Expert Working Group Meeting on An 'Asian Rice Futures Market'

22–23 March 2012

Organised by the RSIS Centre for Non-Traditional Security (NTS) Studies

Centre For Non-Traditional Security Studies

EXPERT WORKING GROUP MEETING ON AN 'ASIAN RICE FUTURES MARKET'

REPORT

ORGANISED BY
THE RSIS CENTRE FOR NON-TRADITIONAL SECURITY (NTS) STUDIES

SUPPORTED BY
THE NATIONAL SECURITY COORDINATION SECRETARIAT (NSCS), SINGAPORE

22–23 MARCH 2012
SINGAPORE

S. RAJARATNAM SCHOOL OF INTERNATIONAL STUDIES (RSIS)
NANYANG TECHNOLOGICAL UNIVERSITY
2012

Recommended citation:
RSIS Centre for Non-Traditional Security (NTS) Studies, 2012, Expert working group meeting on an 'Asian rice futures market' (22–23 March 2012), Report, Singapore.

Photo credits:
Front cover (from left to right, all from flickr): Mostafa Saeednejad, IRRI Images, Keith Bacongco, tesKing.

This report summarises the proceedings of the Conference as interpreted by the rapporteurs and editors of the RSIS Centre for NTS Studies. This report adheres to a variation of the Chatham House Rule. Accordingly, no attributions have been made.

This publication is also available online at:
www.rsis.edu.sg/nts
Alternatively, access the website using the QR Code on the left.

Table of Contents

Introduction

On 22–23 March 2012, the Centre for Non-Traditional Security (NTS) Studies at the S. Rajaratnam School of International Studies (RSIS) hosted a closed Expert Working Group Meeting to discuss the call for Singapore to consider hosting an international rice futures market. The Meeting was held with the support of the National Security Coordination Secretariat (NSCS) of Singapore.

Key points of discussion were the feasibility of an international rice futures market in current rice market conditions, the suitability of Singapore as potential host, and the potential impact of such a market on regional food security.

The Meeting brought together 40 high-level rice sector stakeholders from Singapore, Thailand, Vietnam, the Philippines, Japan, India, Indonesia and the US. Speakers and participants included major rice traders, heads of exchanges, economists, researchers, and representatives of governments and international institutions.

The proposal that Singapore host an international rice futures market was first brought up in September 2010 in a report by the International Rice Research Institute (IRRI) and the Asia Society. The authors suggested that such an exchange would contribute to rice price discovery and stability.

The proposal has encountered some reservations. A key criticism is that the increased participation of outsiders – speculators who are not interested in rice as a physical commodity – would expose rice to increased price volatility. There is also concern that farmers would not have sufficient access to the market, and thus be at a disadvantage under the system.

Entering the meeting, the convenors set out with key questions to frame the discussion:

- What are the perceived food security needs and rationale behind the proposal?
- Do these correspond with the realities of an international rice futures market?
- What are the costs and benefits for Southeast Asian rice economy stakeholders, including importing and exporting governments, traders, smallholder farmers and consumers?
- How would an international rice futures market impact (and be impacted by) the political sensitivities surrounding rice in Southeast Asia?
- Is an international rice exchange logistically and financially feasible?
- What is the likelihood of developing a rice futures contract to suit all stakeholders?
- Is Singapore a feasible host for an international rice futures market?
- What is the likely impact of an international futures market on rice price formation and stability?
- How effectively would a rice futures market operate in the face of price and availability shocks?

Participants discussed these and other aspects of this multidimensional issue over the course of the Meeting, in dialogues which blended academic rigour with the applied experience of practitioners in trading and other key food system areas.

Given the cross-sectoral challenges and the complexity of the 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 varieties of rice produced and consumed, and thin trade in the current cash market are factors that do not bode well for a successful international rice futures market. There were varying opinions as to whether the challenges are surmountable, with practitioners and participants associated with exchanges 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 on the design of a contract that would best reflect regional demand.

If an international rice futures market were 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.

This report attempts to capture the content of the presentations and discussions at the Meeting. It does not reflect a consensus view, but rather a synopsis of the range of views contributed over the course of the Meeting.

Summary of Findings

Central to the Meeting's discussion were the objectives of an international rice futures market, particularly the benefits in terms of promoting price discovery and addressing price volatility, and the likelihood of such a market delivering the anticipated outcomes.

I. An international rice futures market could be a valuable part of the toolbox for managing rice markets, but it is still uncertain how it would affect the security of the poor in terms of food and livelihoods.

Price discovery has repeatedly been mentioned as a primary benefit of a rice futures market. However, some have questioned which stakeholders actually desire it. A rice futures market could introduce greater transparency, certainty and stability into the market. It could also open the market to more players and allow for greater hedging and speculation.

While a rice futures market may serve to better manage price movements, it reflects market dynamics and therefore will not directly result in reduced price volatility. Many pointed out that a rice futures market is a tool; it will not fix all problems but could be a valuable approach for managing regional rice markets.

It remains unclear how farmers, particularly small-scale actors, would benefit from and engage with a rice futures market. It is also uncertain how a rice futures market would impact food security for the poor, given that the benefits would most likely be distributed in favour of large traders and governments.

II. Existing market conditions could prove to be critical impediments to the success of an international rice futures market.

Several potential impediments to an international rice futures market were highlighted. In particular, politics was ubiquitous to discussions at the Meeting. Multiple speakers and discussants argued that the heavy government presence in the Asian rice sector was a major area of concern. The current separation of domestic markets from the international market, and the resulting price discrepancies, represents a limitation in the eyes of many, as it calls into question the potential value of a rice futures market.

Further, the diversity in rice varieties means that, at the international level, there is currently no benchmark price for rice, nor is there a single, widely traded rice variety. Instead, rice is traded in multiple major markets. The thin trade of rice internationally was seen as another likely obstacle.

III. In light of the uncertainties and challenges, incremental steps and alternatives should be explored.

Liquidity, and thus a certain amount of speculative activity, is among the factors essential to the success of an international rice futures contract. Given that speculative activity in turn requires a modicum of instability and price volatility, regulatory measures would need to be introduced.

The rice futures contract would need to be designed to best meet the trade needs of potential market participants and research would need to be undertaken into the most viable rice varieties. Quality and safety standards would be essential to the sanctity of the contract, as would an efficient delivery system. Singapore has many of the valuable market characteristics necessary for a rice futures market and is widely viewed as a legitimate potential host. Finally, given the complexity of trading rice futures internationally, education across sectors is needed for the effective actuation of a rice futures market.

Several incremental steps and alternatives to an international rice futures market were offered at the Meeting. These include swaps, a pilot contract, trader polls, a forward contract, and tangible steps to improve the functioning of the existing cash market. Research is needed to ascertain the viability and likely impact of these pathways, in addition to studies on the feasibility, optimal functioning, and probable effects of an international rice futures market itself.

Session 1 – Rice in Flux: Trends in Production, Consumption and Trade

In this session, recent trends in rice production, consumption and trade were outlined. The world has now entered a period of increased risk in the rice business, with the rice price crisis of 2007–2008 being a key turning point. The rise in risk is indicated by a number of trends, including growing demand, with consumption rate of rice growing faster than production, and declining yield growth. Production is also increasingly affected by unpredictability in weather patterns, and intensification of monsoons in India, floods in Thailand, droughts in China and the US, and typhoons in the Philippines.

Apart from supply and demand factors, uncertainty in the global economy and unstable currencies are also contributing to increased risk in the rice sector. The falling US dollar has resulted in a rise in commodity prices, including food, and price movements in other currencies have been a key determinant of activity in the trade of rice. Another risk factor is the heavy concentration of global rice stocks, production and consumption in two countries – India and China.

Production is also affected by availability of arable land, climate change and water scarcity (which affects export behaviour), the increasing cost of production, and state interference in the sector. Consumption patterns are being driven by population increase, evolving food choices, moves towards self-sufficiency, the fluctuating affordability of rice, and the dynamics of government involvement. Thailand and Vietnam remain the two countries with the largest surplus in rice. Indonesia and the Philippines are market-moving importers and are both actively pursuing the goal of self-sufficiency. It was also emphasised that rice is the food of the poor, yet it is managed by those who are not poor, which encourages politicisation of the sector.

With such uncertainty and discord in the rice sector, there is a growing need for a risk management tool for the rice trade. A rice futures market has been suggested as a possible tool, but several factors may hinder the creation of a single, widely traded international rice futures contract. One problem is that rice, and its trade, is not homogenous, with diverse types and qualities of rice traded in and across multiple markets. Further, with rice being the staple food of the majority of people in Asia, it is a highly politicised crop thus making it a challenge to operate an open and fair trading system. There are currently significant differences between domestic prices in various Asian countries, with only slight correlation to the international price. Rice is also at present relatively thinly traded at 32 million metric tons annually. Further, governments are typically averse to speculation, which is necessary for a futures market to work. Also significant is the concern that hedge funds could dominate a rice futures market, and cause the basis, the difference between spot and futures pricing, to widen. In the face of such impediments and concerns, is there any way for a rice futures market based in Southeast Asia to be realised? The next sessions explore various aspects of this question.

Session 2 – Institutional Viewpoints on an International Rice Futures Market

In the second session, the Meeting learned about the International Rice Research Institute's (IRRI) interest in a rice futures market. The IRRI proposed such a market in a report co-published with the Asia Society in 2010. The IRRI is an independent international research organisation with a presence in all major rice producing and consuming countries and an established network of training programmes. It works to provide research reports on real-time crop conditions, and global supply and demand estimates, as well as to develop a future benchmark for rice prices and ensure a sustainable source of funding for rice research. Its primary target group is poor rice farmers all over the world, and the IRRI is aware of the devastating impact that spikes in rice prices can have on poverty levels. Thus, the IRRI is trying to develop a global rice monitoring and forecasting system using radar remote sensing with the aim of providing transparent and timely information on rice production, which will allow for better planning and policies. The system can also be used to develop crop insurance policies and crop loss assessments.

The Meeting was also briefed on the conclusions of a prefeasibility study of a regional rice futures market commissioned by the Asian Development Bank (ADB) and authored by Andrew McKenzie. The overall finding is that an ASEAN-based rice futures contract offers two key potential benefits to the market: price discovery and price risk management. ASEAN rice markets are currently largely opaque and a futures contract could help increase price transparency, which would aid all market participants in marketing and production decisions.

The findings of the ADB study cautions that futures markets play a limited role in stabilising prices across multiple years or seasons. In effect, they reflect current and expected future supply and demand conditions, and if those conditions result in higher or more volatile cash prices, futures prices will also be higher and more volatile. In this sense, futures markets are not a panacea for removing all price volatility.

Several important cash market characteristics needed to promote the success of a futures contract are adequate cash price volatility to attract hedgers and speculators; a large, competitive and well-defined underlying cash market that lends itself to standardisation; minimal government intervention in the underlying cash market; and free flow of market information.

The success of a rice futures market, according to the ADB report, would depend on the following policies and measures being promoted:

- Create an economic environment in which the private sector can play a more active role in both the domestic and regional/international rice marketing systems.
- Increase regional cooperation on rice trade policies.
- Improve the harmonisation of rice quality and grading standards.
- Improve basic transportation infrastructure and pursue policies to increase investment in private storage facilities and facilitate better access to credit.
- Create an independent institution to document, publish and disseminate rice market information on price and production data.
- Ensure that an adequate regulatory framework exists to police futures exchanges.
- Provide adequate sources of credit and financing to potential market participants.
- Provide educational support for potential market participants and government trade and commerce officials.
- Survey potential industry users to determine optimal contract specifications.
- With respect to the development of domestic rice futures contracts and exchanges, develop the marketing role of cooperatives. Specifically, policies should aim to improve marketing education and provide access to affordable credit.
- Create a regional forum in which private traders, members of exchanges, and government trade and commerce officials across the region can discuss policies needed to promote a trading environment conducive to the development of futures contracts.
- Increase price transparency in existing cash markets and develop a cash price index for the ASEAN region.

Session 3 – Rice Price Formation and Food (In)Security

This session explored the potential food security impact of an international rice futures market should a significant proportion of rice be traded in futures. Questions were raised about the impact on smallholder farmers and consumers. Factors that contribute to the success of a futures market were highlighted, as was the potential for buffer stocks to have a stabilising effect on food prices.

There are several factors essential to the feasibility and viability of a Singapore-based international rice futures market. First, the physical benchmark needs to be relevant and deliverable. Second, the market needs to be reliable. Regulatory oversight would be key, as a means of building faith and liquidity. Third, it needs to be resilient, which would entail sufficient financing and human expertise.

An analysis of the experience of US markets reveals several findings relevant to futures markets. First, volatility is not an indication of the failure of the price discovery process. Second, the existence of a futures market does create the potential for price differences between physical and futures markets. An important mitigation to a disconnect between cash and futures prices is a reliable delivery system. Finally, regulatory oversight is key to monitoring the viability of contract specifications and its impact on the price discovery process.

There were concerns that only large international traders and governments would benefit from a rice futures market, and not the millions of small producers and consumers in the region who are not connected to the world market. The average Asian rice farmer or consumer is typically not directly impacted by movement in world-market rice prices as there are large disparities between domestic and international prices due to government stabilisation of domestic prices. Despite advancements in communication technologies, only a small percentage of farmers are directly involved in a futures market, even in the US.

Smallholders can enhance price discovery and reap the benefits of the same through forming cooperatives. Cooperatives can be reliable participants in futures markets; they can raise funds to put up margin and finance inventories for delivery. If and when cooperatives do form, they must represent farmers' interests. At present in the rice sector, such cooperatives are largely negligible in number, and may be better suited for indirect participation in a domestic rather than an international futures market.

If a cooperative has the support of a large enough number of farmers, including the mandate to act on the farmers' behalf and represent them in trade, it will potentially have clout even in international markets. There are examples of cooperatives (e.g., in France), pools (e.g., in Canada) or boards (e.g., in Australia) that have become market players with critical mass.

While recognising the potential benefits of a rice futures market, prospective risks include the possibility of large speculative bubbles forming which could spill over to domestic markets. There is also the likelihood that activity through a rice futures market could lead to increased prices over the long term, which would have a major impact on those in, or on the border-line of, poverty.

The risks may nevertheless not be as high as feared. A study found that the introduction of rice futures in the US led to a decrease in volatility in cash prices, and that it had little impact on world rice prices. This suggests that a futures market will not in itself lead to an increase or decrease of wealth or food security. If it functions well, all it does is convey price information.

The study also drew attention to risk factors in the market, including declining buffer stocks, increased cost of production and current volatility. Greater price stability in physical markets could potentially be attained through increasing buffer stocks. However, given current projections, this seems doubtful over the next decade, and traders are not focused on the potential benefits of pursuing this strategy. As it relates to food security, increasing buffer stocks may have a more stabilising impact than a rice futures market.

Session 4 – Rice Futures Contracts

The session provided an overview of Japan's experience and history in rice futures trading, and the characteristics of the Japanese rice market. Japan's rice futures market – which launched the world's first futures contract in 1730 – was dormant for many years and relaunched in 2011. The host institution, the Tokyo Grain Exchange, has allowed two years to assess the feasibility of the contract and the contract's impact on rice prices.

In order for the rice futures market in Japan to be successful, the Exchange believes that education is essential. Market participants would need to learn how to use the futures contract as a hedging instrument. The market must also be able to attract an initial set of speculators as liquidity providers. If the market has liquidity, more speculators will enter the market naturally. The exchange must be able to make and amend the trading rules so that both hedgers and speculators can easily enter or exit the market. Rice futures exchange hosts must also build a reliable market infrastructure.

This session also addressed some of the reasons for the success of the US rough rice futures contract at the Chicago Board of Trade after its launch 30 years ago. Key factors include a free market and a cash market with volatility, low level of government control of price, a favourable regulatory environment, and a financially sound clearing house. Collaboration among stakeholders has been the key to the success of the US rice futures contract, with 30 years of deliberate facilitation of such collaboration between buyers, sellers and regulators.

Two factors should be considered in designing a contract that balances the interests of buyers and sellers. First, a contract should encourage adequate speculation to provide essential liquidity. Second, an efficient delivery area would have to be established. The US experience suggests that market conditions that could be considered major barriers – such as a thin market and lack of a discoverable cash price – can be overcome.

In the US, farmers do not use futures per se, but they do market rice through merchants dealing in paddy rice (known as 'rough rice' in the US market), who use rice futures to reduce US price risk. The greater financial integrity of these middlemen (as a result of their use of rice futures) indirectly benefits farmers and their lenders. Also, futures impact credit lending and government policies such as crop insurance.

There are several commonalities between the two most successful contracts, the paddy rice futures in the US and in China. Both trade an undifferentiated raw commodity. Both have a wide storage area and access to rivers and ports. Further, both use farm, not export-based, pricing. Rice futures as an endeavour will continue to evolve within the confines of local markets. Such markets should benefit smallholder rice farmers and increase investment in agriculture over time. Through this avenue, food security should be somewhat enhanced over time in all countries involved given that domestic futures generally reduce price volatility in local markets.

A market compass for rice may be set as a result of establishing a Singapore milled rice futures contract. The development of a milled rice futures contract could also encourage the formation of localised paddy rice futures markets in the region. Education for potential market participants would be key, and it would be advantageous to propagate the approach of China and US futures across Asia. Finally, a reduction of government price controls would allow for better functioning of a rice futures market.

Session 5 – Institutional Matters and the Feasibility of Singapore as Host

This session focused on the feasibility of Singapore as a potential host for an international rice futures market. Singapore would be a viable host in view of several factors, including its status as a global financial centre and regional base for many international companies. Singapore is a wealth hub with the largest institutional investor base in Asia and the world's fourth largest foreign exchange trading centre. It is a major trading hub and centre for commodities, and is a safe and efficient place to do business on the whole.

In terms of contract design, specifications should be relevant to the largest target audience and there should be a robust methodology for settlement prices. For ideal market access, the contract would need to have an expansive reach to its client base through networks of clearing members and brokers. A strong clearing house would have multiple clearing members and a substantial clearing fund. A benchmark could evolve as physical contracts become tied to the futures price.

Even if an international rice futures market were to be deemed feasible, fundamental challenges in terms of operating the market remain. The commitment of trading houses to participating in the design of the contract would be important. The support of trading houses would also be needed for a contract to be physically deliverable (a requisite for attracting market participation); financial players cannot do this, as they cannot be market makers in a deliverable contract. Buy-in from major rice players has not been forthcoming so far. One of the main reasons cited for this is the opacity of the rice trade in the region.

An international rice futures market would have some implications for existing exchanges in Asia. Observations of exchanges in India and China suggest that existing futures contracts in Asia involve small volumes of rice, and thus smaller margins and lower risk. The number of contracts traded is high, with high liquidity. Transaction costs could also be higher under an international rice futures contract based in Singapore, as exchanges in Singapore do not have access to markets in other Asian countries. Singapore exchanges would need to engage with partners and exchanges in other countries, which could increase costs. Furthermore, many of these other Asian markets have regulatory barriers (but this would not be an insurmountable challenge).

Steps for Moving Forward

There were no formal presentations on day two of the Expert Working Group Meeting. The morning session allowed for open discussion on the diverse issues and views raised the previous day. The following captures many of the expert opinions contributed, grouped according to general issue areas.

Objectives of a rice futures market

In discussing the possibility of establishing an international rice futures market in Asia, there is a need to identify the specific market and food security problems it seeks to address. Some of the cited issues are the need to manage risk (and for a hedging tool to do so) and, given the current opaque state of the cash market, the clear importance of price discovery and transparency. Ultimately, however, the objective should be to make rice affordable and available. There is thus also a need to ascertain how the benefits would be distributed, and for greater clarity on the objectives of stakeholders.

A futures market could potentially help balance trade between large actors and smaller ones, as the rice market is currently dominated by major traders. Cash markets are bilateral, and can therefore be manipulated by strong actors. In a futures market, on the other hand, trade is guaranteed by the exchange. Further, trades conducted in a futures market are private, so the probability of cartel manipulation is reduced. Exchanges will own the risks, and will hold almost the same power and resources as large trading companies.

The objective of an international rice futures market in Asia should perhaps not be to establish a pricing benchmark for globally traded rice but to create a tool for price discovery complementary to increasingly better-functioning cash markets. Commitment from the larger trading houses, good contract governance and free trade would be essential for this to successfully occur.

The role of futures in avoiding crises

While there are no market fundamentals to explain what happened in the crisis of 2007–2008, measures should be put in place to avoid a repeat. As a start, a rice futures market could be helpful, as a tool to explore a lack of information and as a mechanism to potentially address the lack of transparency. However, policymakers may not be ready to embrace the risks of a rice futures market in order to receive benefits such as mitigating price risk. In this regard, it should be noted that ministries of finance and trade are, in addition to ministries of agriculture, key to the discussion of the feasibility of trading rice through a futures market.

A rice futures market should not be seen as an easy way out of trouble. The crisis in 2007–2008 was not caused by a shortage in supply and stocks, the drying up of trade, or even a lack of information. Panic was the primary culprit. The countries that put export bans in place and significantly increased imports knew the state of the market, and were just defending domestic political interests. These countries have been trying to stabilise their domestic prices against international forces for centuries. If the rice trade was freer, the crisis would most likely not have happened.

Furthermore, a rice futures market cannot be expected to act as a repair tool for stabilising prices during a crisis. Indices are based on cash assessments, and cash assessments based on cash markets. The existing cash market needs to function well in order for an index to be relevant.

Drawing from the experience of existing exchanges

Soon after the US rice futures contract was launched, traders increasingly saw the benefits and participation flourished. Cross-sectoral education efforts led to even greater participation. Rice futures have had a positive

impact on the US rice industry right along the supply chain. Farmers have benefited from the opportunity to hold off on quick sales. A system has developed whereby banks provide farmers with loans, with lengthened terms and low rates, if a price is going in a particular direction, thus allowing farmers a longer period in which to sell. This has been highly popular with farmers and has led to reinvestment into farming.

Three key operational points that have proven to be the greatest challenge in the implementation of the US rice futures contract are standardisation of grades and quality, the question of cash settlement versus physical delivery, and the identification of delivery points.

In India, the main direct and indirect benefits from its rice futures market are transparency, price management, and improvements in quality standards and in storage and transport facilities. India's experience suggests that an international rice futures market may influence the launch of a similar platform for other key commodities, and may lead to higher investment in production of rice and other staples.

Trade policy reform

In the case of contracts for physical delivery, the imposition of export bans would pose a major challenge for an exchange. Once exports are banned, contracts that had earlier been agreed on would have to be unwound, with the result that confidence in the market would wane. A cash settlement price already exists, so that should be considered as an alternative to physical delivery.

It is clear that more coherent policies on rice markets are needed, particularly for the benefit of increased confidence in regional trade. Governments should focus on infrastructure development and capacity building to improve the value chain. Dialogue between policymakers and the private sector is vitally important for addressing knowledge gaps.

The depth of policy reform necessary for the best possible outcome is unclear. Rice continues to be a controlled item in the region, particularly given that it allows countries to influence rice stockpiles; this nationalistic approach to rice in domestic markets and international trade will need to be reconsidered if governments are to participate in the international market.

A domestic (rather than international) futures market may be more appealing to policymakers, but the prospects for the development of futures markets at the domestic level are uncertain. This is because a key goal of governments is ensure certainty of rice supply in a country. However, when there is certainty, volatility diminishes; and a futures market requires a degree of market volatility.

Governments are the largest single impediment to the success of a futures market. For the remaining challenges, there are solutions. For example, there are commodity indices to guide and compare pricing. There are also solutions to grades and varieties, to the logistics of delivering to far-off locations, and to obtaining information from multiple participants and providing industry with convenient access to that information. However, while a futures market has the capacity to address quality and pricing issues, it cannot mitigate political risk associated with frequent intervention by policymakers in the market (which directly impact futures).

Realistically, it is unlikely that national governments will make significant changes to their trade policies in the near future. Therefore, what are the minimum changes that need to happen to make a rice futures market possible? More research would have to be undertaken, but exchanges do have tools and mechanisms for overcoming trade policy challenges, even export bans.

For example, there could be stipulations that contracts be settled in cash in the event of an export ban. Traders would then have to be willing to absorb the costs of operating under these conditions.

The countries most heavily involved in the rice sector, particularly those in the developing world, would be key beneficiaries of transparency. Without a futures market or other market mechanisms to facilitate price discovery, policymakers and their governments would have to make decisions based on limited information. What is therefore required is an understanding and awareness at the top level that transparency is highly beneficial, even to key producers.

Is there a compelling case for a regional rice futures market?

Governments of importing countries will be concerned that end users may not benefit from a rice futures market. The risk is that increased price volatility will have an impact on consumers over the long term. In the short- to medium-term, an importer hedging the wrong way could mean higher costs for consumers. There should be scenario studies done on various incidences, or potential causes of, volatility and how this would translate into retail prices. Importing governments are unlikely to be convinced of the benefits of a rice futures market unless it can be demonstrated that there would be no worse-off effect.

Consideration should be given to differentiating between regional/international and domestic futures, as many countries' needs would perhaps be better served by local markets. One product to suit all stakeholders will be hard to find, but one to suit many may be possible with a fixed set of objectives. Participation, liquidity and a workable contract are key for the market to start effectively. There is enough risk in the market to sustain a futures market, but expectations for what the market could achieve must not be set too high.

National exchanges may also be better equipped to benefit farmers and local traders. The difference between different countries and the international market itself is so wide and the basis so divergent that a regional exchange may not be able to sustain the participation of producers. Millers from export-oriented countries such as Thailand would most likely be interested in a regional rice futures market, and today, millers play a much larger role in price formation than traders. Demand for rice futures will likely develop over time if a contract is created and its role in the market is clear. A liquid rice market seems inevitable within the next two decades, whether it is an international rice futures market or some other initiative. Whatever the measure, it must be constructed through incremental steps and experimental measures. Incremental steps targeted at major international traders would be a good starting point.

From a private-sector perspective, the exchange infrastructure is in place and tools exist to quickly explore rice futures options, and Singapore has the characteristics needed to act as host. The question is whether there are enough willing participants. There need not be many for the market to be sustainable in the early stages. What would drive the establishment of a rice futures market is a critical mass of supporters with stakes in the market who would take the process forward. These would ideally be large physical traders on both sides of buying and selling rice. There are mechanisms that could be put in place to overcome challenges posed by inefficiencies in the market. Whether contracts would be best settled through physical delivery or cash settlement would need to be determined.

If the international rice futures market aims to benefit smallholder farmers and poor consumers, then there is currently not a compelling case. If, conversely, the market's primary purpose is price discovery, then there should be more consideration given to potential incremental steps towards this end.

In the long run, a regional rice futures market may likely be an effective tool, but at this stage in Asia's economic development, caution is needed given the gravity and scope of vulnerabilities faced by people who depend on rice for their income and household budgets. The potential costs could be very high, particularly if there were (even infrequent) price bubbles. The benefits are too narrowly spread in favour of large traders and governments. Furthermore, the trickle-down effect that is evident in domestic rice markets, in which price movements go up and down the chain relatively quickly, will be impeded in an international market. The fundamental reason for this is that government interventions have an effect on prices.

Strengthening the rice market

A rice futures market may work eventually, but not as a first step. At the basic level, looking across at various markets, there is first the need to facilitate trade as well as provide some kind of medium or tool to offset risk and establish a fair market value (transparency or price discovery). For a start, the rice market as a whole would need to be improved.

- **Cash markets.** The first step should be to 'repair' and enhance cash markets. There is a need to introduce a standardised contract for one or more grades. Contracts should have a force majeure clause in case of embargoes, to enable such situations to be resolved with financial settlements.

- **Governing body.** One important prerequisite for contract sanctity is the existence of a governing body to oversee trade and arbitration, and to reference the applicable jurisdiction. The body would have to have no direct interest or bias. The next step would then be to sanction such a governing body. The Grain and Feed Trade Association (GAFTA) could likely play this role.

- **Contract sanctity and credibility.** There is need to establish contract sanctity through good behaviour and frequent trades, which is essential for proper market functioning. One additional option would be for trades to be cleared through an exchange, which would strengthen the sanctity of a contract, and even more, its credibility.

- **Participation of farmers.** The ideal scenario would be for farmers to participate in the market through stronger cooperative networks and representative bodies to achieve fair market values.

- **Efficiency of supply chains.** Efficient supply chains for physical delivery would need to be in place, which will involve investment in storage, transport and port facilities.















Participants of the Expert Working Group Meeting

Front row : Ms Sally Trethewie, Dr Lourdes Adriano, Dr Margarita Escaler, Dr Mercedita Sombilla, Ms Diana Koh, Ms Cherin Hoon.
Second row : Dr Ramon Clarete, Prof. Nobuyuki Chino, Mr Gary Chan, Prof. Paul Teng, Ms Flaminia Lilli.
Third row : Mr Rajeev Raina, Mr Foo Cher How, Mr Andrew Powell.
Fourth row : Mr Bui Minh Giap, Mr Masahiro Yamashita, Dr Mohammad Ismet, Mr Eric Maine, Mr Le Phat Tai.
Fifth row : Mr Robert Horster, Mr V. Subramanian , Mr Anjan Mandal, Mr Saptak Gangopadhyay, Dr J. Jackson Ewing, Mr Duncan Macintosh, Mr Stuart Hoetger, Mr Leo Chen Ian, Dr David Dawe.

Incremental steps

Many participants who were cautious about the merits of an international rice futures market, but who were not prepared to recommend against it, suggested the implementation of incremental steps towards such a market. These steps would provide stakeholders with the necessary information for deciding on whether or not to proceed with a futures market.

- **Designing a hypothetical contract.** The process of designing a hypothetical contract may help to generate ideas on how to overcome impediments to a successful international rice futures market. This is a good way to focus and discuss the issues, given that the institutional infrastructure exists.

- **Introducing a pilot contract.** A pilot contract should be started that is small in volume, and launched in a variety that is highly tradable, either a cheaper grade or a higher grade. It would be essential to have buy-in from large traders and, to a lesser extent, willing government agencies. For the pilot phase, the variety would best be one that governments are relatively less involved in, but that is still relevant enough that some buy-in from governments occurs.

- **Encouraging trading through electronic platforms.** One of the main objectives of a futures market is to increase price transparency. The implementation of over-the-counter (OTC) platforms, or electronic platforms, potentially first in a spot market, could increase transparency, paving the way for a robust futures market. Such platforms could facilitate price discovery and provide information on the forward curve (the prices the market is willing to transact in the future, from the point of today, without which there can be no successful trades).

- **Increasing education and information dissemination.** Cross-sectoral education and better communication would need to be enhanced. For example, traders should inform exchanges of premiums and discounts across grades.

- **Addressing the issue of speculative activity.** Much of the speculation in rice results from the actions of commercial operations which are of the view that, in order to make money, they must speculate on the direction of the rice price. However, many rice grain merchants in other markets arbitrage successfully with small or modest risk. Should an international rice futures market in Asia develop, traders should utilise this merchandising function.

- **Promoting further research.** Studies should be done on the feasibility of an international rice futures market, particularly on how to overcome market impediments and how to encourage buy-in from participants. Potential capacity building projects and information systems should also be examined. A study on the measures and small steps that could be taken as an alternative to a rice futures market in the first instance would also be of value.

Alternatives tools for risk management

Given the espoused limitations of a rice futures market, alternate mechanisms for managing risk in the rice market should also be explored. These would not preclude the establishment of a futures market but would play a complementary role in risk management and in providing better international rice market conditions.

- **Forward cash market.** An alternative to a futures market could be a forward cash market, by which contracts are privately negotiated rather than standardised. However, these transactions would have little success unless there was an index and a governing body providing a benchmark price. Forward cash markets in Europe exist for those commodities that do not have a futures market, for example, sunflower seed oil (SFO) and grain derivatives such as corn gluten feed (CGF).

- **Trader poll.** One function of price discovery that cash markets do not provide is the term structure or yield curve of prices which shows yields and interest rates across varying contract lengths, or a forward-looking mechanism that can give expected price outlooks. Sometimes exchanges conduct polls of traders to obtain information for futures trading. Such trader polls could be a viable alternative to a rice futures market as a risk management tool, and the conduct of such polls on rice price, along with variants at the 3-, 6-, and 9-month points, could also serve as a precursor to starting an international rice futures market. Such a poll could be done by one of the exchanges, the International Rice Research Institute (IRRI), the Asian Development Bank (ADB), the Agricultural Market Information System, or any other organisation that could ensure the integrity and privacy of results. This could be done without starting an exchange and could function by using existing cash price data. The utilisation and effectiveness of the results could be tested. The usefulness of such a poll would depend on the accuracy of the estimates; the polled prices would have to be reflective of actual market prices. One drawback is that, without a trading platform also being made available, the results would give sight but not ability to trade.

- **Buffer stocks.** Buffer stocks held on a cooperative regional basis could be used to address volatility. In the case of the US, for example, nearly all the carry-out stocks for this year and next are tied up in exchange warehouse receipts. Over 4,000 contracts or about 400,000 metric tons of rough rice act as a buffer stock for US rice. These receipts came into play during the price run-up of 2008. The relationship of buffer stocks and rice futures could be further investigated in considering an international rice futures market. If the region could agree to pool regional stocks, then the managers of those stocks could profit from the forward curve in the market (if the stocks could be hedged successful through a Singapore-based international rice futures market). They could then use the proceeds to pay for some of the holding costs of those rice stocks. That would be an important benefit gained from starting up a futures market. To some extent a buffer stock and regional rice futures could actually complement each other and need not be separate ideas. Existing players in the rice trade may see international rice futures as disruptive to bilateral marketing chains. If, however, futures could give them access to buffer stocks to reduce supply risk, then they might be more interested in the idea. A successful contract would require both a sound clearing house and a source of physical rice for regional trade and hedging.

Conclusion

The views expressed at the Expert Working Group Meeting on the feasibility, requirements and potential impact of an international rice futures market reflected a blend of optimism and pessimism. Many of the participants indicated that there is not a compelling case at present for the formation of an international rice futures market. In terms of the viability of a rice futures market, stakeholders and actors from the private sector showed greater confidence than other participants.

More critical voices were wary of the potential impact of an international rice futures market on food security, and that current market conditions would not allow for a successful futures contract. However, there may be potential for such a market (and/or incremental steps towards more robust rice trading mechanisms) to serve as a market compass, by facilitating improvements in certain market conditions in coming years, when the international rice trade calls for it.

Moving forward, there is extensive scope for cross-sectoral education and research into the functionality, feasibility and potential food security impact of an international rice futures market. There was general agreement that an international futures market would not be an all-in-one tool for overcoming challenges in the rice sector, and that improvement of international rice market conditions will require multifaceted and collaborative action.

Additional Documents

Hamilton, Milo, 2012, *A position paper for consideration of rice futures* (Submitted to the *Asian Rice Futures Market – Expert Working Group Meeting*, RSIS Centre for Non-Traditional Security (NTS) Studies, 22–23 March 2012, Singapore.

Trethewie, Sally, 2012, *Would a Southeast Asian rice futures market be feasible, and what of food security?*, Policy Brief No. 16, Singapore: RSIS Centre for Non-Traditional Security (NTS) Studies.

**Both documents are available online at:*
www.rsis.edu.sg/nts *(Resource Database)*

Programme

22 March 2012 (Thursday)
Nanyang Executive Centre (NEC)
Nanyang Technological University, Singapore

09:30–09:35 **Introductory Remarks – Facilitator**
Dr Andrew Powell
Chief Executive Officer
Asia BioBusiness Pte Ltd

09:35–09:45 **Welcome**
Professor Paul Teng
Senior Fellow and Advisor to the Food Security Programme
Centre for Non-Traditional Security (NTS) Studies
S. Rajaratnam School of International Studies, and Dean, Graduate Programmes and Research
National Institute of Education
Nanyang Technological University

09:45–10:00 **Outline – Meeting Background, Format and Objectives**
Dr Jackson Ewing
Research Fellow
Centre for Non-Traditional Security (NTS) Studies
S. Rajaratnam School of International Studies
Nanyang Technological University

10:00–10:30 **Participant Introductions, Expectations and Initial Comments**

11:00–11:45 **SESSION 1:**
Rice in Flux: Trends in Production, Consumption and Trade

Presentations
Mr V. Subramanian
Vice President Asia, Africa and Europe
The Rice Trader

Ms Korbsook Iamsuri
President, Thai Rice Exporters Association

Discussion

11:45–12.30 **SESSION 2:**
Institutional Viewpoints on an International Rice Futures Market

Presentations
Mr Duncan Macintosh
Development Director, International Rice Research Institute

Dr Ramon Clarete
Professor, University of the Philippines School of Economics

Discussion

13:30–15:00 **SESSION 3**
Rice Price Formation and Food (In)Security

Presentations
Mr Malcolm Wong
Trader, DBS

Dr David Dawe
Senior Economist
Food and Agriculture Organization of the United Nations (FAO)

Mr Rajeev Raina
Senior Vice President, Head - Rice Division
Olam International

Discussion

15:30–16:30 **SESSION 4**
Rice Futures Contracts

Presentations
Mr Masahiro Yamashita
General Manager Corporate Planning
Tokyo Grain Exchange

Mr Stuart Hoetger
Economic Consultant, Firstgrain, Inc.

Discussion

16:30–17:30 **SESSION 5**
Institutional Matters and the Feasibility of Singapore as Host

Presentations
Mr Eric Maine
Head of Products, Commodities
Singapore Exchange

Mr Saptak Gangopadhyay
Vice President
Product & Research
Singapore Mercantile Exchange

Discussion

End of Day 1

23 March 2012 (Friday)

09:00–09:15 **Recap of Day 1**

Dr Margarita Escaler
Research Fellow
Graduate Programmes and Research Office
National Institute of Education (NIE)
Nanyang Technological University

09:15–10:30 **SESSION 6**
Expert Working Group Outcomes

Presentation of Draft Expert Working Group Outcomes
based on Day One Presentations and Discussions

Open Discussion on Draft Outcomes

11:00–12:00 **SESSION 7**
The Way Forward
Dr Jackson Ewing
Research Fellow
Centre for Non-Traditional Security (NTS) Studies
S. Rajaratnam School of International Studies
Nanyang Technological University

Open Session

Closing Remarks
Professor Paul Teng
Senior Fellow and Advisor to the Food Security Programme
Centre for Non-Traditional Security (NTS) Studies
S. Rajaratnam School of International Studies, and Dean, Graduate Programmes and Research
National Institute of Education
Nanyang Technological University

End of Meeting

List of Participants

in alphabetical order according to first names

1. **Dr Andrew Powell (Facilitator)**
   Chief Executive Officer
   Asia BioBusiness Pte Ltd

2. **Mr Anjan Mandal**
   Chief Executive Officer
   LN Bangur Group

3. **Mr Aman Lakhaney**
   Principal
   Abraaj Capital

4. **Mr Bui Minh Giap**
   Natural Resources and Agriculture Economist
   Southeast Asia Department
   Asian Development Bank (ADB)

5. **Ms Cherin Hoon**
   Assistant Manager
   Planning & Organisational Excellence Department
   Agri-Food and Veterinary Authority of Singapore

6. **Mr David Ang**
   Director
   PrimePartners Corporate Finance (PPCF)

7. **Dr David Dawe**
   Senior Economist
   Agricultural Development Economics Division
   Food and Agriculture Organization of the United Nations (FAO)

8. **Mr Duncan Macintosh**
   Development Director
   International Rice Research Institute (IRRI)

9. **Mr Eric Maine**
   Head of Products, Commodities
   Singapore Exchange (SGX)

10. **Ms Flaminia Lilli**
    Partnership Development Manager
    The IRRI Fund
    International Rice Research Institute (IRRI)

11. **Mr Foo Cher How**
    Assistant Director (Economic Security & Resilience Division)
    Ministry of Trade and Industry (MTI), Singapore

12. **Mr Gary Chan**
    Deputy Director (Economic Security & Resilience Division)
    Ministry of Trade and Industry (MTI), Singapore

13. **Mr Gaurav Dhawan**
    Chairman and CEO
    Phoenix Commodities

14. **Ms Gina Lim**
    Group Director
    International Enterprise Singapore
    Ministry of Trade and Industry (MTI), Singapore

15. **Ms Hannah Nguyen**
    Manager, Trade Services Division
    Trade Services and Policy Group
    International Enterprise Singapore
    Ministry of Trade and Industry (MTI), Singapore

16. **Mr Hatta Isa**
    First Secretary
    High Commission of Malaysia in Singapore

17. **Mr Ju Liang Choong**
    Head of Rice Platform, Asia
    Louis Dreyfus Commodities

18. Ms Koh Jia Fong, Diana
Assistant Manager
Food Supply Resilience Department
Agri-Food and Veterinary Authority of Singapore

19. Khun Korbsook Iamsuri
President
Thai Rice Exporters Association;
Chief Executive Officer
Kamolkij Group of Companies

20. Mr Le Phat Tai
Director
Saigon Food
(on behalf of Vietnam Southern Food Corporation – Vinafood 2)

21. Mr Leo Chen Ian
Executive Director
The IRRI Fund
International Rice Research Institute (IRRI)

22. Mr Leong Teng Chau
Divisional Director
International Enterprise Singapore
Ministry of Trade and Industry (MTI), Singapore

23. Dr Lourdes Adriano
Advisor and concurrently
Practice Leader (Agriculture, Food Security and Rural Development), Agriculture, Rural Development and Food Security Unit Regional and Sustainable Development Department Asian Development Bank (ADB)

24. Mr Malcolm Wong
Trader
DBS – Commodities

25. Mr Masahiro Yamashita
General Manager
Tokyo Grain Exchange (TGE)

26. Dr Mercedita Sombilla
Manager, Research and Development Department
Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA)

27. Dr Mohammad Ismet
Advisor – Agricultural Economist
Indonesian Bureau of Logistics (BULOG)

28. Professor Nobuyuki Chino
Chairman, Rice Futures Trading Committee
Tokyo Grain Exchange (TGE);
President
Continental Rice Co.;
Professor, School of Economics,
Kokugakuin University

29. Mr Rajeev Raina
Senior Vice President
Head – Rice Division
Olam International Ltd

30. Dr Ramon Clarete
Professor
University of the Philippines School of Economics

31. Mr Robert Horster
Trading Lead Asia
Cargill International Trading

32. Mr Roger Yeo

33. Mr Saptak Gangophadyay
Vice President - Product &Research
Singapore Mercantile Exchange

34. Mr Stuart Hoetger
Economic Consultant
Firstgrain, Inc.

35. Mr V. Subramanian
Vice President Asia, Africa & Europe
The Rice Trader

RSIS Centre for NTS Studies

Website: www.rsis.edu.sg/nts
Secretariat of the Consortium of Non-Traditional Security Studies in Asia (NTS-Asia): www.rsis-ntsasia.org

in alphabetical sequence according to first names

Faculty

1. **Professor Paul Teng**
   Senior Fellow and Advisor to the Food Security Programme
   Centre for Non-Traditional Security (NTS) Studies
   S. Rajaratnam School of International Studies (RSIS)
   And Dean, Graduate Programmes and Research
   National Institute of Education (NIE)
   Nanyang Technological University
   Block S4, Level B4, Nanyang Avenue
   Nanyang Technological University
   Singapore 639798
   Telephone : +65 6790 3868
   Email : paul.teng@nie.edu.sg

Research and Administration Staff

2. **Ms Cheryl Lim**
   Programme Manager
   Centre for Non-Traditional Security (NTS) Studies
   S. Rajaratnam School of International Studies (RSIS)
   Nanyang Technological University
   Block S4, Level B4, Nanyang Avenue
   Nanyang Technological University
   Singapore 639798
   Telephone : +65 6592 7521
   Email : ischeryllim@ntu.edu.sg

3. **Dr Jackson Ewing**
   Research Fellow
   Centre for Non-Traditional Security (NTS) Studies
   S. Rajaratnam School of International Studies (RSIS)
   Nanyang Technological University
   Block S4, Level B4, Nanyang Avenue
   Nanyang Technological University
   Singapore 639798
   Telephone : +65 6592 2531
   Email : isjjewing@ntu.edu.sg

4. **Ms Lina Gong**
   Research Analyst
   Centre for Non-Traditional Security (NTS) Studies
   S. Rajaratnam School of International Studies (RSIS)
   Nanyang Technological University
   Block S4, Level B4, Nanyang Avenue
   Nanyang Technological University
   Singapore 639798
   Telephone : +65 6592 1817
   Email : islinagong@ntu.edu.sg

5. **Dr Margarita Escaler**
   Research Fellow
   Graduate Programmes and Research Office
   National Institute of Education (NIE)
   Nanyang Technological University
   Block S4, Level B4, Nanyang Avenue
   Nanyang Technological University
   Singapore 639798
   Email : margarita.escaler@nie.edu.sg

6. Ms Ng Lye Yoke, Josephine
Senior Administrative Officer
Centre for Non-Traditional Security (NTS) Studies
S. Rajaratnam School of International Studies (RSIS)
Nanyang Technological University
Block S4, Level B4, Nanyang Avenue
Nanyang Technological University
Singapore 639798
Telephone : +65 790 5889
Email : islyng@ntu.edu.sg

7. Mr Pau Khan Khup Hangzo
Associate Research Fellow
Centre for Non-Traditional Security (NTS) Studies
S. Rajaratnam School of International Studies (RSIS)
Nanyang Technological University
Block S4, Level B4, Nanyang Avenue
Nanyang Technological University
Singapore 639798
Telephone : +65 6513 2035
E-mail : iskkpau@ntu.edu.sg

8. Ms Sally Trethewie
Senior Analyst
Centre for Non-Traditional Security (NTS) Studies
S. Rajaratnam School of International Studies
Nanyang Technological University
Block S4, Level B4, Nanyang Avenue
Nanyang Technological University
Singapore 639798
Telephone : +65 6316 8782
Email : issallytrethewie@ntu.edu.sg

About the RSIS Centre for Non-Traditional Security (NTS) Studies

The **RSIS Centre for Non-Traditional Security (NTS) Studies** conducts research and produces policy-relevant analyses aimed at furthering awareness and building capacity to address NTS issues and challenges in the Asia-Pacific region and beyond.

To fulfil this mission, the Centre aims to:

- Advance the understanding of NTS issues and challenges in the Asia-Pacific by highlighting gaps in knowledge and policy, and identifying best practices among state and non-state actors in responding to these challenges.
- Provide a platform for scholars and policymakers within and outside Asia to discuss and analyse NTS issues in the region.
- Network with institutions and organisations worldwide to exchange information, insights and experiences in the area of NTS.
- Engage policymakers on the importance of NTS in guiding political responses to NTS emergencies and develop strategies to mitigate the risks to state and human security.
- Contribute to building the institutional capacity of governments, and regional and international organisations to respond to NTS challenges.

Our Research

The key programmes at the **RSIS Centre for NTS Studies** include:

1) Internal and Cross-Border Conflict Programme
   - Dynamics of Internal Conflicts
   - Multi-level and Multilateral Approaches to Internal Conflict
   - Responsibility to Protect (RtoP) in Asia
   - Peacebuilding

2) Climate Change, Environmental Security and Natural Disasters Programme
   - Mitigation and Adaptation Policy Studies
   - The Politics and Diplomacy of Climate Change

3) Energy and Human Security Programme
   - Security and Safety of Energy Infrastructure
   - Stability of Energy Markets
   - Energy Sustainability
   - Nuclear Energy and Security

4) Food Security Programme
   - Regional Cooperation
   - Food Security Indicators
   - Food Production and Human Security

5) Health and Human Security Programme
   - Health and Human Security
   - Global Health Governance
   - Pandemic Preparedness and Global Response Networks

The first three programmes received a boost from the John D. and Catherine T. MacArthur Foundation when the RSIS Centre for NTS Studies was selected as one of three core institutions to lead the MacArthur Asia Security Initiative in 2009.*

Our Output

Policy Relevant Publications

The **RSIS Centre for NTS Studies** produces a range of output such as research reports, books, monographs, policy briefs and conference proceedings.

Training

Based in RSIS, which has an excellent record of post-graduate teaching, an international faculty, and an extensive network of policy institutes worldwide, the Centre is well-placed to develop robust research capabilities, conduct training courses and facilitate advanced education on NTS. These are aimed at, but not limited to, academics, analysts, policymakers and non-governmental organisations (NGOs).

Networking and Outreach

The Centre serves as a networking hub for researchers, policy analysts, policymakers, NGOs and media from across Asia and farther afield interested in NTS issues and challenges.

The **RSIS Centre for NTS Studies** is also the Secretariat of the Consortium of Non-Traditional Security Studies in Asia (NTS-Asia), which brings together 20 research institutes and think tanks from across Asia, and strives to develop the process of networking, consolidate existing research on NTS-related issues, and mainstream NTS studies in Asia.

More information on our Centre is available at www.rsis.edu.sg/nts

** The Asia Security Initiative was launched by the John D. and Catherine T. MacArthur Foundation in January 2009, through which approximately US$68 million in grants will be made to policy research institutions over seven years to help raise the effectiveness of international cooperation in preventing conflict and promoting peace and security in Asia.*

About the S. Rajaratnam School of International Studies (RSIS), Nanyang Technological University

The S. Rajaratnam School of International Studies (RSIS) was inaugurated on 1 January 2007 as an autonomous School within the Nanyang Technological University (NTU), upgraded from its previous incarnation as the Institute of Defence and Strategic Studies (IDSS), which was established in 1996.

The School exists to develop a community of scholars and policy analysts at the forefront of Asia-Pacific security studies and international affairs. Its three core functions are research, graduate teaching and networking activities in the Asia-Pacific region. It produces cutting-edge security related research in Asia-Pacific Security, Conflict and Non-Traditional Security, International Political Economy, and Country and Area Studies.

The School's activities are aimed at assisting policymakers to develop comprehensive approaches to strategic thinking on issues related to security and stability in the Asia-Pacific and their implications for Singapore.

For more information about RSIS, please visit www.rsis.edu.sg

CENTRE FOR
NON-TRADITIONAL
SECURITY STUDIES

S. RAJARATNAM SCHOOL
OF INTERNATIONAL STUDIES
A Graduate School of Nanyang Technological University

Centre for Non-Traditional Security (NTS) Studies
S. Rajaratnam School of International Studies,
Nanyang Technological University, South Spine, Blk S4, Level B4, Nanyang Avenue, Singapore 639798
Tel. (65) 6790 6982 • Fax. (65) 6898 4060 • Email. NTS_Centre@ntu.edu.sg

www.rsis.edu.sg/nts • www.rsis-ntsasia.org • www.asicluster3.com