Coastal conservation practices (Satoumi) and marine protected areas in Japan: institutional approach

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Background
(CBD/SBSTTA Nairobi meeting, May 2010)

• 2012 target of protecting 10% of marine and coastal areas has NOT been achieved
• New 2020 target proposal of protecting 15% of marine and coastal areas faced many objections.
CBD Aichi Target (Para 11)

By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascapes.
In Nagoya, Japan, COP10 of CBD in October 2010, Targets toward 2020 was agreed.
### Different backgrounds exist for MPAs between Japan and other countries

<table>
<thead>
<tr>
<th>Key driving forces</th>
<th>Japan</th>
<th>Other countries</th>
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<tbody>
<tr>
<td>Fishery related policy</td>
<td>Environmental policy</td>
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<table>
<thead>
<tr>
<th>Area scale</th>
<th>Japan</th>
<th>Other countries</th>
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<tbody>
<tr>
<td>Small area (but land and sea connectivity)</td>
<td>Large coverage in the sea</td>
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<table>
<thead>
<tr>
<th>Basic approach</th>
<th>Japan</th>
<th>Other countries</th>
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<tbody>
<tr>
<td>No-take and other local participatory measures (Satoumi)</td>
<td>No-take, no-entry, or other restrictions</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Monitoring and enforcement</th>
<th>Japan</th>
<th>Other countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peer monitoring, gov’t enforcement</td>
<td>Gov’t enforcement</td>
<td></td>
</tr>
</tbody>
</table>
Notsuke in Hokkaido
Shrimp management areas and no-take zones

Area 7
Area 5
Area 6
Area 3
Area 4
Area 1
Area 2

Notsuke in Hokkaido
Eelgrass (amamo) provides habitats of shrimps.

Self-imposed agreements include restrictions on fishing gear, season, area, and quota. Additional habitat restoration activities are also conducted.

Picture: Courtesy of Notsuke fishery cooperative office
Shrimp trawl boats

Photo: Courtesy of Notsuke Fisheries Cooperative Association
Small-scale fishery is dominant in Japan

Number of Japanese fishing vessels by size
Total 303,842 vessels in 2003 (Fisheries Agency of Japan)
Small scale fishermen have established fishery cooperative associations (FCAs)

- Around 1,000 fishery cooperative associations (FCAs) exist in Japan.
- Coastal fishermen usually adopt detailed conservation measures proposed by their peer members of FCAs and collectively enforce them.
- Other roles include; collective purchase of gears, ice, and fuel;
- Lending money and settling of sales accounts for fishers.
Most of the local rules are undocumented, and therefore difficult for outsiders to observe.
Different practices inside Japan

**Offshore and long-distance fisheries**

- Legal control based on the Fishery Law
- Government which provide enforcement mechanism **cover the cost of the conservation**
- Controls are based on on-board inspectors and patrolling vessels

**Coastal fisheries**

- Prefectural governments **[which issue fishing licenses]** based on Fishery Law
- Peer monitoring by fishers at local fishery cooperatives **[which hold fishing rights]**
- Individual fishers **[who exercise the fishing rights and cover the cost of the conservation]**

**Top-down** **Bottom-up**
Office of a local fishery cooperative association
Meeting in a fishery cooperative
Size restrictions and release of small fish

<table>
<thead>
<tr>
<th>Fish Type</th>
<th>Release Size</th>
</tr>
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<tbody>
<tr>
<td>Hiramasa</td>
<td>28 cm</td>
</tr>
<tr>
<td>Bottom trawl net shrimp</td>
<td>15 cm</td>
</tr>
<tr>
<td>Shrimp</td>
<td>15 cm</td>
</tr>
</tbody>
</table>
Mesh size regulation
Release of hatched juveniles
Closed season

Vessel name: Inari-maru
Registration number: NG3-14578
Execution day: September 21, 2009
Setting of closed area

禁漁区域図
期間：4月1日～6月30日
Example of MPAs in Yaeyama Islands Okinawa since 1998
A survey was conducted to collect information of MPAs in Japan.

- 1161 locations of MPAs were identified.
- Of these, 30% are community-based autonomous MPAs managed by fishery cooperatives.
Key characteristics in Japan

- 90% of the MPAs are fishery related regulation.
- The number of such MPAs roughly corresponds to the number of fishery cooperatives (around 1,000) in Japan.
- 30% of MPAs are self-imposed regulations agreed by local fishers in their tenure fishing areas.
Additional collective activities for habitat rehabilitation
# MPA and Satoumi

<table>
<thead>
<tr>
<th></th>
<th>MPA in Japan</th>
<th>Satoumi (Sato=village) (Umi=the sea)</th>
</tr>
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<tbody>
<tr>
<td>Number</td>
<td>More than 1161</td>
<td>No comprehensive data</td>
</tr>
<tr>
<td>Area</td>
<td>Defined</td>
<td>Undefined (including enhancing connectivity with land ecosystem)</td>
</tr>
<tr>
<td>Period</td>
<td>All year - several weeks</td>
<td>Repeating day activities</td>
</tr>
<tr>
<td>Form</td>
<td>Restriction on certain human activity</td>
<td>Restoration or other activities by people</td>
</tr>
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**Diagram:**
- Shrimp management areas and no-take zones
- Areas 1 to 7 labeled
- Notsuke in Hokkaido

**Image:** People engaging in activities along the coastline.
Local people participation for the restoration of Amamo (eelgrass) meadows in the Tokyo Bay (Source; Amamo Revival Collaboration in Kanazawa-Hakkei, Tokyo Bay Area)
Educational process (Source; Amamo Revival Collaboration in Kanazawa-Hakkei, Tokyo Bay Area)
Management practices of MPAs and Satoumi in Japan

- Conservation costs are paid by fishers, as they assume increased future catches can be received by the same group. (existence of limited entry system in fishery)
- Self-imposed rules are, therefore, mutually monitored. Sanctions are imposed against infractions.
But there are troubles:

Number of fishermen in Japan
(Source: Ministry of Agriculture, Forestry and Fisheries, Japan)
Trend of production is different

Japan’s Fishery Production (Source: MAFF, Japan)

- Long-distance
- Offshore
- Coastal
- Aquaculture
- Inland fishery

Million metric tons

Japan’s domestic productions and imports in fishery products (unit: billion JPY)
Top 10 country of world marine capture fishery (FAO: SOFIA 2011) Unit: million metric tons

<table>
<thead>
<tr>
<th>Country</th>
<th>Tons</th>
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<tbody>
<tr>
<td>China</td>
<td>14.8</td>
</tr>
<tr>
<td>Peru</td>
<td>7.4</td>
</tr>
<tr>
<td>Indonesia</td>
<td>5.0</td>
</tr>
<tr>
<td>USA</td>
<td>4.3</td>
</tr>
<tr>
<td>Japan</td>
<td>4.2</td>
</tr>
<tr>
<td>India</td>
<td>4.1</td>
</tr>
<tr>
<td>Chile</td>
<td>3.6</td>
</tr>
<tr>
<td>Russia</td>
<td>3.4</td>
</tr>
<tr>
<td>Philippines</td>
<td>2.6</td>
</tr>
<tr>
<td>Myanmar</td>
<td>2.5</td>
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</table>
Findings in Japan so far

- Government regulation to limit new entries in the area is critically important to sustain autonomous management by FCAs.
- If the costs of conservation are properly shared by the interest groups, the activity would be sustainable.
- If the economic performance of Japan’s fishing industry become weaker, Satoumi and MPAs may face some difficulties.
Implications for international policy

- Evaluation standard for MPAs should not be limited to the area coverage (such as 10% of the sea).
- Future evaluation standard for conservation activities should include: (i) institutional characteristics such as monitoring and participation mechanism, and (ii) outcome on stock rebuilding and ecosystems rehabilitation.