מהו ניהול אינטגרטיבי וכיצד ניתן להשיגו?
דוגמאות מן העולם

ד"ר מישל פורטמן
פרופסור משנה
הפקולטה לארחיטקטורה ובנוי ערים
ה текניאון - מכון התכונולוגיה לישראל
michellep@ar.technion.ac.il

www.portman.net.technion.ac.il
• What is integration?

• Why do we need it?

• Why is it so hard to achieve?
Paradigm—
“a system of ideas that dominate the science of a particular place and time”

Thomas Kuhn

scientific philosopher (theoretical physicist)
1922-1996
Integration: A Definition

"To ‘integrate’ means to unify, to put parts together into a whole. Integrated policy, then, means a policy where the constituent elements are brought together and made subject to a single, unifying concept."

<table>
<thead>
<tr>
<th>Term</th>
<th>Common application</th>
<th>Seminal sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated resource planning</td>
<td>Energy system management</td>
<td>World Energy Assessment– Energy and the Challenge of Sustainability, UNDP 2000</td>
</tr>
<tr>
<td>Integrated assessment</td>
<td>Climate change modeling</td>
<td>Integrative Assessment of Mitigation, Impacts and Adaptation to Climate Change, 1994</td>
</tr>
<tr>
<td>Integrated policy development</td>
<td>Sustainable development</td>
<td>Our Common Future, Brundtland Commission, 1987</td>
</tr>
<tr>
<td>Environmental policy integration</td>
<td>International global governance</td>
<td>Agenda 21, 1992</td>
</tr>
<tr>
<td>transportation</td>
<td>Infrastructure planning</td>
<td>White paper on EU Transportation Policy 2001</td>
</tr>
<tr>
<td>pollution control</td>
<td>environmental protection</td>
<td>EU Directive on Integrated Pollution Prevention and Control 1996</td>
</tr>
<tr>
<td>watershed</td>
<td>Urban &amp; regional planning</td>
<td>The Dublin Statement on Water &amp; Sustainable Development 1992</td>
</tr>
<tr>
<td>water</td>
<td>Environmental protection</td>
<td>2000 EU Water Framework Directive</td>
</tr>
<tr>
<td>energy</td>
<td>Infrastructure planning</td>
<td>US Dept of Energy, Comprehensive Electricity Competition Plan 1998</td>
</tr>
<tr>
<td>tourism (coastal)</td>
<td>Urban and regional planning</td>
<td>Sustainable Coastal Tourism, UNEP, 2009</td>
</tr>
</tbody>
</table>
Why integrate?

- Sectoral policies
- Sectoral implementation
- Limited scope/scale

Contradictions
Redundancies
Neglected impacts
Conflict
WATER MANAGEMENT

Water Resources Management: What Should Be Integrated?

Janet G. Hering1,2,3* and Karin M. Ingold4

Sustainable management of water resources (including provision of safe and reliable supplies for drinking water and irrigation, adequate sanitation protection of local integrated resource planning)

vaguely defined concept have been raised in the technical community (8–11).

Nonetheless, IWRM is currently a central theme at the level of global cooperation and it is recognized that technical, economic, and institutional mechanisms must be case-specific and problem-driven and will then determine the necessary extent of integration, specifically with regard to socioeconomic and institutional scales (15).

* College of Engineering, PO Box 33, Sultan Qaboos University, Al-Khor 123, Oman

Cecilio U. Sumayoa

© 1998 by the Ecological Society of America

Received 8 July 2001

Abstract: American law, with its inherent American values, does not reflect an advanced understanding of the stressors and the consequences of habitat destruction and loss.

Wallace Stegner Center for Land, Water and Wildlife, The University of Utah, Salt Lake City, Utah 84112-8088

www.elsevier.com/locate/energy
Legal Bedrock for Rebuilding America’s Ocean Ecosystems

Mary Turnipseed, Larry B. Crowder, Raphael D. Sagarin, Stephen E. Roady

Recent discussions about ocean policy reform have focused on ecosystem-based management, which fully incorporates humans and considers the cumulative impacts of their activities on ecosystems and the services they provide (1). This approach is logical given the highly interconnected social-ecological systems of the ocean (2) and may be best realized through comprehensive marine spatial planning and ocean zoning (3). But U.S. ocean governance as currently configured cannot easily accommodate ecosystem-based management (4).

Federal waters, which include the territorial sea and the Exclusive Economic Zone (EEZ), reach from the 3- or 9-nm (nautical mile) borders of state waters out to the 200-nm outer boundary of the EEZ, an ocean area in which the United States has rights to explore, exploit, and manage living and nonliving resources (5–7). Because of the United States’ extensive coastlines and territorial holdings, these waters cover 3.6 million nautical square miles (11.4 km²), an area that is larger than the combined land area of the 50 states. Over 20 federal agencies operating under dozens of laws regulate activities...
Dimensions of integrated policy

- Specific uses
  - Institutional authorities
  - Stakeholder groups

- Disciplines (fields of inquiry)
  - Research and policy
  - Social and natural science

- Jurisdictional boundaries
  - Landscape units
  - Various scales (e.g., time)
  - Ecological systems
Concurrency

Consistency

Plan I

Plan II
Why is so hard to achieve?

Unclear what ‘integration’ means

Policy makers unsure of which mechanisms will lead to integration

Need to differentiate between fields – no one-size-fits all

Breaking with institutional traditions and norms
Putting the *Integration* into Integrated CZM


Rationales for ICZM

- Consistency/concurrency
- Concurrency
- Cooperation
- Capacity building

Consistency/concurrency review
Planning hierarchy
Setback lines
Management forum
Marine spatial planning
Public participation
Co-management task force
Environmental impact statements
Social impact assessment
# Mechanisms of Integration

<table>
<thead>
<tr>
<th>Mechanisms</th>
<th>BE</th>
<th>IN</th>
<th>IL</th>
<th>IT</th>
<th>PT</th>
<th>SE</th>
<th>VN</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set-back lines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planning Hierarchy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EIA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regulatory Commission</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mechanisms</td>
<td>No. of Countries</td>
<td>Type(s) of Integration Supported</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>------------------</td>
<td>-----------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Set-back lines</td>
<td>5</td>
<td>Landscape units</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planning Hierarchy</td>
<td>7</td>
<td>Landscape units; cross government levels</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSP</td>
<td>3</td>
<td>All types</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EIA</td>
<td>8</td>
<td>Cross use sectors; landscape units; public-private</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regulatory Commission</td>
<td>3</td>
<td>Cross government levels; Use-sectors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mechanisms</td>
<td>Barriers to Implementation/Challenges</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Set-back lines</td>
<td>Enforcement and compliance weak (IT); exceptions are easily obtained (IL, IT, PT); local conditions not sufficiently considered (PT); determination of setback is difficult (i.e., measuring/monitoring) (IN)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planning Hierarchy</td>
<td>Plans of neighborhood scale are normally not consistent with each other (VM); delays due to incomplete higher plans (IL, IT, PT); lack of coordination between timelines for different-level plans (IL)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSP</td>
<td>Wide prospective (inland) integration not guaranteed (SE); long-time frame needed (PT); only recently initiated (UK)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EIA</td>
<td>Results not understandable to laymen, the public (BE, IL) and to decision-makers (VM, IN); quality greatly variable (UK); often not science based (UK, IL); doesn’t consider ‘no-build’ option (IL, VM, SE); recommendations not adopted/implemented fully (PT, VM); do not consider a wide geographic area or a wide spectrum of impacts (SE)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regulatory Commission</td>
<td>Long time frame needed for deliberation (IL); compliance and enforcement is lacking (IN); decisions often not adopted/implemented fully (IN; IL)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mechanisms</td>
<td>Costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>----------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Set-back lines</td>
<td>Outreach, compliance and enforcement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planning Hierarchy</td>
<td>High monitoring and informational costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSP</td>
<td>Expensive data acquisition, capacity building and experts needed; Capacity building will be costly in cases where there is no previous experience with comprehensive national planning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EIA</td>
<td>Costs to developers and to government providing the guidelines and review of EIA, especially where specific expertise is needed.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regulatory Commission</td>
<td>Maintenance of the bureaucracy is costly; costly capacity building is needed for committee members.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Certain mechanisms lead to specific types of integration. Some mechanisms are more suited to local initiatives (e.g. setbacks) and others are more dependent on regional, multi-national efforts (e.g. MSP).

Almost all integration mechanisms will be costly in the short-term although they reduce conflicts in long-term.

Compliance and enforcement (follow-thru) of regulatory ICZM mechanisms has been neglected in the past.
• UK – Marine and Coastal Access Act 2009 established the non-department public body (NDPB) and gave powers for the:

• Marine Management Organization The establishment of the MMO as a cross-government delivery partner therefore marks a fundamental shift in planning, regulating and licensing activity in the marine area with the emphasis on sustainable development.

“...This framework should contribute to coherence between different policies and foster the integration of environmental concerns into other policies, such as the Common Fisheries Policy, the Common Agricultural Policy and other relevant Community policies.”
Executive Order 13547 --Stewardship of the Ocean, Our Coasts, and the Great Lakes

“........These regional plans will enable a more integrated, comprehensive, ecosystem-based, flexible, and proactive approach to planning and managing sustainable multiple uses across sectors and improve the conservation of the ocean....
Two measures of integration: **scale** and **scope** using Quadrant Analysis

**Figure 3.** Quadrants analysis: a framework for gauging the level of integration achieved by MSP processes and plans. The criteria for evaluation appear in italics.

תודה על ההקשבה

ד"ר מישל פורטמן
פרופסור משנה
הטקניעון - מכון הטכנולוגי לישראל
הפקולטה לארחיטקטורה ובוגי ערים
טל: 04-8294067
www.portman.net.technion.ac.il
michellep@cc.technion.ac.il

חוף ניצנים
Nitzanim

תל אביב
Tel Aviv

ראש הנקרה
Rosh haNikra

חיפה
Haifa