



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

RSIS COMMENTARIES

RSIS Commentaries are intended to provide timely and, where appropriate, policy relevant background and analysis of contemporary developments. The views of the authors are their own and do not represent the official position of the S.Rajaratnam School of International Studies, NTU. These commentaries may be reproduced electronically or in print with prior permission from RSIS. Due recognition must be given to the author or authors and RSIS. Please email: RSISPublication@ntu.edu.sg or call (+65) 6790 6982 to speak to the Editor RSIS Commentaries, Yang Razali Kassim.

No. 111/2013 dated 19 June 2013

Rethinking Food Security: Robustness as a Paradigm for Stability

By Paul P.S. Teng and Maria C.S. Morales

Synopsis

Food security depends on stability in the supply of affordable, safe and nutritious food. However, such stability depends on a robust system which balances a range of factors. Food security robustness needs to become the policy goal of governments.

Commentary

THE CONVENTIONAL notion of food security is restrictive, revolving around the strategies of food self-sufficiency and resilience. There is a need for a fresh look at current approaches to food security.

There are three key factors upon which food security is dependent - namely the availability of food, access to food (physical, economical) and the utilisation of food. Stability underpins these three factors, making stable food security as important as the other aspects. We are arguing for a new approach which we refer to as *food security robustness*.

Current approaches to stability of food security

The absence of stability has caused many incidents of food insecurity in many countries, notably the food price hikes of 2007-2008, which destabilised global trade in key commodities such as rice and wheat, and reduced supply. This key factor could be linked to the spate of civil disturbances in more than 40 economies during this period.

The debate on how to assure food security has commonly focused on the issues of food supply versus access to food, with the often-heard expression that "there is enough food but it is just a problem of distribution". This implies that food insecurity is caused, on the one hand, by insufficient production, and on the other, by lack of access to food, either due to affordability (high prices) or disruptions in the supply chain (no physical access).

Policymakers have tackled food security by introducing measures to avoid any interruptions in supply caused by disruptions in production or access. This means in reality that stability in supply and access are key to ensuring food security for all. But how can such stability be assured?

Prior to the 2007-08 crisis, nations had been enjoying for several decades access to ample supply of affordable staples due partly to the success of the "Green Revolution" in which science and technology led to healthy

growth in crop and animal production. The 2007-08 price hikes exposed the fragility of the global food system. This fragility is partly caused by the increased connectedness of the global food system as well as destabilising factors, such as government policy to temporarily halt food exports. Many countries, especially in the ASEAN region, have grown dependent on the global food supply chain to provide for their expanded pool of food items due to their growing middle class.

There are also mid - to longer term trends that exacerbate the pressure on food security such as the diversion of land and food for biofuel feedstocks, scarcity of land and water resources, increasing populations, rapid urbanisation and climate change. A country's food security policy is invariably characterised by its central objective: food self-sufficiency or food self-reliance.

Food self-sufficiency implies meeting food needs, as far as possible, from domestic supplies and minimising dependence on international trade. *Food self-reliance* on the other hand, advocates reliance on the international market to make food available in the domestic market. It implies maintaining some level of domestic food production supplemented by imports from the world market as needed; hence international trade is an essential component.

Food resilience as a complementary approach

A corollary approach used by countries in the region which depend heavily on imports is that of *food resilience*. This is based on having diverse sources of key food items so that at any time, supply could be switched among those sources. Conceptually, food resilience would work best if imports are regionally and economically diverse and subject to different destabilising factors. An example of this is Singapore which imports about 90% of its food from multiple sources.

In the Asian region, governments have taken different approaches to ensure that their populations have access to food. Their strategies have been structured on existing conditions and capabilities. For example, Indonesia and the Philippines increased their imports of rice to address local demand and stabilise prices. Concurrently, they pledged to be self sufficient by certain target dates. This entails policies by the state to limit food exports as well as to promote local capacity for food production. This often ignores the fact that the same food items could be produced cheaper overseas or can even be cheaper when imported for domestic consumption.

In the long run, however, no one approach to food security can ensure stability and sustainability as all of them depend primarily on surplus production in the country of origin. Specifically, food self-sufficiency looks at the capacity of countries to produce for their domestic population while self-reliance focuses more on the availability of food.

Food security robustness: a new approach?

Governments must therefore consider a more integrated approach to achieve stability in food security. Countries must aim for *food security robustness*. This means having the capacity to withstand destabilising factors in food security by having a balanced capacity in making food available. Additionally, this is backed by an efficient import infrastructure and sound trade policies and facilities, as well as the management of food demand and its affordability. But how can governments determine their country's ability to withstand "shocks" to their food security system?

A recent tool developed to determine a country's level of food security robustness is the *Rice Bowl Index*® (*RBI*). It is constructed to take a holistic view of the enabling and disabling factors of food security (www.ricebowlindex.com). The underlying assumptions are that food security can be achieved if demand and supply can be brought into balance; people have access to food; farmers have the means to be productive; innovation and private sector initiative are encouraged and the environmental prerequisites exist for providing long-term sustainability.

The tool helps identify the areas where intervention is most needed. The RBI has classified 28 enabling and disabling factors into four sets of rubrics: 1) Farm-Level Factors; 2) Demand and Price Factors; 3) Environmental Factors; and 4) Trade and Policy Factors. In the 2012 Half-Year Update of the RBI (www.ricebowlindex.com), data showed that nine of the 14 Asian countries included in the Index experienced a decline in overall food security robustness. Three countries improved and two remain unchanged.

Robustness as an end goal

The analysis derived from the RBI shows the volatile nature of agricultural production and commodity prices in the short term and in the longer term, policy change and environmental development (or degradation).

Analyses using the Rice Bowl Index© affirm that there are different factors influencing food security robustness. It also shows that food security is multi-dimensional and has short-term and long-term aspects. Hence, policies geared towards its achievement cannot have a narrow view. Short-term effects further have long term impacts on hunger, livelihood and poverty.

The mounting pressures from growing populations, diet diversification, rapid urbanisation and climate change, need to be actively considered by policymakers to attain food security robustness. The RBI is one tool to facilitate this. It also serves as a platform for enhanced dialogue and cooperation between the public and private sectors as well as with civil society on food security issues.

Paul S. Teng is Adjunct Senior Fellow at the Centre for Non-Traditional Security (NTS) Studies, S. Rajaratnam School of International Studies (RSIS), Nanyang Technological University (NTU). He is Professor and Dean of Graduate Studies & Professional Learning, National Institute of Education, NTU. Maria Carmencita S. Morales is an Associate Research Fellow at NTS.