

Strategic Analysis Paper

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The ASEAN Approach to Food and Water Security

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Key Points

- Over 60 million people in South-East Asia suffer from food and water insecurity, with significant disparity in human security within, and between, member states.
- ASEAN has sought to address this through co-ordinated efforts in strategic investment and policy framework development, with some success.
- The region continues to focus on increased food production to improve food security.
- ASEAN's approach to overcoming food and water insecurity, however, is called into question when long-term considerations such as climate change are taken into account.

Summary

The main threats to food and water security in South-East Asia in the short- to medium-term are demographic stresses, labour-force availability, crop and labour productivity and natural disasters. In the long-term, climate change threatens to exacerbate these issues and create a number of new problems.

To reduce the effect of these threats, the Association of South-East Asian Nations (ASEAN) encourages the adoption of trade facilitation mechanisms, to both reduce barriers to trade and improve local competitiveness. Collaborative regulation measures between ASEAN states can decrease food price volatility and increase food security, particularly in the

dominant rice and maize industries. Regional water security is promoted using policy instruments enacted as part of ASEAN Integrated Water Resource Management projects.

Australia has a healthy [trade and investment relationship](#) with ASEAN, which is valued at over \$100 billion. For this reason alone, it is in Australia's interest to ensure continued improvement in the future of food and water security in the South-East Asian region. Australia plays a significant role in addressing issues stemming from food and water insecurity in the region; directly, through the provision of strategic aid funding and development programmes, and indirectly, by providing advantageous and flexible trade terms to agribusiness ventures. This has occurred largely in partnership with ASEAN, in the form of collaborative programmes, such as the ASEAN–Australia Development Co-operation Program.

Analysis

Human security, the '[freedom from violent conflict and physical want](#)', is a concept distinct from traditional security. The former is centered on the security of individuals, while the latter focusses largely on state security. The primacy of traditional security has only been questioned relatively recently; consequently, the literature about the impact of "human insecurity" on state and regional security remains ambiguous. In general terms, food and water insecurity is largely considered a "threat multiplier" that can exacerbate social, political, environmental and economic issues.

ASEAN is more a co-operative and deliberative group rather than a political authority and any analysis of regional security must take this into account. Food and water security issues are, for the most part, addressed by the individual states of South-East Asia. There are general challenges to food and water security, however, which are shared, at least to some extent, across the region. These challenges fall more readily into ASEAN's remit as a regional consultative body.

A [rapidly](#) increasing population is a common challenge in the countries of the region, especially when occurring in conjunction with increasing rates of urbanisation. Asia is already the largest global food market and forecasts predict that over [60 per cent](#) of total cereal demand in the developing world will come from South-East Asia by 2050. To maintain food security at current levels, in light of this forecast based on population growth, would require increasing production by up to [70 per cent](#). Generating that increase would require significant capital investment in technology to improve crop growth efficiency, as well as greater labour force productivity. The latter, in particular, is another difficult demographic issue, as rural populations are shrinking. Rising urbanisation rates correlate strongly with higher economic growth, so while the issue of food insecurity remains, projected growth due to urbanisation may offset the cost of improving agricultural technology and practices. This is a tenuous link, however, and should not be unduly relied upon as grounds for optimism.

Low crop productivity is also a major threat to food and water security across the majority of South–East Asia. There are sweeping issues, region-wide, about the effectiveness of current farming practices. This stems largely from a lack of access to education on maximising the productivity of soils, crops and farming technology. Small farms account for a significant part

of South-East Asian agricultural output. Due to their limited economies of scale, they make it difficult to rapidly improve the efficiency of the agricultural sector.

Irrigation and drainage systems in the region are in need of large-scale qualitative upgrades, to support increased food production. The same upgrades are also [necessary](#) to address water security, as approximately 80 per cent of regional freshwater withdrawals are used for irrigation. Small-scale technological successes in other parts of the world, such as the [use](#) of solar irrigation pumps in India, have led to improvements in water use efficiency, the quality of irrigation and increased agricultural productivity. ASEAN policymakers have recognised the effectiveness of such measures and have [implemented](#) agricultural technology transfer programmes between member states, with the aim of sharing technologies that increase agricultural production. The resources dedicated to this shared effort will need to increase substantially, if the region wishes to effectively address the food and water insecurity still facing some 60 million people in the poorer ASEAN states.

While ASEAN countries remain focused on increasing food production, they have also begun to shift towards a greater emphasis on sustainability. This is done in conjunction with the establishment of strategic agricultural partnerships, not only between large farming co-operatives, but also small-scale producers. Simultaneously, public and private partnership models are increasing in popularity, due to state-endorsed [incentives](#). These are used as a means of encouraging investment and developing sustainable and technologically advanced agricultural processes, to improve production at all levels, from the subsistence level of farming up to the major producers. The problem is that the nature of these improvements is such that large-scale monoculture farms still receive the bulk of the benefits. These farms tend to place [less](#) importance on sustainable environmental practices, such as soil rehabilitation, and consequently create more greenhouse gas emissions than their smaller-scale counterparts. South-East Asian countries remain focused on increasing agricultural production and, until further incentives for small-scale agro-investment are created, it is unlikely that sustainable farming practices will become a regional priority.

Natural disasters pose another serious threat to food and water security in the ASEAN region. South-East Asia is one of the most natural disaster-prone regions in the [world](#); the frequency and severity of some climatic events, such as flooding and landslides, are expected to increase as climate change progresses correspond. In addition to the problem of these climatic events, South-East Asia sits between several tectonic plates, which are responsible for earthquakes and tsunamis. Typhoons in the Pacific and Indian Oceans cross regional boundaries. These, along with issues such as forest fires and droughts, create an environment that is not conducive to the maintenance of food and water security.

Hydro-meteorological events accounted for [more](#) than 80 per cent of the natural disasters that occurred in South-East Asia between 1970 and 2009. After such events, water security becomes a critical issue, as the supply of clean water and the effectiveness of sanitation are immediately affected. Flooding, in particular, not only deprives people of access to sources of food and water, but destroys and pollutes those sources and often renders them unusable for a considerable period. The associated cleanup costs add to the food and water insecurity that face those affected by the event. Several steps are being undertaken by

ASEAN policy-makers to mitigate the fallout from future natural disasters. The ASEAN Strategic Plan of Action on Water Resources Management, for [example](#), focuses deliberately on the supply, demand and allocation of resources for providing quality water and sanitation.

Climate change has been addressed as a governance issue relating to natural disasters that requires urgent attention, as its effects threaten to exacerbate several of the existing issues. Climatic changes are predicted, for [example](#), to increase the destructiveness of typhoons, which are common in the region. The region has begun to adopt policy mechanisms that address problems associated with natural disasters, such as increased food price volatility and water shortages, but, as long-term climate forecasts are uncertain, those policies will require ongoing review.

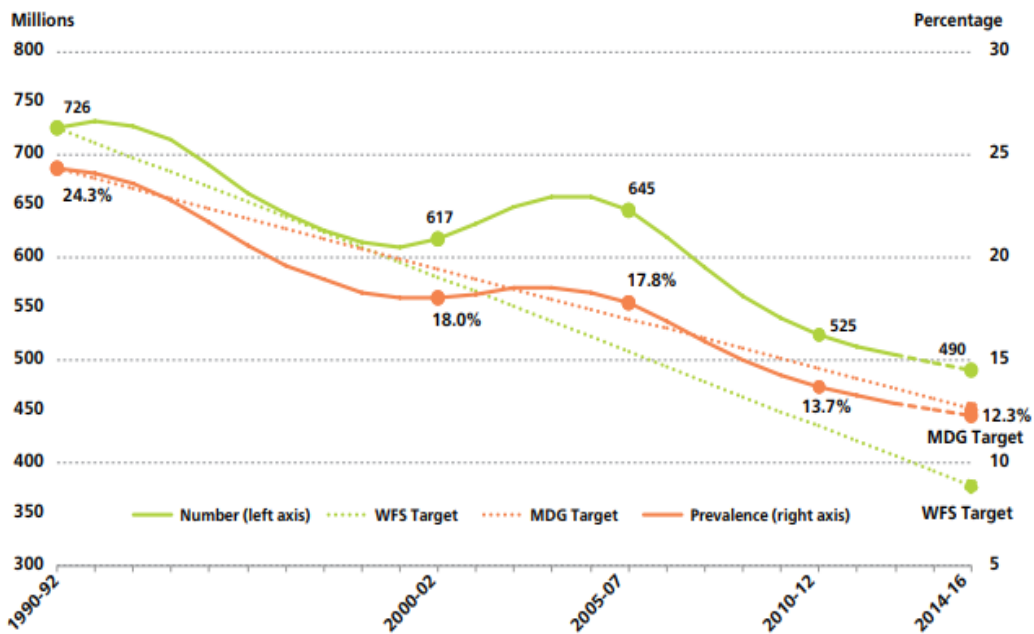
To address food and water security threats in South-East Asia, ASEAN implements policies through industry-specific trade facilitation [mechanisms](#), which aim to reduce barriers to trade and improve competitiveness between regional food producers. This reduces costs, integrates inter-state trade, [decreases](#) food price volatility and increases food security (especially in the dominant rice and maize industries), by increasing crop productivity and profitability. Those measures also provide greater opportunities for agriculturalists to access improved farming technologies, thanks to reduced prices and the availability of incentive schemes.

Water security within ASEAN is improved by the use of [Integrated Water Resource Management](#) projects, to implement solutions to issues of water sanitation and supply. ASEAN does so by facilitating combined research and development projects and adapting their findings to country-specific [contexts](#). This maximises the effectiveness of the research, depending on where it is implemented. Water security is also enhanced by applying best practice measures for water usage and storage, based on the findings of ASEAN projects. These combined efforts relate to the UN Sustainable Development Goals (SDGs); in particular, goals two, three and six, in that they address issues of hunger, health and thirst. By doing this, ASEAN projects its commitment to achieving human security on the global stage. This encourages humanitarian aid and investment in the region, further helping to reduce insecurity.

An analysis of ASEAN undertakings in addressing food and water insecurity leaves it unclear as to whether their efforts actually work; however, the statistics suggest that they do.

ASEAN member states [achieved](#) the UN Millennium Development Goal (the precursor to the SDGs) of halving the proportion of undernourished people between 2000 and 2015. They did not, however, meet the World Food Summit target of halving the gross total of undernourished people by 2015. Despite this, the figures indicate that food security across the ASEAN region has improved significantly, and it would not be a stretch to attribute this success to the broad range of policy instruments that ASEAN has adopted.

Figure 1: The trajectory of undernourishment in Asia and the Pacific: actual and projected progress towards the MDG and WFS targets



Note: Data for 2014-16 refer to provisional estimates.
Source: FAO

It also seems to be the same with water security; an Asian Development Bank [study](#) found that, overall, the water security situation in ASEAN has improved since 2013. Specifically, in 2013, 38 out of 49 Asia-Pacific states suffered from pervasive water insecurity; this improved to just 29 categorised as water insecure by 2016. Efforts such as the implementation of regional trade facilitation mechanisms can, at least in part, be credited with improving regional food security. Similarly, improvements in water security could also be credited, at least partially, to ASEAN’s human security policies.

Despite these marked improvements, questions remain about medium- to long-term food and water security in the region. Many ASEAN member states are still vulnerable to potential economic shocks. In Myanmar, for example, tensions in Rakhine state have placed a large Rohingya population, already exposed to pervasive poverty, in a position where its people would suffer unduly if water security were to weaken. The literature [suggests](#) that for water security to improve, countries in the ASEAN region affected by water shortages, like Myanmar, would need to move vulnerable communities into a socio-economic position where they could effectively deal with minor economic shocks.

The question also remains as to whether climate change is adequately addressed by ASEAN. Issues such as the exacerbation of natural disasters and increased resource requirements for crop productivity must be addressed. That ASEAN acknowledges climate change as a security threat is [not](#) in doubt; however, it has only adopted a number of short-term measures to address regional food and water insecurity and to adapt to climate change. The region remains a major contributor to global greenhouse gas emissions. The problem is that, while many countries are expecting to reduce their carbon output, ASEAN has not given the same

level of attention to the mitigation of climate change. Consequently, the region's emissions are projected to increase.

In light of the [correlation](#) between improving economies in developing countries and energy consumption, it seems impossible to have both improvements in human security as well as sustainable carbon management. ASEAN has undertaken to both improve human security in the region and reduce its negative impact on the climate. The latter is being undertaken in the form of [endeavours](#) such as carbon pricing and low carbon growth incentives, but with only limited success.

The role Australia plays in addressing food and water insecurity in South-East Asia can be explored primarily from two perspectives. First of all, two-way investment between Australia and ASEAN is valued at [over](#) \$100 billion; for this reason alone, it is in Australia's interest to ensure that the level of food and water security in South-East Asia continues to improve. Knowing the positive correlation between increasing economic growth and increased food and water security, means that there is a real motive for Australia to maintain positive trade relations with the region, in the [form](#) of incentives and reduced tariffs and other barriers to trade. Agreements such as the ASEAN-Australia-New Zealand Free Trade Agreement stimulate economic growth in ASEAN member states, promoting their ability to improve food and water security.

Secondly, Australia plays a significant role in addressing regional food and water insecurity more directly, through the provision of strategic aid funding and development programmes. This has occurred largely in partnership with ASEAN, in the form of collaborative programmes such as the [ASEAN–Australia Development Co-operation Program](#). Direct investment of this nature indicates that Australia acknowledges the fact that many ASEAN states suffer from instability and that it is Australia's responsibility, as a developed neighbour, to assist through the provision of humanitarian aid. In the future, both these methods are likely to be useful in addressing food and water insecurity in South-East Asia, in collaboration with ASEAN, improving bilateral relations and reducing regional instability.

Any opinions or views expressed in this paper are those of the individual author, unless stated to be those of Future Directions International.