

PROF HANS DIETER EVERSON CENPRIS RESEARCH

Bay of Bengal Large Marine Ecosystem Project (BOBLME),
Penang 02-04 Oct 2012



CenPRIS "Ocean Research"

Hans-Dieter Evers
Centre for Policy Research and International Studies
Universiti Sains Malaysia




UNIVERSITI SAINS MALAYSIA



Research Agenda



- **CenPRIS Ocean Index:** Comparative Maritime Advantage
- **Ocean Policy and Diplomacy:** Maritime Conceptions of Space in the South China Sea and the Straits of Malacca
- **Livelihoods of small-scale fishermen in Penang**
- **Connecting Oceans:** The Social Economy of the Straits of Malacca

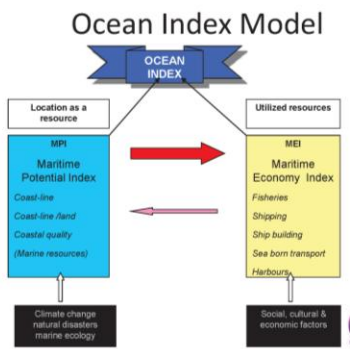
- Indian Ocean Research Cooperation
- Penang as a Knowledge Hub
- Brunei as a Knowledge Hub (with UBD)
- Singapore Maritime Cluster (with SMU)

The CenPRIS Ocean Index


- Bordering oceans and a long coastline are "resources" for developing a maritime economy (competitive advantage)
- Some nations make better use of the resource "coastline" and "access to oceans" than others
- The CenPRIS Ocean Index (COI) will measure how far a country has utilized its "spatial ocean resource". It will be used as a **policy planning tool**.

Comparative Advantage of Nations

Ocean Index Model



The diagram illustrates the Ocean Index Model. It shows a central 'OCEAN INDEX' box. To its left is a box for 'Location as a resource' containing the 'MPI Maritime Potential Index' with sub-factors: Coast-line, Coast-line /land, and Coastal quality (Marine resources). To its right is a box for 'Utilized resources' containing the 'MEI Maritime Economy Index' with sub-factors: Fisheries, Shipping, Ship building, Sea born transport, and Harbours. A red arrow points from MPI to MEI, and a pink arrow points from MEI back to MPI. Below the MPI box is a box for 'Climate change natural disasters marine ecology'. Below the MEI box is a box for 'Social, cultural & economic factors'. The CenPRIS logo is at the bottom right.



Index Construction (simplified)

- **Maritime Potential Index (MPI)**
 - Mean distance to coastline in kilometres (MDC)
 - % of coastline of total country outline" (PCTCO)


$$MPI = \frac{MDC}{2} + \frac{PCTCO}{2}$$

COI = MPI-MEI
(standardized)

- **Maritime Economy Index (MEI)**
 - Fisheries in metric tonnes (MT)
 - Container throughput (TEU)
 - Employment maritime sector (Em), etc ...

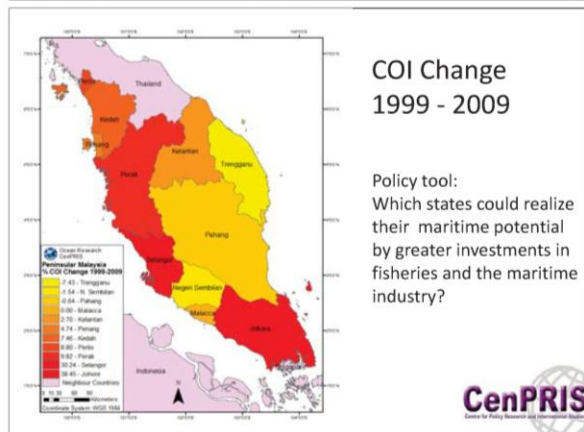
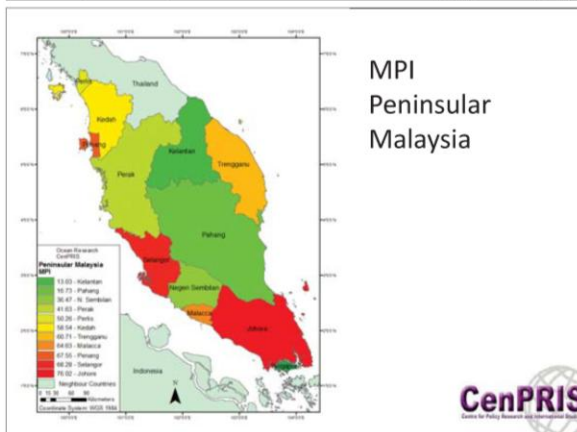
$$MEI = \frac{TEU}{2} + \frac{MT}{4} + \frac{Em}{4}$$

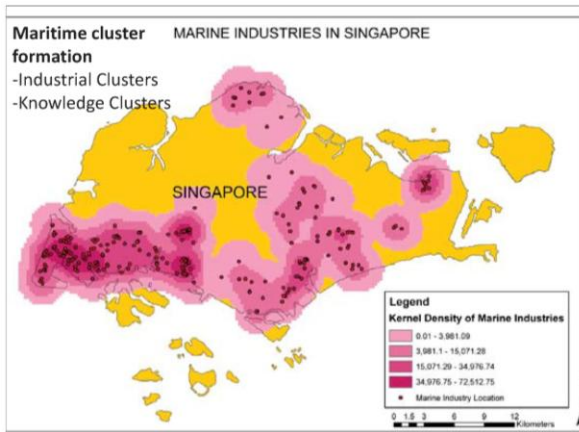
$$I'_{qc} = \frac{x'_{qc} - \min_c(x'_q)}{\max_c(x'_q) - \min_c(x'_q)}$$



Ocean Index (COI) Malaysian States, 2010

State	MEI	MPI	COI (stand.)
Perlis	13.20	50.26	43.08
Kedah	11.77	58.54	27.11
Penang	11.32	67.55	11.54
Perak	25.14	41.63	76.91
Selangor	46.27	68.28	67.85
Negeri Sembilan	1.60	36.47	46.68
Melaka	1.38	64.63	0.00
Kelantan	10.57	13.03	100.00
Terengganu	11.73	60.71	23.48
Pahang	13.33	16.73	98.46
Johor	39.63	76.02	44.19
Sabah	29.43	76.93	25.91
Sarawak	23.83	36.25	83.62





Livelihoods of small-scale Fishermen in Penang

Household's risk management and resilience strategies will be investigated

- by using the Sustainable Livelihood Approach (SLA) to analyse the relationship between vulnerability, risk-taking and resilience.
- Investigate livelihood capabilities, adaptation and diversification strategies of households, as well as the fishing characteristics



Thank you for your attention

