices, price movements in the regional market are of little direct relevance to smallholder farmers. Therefore, more information on regional price movements would do little to improve their welfare.

By the same token, marketing is dominated at domestic levels by large market intermediaries, and their involvement in a regional market would have little impact on farmers. The benefits of price risk management may not flow through to farmers. Increased price volatility at the international level is certainly not conducive to long-term stability for farmers, no matter what measures are put in place for domestic price stabilisation. If marketing chains were shortened in the process of dealing through a rice futures market, the generally short-term nature of futures contracts could have a negative impact on income stability and the planning of production.

The direct involvement of rice farmers in a regional rice futures market in Asia is unlikely at this point in time, particularly given the relatively weak system of rice farmer cooperative networks. However, the ADB study gives emphasis to enhancing the marketing role of cooperatives as a policy directive, which could improve these prospects.⁹ Furthermore, Hamilton argues that the establishment of a small international milled-rice futures contract could encourage the establishment of localised paddy futures contracts; farmers would then be able to hedge their risks through local markets.¹⁰

Rice sector modernisation

Hamilton argues that a rice futures market may be a useful tool in a shift from subsistence farming towards a more 'business-oriented' rice industry.¹¹ This may be the case, but looking at the relative protection given to the rice sector in Asia amidst modernisation of the region's food supply chains, it can be presumed that governments will for some time want to retain maximum control rather than allow a market tool to provide for increased transparency, risk management and price discovery.

Consequences for consumers

It is also argued that an international rice futures market will make the rice sector more profitable overall, with farmers also benefiting from the potential for improved profit margins. If increased profitability can be assumed to link to an overall increase in rice prices, once again it is crucial to consider the potential impact on the many millions of rice consumers who are poor.

Incentivising public-private partnerships

For a futures market to have any chance of success in Asia, there are several functional requirements: trust in the sanctity of contracts, the trade of a variety of rice that meets market demand, successful grain merchandising, cross-sectoral education and a contract that meets the logistical requirements of traders.

Most importantly, the collective support and participation of several key traders would be critical. It is estimated that approximately a dozen major traders would be needed in order to sustain demand and ensure adequate liquidity. In addition to private sector buy-in, the cooperation of governments is key. Without improved conditions in the cash market, which are made inefficient by government interventions throughout the sector, it is likely that futures trading would not be well supported.

Clearly, a complex but informal regional public-private 'partnership' would be needed to move towards a successful rice futures market. However, the incentives for Southeast Asian governments to create the ideal conditions for a futures market are unclear.

The perspective of governments

Major rice exporting countries are unlikely to relax government interventions and shift towards more private sector trading, unless they see the overall economic benefit to broadening the international market.

Countries currently investing heavily in rice production programmes with the goal of self-sufficiency would most likely not be inclined to focus energy on improving the very market they are actively trying to distance themselves from, unless the economic inefficiencies and supply-shock realities of self-sufficiency prompt them to see the value in re-engaging the regional market.

Further, rice importing countries – particularly price takers – may be wary of the risk of increased price volatility presented by a futures market, unless they see an overall net benefit to a strengthened regional/

international market. It will take collective action from all of these government actors to create the ideal conditions for a successful futures contract. This is currently unlikely.

The perspective of major traders

If market challenges are circumventable, is there enough incentive for the private sector to collectively push for a rice futures market? It would seem that major traders are undecided about the merits of a futures market. The benefits of market liberalisation stemming from a futures market are clear, but they may find the current system of only a few private actors manageable. Furthermore, major traders risk losing market share to smaller traders should a regional/international rice futures market be developed (this could be regarded as a positive by others who see the benefits of broader market participation).

This brief summary of broad issues and probable perspectives of public and private sector stakeholders highlights that assessing the feasibility and likely impact of a proposed international rice futures market is largely speculative. The experience and knowledge of rice sector experts, existing rice futures market practitioners, and potential participants in a Singapore exchange is most valuable to these discussions. Nonetheless, without more research into prospective contract specifications, and market, economic and social outcomes, there are inherent uncertainties in the variables and assumptions made at this early stage of analysis.

Assessing the issues and the way forward

Weary of inefficiencies in the rice sector, it is understandable that observers of Southeast Asia's rice trade seek a tool for greater stability and to incentivise governments in Asia to improve the functioning of the region's rice market. This is particularly relevant in the context of growing risks in the production of rice posed by land limitations, labour shortages and worsening weather events. Initial analysis suggests that a regional/international futures market alone will not provide such benefits outright and in the short term. However, it is clear that the preliminary measures needed for a successful futures market are corollaries to improving conditions in the market more generally.

Given the issues raised in this brief, it would be premature to prescribe policy recommendations that directly address the implementation of a regional rice futures market. A more suitable contribution is to outline key functional and food security issues for further consideration and research:

- ***Operational requirements***

It is clear that, given the current exchange infrastructure, the implementation process for a rice futures market would be relatively swift and straightforward, requiring the buy-in of relatively few private traders. However, key operational questions remain. For example, what variety of rice would meet demand and be sustainable? What would the optimum contract specifications be? Would contracts result in cash settlement or physical delivery? How would the lack of standardised grading and quality measures be best addressed? To what degree would market conditions unique to rice be an impediment? What regulations would best achieve the balance between encouraging investment and managing speculative activity?

- ***Human security impacts***

It has been noted that the private sector has the capacity to implement a rice futures contract should the local regulatory body (in the case of Singapore as host, the Monetary Authority of Singapore) give its approval. Therefore, it is imperative that, given the region's dietary and economic dependence on rice, policymakers begin to address questions that have emerged about the impact of a rice futures market on the region's food security.

A futures market certainly has the potential to make the rice sector more profitable, but what is the likelihood that benefits will reach farmers? Is a rice futures market an appropriate market tool to complement a shift towards a more business-oriented rice production industry? Are there viable alternatives to a futures market to achieve price discovery, such as an institutionalised poll of traders to provide estimated price outlooks, or a standardised contract? Finally, although a degree of volatility is essential to the profitability of any market, could a rice futures market potentially raise prices and exacerbate price volatility to a point where the food security of those on the margins of poverty are put at risk?

- ***The importance of a vision to guide policy***

To assess whether or not a regional rice futures market would be a suitable tool for ensuring food security, it is critical that policymakers consider their vision for rice markets in coming decades, both domestically and regionally. To do that, they would need to examine the role that rice will play over the next decades, in diets,

livelihoods, economies and the changing agricultural landscape. In planning for the future, forecasting consumption is perhaps the most difficult challenge, with varying models providing vastly different answers on how much rice will be eaten in coming decades. Only once their objectives are determined can policymakers decide whether an international rice futures market would meet needs and expectations. It would then be in the hands of governments to create the market conditions ideal for its success.

Notes

¹ Asia Society and International Rice Research Institute (IRRI), *Never an empty bowl: Sustaining food security in Asia*, Task force report (Asia Society, 2010), http://www.asiasociety.org/files/pdf/FoodSecurityTF_online.pdf

² See for example: Bob Zeigler, 'Harvesting the benefits of a rice futures market', *The Straits Times*, 18 May 2011, http://www.rsis.edu.sg/nts/resources/db/uploadedfiles/Harvesting_the_benefits_of_a_rice_futures_market.pdf

³ Andrew McKenzie, *Prefeasibility study of an ASEAN rice futures market*, ADB Sustainable Development working paper no.19 (Manila, Asian Development Bank (ADB), 2012), <http://www.adb.org/node/22584/preview>

⁴ Milo Hamilton, *A position paper on world rice futures* (Submitted to the *Asian Rice Futures Market – Expert Working Group Meeting*, RSIS Centre for Non-Traditional Security Studies, 22–23 March 2012, Singapore), <http://www.rsis.edu.sg/nts/resources/db/uploadedfiles/SubmittedPositionPaperonFutures.pdf>

⁵ Hamilton, *A position paper on world rice futures*.

⁶ Asia Society and IRRI, *Never an empty bowl*.

⁷ McKenzie, *Prefeasibility study of an ASEAN rice futures market*.

⁸ A. Jason Windawi, *Speculation, embedding, and food prices: A cointegration analysis*, ISERP working paper no. 2012.02 (New York City, NY: Columbia University, 2012), <http://academiccommons.columbia.edu/catalog/ac:146501>

⁹ McKenzie, *Prefeasibility study of an ASEAN rice futures market*.

¹⁰ Hamilton, *A position paper on world rice futures*.

¹¹ Ibid.

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The RSIS Centre for NTS Studies, NTU, was inaugurated by the ASEAN Secretary-General, Dr Surin Pitsuwan, in May 2008. The Centre maintains research in the fields of Food Security, Climate Change, Energy Security, Health Security as well as Internal and Cross-Border Conflict. It produces policy-relevant analyses aimed at furthering awareness and building capacity to address NTS issues and challenges in the Asia-Pacific region and beyond. The Centre also provides a platform for scholars and policymakers within and outside Asia to discuss and analyse NTS issues in the region.

In 2009, the Centre was chosen by the MacArthur Foundation as a lead institution for the MacArthur Asia Security Initiative, to develop policy research capacity and recommend policies on the critical security challenges facing the Asia-Pacific.

The Centre is also a founding member of and the Secretariat for the Consortium of Non-Traditional Security (NTS) Studies in Asia (NTS-Asia). More information on the Centre can be found at www.rsis.edu.sg/nts.