TRENDS AND REGIONAL PERSPECTIVE ON FISHERIES SECTOR GOVERNANCE ARCHITECTURE IN IORA

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Adjunct Senior Research Fellow, James Cook University
Australia
Presentation Outline

- Fisheries of the Indian Ocean
- Fisheries in the wider Indian Ocean and global environment
- Regional framework
- Role of IORA
I. Fisheries of the Indian Ocean
Fisheries of the Indian Ocean

- Numerous countries with diverse economies, cultures, and fishing practices
- Fisheries comprise a complex mix of inshore, artisanal, offshore, commercial, traditional, and recreational marine capture fisheries, as well as aquaculture
  - Mostly small scale
- Contributes to food security, poverty alleviation, and economic development in the region
  - Up to 50% of animal protein intake in some Indian Ocean countries
  - Livelihood from downstream industries
  - Source of foreign exchange and high contribution to GDP in some countries
- Subject to different fisheries management regime
<table>
<thead>
<tr>
<th>Country</th>
<th>2011 tonnes</th>
<th>2012 tonnes</th>
<th>Variation 2011-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>13,536,409</td>
<td>13,869,604</td>
<td>2.5%</td>
</tr>
<tr>
<td>Indonesia</td>
<td>5,332,862</td>
<td>5,420,247</td>
<td>1.6%</td>
</tr>
<tr>
<td>United States of America</td>
<td>5,131,087</td>
<td>5,107,559</td>
<td>-0.5%</td>
</tr>
<tr>
<td>Peru</td>
<td>8,211,716</td>
<td>4,807,923</td>
<td>-41.5%</td>
</tr>
<tr>
<td>Russian Federation</td>
<td>4,005,737</td>
<td>4,068,850</td>
<td>1.6%</td>
</tr>
<tr>
<td>Japan</td>
<td>3,741,222</td>
<td>3,611,384</td>
<td>-3.5%</td>
</tr>
<tr>
<td>India</td>
<td>3,250,099</td>
<td>3,402,405</td>
<td>4.7%</td>
</tr>
<tr>
<td>Chile</td>
<td>3,063,467</td>
<td>2,572,881</td>
<td>-16.0%</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>2,308,200</td>
<td>2,418,700</td>
<td>4.8%</td>
</tr>
<tr>
<td>Myanmar</td>
<td>2,169,820</td>
<td>2,332,790</td>
<td>7.5%</td>
</tr>
<tr>
<td>Norway</td>
<td>2,281,856</td>
<td>2,149,802</td>
<td>-5.8%</td>
</tr>
<tr>
<td>Philippines</td>
<td>2,171,327</td>
<td>2,127,046</td>
<td>-2.0%</td>
</tr>
<tr>
<td>Korea, Republic of</td>
<td>1,737,870</td>
<td>1,660,165</td>
<td>-4.5%</td>
</tr>
<tr>
<td>Thailand</td>
<td>1,610,418</td>
<td>1,612,073</td>
<td>0.1%</td>
</tr>
<tr>
<td>Malaysia</td>
<td>1,373,105</td>
<td>1,472,239</td>
<td>7.2%</td>
</tr>
<tr>
<td>Mexico</td>
<td>1,452,970</td>
<td>1,467,790</td>
<td>1.0%</td>
</tr>
<tr>
<td>Iceland</td>
<td>1,138,274</td>
<td>1,449,452</td>
<td>27.3%</td>
</tr>
<tr>
<td>Morocco</td>
<td>949,881</td>
<td>1,158,474</td>
<td>22.0%</td>
</tr>
<tr>
<td>Spain</td>
<td>998,965</td>
<td>924,018</td>
<td>-7.5%</td>
</tr>
<tr>
<td>Taiwan Province of China</td>
<td>903,830</td>
<td>907,573</td>
<td>0.4%</td>
</tr>
<tr>
<td>Canada</td>
<td>839,415</td>
<td>785,620</td>
<td>-6.4%</td>
</tr>
<tr>
<td>Argentina</td>
<td>775,010</td>
<td>723,737</td>
<td>-6.6%</td>
</tr>
<tr>
<td>South Africa</td>
<td>532,532</td>
<td>700,811</td>
<td>31.6%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>598,211</td>
<td>629,358</td>
<td>5.2%</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>546,333</td>
<td>578,620</td>
<td>5.9%</td>
</tr>
<tr>
<td><strong>Total 25 major countries</strong></td>
<td><strong>68,660,616</strong></td>
<td><strong>65,959,121</strong></td>
<td><strong>-3.9%</strong></td>
</tr>
<tr>
<td><strong>Total other countries</strong></td>
<td><strong>13,949,310</strong></td>
<td><strong>13,746,789</strong></td>
<td><strong>-1.5%</strong></td>
</tr>
<tr>
<td><strong>World total</strong></td>
<td><strong>82,609,926</strong></td>
<td><strong>79,705,910</strong></td>
<td><strong>-3.5%</strong></td>
</tr>
</tbody>
</table>

**Share 25 major countries**: 83.1% / 82.8%

*Source: FAO, 2014*
Table 5. Inland waters capture: major producer countries

<table>
<thead>
<tr>
<th>Country</th>
<th>2011 tonnes</th>
<th>2012 tonnes</th>
<th>Variation 2011-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>2,232,221</td>
<td>2,297,839</td>
<td>2.9%</td>
</tr>
<tr>
<td>India</td>
<td>1,061,033</td>
<td>1,460,456</td>
<td>37.6%</td>
</tr>
<tr>
<td>Myanmar</td>
<td>1,163,159</td>
<td>1,246,460</td>
<td>7.2%</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>1,054,585</td>
<td>957,095</td>
<td>-9.2%</td>
</tr>
<tr>
<td>Cambodia</td>
<td>445,000</td>
<td>449,000</td>
<td>0.9%</td>
</tr>
<tr>
<td>Uganda</td>
<td>437,415</td>
<td>407,638</td>
<td>-6.8%</td>
</tr>
<tr>
<td>Indonesia</td>
<td>368,578</td>
<td>393,553</td>
<td>6.8%</td>
</tr>
<tr>
<td>Tanzania, United Rep. of</td>
<td>290,963</td>
<td>314,945</td>
<td>8.2%</td>
</tr>
<tr>
<td>Nigeria</td>
<td>301,281</td>
<td>312,009</td>
<td>3.6%</td>
</tr>
<tr>
<td>Brazil</td>
<td>248,805</td>
<td>266,042</td>
<td>6.9%</td>
</tr>
<tr>
<td>Russian Federation</td>
<td>249,140</td>
<td>262,548</td>
<td>5.4%</td>
</tr>
<tr>
<td>Egypt</td>
<td>253,051</td>
<td>240,039</td>
<td>-5.1%</td>
</tr>
<tr>
<td>Thailand</td>
<td>224,708</td>
<td>222,500</td>
<td>-1.0%</td>
</tr>
<tr>
<td>Congo, Dem. Rep. of the</td>
<td>217,000</td>
<td>214,000</td>
<td>-1.4%</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>206,100</td>
<td>203,500</td>
<td>-1.3%</td>
</tr>
<tr>
<td>Philippines</td>
<td>191,901</td>
<td>195,804</td>
<td>2.0%</td>
</tr>
<tr>
<td>Kenya</td>
<td>174,356</td>
<td>148,216</td>
<td>-15.0%</td>
</tr>
<tr>
<td>Malawi</td>
<td>82,415</td>
<td>120,328</td>
<td>46.0%</td>
</tr>
<tr>
<td>Pakistan</td>
<td>118,223</td>
<td>120,240</td>
<td>1.7%</td>
</tr>
<tr>
<td>Mexico</td>
<td>113,093</td>
<td>107,619</td>
<td>-4.8%</td>
</tr>
<tr>
<td>Chad</td>
<td>95,000</td>
<td>100,000</td>
<td>5.3%</td>
</tr>
<tr>
<td>Ghana</td>
<td>90,000</td>
<td>90,000</td>
<td>0.0%</td>
</tr>
<tr>
<td>Iran (Islamic Rep. of)</td>
<td>75,920</td>
<td>82,677</td>
<td>8.9%</td>
</tr>
<tr>
<td>Zambia</td>
<td>69,364</td>
<td>76,214</td>
<td>9.9%</td>
</tr>
<tr>
<td>Cameroon</td>
<td>75,000</td>
<td>75,000</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Total 25 major countries</strong></td>
<td>9,838,311</td>
<td>10,363,722</td>
<td>5.3%</td>
</tr>
<tr>
<td><strong>Total other countries</strong></td>
<td>1,286,090</td>
<td>1,266,598</td>
<td>-1.5%</td>
</tr>
<tr>
<td><strong>World total</strong></td>
<td><strong>11,124,401</strong></td>
<td><strong>11,630,320</strong></td>
<td><strong>4.5%</strong></td>
</tr>
<tr>
<td><strong>Share 25 major countries</strong></td>
<td>88.4%</td>
<td>89.1%</td>
<td></td>
</tr>
</tbody>
</table>
### Table 3: Top food fish aquaculture producers in 2012*

<table>
<thead>
<tr>
<th>AFRICA</th>
<th>Tonnes</th>
<th>Percent</th>
<th>AMERICA</th>
<th>Tonnes</th>
<th>Percent</th>
<th>ASIA</th>
<th>Tonnes</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egypt</td>
<td>1 017 738</td>
<td>68.5%</td>
<td>Chile</td>
<td>1 071 421</td>
<td>33.6%</td>
<td>China</td>
<td>41 108 306</td>
<td>69.8%</td>
</tr>
<tr>
<td>Nigeria</td>
<td>253 898</td>
<td>17.1%</td>
<td>Brazil</td>
<td>707 461</td>
<td>22.2%</td>
<td>India</td>
<td>4 209 415</td>
<td>7.1%</td>
</tr>
<tr>
<td>Uganda</td>
<td>95 906</td>
<td>6.5%</td>
<td>USA</td>
<td>420 024</td>
<td>13.2%</td>
<td>Viet Nam</td>
<td>3 085 500</td>
<td>5.2%</td>
</tr>
<tr>
<td>Ghana</td>
<td>27 450</td>
<td>1.8%</td>
<td>Ecuador</td>
<td>321 853</td>
<td>10.1%</td>
<td>Indonesia</td>
<td>3 067 660</td>
<td>5.2%</td>
</tr>
<tr>
<td>Kenya</td>
<td>21 488</td>
<td>1.4%</td>
<td>Canada</td>
<td>173 452</td>
<td>5.4%</td>
<td>Bangladesh</td>
<td>1 726 066</td>
<td>2.9%</td>
</tr>
<tr>
<td>Zambia</td>
<td>12 988</td>
<td>0.9%</td>
<td>Mexico</td>
<td>143 747</td>
<td>4.5%</td>
<td>Thailand</td>
<td>1 233 877</td>
<td>2.1%</td>
</tr>
<tr>
<td>Madagascar</td>
<td>8 588</td>
<td>0.6%</td>
<td>Colombia</td>
<td>89 654</td>
<td>2.8%</td>
<td>Myanmar</td>
<td>885 169</td>
<td>1.5%</td>
</tr>
<tr>
<td>Tunisia</td>
<td>8 577</td>
<td>0.6%</td>
<td>Peru</td>
<td>72 147</td>
<td>2.3%</td>
<td>Philippines</td>
<td>790 894</td>
<td>1.3%</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>8 010</td>
<td>0.5%</td>
<td>Honduras</td>
<td>34 854</td>
<td>1.1%</td>
<td>Japan</td>
<td>633 047</td>
<td>1.1%</td>
</tr>
<tr>
<td>South Africa</td>
<td>3 999</td>
<td>0.3%</td>
<td>Costa Rica</td>
<td>27 188</td>
<td>0.9%</td>
<td>Korea, RO</td>
<td>484 404</td>
<td>0.8%</td>
</tr>
<tr>
<td>Côte d’Ivoire</td>
<td>3 720</td>
<td>0.3%</td>
<td>Cuba</td>
<td>26 179</td>
<td>0.8%</td>
<td>Taiwan POC</td>
<td>344 404</td>
<td>0.6%</td>
</tr>
<tr>
<td>Tanzania</td>
<td>3 407</td>
<td>0.2%</td>
<td>Venezuela</td>
<td>26 115</td>
<td>0.8%</td>
<td>Iran</td>
<td>296 575</td>
<td>0.5%</td>
</tr>
<tr>
<td>Malawi</td>
<td>3 232</td>
<td>0.2%</td>
<td>Nicaragua</td>
<td>24 351</td>
<td>0.8%</td>
<td>Malaysia</td>
<td>283 780</td>
<td>0.5%</td>
</tr>
<tr>
<td>Congo, DR</td>
<td>2 869</td>
<td>0.2%</td>
<td>Guatemala</td>
<td>17 743</td>
<td>0.6%</td>
<td>Turkey</td>
<td>212 805</td>
<td>0.4%</td>
</tr>
<tr>
<td>Algeria</td>
<td>2 648</td>
<td>0.2%</td>
<td>Panama</td>
<td>7 474</td>
<td>0.2%</td>
<td>Pakistan</td>
<td>142 832</td>
<td>0.2%</td>
</tr>
<tr>
<td>Rest of Africa</td>
<td>10 849</td>
<td>0.7%</td>
<td>Rest of America</td>
<td>23 656</td>
<td>0.7%</td>
<td>Rest of Asia</td>
<td>395 334</td>
<td>0.7%</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>1 485 367</td>
<td>100%</td>
<td></td>
<td>3 187 319</td>
<td>100%</td>
<td><strong>Totals</strong></td>
<td>58 900 068</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EUROPE</th>
<th>Tonnes</th>
<th>Percent</th>
<th>OCEANIA</th>
<th>Tonnes</th>
<th>Percent</th>
<th>WORLDB</th>
<th>Tonnes</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway</td>
<td>1 321 119</td>
<td>45.9%</td>
<td>New Zealand</td>
<td>100 161</td>
<td>54.4%</td>
<td>China</td>
<td>41 108 306</td>
<td>61.7%</td>
</tr>
<tr>
<td>Spain</td>
<td>264 160</td>
<td>9.2%</td>
<td>Australia</td>
<td>80 004</td>
<td>43.4%</td>
<td>India</td>
<td>4 209 415</td>
<td>6.3%</td>
</tr>
<tr>
<td>France</td>
<td>204 860</td>
<td>7.1%</td>
<td>Papua New Guinea</td>
<td>1 825</td>
<td>1.0%</td>
<td>Viet Nam</td>
<td>3 085 500</td>
<td>4.6%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>203 036</td>
<td>7.1%</td>
<td>New Caledonia</td>
<td>1 663</td>
<td>0.9%</td>
<td>Indonesia</td>
<td>3 067 660</td>
<td>4.6%</td>
</tr>
<tr>
<td>Italy</td>
<td>162 618</td>
<td>5.7%</td>
<td>Fij, Republic of</td>
<td>200</td>
<td>0.1%</td>
<td>Bangladesh</td>
<td>1 726 066</td>
<td>2.6%</td>
</tr>
<tr>
<td>Russia</td>
<td>144 871</td>
<td>5.0%</td>
<td>Guam</td>
<td>111</td>
<td>&lt; 0.1%</td>
<td>Norway</td>
<td>1 321 119</td>
<td>2.0%</td>
</tr>
<tr>
<td>Greece</td>
<td>137 594</td>
<td>4.8%</td>
<td>French Polynesia</td>
<td>81</td>
<td>&lt; 0.1%</td>
<td>Thailand</td>
<td>1 233 877</td>
<td>1.9%</td>
</tr>
<tr>
<td>Faroe Islands</td>
<td>76 564</td>
<td>2.7%</td>
<td>Vanuatu</td>
<td>60</td>
<td>&lt; 0.1%</td>
<td>Chile</td>
<td>1 071 421</td>
<td>1.6%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>46 149</td>
<td>1.6%</td>
<td>Palau</td>
<td>36</td>
<td>&lt; 0.1%</td>
<td>Egypt</td>
<td>1 017 738</td>
<td>1.5%</td>
</tr>
<tr>
<td>Ireland</td>
<td>36 094</td>
<td>1.3%</td>
<td>Northern Mariana Is.</td>
<td>26</td>
<td>&lt; 0.1%</td>
<td>Myanmar</td>
<td>885 169</td>
<td>1.3%</td>
</tr>
<tr>
<td>Denmark</td>
<td>33 586</td>
<td>1.2%</td>
<td>Kiribati</td>
<td>11</td>
<td>&lt; 0.1%</td>
<td>Philippines</td>
<td>790 894</td>
<td>1.2%</td>
</tr>
<tr>
<td>Poland</td>
<td>32 261</td>
<td>1.1%</td>
<td>Samoa</td>
<td>5</td>
<td>&lt; 0.1%</td>
<td>Brazil</td>
<td>707 461</td>
<td>1.1%</td>
</tr>
<tr>
<td>Germany</td>
<td>26 280</td>
<td>0.9%</td>
<td>Tuvalu</td>
<td>2</td>
<td>&lt; 0.1%</td>
<td>Japan</td>
<td>633 047</td>
<td>1.0%</td>
</tr>
<tr>
<td>Ukraine</td>
<td>23 720</td>
<td>0.8%</td>
<td>Solomon Islands</td>
<td>2</td>
<td>&lt; 0.1%</td>
<td>Korea, RO</td>
<td>484 404</td>
<td>0.7%</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>20 763</td>
<td>0.7%</td>
<td>Cook Islands</td>
<td>2</td>
<td>&lt; 0.1%</td>
<td>USA</td>
<td>420 024</td>
<td>0.6%</td>
</tr>
<tr>
<td>Rest of Europe</td>
<td>142 634</td>
<td>5.0%</td>
<td>Rest of Oceania</td>
<td>1</td>
<td>&lt; 0.1%</td>
<td>Rest of World</td>
<td>4 871 152</td>
<td>7.3%</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>2 876 309</td>
<td>100%</td>
<td></td>
<td>184 191</td>
<td>100%</td>
<td><strong>Totals</strong></td>
<td>66 633 253</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Note: Data for Tanzania exclude Zanzibar, which is separately listed by FAO for statistics purposes. Data for China cover only the mainland.

Source: FAO, 2014
Fisheries Challenges in the Indian Ocean

- Resource related
  - Inadequate stock assessment, poor data collection
- Environmental and human threats
  - Overfishing, pollution, habitat destruction, illegal activities
  - Extreme environmental occurrence
  - Emergence of resource related security threats
- Lack of effective technology
  - Unselective fishing gears
  - Post-harvest losses
- Inadequate legal and management framework
  - Ineffective or out of date domestic legal and fisheries management regime
  - Lack of comprehensive regional approach
  - Increasing international regulation on fish trade and IUU fishing
II. Fisheries and the Wider Indian Ocean and Global Environment
Fisheries Biomass Yield Trends in Large Marine Ecosystems: 1995 - 2004

Biomass Yield (MT)
-10 yr. yield, log abs sin
Large Decrease (-1.57 - 1.37)
Medium Decrease (-1.36 - 1.03)
Small Decrease (-1.02 - 0.05)
Small Increase (0.04 - 0.67)
Medium Increase (0.68 - 0.96)
Large Increase (0.97 - 1.27)

Source: LME Website, NOAA 2014

1. East Bering Sea
2. Gulf of Alaska
3. California Current
4. Gulf of California
5. Gulf of Mexico
6. Southeast U.S. Continental Shelf
7. Northeast U.S. Continental Shelf
8. Scotian Shelf
9. Newfoundland-Labrador Shelf
10. Insular Pacific-Hawaiian
11. Pacific Central-American
12. Caribbean Sea
13. Humboldt Current
14. Patagonian Shelf
15. South Brazil Shelf
16. East Brazil Shelf
17. North Brazil Shelf
18. West Greenland Shelf
19. East Greenland Shelf
20. Barents Sea
21. Norwegian Sea
22. North Sea
23. Baltic Sea
24. Celtic-Biscay Shelf
25. Iberian Coastal
26. Mediterranean
27. Canary Current
28. Guinea Current
29. Benguela Current
30. Agulhas Current
31. Somali Coastal Current
32. Arabian Sea
33. Red Sea
34. Bay of Bengal
35. Gulf of Thailand
36. South China Sea
37. Sulu-Celebes Sea
38. Indonesian Sea
39. North Australia
40. Northeast Australia
41. East-Central Australia
42. Southeast Australia
43. Southwest Australia
44. West-Central Australia
45. Northwest Australia
46. New Zealand Shelf
47. East China Sea
48. Yellow Sea
49. Kuroshio Current
50. Sea of Japan/East Sea
51. Oyashio Current
52. Sea of Okhotsk
53. West Bering Sea
54. Chukchi Sea
55. Beaufort Sea
56. East Siberian Sea
57. Laptev Sea
58. Kara Sea
59. Iceland Shelf
60. Faroe Plateau
61. Antarctic
62. Black Sea
63. Hudson Bay
Need to apply fisheries management principles

- Sustainability principles
  - Ecosystem approach to fisheries
  - Precautionary approach
  - Environmental impact assessment
- Effective data collection and analysis
- Effective monitoring, control and surveillance
Fisheries in Global Environment

- Fish as the most traded food commodity
- Subject to impacts of globalisation
  - Global production process
- Complex transport network
- Fishing vessels with multi-national crew
Fisheries and Trade Projections for 2030

- Fish will become an increasingly high-value food commodity
  - trade is likely to continue to shift from low-grade and frozen whole fish to fresh fillets and the like
- Developing countries will continue to dominate fisheries production
  - Fisheries which are not fully exploited will become more heavily fished
- Expansion of aquaculture substantially equalling capture fisheries contribution in the global supply
  - Demand for fishmeal will increase
- Developed countries will continue to be large net importers
  - ‘trade wars’ in the South
- China will increasingly influence the global fish market
- Development of new and more efficient fisheries technology
- Environmental regulations and institutions motivated by sustainability concerns will rapidly become more prominent
III. Regional Framework
Indian ocean fishing area for purposes of fisheries statistics (FAO)
Eastern Indian Ocean

- Bangladesh, eastern India, southern and western Indonesia, western Malaysia, Myanmar, Sri Lanka, western Thailand, and Australia
- Bay of Bengal, central and oceanic Indian ocean region, western and southern Australia

Source: FAO Website, Regional Fishery Bodies, 2014
Western Indian Ocean

- Red Sea, the Gulf, Western and Eastern Arabian Sea, Somalia, Kenya, Tanzania, Madagascar and Mozambique Channel, oceanic part

Source: FAO Website, Regional Fishery Bodies, 2014
Antarctic and Southern Indian Ocean

- Enderby-Wilkes, Kerguelen, McDonald, Crozet, Marion-Edward

Source: FAO Website, Regional Fishery Bodies, 2014
Fisheries Relations of States in a Regional Setting

- Balance of rights between coastal States and freedom of fishing on the high seas
  - Balance tipping in favour of coastal States
- Role of environmentally conscious States in developing regional fisheries conservation measures
- Increasing power of major fish importers in trade
- Leading role of China in fish production and trade
The Indian Ocean in terms of regional fisheries policy and management

Regional Fishery Bodies with Scientific and/or Policy Functions

- Bay of Bengal Programme Inter-Governmental Organization (BOBP-IGO)
- Regional Commission for Fisheries (RECOFI)
- Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA)
- Southwest Indian Ocean Fisheries Commission (SWIOFC)

Regional Fishery Bodies and Arrangements with Management Functions

- Indian Ocean Tuna Commission (IOTC)
- South Indian Ocean Fisheries Agreement (SIOFA)
- (SWIOFC)
<table>
<thead>
<tr>
<th>RFB</th>
<th>Area of Competence</th>
<th>Species coverage</th>
<th>Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOBP-IGO</td>
<td>EEZ, High seas</td>
<td>All marine fish stocks</td>
<td>Bangladesh, India, Maldives, Sri Lanka</td>
</tr>
<tr>
<td>RECOFI</td>
<td>Areas under national jurisdiction</td>
<td>All living marine resources</td>
<td>Bahrain, Iraq, Iran, Kuwait, Oman, Qatar, Saudi Arabia, UAE</td>
</tr>
<tr>
<td>PERSGA</td>
<td>The Red Sea, the Gulf of Aqaba, the Gulf of Suez, the Suez Canal to its end on the Mediterranean, and the Gulf of Aden</td>
<td>All elements of the marine and coastal environment</td>
<td>Djibouti, Egypt, Jordan, Saudi Arabia, Somalia, Sudan, Yemen</td>
</tr>
<tr>
<td>SWIOFC</td>
<td>Areas under national jurisdiction</td>
<td>All living marine resources</td>
<td>Comoros, France, Kenya, Madagascar, Maldives, Mauritius, Mozambique, Seychelles, Somalia, South Africa, Tanzania, Yemen</td>
</tr>
<tr>
<td>IOTC</td>
<td>High seas and areas under national jurisdiction</td>
<td>Tuna and tuna-like species in the Indian Ocean and adjacent seas</td>
<td>Australia, Belize, China, Comoros, Eritrea, European Union, France, Guinea, India, Indonesia, Iran, Japan, Kenya, Madagascar, Malaysia, Maldives, Mauritius, Mozambique, Oman, Pakistan, Philippines, Republic of Korea, Seychelles, Sierra Leone, Sri Lanka, Sudan, Thailand, United Kingdom, Tanzania, Vanuatu, Yemen</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-target species of ecological importance</td>
<td>Cooperating Non-Members: Senegal, South Africa.</td>
</tr>
<tr>
<td>SIOFA</td>
<td>High seas</td>
<td>All marine fish stocks (non-highly migratory species)</td>
<td>Australia, Cook Islands, European Union, Mauritius, Seychelles</td>
</tr>
</tbody>
</table>
Limitations of current regional agreements and arrangements

- Most regional organisations do not have legal mechanisms that bind members to ensure effective implementation of management measures
  - Only the IOTC has a compliance monitoring system
- Limited species coverage
- Organisation functions are limited and not harmonised
  - Cannot address all IUU fishing concerns
- Mostly high level policymaking (except for BOB-IGO)
- Implementation of measures depends largely on the capacity and political will of member states
Other arrangements

- Extra-regional fisheries agreements and arrangements
  - E.g. CCAMLR, APFIC
- Bilateral access arrangements
- Non-fisheries agreements or institutions
  - Regional economic and security organisations
- Trilateral dialogue
  - India, Indonesia, Australia
IV. Role of IORA
IORA and Fisheries Management

- Fisheries management as a key priority in IORA
- Establishment of the Fisheries Support Unit
  - To lead IORA’s efforts in identifying and addressing key issues
  - Aims to be a regional centre for knowledge sharing, capacity building and addressing key strategic issues
  - Bringing science, policy and decision-making in a regional forum
  - Evolving role of FSU on future research and development
- Considers developing a regional strategy on EEZ access
- A few fisheries workshops conducted
Opportunities in the Indian Ocean

- Most commercially valuable fisheries are not overfished
- Addressing issues not covered in current regional arrangements through research and capacity building
  - Impact of climate change on fisheries
- Regional trade advantages
  - Indian Ocean countries are net exporters of fish
- Increasing access of coastal States to resources of the Indian Ocean
- Development of monitoring, control and surveillance mechanisms
  - Information sharing on EEZ fisheries
  - High seas enforcement scheme
- Strengthened regional approach to transboundary issues
  - Better coordination mechanism between relevant organisations
- Discussion of fisheries issues in broader economic and regional security fora
Thank you

For questions and comments, email mpalma@uow.edu.au