ECOSYSTEM APPROACH TO FISHERIES IN THE MEDITERRANEAN AND BLACK SEAS. MANAGEMENT AND DECISION MAKING
Zaragoza (Spain), 10-14 March 2014

PROGRAMME

0. Opening and CREAM project presentation (1.5 hours) (J. Lleonart)
1. EAF principles and concepts (2.5 hours)
   - 1.1. EAF concept development (0.5 h) (T. Bahri)
   - 1.2. Overview of instruments at international and regional level (1 h) (N. Ferri)
     - 1.2.1. UNCLOS, UN Fish Stock Agreement
     - 1.2.2. International conventions: CBD, Code of Conduct, WSSD, Rio+20
     - 1.2.3. Regional conventions: EU Directive, Bucharest Convention, GFCM
     - 1.2.4. Jurisdictions in the Mediterranean and Black Seas
     - 1.2.5. International Plan of Action to prevent, deter and eliminate IUU fishing
   - 1.3. Management of shared stocks (0.5 h) (N. Ferri)
   - 1.4. FAO guidelines to management (0.5 h) (C. De Young)
2. EAF management process (11 hours + 8 hours working sessions) (T. Bahri, C. De Young, J. Lleonart)
   - 2.1. Scoping and setting the broad objectives (2.1-2.4: 7 h)
   - 2.2. Issue identification and prioritization (risk assessment)
     - 2.2.1. Ecological aspects
     - 2.2.2. Socioeconomic aspects
     - 2.2.3. Governance aspects
     - 2.2.4. External drivers
   - 2.3. Operational objectives, indicators and targets
   - 2.4. Setting up the management system
     - 2.4.1. Identifying management measures and instruments
       - 2.4.1.1. Technical measures including marine protected areas (MPA)
       - 2.4.1.2. Subsidies and other economic schemes
       - 2.4.1.3. Access rights
     - 2.4.2. Monitoring and evaluation
     - 2.4.3. Legal and institutional aspects
   - 2.5. Debate (1 h)
   - 2.6. Group work based on case studies (3 h + 8 working sessions)
     - 2.6.1. Work presentation (1 h)
     - 2.6.2. Working sessions (8 h)
     - 2.6.3. Presentation of results and debate (2 h)
3. The social and economic dimension of EAF (3 hours)
   - 3.1. Who is benefiting from and who is paying for EAF? Economic and social considerations (1 h) (P. Nunes)
   - 3.2. Economic valuation of marine ecosystems services (2 h) (P. Nunes)
     - 3.2.1. Theory of ecosystem services
     - 3.2.2. Market values. Bioeconomic models
     - 3.2.3. Non-market values
     - 3.2.4. Implementation of payment for ecosystem services
4. Co-management: involving stakeholders into EAF (2 hours) (S. Sainz-Trápaga, M. Pulido)
   - 4.1. Co-management principles and implementation
   - 4.2. Challenges and opportunities of co-management
   - 4.3. Examples

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<table>
<tr><th>Hour</th><th>Monday 10</th><th>Tuesday 11</th><th>Wednesday 12</th><th>Thursday 13</th><th>Friday 14</th></tr>
<tr><td>9:00-10:00</td><td rowspan="2">0. Opening and CREAM project presentation
J. Lleonart</td><td>2.2.1. EA fisheries management process (Step 2.1)
T. Bahri, C. De Young</td><td>2.5. Debate on “EA fisheries management”
T. Bahri, C. De Young, J. Lleonart</td><td>6.1.1. Case study: Sandeel fisheries in Catalonia
S. Sainz-Trápaga, M. Pulido</td><td>5.4. Technological innovative tools
A. Sala</td></tr>
<tr><td>10:00-11:00</td><td rowspan="2">2.6.2. Group work: working sesions</td><td rowspan="2">3. The social and economic dimension of EAF
P. Nunes</td><td rowspan="2">5.1. The spatial dimension of EAF: GIS, VMS, satellite imaging, spatial models
F. Carocci</td><td rowspan="2">5.5. Debate on “Science to support EAF management”
F. Carocci, Ph. Cury, A. Sala</td></tr>
<tr><td>1.4. FAO guidelines to management C. De Young</td></tr>
<tr><td colspan="6">Coffee break</td></tr>
<tr><td>11:30-12:30</td><td>1.2. Overview of instruments at international and regional level
N. Ferri</td><td rowspan="3">2.2.2. EA fisheries management process (Step 2.2)
T. Bahri, C. De Young</td><td rowspan="3">3. The social and economic dimension of EAF
P. Nunes</td><td rowspan="3">5.2. How models can support decision making
Ph. Cury</td><td>6.1.2. & 6.2. Case studies: Transparent goby in north-western Italy Castellammare Gulf
F. Fiorentino</td></tr>
<tr><td>12:30-13:30</td><td>1.3. Management of shared stocks
N. Ferri</td><td rowspan="2">6.3. Case study: British Columbia Groundfish Trawl Fishery
T. Bahri, C. De Young</td></tr>
<tr><td></td><td>1.1. EAF concept development T.Bahri</td></tr>
<tr><td colspan="6">Lunch break</td></tr>
<tr><td>15:00-16:00</td><td>2.1. EA fisheries management process (Step 1)
T. Bahri, C. De Young</td><td rowspan="2">2.3 and 2.4. EA fisheries management process (Step 3 & Step 4)
T. Bahri, C. De Young</td><td rowspan="2">4. Co-management: involving stakeholders into EAF
S. Sainz-Trápaga, M. Pulido</td><td rowspan="2">5.3. Indicators, targets and reference points relevant for management
C. Montero</td><td rowspan="2">2.6.3. Group work: Presentation of results and debate
T. Bahri, C. De Young, J. Lleonart</td></tr>
<tr><td>16:00-17:00</td><td>2.6.1. Group work: work presentation
T. Bahri, C. De Young, J. Lleonart</td></tr>
<tr><td>17:00-19:00</td><td colspan="4">2.6.2. Group work: working sesions
T. Bahri, C. De Young, J. Lleonart</td><td></td></tr>
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5. Science to support EAF management: methodologies and tools (7 hours)
    5.1. The spatial dimension of EAF: GIS, VMS, satellite imaging, spatial models (1 h) (F. Carocci)
    5.2. How models can support decision making (2 h) (Ph. Cury)
        5.2.1. Models: types, characteristics, potential and limitations
        5.2.2. Trophic based models (ECOPATH-ECOSIM, OSMOSE, ATLANTIS)
        5.2.3. Bayesian belief networks
        5.2.4. Multicriteria decision analysis
        5.2.5. Management strategy evaluation (MSE)
    5.3. Indicators, targets and reference points relevant for management (2 h) (C. Montero)
        5.3.1. Type: ecological, economic and social
        5.3.2. Implementation: data needs, use, potentials and limitations
    5.4. Technological innovative tools (1 h) (A. Sala)
    5.5. Debate (1 h) (F. Carocci, Ph. Cury, A. Sala)
6. EAF in practice: case studies (3 hours)
    6.1. Implementation of local management plans
        6.1.1. Sandeel fisheries in Catalonia (1 h) (S. Sainz-Trápaga, M. Pulido)
        6.1.2. Transparent goby in north-western Italy (6.1.2 and 6.2: 1 h) (F. Fiorentino)
    6.2. Castellammare Gulf: an example of local regulation (F. Fiorentino)
    6.3. British Columbia Groundfish trawl fisheries (1 h) (T. Bahri, C. De Young)