

The Application of Foresight to the Exploration of Multi-Nation Sustainable Economic Development: Water Management in ASEAN



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Australian Centre for Innovation & International Competitiveness

The ASEAN Member Nations



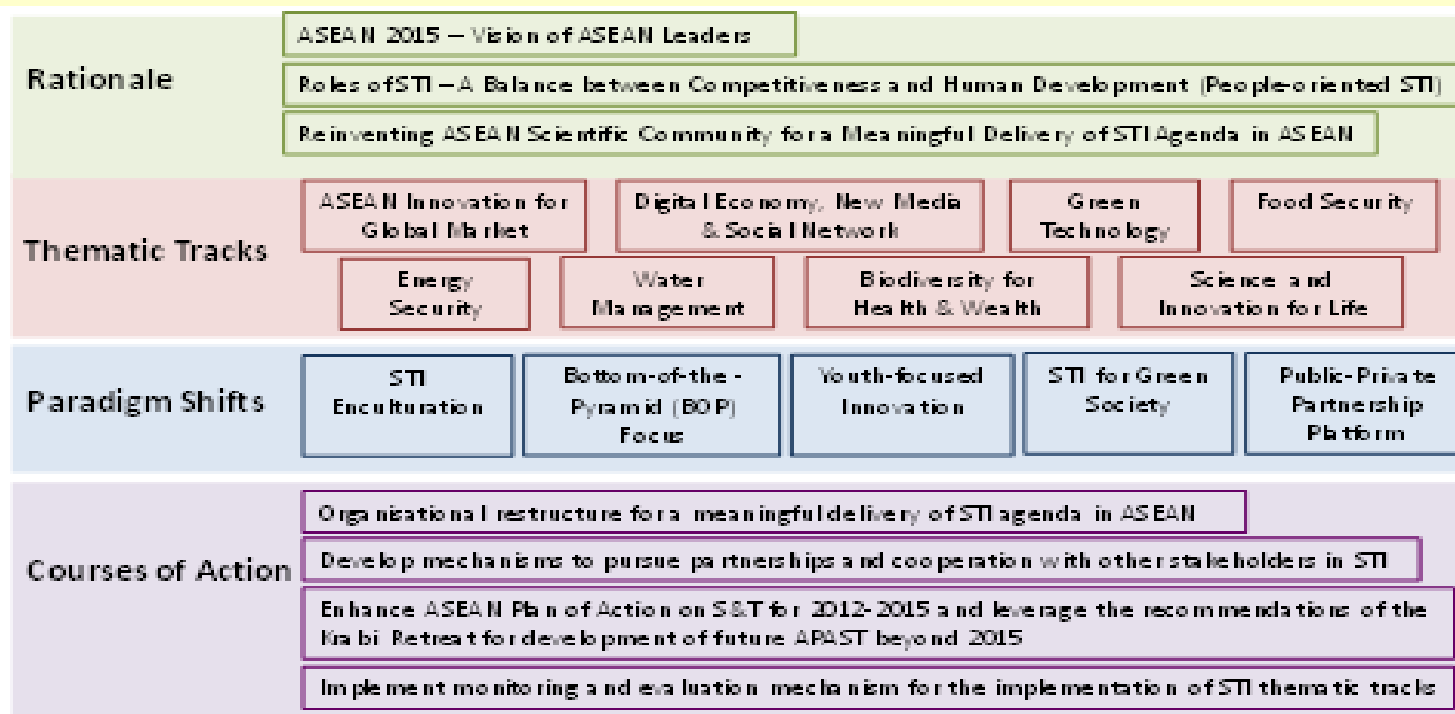
ASEAN-STI Krabi Initiative



ASEAN Krabi Initiative

Science Technology and Innovation (STI) for a Competitive, Sustainable and Inclusive ASEAN

Endorsed by ASEAN S&T Ministers at the 6th IANMMST as a Policy Framework for STI cooperation in ASEAN, December 2010



Key Aspects of the Project

- Rockefeller Foundation funding
- Conducted in partnership with the APEC Center for Technology Foresight (APEC-CTF) and the National Science Technology and Innovation Policy Office of Thailand
- Led by three members of the International Advisory Board of the APEC-CTF
 - Dr Richard Silberglitt, Rand Corporation, Washington, USA
 - Dr Jack Smith, University of Ottawa, Canada

Objectives

1. Further the Krabi initiative by engaging ASEAN stakeholders in addressing future water, energy and food security
2. Demonstrate how foresight, coupled with sustainable economic and ecological choices, can create the basis for inclusive innovation, enhanced societal resilience to cope with systemic stress associated with management of scarce resources, and identify new techno-economic opportunities
3. Increase the awareness among senior officials and decision-makers across the ASEAN nations about the nature and value of foresight-based approaches to planning for the future.

Methodology

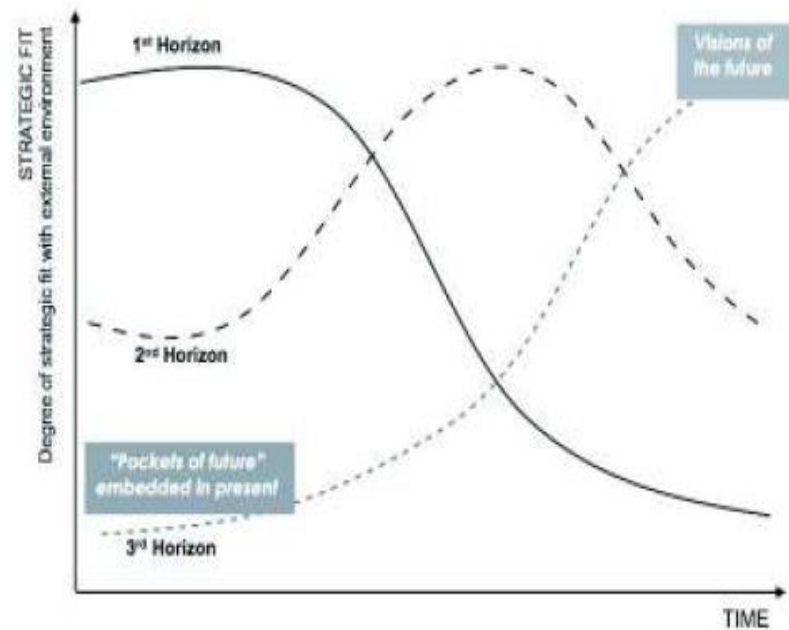
1. Pre-analysis of the state and approaches to water, energy and food security
2. Three Participative Scenario Workshops in Bangkok, Jakarta and Hanoi
3. A “Three Horizons” Approach
4. A Real-Time Delphi survey of participants across the ASEAN region
5. A final symposium in October, in which the findings of the project, and its implications for ASEAN 2015, will be presented to an audience with representatives from all ASEAN nations



Horizon 1. 2013-2015

Horizon 1 is the space of the imminent future - already somewhat determined by our present readiness, resource commitments and institutional capacities to make adjustments etc. It extends from tomorrow to at least two years ahead, but not usually more than five years.

Many organizations see the first Horizon as a place to seed new capacities, test strategies and identify present barriers or articulate problems which need to be resolved to be able to move to the next horizons.





Horizon 3 2020-2025

Horizon 3 is the world of *what if...what could be...* and how we might recognize and realize opportunities. It is where powerful and compelling visions are described so they can enable leaders to break the inertia and fear of change that pervades most organizations.

By enabling many stakeholders to collaborate on shaping the inputs to the third Horizon, the process has already begun to proactively build the future of any organization versus being reactive or "missing the boat" as a familiar popular phrase suggests.



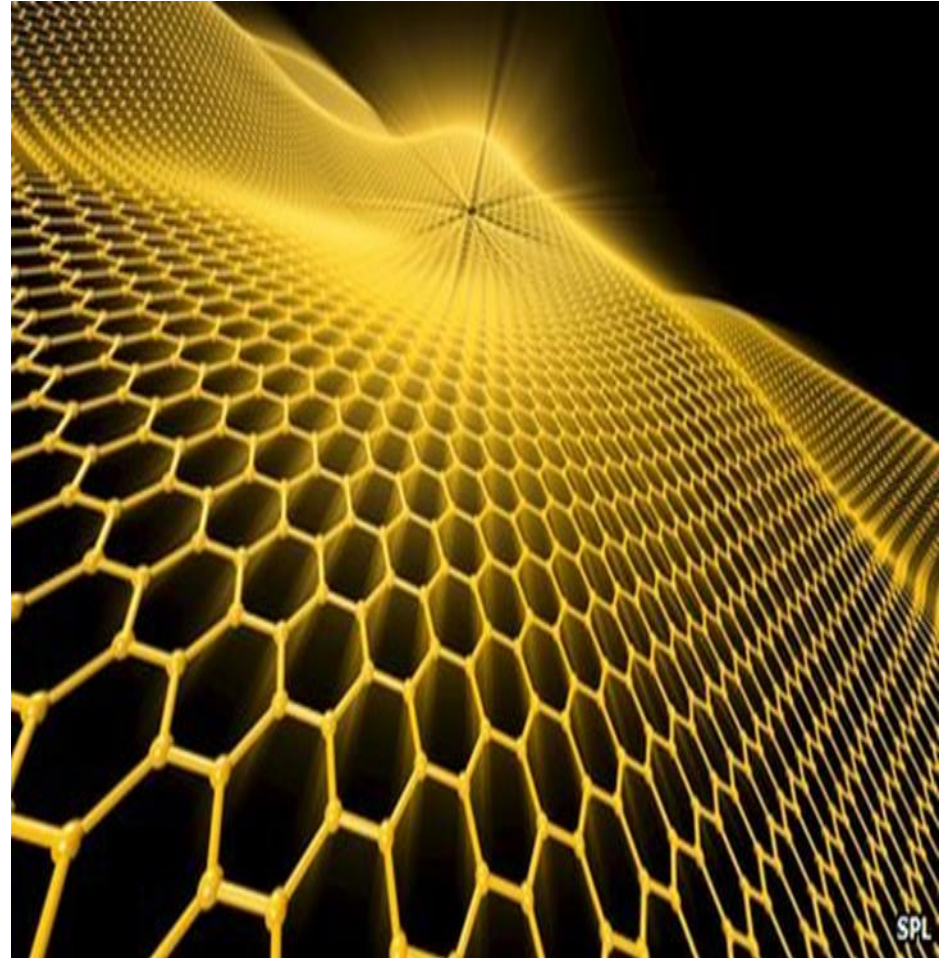


Horizon 2. 2016-2019



Horizon 2 is the space where change is fully engaged and one's assets are actively shifting to be able to realize opportunities and to adjust to new pressures.

Here it is desirable and usually possible to both *forecast* by examining the implications of trends and drivers of change; and *backcast* by rigorously asking what would have been required to create the conditions for the aspirations and vision of Horizon 3 to be realized



Current Issues in Water Supply and Management

- Increased water pollution of surface and ground water due to urbanisation and industry development
- Excessive groundwater extraction
- Deforestation reducing natural water retention
- Overlapping regulatory responsibilities (vertically and horizontally)
- Poor maintenance of water infrastructure
- Leakage of water from the whole distribution system, including irrigation

Current Issues in Water Supply and Management (cont)

- Not enough capture of rain water at local level to reduce runoff
- Water imbalance, extreme fluctuation in supply over seasons
- Declining water quality – dry season polluted, wet season high turbidity Low public investment in water management
- Low public investment in water management
- Water regulations are not enforced
- Regional management of water does not align with water catchments

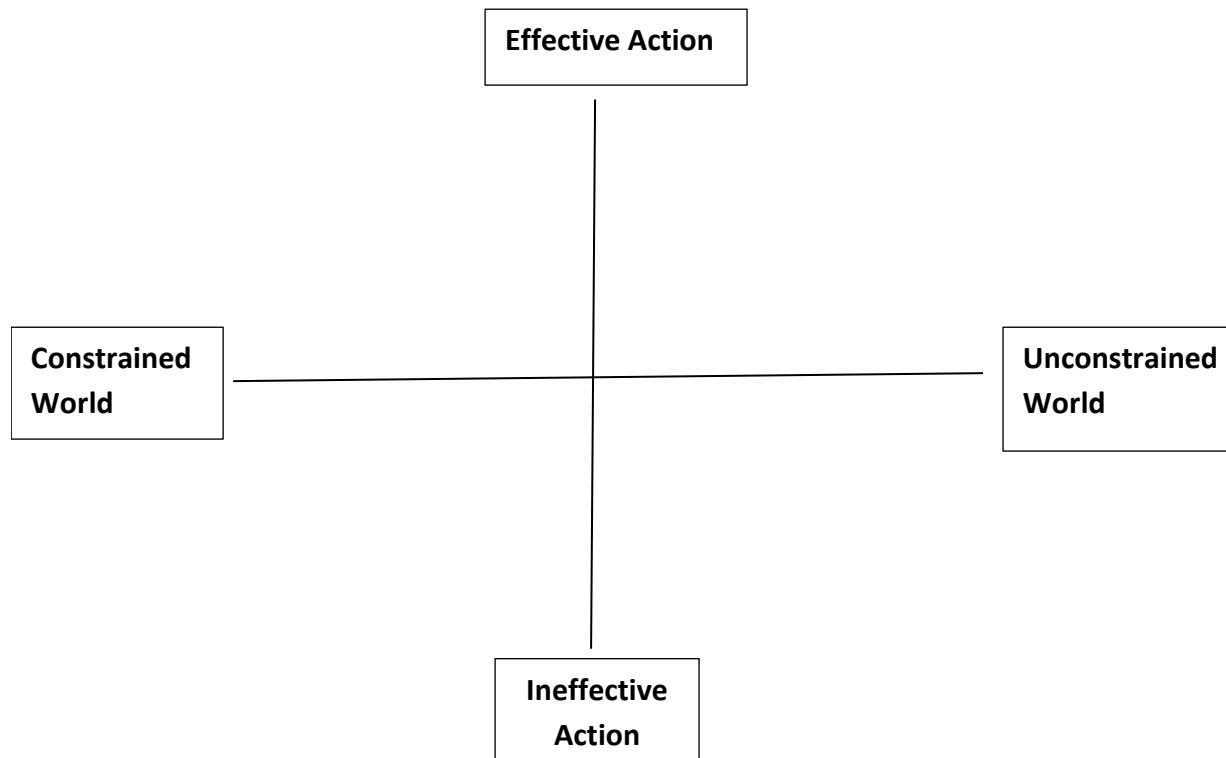
Possible future state of water supply and management in 20 years

- Natural (or climate change induced) disasters – regular floods and droughts
- Water demand greatly increased
- Conflicts over access to water
- Government reorganises water management
- New technologies increase efficiency of capture, storage , distribution and usage of water
- The price of water is greatly increased
- Regional (super-national) water authority is able to manage water effectively across jurisdictions

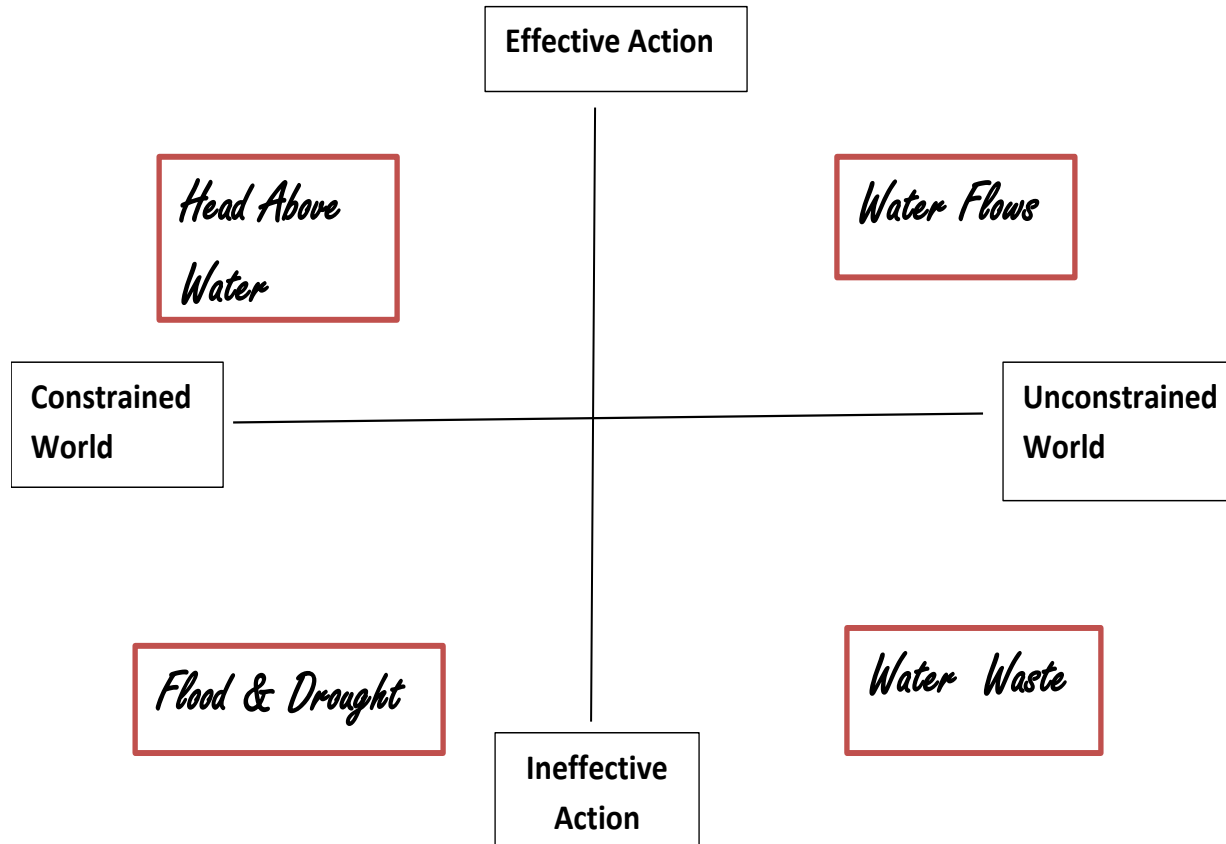
Desirable strategic initiatives in water supply and management

- Commitment to UN Rights to Water Charter - government needs to deliver 60l/day of water to everyone – significant flow-on effects
- Water infrastructure and management becomes a major budget expenditure item
- Enforcement of laws and regulations governing water use and pollution
- Use 'Water Day' to inform and celebrate best practices in water management
- Establishment of local riverine communities to monitor and promote water management and river restoration
- Water catchment authorities manage the water supply including money transfer mechanisms upstream
- Draw on local knowledge of respect for and management of water
- Capacity building, focusing in policy makers and the communities particularly women and children
- Strengthen regional cooperation in water management (for example the Mekong River Agreement of 1995 is not yet fully realised)
- Promote development of national capacity to apply technology to improve water

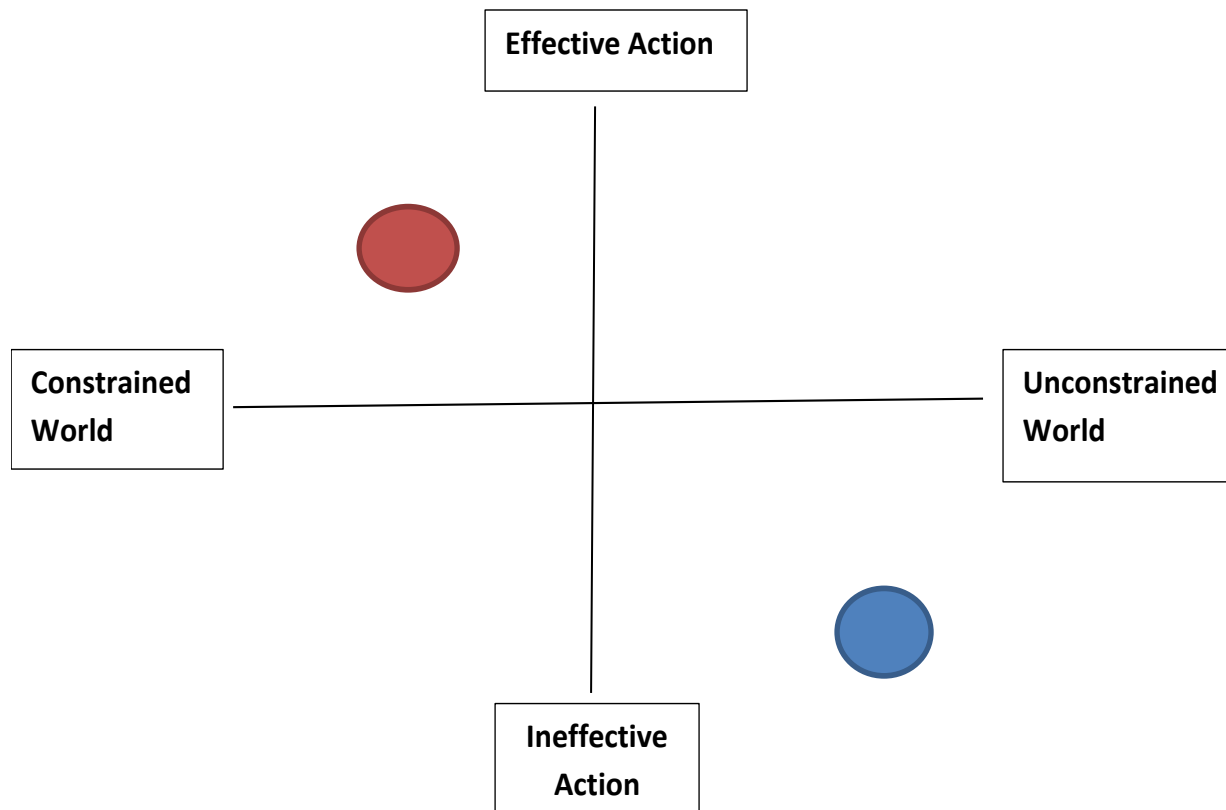
Scenarios of Possible Future Water Security



Scenarios of Possible Future Water Security - II



Scenarios of Possible Future Water Security - III



Challenges for the Final Symposium

- analysis of the challenges facing ASEAN members in energy, food and water security
- vulnerabilities and mitigation potentials
- regional and trans-border issues
- resilience deficits, needs and prospects
- the scenarios of present and possible futures
- appropriate prospective development strategies
- action opportunities at the individual member country and at ASEAN level

Conclusions

- a model for use of foresight to support sustainable economic development throughout the ASEAN economies
- a new set of insights about what may be possible by 2020 in terms of stable, productive and innovative economic activity
- focus attention on the opportunities of greatly increased trade between ASEAN members and identify appropriate areas of specialisation
- an entry point into the development of innovative development pathways
- Opportunities will be identified for the building of knowledge-intensive services for local economic development in economically disadvantaged communities
- identifies the degree of resilience in the ASEAN countries and the region, which will be necessary to cope with systemic stress associated with management of scarce resources such as water, energy and food