WORKSHOP ON THE DRAFT CODE OF CONDUCT FOR SUSTAINABLE MANAGEMENT OF MANGROVE ECOSYSTEMS

THE WORLD BANK, 1818 H Street, NW
Washington, DC 20433 USA
16 – 17 Septmber 2003

CENTRE FOR TROPICAL ECOSYSTEMS RESEARCH (cenTER Aarhus)

ISME

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
WORLD BANK

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Cover Photos

Pristine Mangrove, Sematan, Sarawak, Eastern Malaysia. Photo by: Donald J. Macintosh, cenTER Aarhus

Women collecting oysters in Jaguaribe River estuary, Ceará, Brazil.
Photo by: **Labomar, Brazil**

Pristine mangrove frorest in Sarawak, Eastern Malaysia.
Photo by: Hans Ditlev, cenTER Aarhus

Table of Contents

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INITIAL PROGRAM

WORKSHOP ON THE DRAFT CODE OF CONDUCT FOR
SUSTAINABLE MANAGEMENT OF MANGROVE ECOSYSTEMS
THE WORLD BANK, 1818 H Street, NW, Washington, DC 20433 USA
(September 16-18,2003)

September 16, 2003

8.30 -9.00	Registration (Room JB-108)

Session I – Welcome Introducer: Sanit Aksornkoae, ISME Representative

9.00 -9.15	Welcome Speech by Ron Zweig, World Bank Team Leader
9.15 -9.30	Opening Speech by Kristalina Georgieva, Director, Environment Department, The World Bank
9:30 -10:00	Introduction of all Participants

Session II – Introduction Chairman: Ron Zweig, World Bank

10.00 -11.00	Introductory remarks and background to the workshop: Prof. Donald MacIntosh, cenTER Aarhus University
11.00 11:30	Coffee break

Session III – Peer Reviewer Comments Chairman: Pati Delgado, NOAA
Rapporteur: Thomas Nielsen, cenTER Aarhus

11:30 -12:30	Peer Reviewer Comments
12:30 – 13:30	Lunch break

Session IV – Review of individual Articles Chairman: Gilll Cintron, USFWS
Rapporteur: Ed Green, UNEP-WCMC

13.30 -14.30	Articles 1 - 5

Session V – Review of individual Articles Chairman: NN
Rapporteur: Jesus Conde

14.30 -15.30	Articles 6 - 8
15.30 – 16.00	Coffee break

Session VI – Review of individual Articles Chairman: Melanie Steinkamp, Wrtl. Intl.
Rapporteur: Hong Tat Tang, FAO

16.00 – 17.00	Articles 9 - 13

Session VIII – Review of individual Articles Chairman: Jesus Conde
Rapporteur: Katherine Bostick, WWF - US

17.00 – 18.00	Articles 14 - 15

Evening free for further informal discussions

September 17, 2003

Session VIII – Next Steps Chariman: Hong Tat Tang, FAO
Rapporteur: Pati Delgado, NOAA

08.00 – 10.30	Further discussions on the Draft Code and steps towards finalizing the Code
10.30 – 11.00	Coffee break

Session IX – Steps towards adoption Chariman: Ed Green, UNEP-WCMC
Rapporteur: Katherine Bostick, WWF - US

11.00 - 12.30	Discussuins of strategies toward getting the Code adopted by states thaough cooperation among government, bilateral and multilateral agencies,

NGO's etc.

12.30 – 14.00 Lunch break

Session X – Plenary and Closing Chariman: Sanit Akrornkoae, ISME

Rapporteur: Don Macintosh, cenTER Aarhus

14.00 – 15.30

September 18, 2003

12.00 – 14.00 Brown Bag Seminar on Draft Code of Conduct for Biodiversity Conservation and Sustainable Management of Mangrove Ecosystems. Review for Bank Staff

CANCELLED DUE TO TROPICAL HURRICANE ISABEL

The order was changed: Articles 9-15 were discussed from 2 pm onwards on 17 September

DAY 1

SESSION I: WELCOME

Welcome Speech

Ron Zweig, World Bank Team Leader

Ron Zweig welcomed everyone to the workshop especially those who had traveled a long way to attend. We look forward to your good support and suggestions on the Code of Conduct for Sustainable Management of Mangroves. This Code has taken two years to get to this stage. It arose because of the importance of mangroves and to help look at the jurisdiction of mangroves, which the local communities are dependent on. The process of producing the Code is dynamic and needs to be discussed and modified. The final draft should be ready by the 30 November 2003.

Opening Speech

Kristalina Georgieva Director, Environment Department, World Bank

Kristalina highlighted the significance of the Code of conduct that was to be discussed at this workshop. She thanked the Netherlands for funds in environment, which helped support this Code.

Then she explained how the World Bank's been building up an alliance for development called the "Millenium Development Goals" over the last 5 years. By the year 2015, the World Bank wants to cut poverty by half, there are also education, health and environmental sustainability goals. The World Bank is well aware of trying to integrate environmental sustainability with development.

By 2050 it is possible to eradicate poverty but this means a fourfold increase in economic growth rate. It is a very high challenge to meet a sustainable population. Most people will be living in urban areas, and thus it will be very important to manage our ecosystems. Coastal ecosystems are critical habitats, mangroves have lost 50-80% in the last 50 years so it is now very necessary to understand how to manage the remaining mangroves.

The World Bank spends 30 billion dollars on environmental projects each year. It is the biggest supporter of biodiversity and conservation projects among the multinationals. The environment community in the World Bank is now much more aware than a few years ago on how to protect environmental sustainability.

Mangroves provide valuable ecological services e.g. Flood control and breeding grounds for fish and shellfish. The protected areas revenue stream is important to consider for mangrove ecosystems. For example in Costa Rica 40 USD per ha of forest is paid for it being protected this is much more viable to keep the forest than cut it down. There is a need to take a long-term approach, especially concerning climate change. Mangroves are in places where vulnerability is highest to sea level rise.

There is a need to bring growth with equity and sustainability. The practical use of Code of Conduct will help with this. The Code will be used traditionally by being applied and included in WB projects. Policy dialogue is important in bringing about environmental sustainability

The Code can be used for training purposes of staff and clients (environment and development community).

The Parks congress in Durban where I have just returned from showed that there has been more success with terrestrial than marine protected areas, which needs much more emphasis in the future. There are also important links between the terrestrial, coastal and marine ecosystems

Terrestrial 11% area protected

Marine less than 1% area protected

Introduction of participants

Sanit Aksornkoae. Sanit lead the interests of everybody in the Code.

Sanit introduced himself as a professor at Kasetsart University in Bangkok, Thailand. He has been working on mangroves since 1966. He expressed that he was very happy to attend the workshop and represent ISME (The International Society for Mangrove Ecosystems). He was also very happy to see Gill Cintron again after so long, the last time was writing a book with him in 1984.

He gave a short introduction on ISME. ISME was founded in August 1990. ISME has more than 2000 members in more than 30 countries. In the world there are 82 countries with mangroves. The Code of conduct will be very useful for countries in Asia. In Thailand there is no longer any logging in mangroves but some countries e.g. Malaysia have sustainable utilization, and others no regulations at all. The Code is very important all over the world as all coastlines are connected. Marine animals are very migratory. ISME is very happy to have Code put on network and GLOMIS. ISME helps contribute knowledge to each country worldwide.

Sanit said that he has had many opportunities to work with local people and ministers and they now recognise the importance of mangroves in Thailand.. The new minister of environment and natural resources is one of his former students. ISME help contribute knowledge to each country worldwide.

Ed Green is from UNEP-WCMC (World Conservation Monitoring Centre) in Cambridge, UK. In the marine network, there are eight people that maintain special databases on marine ecosystems, collate information on distribution and status. WCMC published the first World Atlas in 1995 on mangroves with ITTO and ISME. WCMC also identifies established networks.

A similar process for seagrasses was launched yesterday on an Atlas of spatial information on distribution and status.

WCMC was incorporated into UNEP four years ago. Now the new mandate, is also to report on international mandates e.g. CBD, WSSD, MPA

WCMC maintain databases and monitoring on them and reports back to the international community.

The data on mangroves is now old and dated and now becoming a high priority. There is no readily available resource to turn for global information. At present WCMC is in discussion with ISME and ITTO to continue this.

I have two specific comments on the Code

1) Found the Boxes very useful resources for successful case studies and commend the authors on how they found the information.

2) How would government agencies actually apply Code in practice?

Katherine Bostick WWF US. WWF works with conservation strategies primarily focused on the human side with e.g. aquaculture and agriculture. She worked with the shrimp consortium on the Thematic Review and put copies out for everyone to have a look at She has worked with catfish, shellfish and seaweed for agar. She explained she was not a mangrove expert but will comment on the aquaculture side.

She also stressed that the boxes were a good format but was also keen to know how the Codewill it be implemented and how it can be taken down to a local and national level.

Pati Delgado NOAA. Pati works at the habitat conservation office in NOAA (spell out in full) and they have small programmes on wetlands, mitigation, seagrasses and mangroves. They produce outreach documents to raise awareness of mangroves for fisheries to children and adults, together with law enforcement. She has done research on mangroves, and is presently trying to organise a workshop in Latin America and USA on management of coastal environments. These two regions are colonised by mangroves and NOAA is trying to stop a dam going ahead.

Jesus Conde is a marine ecologist working with the Venezuelan institute for marine science. Mangroves cover 70% of his research efforts. He works with mangrove crabs, their life structure and dynamics. He is trying to look at life history traits from stunted mangroves to highly developed mangroves. He is also looking at massive mortalities on mangrove roots and looking at their causes, commercial species of swimming crabs home range through telemetry and doing surveys of mangrove forests along the Venezuelan coast.

Jesus complemented Don and Liz on the amount of work they had done and also questioned how the Code would be implemented. Is it going to be a code or guidelines?

Melanie Steinkanp, Wetlands International in USA. Melanie is the sole person who works for Wetlands International in the USA. She develops wetland related conservation programmes and works with Latin American countries. There are many priority actions in mangroves. Globally WI has many projects in mangroves e.g. species conservation, wetland inventory, wise use. The Code of Conduct for mangroves can be used as a tool to develop new programmes and old programmes.

She is primarily an ornithologist and specialist in seabirds. She feels the need to raise awareness of aquaculture on migratory birds. There is a need to pull together resources and

work with decision makers, develop a public awareness campaign in USA and Canada where needs are arising.

The Code is focused mainly on forestry and I would like to see all other components, mudflats and salt flats also included.

Gill Cintron, United States Fisheries and Wildlife Service is a coastal ecologist and has worked with mangroves since the 1970s. He firstly worked on mangrove ecological functions and his methods were adopted by UNESCO for mangrove assessment. He has produced a training manual on mangrove ecology for resource managers. He highlighted that science by itself leads nowhere and needs to be translated into more common useful terms, and therefore technical needs to be applied. The Code is good as a training instrument, but it needs to be formatted in a way so that it can be used as a training tool. The Boxes are very important and has added a few more in his comments. Gil is now working with the Fish and Wildlife Service but is still teaching in Brazil. He stressed that the World Bank should be training decision makers on the importance of biodiversity together with the need to train everyone along the way. Gaps need to be filled.

The Code is a fantastic tool for a training vehicle. The definition of mangrove has to be made clear at the very beginning, he considered it was focused on the trees rather than the whole ecosystem. He was also not happy about the terminology of a Code of Conduct. States receive guidance through guidelines for mangrove ecosystem management. So easier to be adopted by national laws. This document much more than a code of conduct, it is guidance to states.

USFWS very interested in Code due to migratory birds lost, harm done can be avoided.

Gill Cintron commented that most local/indigenous people have been using codes of conduct for management of ecosystems, but they have been transparent and not noticed by governments. Ecuador has been exporting crabs in a sustainable fashion for years but the government does not realise. This Guidance is much higher than code and has as to be developed into national frameworks, national laws, rules and regulations and then codes of conduct developed.

Hong Tat Tang FAO. Tang apologised for his colleagues in FAO in Rome that were not able to attend the workshop. Tang is from Malaysia and works in FAO in Bangkok. He is presently working with forestry and not specifically mangroves but did once work with mangroves in Kapong in Malaysia.

He thanked the World Bank for putting together the Code. He stressed that ownership is very important, and that local people need to be involved.

He questioned whether it should be called a code or guidelines?

He said it should be a how to do it document. E.g. How to quantify value of services of mangrove ecosystems. An implementer needs something that will wake him up from the business as usual approach.

The Boxes are useful and informative but also need to give critical assessments of a situation, with difficulties, impacts and outputs.

This Code is a very timely exercise. FAO are presently developing a code of conduct for logging and nations borrow this to develop there own codes in the region.

The Code can't apply to all countries, but needs to be sufficiently stimulating so that all countries will be able to use. Countries also need to know what would happen if they did not have such a code?

SESSION II: INTRODUCTORY REMARKS AND BACKGROUND TO THE WORKSHOP

Professor Donald Macintosh

Don Macintosh provided a power point presentation of the history of events leading up to producing the draft Code of Conduct for Sustainable Management of Mangrove Ecosystems. He then suggested the objectives for the workshop.

Main Objectives of the Washington Workshop

Through a peer-review process:

1: Review the articles in the Draft Code of Conduct which were developed from the three regional workshops.

2: Discuss and agree additional/allternative practical examples of mangrove management to illustrate the Code of Conduct.

3: Discuss and recommend mechanisms to ensure that the Code of Conduct is widely accepted and used to support sustainable management of mangrove ecosystems

4: To integrate into the Code references to other guidelines, conventions, strategies and actions for sustainable management of mangroves

5: Recommend follow up actions to support sustainable mangrove management, as "downstream activities" using the Code of Conduct as a tool, particularly at the national to local community levels.

Brief History

- A draft review was submitted to the World Bank in March 2001, supported by model country case studies from Malaysia and Thailand.
- An additional country case study for the Philippines was completed in September 2001.
- The country case studies were based on a structured template.
- National experts, assisted by the consultants, prepared these case studies.

Citation: *Macintosh DJ and Ashton EC (2002). A Review of Mangrove Biodiversity Conservation and Management. Centre for Tropical Ecosystems Research, University of Aarhus, Denmark (PDF File)*

A desk review was undertaken in January-February 2001 on mangrove biodiversity and conservation to formulate information and guidance materials as the basis for developing a Code of Conduct for Sustainable Mangrove Forest Management (the Code) for World Bank staff, development partners, and clients.

Present Status

- Based on the workplan, plus follow up consultations with participants from the 3 Regional Workshops, the Draft Code of Conduct has developed into a document with

15 major Articles, plus introductory sections, a glossary of terminology used in mangrove management, and a reference list.

- This is the draft document for review during the Washington Workshop, 16-17 September 2003.

1. Suggestions for structuring comments

2. Specific comments on the articles (corrections, improvements, additions)

3. Suggested improvements to the boxed examples illustrating mangrove management experiences

4. Technical issues and "how to do" material suitable for a manual on mangrove management

5. Institutional collaboration, ownership, adoption

Final steps for adoption of the Draft Code by international agencies (e.g. Ramsar, IUCN).

SESSION III: PEER REVIEWER COMMENTS

Chairman: Pati Delgado, NOAA

Rapporteur: Thomas Nielsen, cenTER Aarhus University

A large part of the discussion was on the title of the document and whether it should be called a Code of Conduct or Guidelines. The views of each of the participants are expressed in the discussions in Annex 1.

Summary

It was agreed that a wider and clearer definition of mangrove ecosystems should be used in the context of this document. Include more than the "tree part" of the ecosystem and incorporate mudflats and saltflats. Include more on the importance of the hydrology of the mangrove ecosystem.

Article 10 Fisheries and Aquaculture will be split into two separate Articles; one on Fisheries & one on Aquaculture.

A large part of the discussion was on the title of the document and whether it should be called a Code of Conduct or Guidelines. The views of each of the participants are expressed below. It was agreed to rename the document but not finalised during this session. The draft will be circulated for comments as soon as possible after the Workshop. Deadline for comments is 30 November 2003. The Document will be properly published as a hard copy as well as in a Web-based form early-January 2004.

SESSION IV: DISCUSSION OF ARTICLES 1-5

Chairman: Gill Cintron

Rapporteur: Ed Green

Articles 1 to 4 of the Draft Code of Conduct were discussed individually. The written suggestions for improving these articles were noted and the minor ones were assigned (without further discussion) to the task team (Macintosh, Ashton, Nielsen) to incorporate into the next version of the document.

More substantial changes and additions to the draft code were agreed as follows:

Article 1 Mangrove management objectives

Summary

The header (chapeaux) of Article 1 should be reworded to "…global to local populations".

Add a definition of "mangrove ecosystem" as a new sub-article at the beginning of Article 1.

Mangrove management should be specified more clearly to mean at the ecosystem level.

The importance of mangroves and their associated habitats to migratory birds should be included in article 1.1c.

Table 0.1 should be expanded with additional columns for the other regions of the world with mangroves, namely N America, Greater Caribbean and Oceania (i.e. Pacific including Australia, New Zealand and Japan).

1.1f should be redrafted to distinguish more clearly between mangrove restoration and rehabilitation.

The boxes should be improved by adding an example of the application of the precautionary approach and the ecosystem approach.

Cross reference article 1.4 (d-e) to monitoring at article 3.10b.

Add a new 1.4g promoting local communities for enforcement of protection of mangrove ecosystems.

Article 2 Precautionary approach to management

Summary

The chapeau should be modified from "…sustainable management", to "… manage sustainably".Explain that the precautionary approach is often also the low cost option, compared to the cost of habitat and/or ecosystem restoration, which can be extremely costly.

2c add a statement recommending that native species be promoted in aquaculture, e.g. "…mangrove ecosystems contain many valuable indigenous species that should be utilised preferentially in aquaculture and protected from contamination by alien/introduced species."

There should be a mention of the ecosystem approach but not necessarily follow order in management objectives of Article 1. Potentially could in preface add the process going to follow throughout the Code.

Article 3 Legal framework

Summary

This article should be re-titled to include policy on mangroves i.e. "Legal and Policy Framework".

Add the Ramsar guidelines on reviewing wetlands.

Box 3A should be expanded to include more details of the background to and reasons for the listed examples of legislation protecting mangroves.

As a general point, the boxes should give a more balanced presentation of both positive and negative examples of legislative experiences (critical analysis).

Land tenure issues affecting local coastal communities should be highlighted.

Article 4 Implementation

Summary

This article should be merged with article 15 in order to place the principles of integrated management at the ecosystem level earlier and more strongly in the document. Not decided whether article 15 should move to 4 or the other way round. Secretariat to decide.

Sub-articles dealing with legal aspects of mangrove ecosystems should be reassigned to article 3.

Provide in a Box a list of factors that impair implementation.

SESSION V: DISCUSSION OF ARTICLES 5 - 8

Chairman:

Rapporteur: Jesus Conde

Article 5 Mangrove inventory for management

Summary

A technical manual with simple ways on how to quantify and qualify a mangrove resource is most needed to accompany Article 5.

More references need to be added on restoration and rapid rural appraisal techniques.

As well as regional and national cooperation in mangrove information gathering and exchange there should also be local cooperation e.g. through workshops. Important to mention local communities involvement in monitoring.

An analysis of the usefulness of the databases in Box 5C should be provided. Very important to mention necessary accessibility of databases for their usefulness.

Article 6 Socio-economic considerations

Summary

Indigenous groups should also be included in chapeaux.

Important to have a public hearing before an EIA in article 6.1.

An article needs to be added on organization and empowerment of local communities using a NGO or university as a bridge between the local communities and government officials.

Should note that local communities do not necessarily know the best way to susainably manage resources in 6.2.

Also include ecotourism possibilities in 6.5 as a sustainable livelihood option for local communities.

Add a box on socio-economic valuations examples.

A number of other bullets were suggested for article 6.9 on recommended options to promote socio-economic benefits based on sustainable use of mangrove ecosystems:

- developing alternative low intensive products as an incentive to conserve mangroves by local communities.
- training local people to be mangrove wardens and then also respected in local community as well.
- developing alternatives for wetland products.
- Diversifying income opportunities e.g. collecting honey.
- having technology development transfer as alternatives for dependency on natural resources full range and adaptive and exchanging of information.

Article 7 Cultural and community issues

Summary

Promote land tenure rights as a tool and acknowledge importance of local people in managing and conservation of mangrove resources again in this article as sufficiently important or cross refer.

Reword article 7.4 to "Recognize, promote and strengthen the contributions of women to the conservation, rehabilitation and sustainable management of mangroves".

Add an article on children and young people.

Article 8 Capacity development

Summary

In Box 8a add ISME mangrove training programme sponsored by JICA and mangrove educational curriculum developed by MAP.

Important universities develop capacity for extension services that support efforts of community to manage their resources add in Article 8.2.

Also add a new article on scholarships.

Videos of for example, methods to restore mangroves, is a good tool to take to remote areas to help promote awareness.

Add a new 8.8 promoting engagement of private sector in sponsorship of practical research.

DAY 2

SESSION VI: DISCUSSION OF ARTICLES 9 - 13

Chairman: Melanie Steinkamp

Rapporteur: Hong Tan Tang

Article 9 Forestry/Silviculture Management

Summary

The word landfill will be deleted from the chapeaux and waste management changed to waste water treatment.

Delete current Box 9A and add a Box silviculture.

Switch sentences in article 9.6.

List other potential uses and services provided by mangroves mentioned in 9.1 in a Box including non-timber products.

Robin Lewis 5 critical steps for restoration to be added as a Box.

Article 10 Fisheries and Aquaculture

Summary

Divide Article 10 into two, one on Fisheries and one on Aquaculture.

Reword two chapeaux for two new articles.

Aquaculture: Need to make a clear delineation between traditional subsistence aquaculture and that on a commercial scale e.g. shrimp farming.

Add WWF in article 10.1 consortium on shrimp farming.

Article 10.4 on destructive fishing methods was discussed at length. It was decided to take the same wording used in the FAO code on responsible fisheries and add in another part b with particular reference to discouraging use of mangrove specific destructive activities e.g. using fine nets.

Reword 10.7 to states should not sanction further conversion of mangroves including associated systems for large scale, industrial aquaculture.

Add a Box on the causes of aquaculture impacts.

Add a Box with a literature list of more technical references on aquaculture.

New Article on Fisheries
Summary

Article 10.4 on destructive fishing methods was discussed at length. It was decided to take the same wording used in the FAO code on responsible fisheries and add in another part b

with particular reference to discouraging use of mangrove specific destructive activities e.g. using fine nets.

Article 12 Tourism, recreation and education

Summary

Check to see if tourism is the world's largest and fastest growing sector?

Reword chapeaux to Mangrove ecosystems can provide ecotourists with unique habitats and biodiversity with many potential opportunities, including recreational fishing, bird watching, viewing wildlife and scenic boat trips.

Article 12.4 on visitor centers for education of tourists needs rewording and cross referring to article 8 on capacity development.

Article 13 Mangrove products and responsible trade

Summary

13.2 reworded to traditional and sustainable produced mangrove goods should be promoted under fair-trading.

In 13.4 use improved product techniques and add value added processing.

Delete wherever possible from end of article 13.5 and reword regarding FAO comments.

Delete Figure 13.1.

Add a new 13.6 which relates to CITES e.g. States should carefully regulate the sale of mangrove products to ensure their sustainability and help prevent illegal activities.

SESSION VI: DISCUSSION OF ARTICLES 14 - 15

Chariman: Jesus Conde

Rapporteur: and Katherine Bostik

Article 14 and 15

Summary

Change chapeaux to read "Inadequate understanding of the functions and values of mangrove ecosystems contributes to constraints to conserve and manage mangrove resources sustainably.

Add in Box 14A comprehensive research on economic benefits of mangrove ecosystems e.g. for marine fisheries.

Add in Box 14B further examples of current exchange mechanisms for mangrove information. Metion the Mangrove Action Project and UNA in Costa Rica.

The last point in 14.4a should add and sea level rise.

Article 14.4b Intensify taxonomic research.

Article 15 to be combined with article 4.

Article 15.1 should include international as well as regional cooperation.

Add a Box of references concerning transboundary and riverbasin management.

Article 15.6 reword to States should develop Mangrove Management Plans within coastal zone management plans so as to provide coordinated, cross-sectoral actions to implement the Mangrove National Action Plan.

Article 15.8 reword to states should abstain from mangrove conversion for agriculture or salt production, housing, industries and mining.

It was discussed whether a separate article should be added on mangroves being used as part of national sea-level rise response strategies or whether should be mentioned in article 15.9.

SESSION VIII: NEXT STEPS TOWARDS FINALIZING THE CODE

Chariman Mr. Hong Tat Tang

Rapporteur: Melanie Steinkamp

Discussion

Ron - Title dilemma – Ron is comfortable with what we discussed yesterday but during the first three workshops there were many people who worked on the Draft Code of Conduct.

(1) It will be awkward if we come from DC and make this change. It's mirrored after the FAO Fisheries Code and while it's not perfect had specific comments on how to change style so it could be a code

(2) Have draft Code of Conduct already

(3) Has been circulated and posted on the web on the Ramsar, UNDP and Mekong River Commission websites. Some groups are using it at the local level. It is being used in different parts of the global community.

There can be many other documents that can be prepared and refer to it such as training, guidelines. Suggests keeping it as is unless there are real problems with it as written.

Tang – although modeled after FAO code, the FAO comments state that the process was different. Changing the name can be addressed in the preface. Changing the name is more appropriate in the long term. From a users perspective,

If it's used as a code, use caution. If prepared as guidelines, Mr. Tang would be more comfortable using it and developing his own Code.

NN – Doesn't believe there is a problem with the name change because was circulated as a draft.

Sanit – At Bangkok workshop, many countries are happy to have a Code of Conduct. If we change the title we need to inform them. Code of Conduct is more powerful than guidelines.

Tang – Issue is whether the format constitutes a Code of Conduct or guidelines. The FAO has strict guidelines on the format of Code of Conduct and the present format doesn't fit this structure.

Jason – One of the issues is "who is going to use this document." If this is a document for the World Bank to develop policy or if this is to be used by global groups will determine the format.

Gill – This is for use by the States, not the Bank. Agrees that this would be a great document for lending agencies but the primary targets are the states.

Ron – the concept was a request from under the Bank/Netherlands partnership. Bank submits concepts. This was one of more than 30 that were submitted by Bank (proposals and concepts). This was one of the projects selected. Look at the long term perspective. We don't plan on leaving this workshop with a code of conduct. Will develop over time. We need to make it as useful as possible. One thing that we would have had in the title was something that showed it was a "generic" code or a framework for developing code of conducts. This is a voluntary code. Next step is to work with some of the States that have expressed interest to develop something more specific to their needs.

Don – For the record, the specific guidance given originally was "the review should provide guidance on how to develop a code of conduct for World Bank partners, clients and associated institutions."

Tang – Personally, I think it would be much better from a PR point of view to be seen as guidance from the Bank – not a code of conduct. Ultimate question is whether the Bank would be able to accept the proposed name change.

Don – It gets more complicated. Sixteen to 17 countries have already participated in drafting a Code of Conduct.

Gill – Issue is not insurmountable. Still within the scope of work. Governments would have difficulty to accept a Code of Conduct if they did not help in the preparation of them but would accept guidelines on developing a Code of Conduct. Codes of Conduct must be prepared in specific fashion and more detailed. This is providing guidelines for developing Codes of Conduct. This should be explained in the preface.

NN – Must put this out for larger review. Still need input from local communities and the MAP network. Cannot give them a final product.

Tang – Its' good that a number of countries have agreed and stated they want a code of conduct this is likely because they don't want to develop their own. If you look at forestry code of conduct, many countries have adopted but not implemented. At the end of the day, will not be based on what 16 countries want but what the global community wants.

How do we keep the process moving? This is the important issue. Ron must tell us whether we can use the new title – will this be unacceptable to the Bank? This is supposed to be a peer review. We should say what we think.

Ron – The critical thing is that the outcome of this meeting is not going to be a final Code. It will be a draft. What we need is guidance on how to move forward. What was recommended was a useful way of moving forward.

Jason – establishing

Melanies – towards the establishment

Don – too cumbersome

Katherine – cut towards and just use formulation/foundations for a code of conduct

Gil – also agreed with this

Melanie – What if we switched the title and stated Code of Conduct up front, so Framework for Developing a Code of Conduct for the Sustainable…….

NN – Principles towards a code of conduct

Don – *"Principles for a Code of Conduct for the Sustainable Management of Mangrove Ecosystems."* **ACCEPTED**

Ron – We will need a technical editor to help with inconsistencies in languages and format to make certain it is consistent. I can take the lead on this.

Pati has agreed to take the lead in translating into Spanish. This is wonderful

Who can translate into French? Pati's husband speaks French and she will see if he can translate it into French

Field Testing? Are the two projects that Don suggested OK?

Local Workshops – Gill mentioned some resources. Gill will put together some information on this.

Powerpoint presentation that Don circulated would be good for us to take with us for meetings that we go to.

UNEP and FAO are both executing agencies but can leverage resources so we need to work with these groups.

Don – After the break let's scope the next activities. Some of the training-based activities will start immediately. I don't want to wait for the next June version. Can scope the sorts of activities that could start immediately.

Boxes – detract from the text of the articles. This is a concern.

Jason – That issue is difficult to address. Can deal with this in the formatting of the final document.

Tang – What next?

NN – Would like to be able to take this document and take it to regional workshops to get local involvement before the document is finalized. This will lead to greater ownership of the document.

Don – Principally it had to be top down to get the process underway but would like to see it become more bottom-up. Now will be a much wider consultation process via the web. Field testing of the draft document is an urgent next step. Could spend months getting a more polished document but what we really need is feedback from users on its limitations in its use. How would they like to see it adapted so they can use it in their day-to-day work?

Tang – What is the timeline?

Don – Looking at a timeframe to the end of this year. Dissemination of the next draft of the document would go out widely to all that have attended previous workshops and many others. Will work over the next three months to synthesize comments and get out next draft. At same time will initiate pilot testing. Don't need to wait for a polished document to start the field tests. Would like to see two or three pilot locations chosen. At the same time, if we agree to release the next draft for wide use, Brazil will develop educational materials and Center for African Wetlands will make sub-regional document and will begin training trainers. The final document would be finished in March 2004 and also in 2004, would be pilot/field testing.

NN – What does field testing mean?

Don – West Africa sees the needs for mangrove management within the sub-region as special need. So, one test could be at the sub-regional level. Brazil came up with an adaptation for a specific end user. No fixed agenda. Are responding to requests from countries themselves. Need to do two or three pilot studies with NGO support. Suggests northern part of Vietnam where there is good infrastructure/support.

Tang – How long for response.

Don – By end of this year draft available for next round of review. Therefore there could be two months additional for comments.

Ron – I was hoping we'd have something at the end of November. The Code was introduced at a meeting in Nicaragua. It's important to get the Code into the next phase. We need to have it discussed at all levels. NN's suggestion to get it into the hands of local groups is excellent (grass roots levels). The exchange of information that results from these reviews is very important. Need to also try to start to extend this dialogue at all levels, including states. Must get the next version completed and do some field testing. Must also get it translated into other languages. This is something to consider. Want to maximize exposure.

Tang – Don had given example of timelines – march. How does this affect ability to get review by other people?

Gill – I think there are many ways to address this. We work closely with the Ramsar convention that has expressed interest in this. We can engage them to disseminate this. Wetlands for the Future are a training initiative – money given to Secretariat for training in western hemisphere. Use some level of support for Wetlands for the Future to do small training workshops. Also, US government has bi-lateral programs with some countries, for example, Brazil. Could use small amounts of money to hold small workshops.

When go to higher levels of government, must put them up in hotels that are of some standard. But when work at technical level, can do it very inexpensively. Also if working with local people, it's inexpensive.

Jesus – What are funds from Wetlands from the Future?

Gill - $3K-$10K.

Tang – Please can we focus this issue on finalizing the code. Is the timeline provided by Don sufficient? We don't want people to feel excluded. Looking at the timeline provided, if send out draft code by end of December and publish in March, this is not very much time. People you are seeking feedback from may not feel like they have enough time.

Don – Field testing will go on in parallel. Main document – target to publish it by the end of March. Doesn't want to see it go much beyond that. If we put it on websites many people can access.

Jason – Will be some difficulty with language. We have found posting on websites where individuals can write comments and see comments while reviewing the document.

NN – Electronic commenting is great but will not reach many that don't have access to Internet and Electronic commenting. Takes time for NGOs to hold stakeholder meetings.

Tang – this is my concern as well. The document might suffer from rushing a bit to get it published.

NN – need another year after then next draft comes out.

Don – would be a mistake to wait for feedback from global level for too long as response be very challenging. What we need is to adapt the Code at a local level which will be field testing.

Tang – Aim for end of June to have input from wider group of reviewers.

Don – What we found was that in the 3 regions that the needs were very different so it will be difficult to include all needs in the overarching document.

Melanie – Would it be appropriate to put out the document as a "version one" and then within one-to two years have a second review and revise the document. This would allow States to develop their specific Code of Conducts and then incorporate needed changes.

Tang – Commenting period on the revised draft should be 4 months.

Ron – Next meeting of Ramsar – who would like to use and adopt this document – is in 2005. Regional meetings are in 2004. If Ramsar committee adopts a version of it, it may be changed as it goes through this process. Or as other groups review and adopt it. If we look at the Ramsar timetable – have something by their first regional meeting – this might be an appropriate timeframe.

Tang – Too many occasions where we bring in new stakeholders who state that they really want to be brought in from the beginning. If bring them in now and give them an opportunity to review and comment on the revised draft, there will be more buy-in. Three months is not a big difference.

Ron – I agree. There is nothing to stop the draft document to be circulated as a pdf. I would be happy to follow this process.

Tang – We need to give people a timeframe for feedback. Give them until April 01 to review revised draft.

NN – Need to put the documents in different languages so that it can be reviewed by all, e.g. Portuguese and French

Pati – One document is not going to be used by all levels. Locals will use a different style document than the politicians.

Sanit – Regarding feedback from local peoples. In each country there are good connections. Can easily have one meeting and have 400 locals that will participate.

Tang – Need to ask Don and Ron:

Can there be two versions?

Would we like to take deliberate steps to have workshops in specific locations?

Don – Clearly having additional workshops is preferable but the timeframe for the project is coming to an end and there is no more money for further workshops. It would be nice to put the next version out in more than one language for review. But must get the English version to a fairly advanced level before translating it.

Jason – If have the next draft done by end of November could have translations done before end of year.

Pati – must have a final document before translation. Could maybe have other groups support additional workshops, such as IUCN.

Ron – Yes, there are some resources available under this. About $40,000. But must consider translations. To produce a "simple" document we don't have the time or money. Any additional work must be resourced to either our team or others.

Pati and Jesus were happy to help with the translation into Spanish in their spare time but would take time

Ed – Do we have an estimated budget for how much needs to be raised to complete this task? We need this first.

Don – Can give you figures. Regional workshop – 5 key people plus 10-15 other from within the region costs about $8K. To produce a simplified version – 8-9K to employ somebody full time.

Melanie – suggested using other ongoing meetings. Gave examples of White Water To Blue Water Initiative meeting in Miami, next March and the Meso American Society of Conservation Biology.

Tang – maybe it's better to find resources to hold regional workshops and for groups to present simplified version at workshops.

Summaries:

> ***Name : Principles for a Code of Conduct for the Sustainable Management of Mangrove Ecosystems.***
>
> Next draft by November, comments until April and final draft by June
>
> Pilot Studies – begin after June or begin recognizing that it is a draft.

Tang – Request all here today to send to Don examples of ongoing meetings that might be used to have workshops on the document.

Jesus – Could conduct constrained workshops in different countries and funds can be found for these small workshops.

Jason – Tagging onto existing or ongoing meetings. This is a way to expand.

Ed – Would simplified version be used by politicians and local communities? Should be used for politicians as well.

Tang – Will not be a simplified version until the end of June. When conducting local workshops, it will be up to the workshop organizers to present the document in a manner that is appropriate to the participants.

Ron – Will need a technical editor to help with inconsistencies in languages and format to make certain it is consistent. I can take the lead on this.

Pati has agreed to take the lead in translating into Spanish. This is wonderful

Who can translate into French? Pati's husband speaks French and she will see if he can translate it into French

Field Testing? Are the two projects that Don suggested OK?

Local Workshops – Gill mentioned some resources. Gill will put together some information on this.

Powerpoint presentation that Don circulated would be good for us to take with us for meetings that we go to.

UNEP and FAO are both executing agencies but can leverage resources so we need to work with these groups.

Don – After the break let's scope the next activities. Some will start immediately. Some of the training-based activities will start immediately. I don't want to wait for the next June version. Can scope the sorts of activities that could start immediately.

Tang – Powerpoint presentation made available for use by others here to spread the word.

Sanit – I believe that this document will be implemented if we can have feedback from the locals. Each country should have feedback on it. How do we get other countries into the loop? Need to get feedback from as many as possible.

Elizabeth – important to get feedback from local workshops – need to move forward with Gill's work and Melanie's suggestions for hooking up with other workshops. But, I need everyone's help so it can be used for the next draft.

Don – powerpoint will be available to all here.

In Brazil they will be able to run local workshops within their regions.

Melanie – Suggest that folks get their thoughts on Websites that can serve the document to Don.

Tang – Ask that everyone do whatever they can to get this out for review by others.

SESSION IX: HOW DO WE GET THE CODE ADOPTED?

Chairman: Ed Green

Rapporteur: Katherine Bostik

We did a run-through of the Activities/Expected Outputs/Inputs/Persons Responsible table that was on the large computer screen. Ron's funding/resources have to be spent by March 31, 2004. Given that we decided on a publication date in June, it is questionable and uncertain where publication costs will come from to date but general consensus was that it would not be a problem.

NN: The Red Manglar group in Latin America could comment on and/or be involved in the Latin American workshops. MAP already has a workshop format that could work in Africa, this program is called "In the Hands of Fishers", where ideas are exchanged with 3 or 4 countries, one NGO and a few fishermen from each. It brings people together. In Americas it would help if in Spanish, open up more doors and feel part of the process. Getting the translations done locally in other countries could be much cheaper than having it done in the US. MAP can help facilitate this.

Ed: Ideal is to have it translated twice but very costly.

Don: Problem is the feedback in French and Spanish has to be translated into English before incorporated.

Pati: I am willing to translate the draft into Spanish so it is ready in time for the workshops.

Jesus: A Portuguese version of the document should also be done, it is important not only for language issues, but because of potential country sensitivity about a Spanish version being created if a Portuguese one is not.

Don: If we take responsibility for the French and Spanish versions then a Portuguese version will naturally follow, perhaps with initiative coming from Brazil. The role of a facilitator to translate into English straight after the workshop is important and to help synthesise feedback.

NN: Can give Red Manglar more responsibility to help synthesise this.

Tang: Also need responsibility to disseminate Spanish and French

NN: Is it best to have regional workshops or more, smaller workshops in each country?

Don: Country workshops would be good since countries have different national priorities, and regional workshops have been done. Once the national level adopts the code they can help with grassroots/local adoption.

Ron: Workshops we hold through MAP would be great, but what contacts does MAP have? Will the MAP workshops have all types of people/interests in them (loggers, government officials, researchers, aquaculturists, etc.)?

NN: We have academic contacts and they could contact government officials.

Katherine: Jason Clay and I can send the draft in Spanish and French out to some of our aquaculture contacts in WWF.

Pati: How many workshops would be held? Where? What would the funding source be? Who would be involved?

NN: Take the example of Ecuador—We would approach them (our contacts there) with a budget e.g. USD 5000 and ask them to organize the meeting. The meeting could then occur, and the discussion of the meeting summarized and sent to Red Manglar. Red Manglar could take the syntheses/comments from a number of national meetings and combine them to create a document which they think is representative of their network. This would then be sent back to CenTER.

Don: This process sounds good, and is necessary, but if we have a lot of national workshops then local issues will come out. These local issues will be hard to integrate into the generic code. The outputs of these might turn into the downstream local version of the code/principles. Those running the workshops would have to be very strategic in terms of talking about expected outputs. Also, a Caribbean region workshop is needed.

Melanie: I am willing to take the lead on the White Water to Blue Water initiative, perhaps bringing in Ramsar. The meeting is in March in Miami.

Katherine: I agree with Don that the national workshops will need to be strategically thought-out and well-led in order to get useful generic feedback. This is very important, but also these workshops can serve a dual role and are an opportunity for people to start thinking about how the document could be applied at a local/regional level and how the document would need to be changed/adapted to fit their circumstances.

Sanit: NN gave example of Ecuador and Latin America, would there also be national meetings in Asia.

NN: Yes, they would follow the same idea. MAP has planned a meeting in Sri Lanka from October 6th through 10th. Also, we have a meeting planned in Indonesia early next year, this would involve Thailand and Malaysia as well.

Ron: Aren't local workshops part of what local NGOs normally do anyway?

NN: Yes, but no connections with others need to bring together.

Discussion moves on to the subject of Adoption

Ed: What are strategies for getting the code adopted by states, conventions, NGOs, multilaterals, etc.? We have representatives from a number of different organizations. How do these organizations that we represent adopt codes such as these?

Melanie: Wetlands International essentially provides technical assistance to the Ramsar Bureau. I can find out what steps need to be taken for Ramsar to adopt the document. If Ramsar adopts it, then Wetlands International is effectively endorsing it also.

Ed: Would Ramsar be likely to want to work with a draft or final version?

Melanie: This probably depends on the timeframe and when Ramsar meets. The conference of parties would have to adopt the final version, but Ramsar committees could probably work with drafts.

Ed: This seems fairly simple. Use Melanie for feedback for WI and Ramsar.

Tang: read from FAO comments. FAO has a technical mandate under UNEP and will facilitate process with ongoing programmes, e.g. bilateral meeting with heads. The FAO could help integrate the code into a governmental process. I will email my colleagues and request that they use upcoming meetings to get feedback on the document. FAO is very interested and have lots of sub-regional offices that can be used. Also, FAO is looking to update the 1994 FAO mangrove management guidelines in November, and I will look to coordinate this with the document.

Ron: The Bank has a set of guidelines on themes such as environmental assessment, environmental management plan development, the rights of indigenous peoples and traditional livelihoods, natural habitats, etc. Mangroves fit under a number of these. I have already had interest from a colleague in Guinea-Bissau who would negotiate with the government of Guinea Bissau in terms of policy and this could be a way by which governments get educated. The WB would inform governments about this Code and work with them so that the Code be used for implementation.

Ed: So the indicator of success of uptake of the document would not necessarily be a formal statement of acceptance, but rather its use, perhaps a list of projects or project leaders who used the document?

Ron: Yes, we can keep track of projects in these mangrove areas and see how the document is used. A lot of our work is actually technical assistance or dealing with policy. This document is something that could be adopted in a legal context by a government. At another level, the articles of this document could be followed during specific projects as well.

Katherine: I am not the right person to say about WWF adoption, as do academic research and USA WWF different to WWF International and at each country. However, definitely something that we can use as a tool. Not sure of format of adoption if need policy statement to say we support this given document or not.

Ed: Strategy for getting UNEP to adopt the code would include the document being reviewed by the UNEP governing council (which meets every 2 yrs, next meeting Feb 2005?) and the ministerial forum meeting. I don't know which group would need to see the document first. I can draft a memo on how the code has formed and can attach the revised draft code and send it out so that it can be considered to go to the next governing council meeting.

As for the CBD: I have done a lot of work with them. Their next conference is in March, which is too soon. There is another meeting CBD-COP which will take place is 2006. The document would probably have to be reviewed by sub-staff in late 2004 or 2005. I can be in charge with dealing with this process.

Melanie: It would be very helpful to have a standard cover letter drafted that we could send out with the draft document. That way we would all be sending out the same information.

Don: If organizations have mechanisms to approve or adopt the document, will this be an adoption of the principles document, or an adoption of final code of conduct?

Melanie: I think it would be the final principles which should be finished in June.

Ed: This could be decided on a case by case basis depending on what is ready at the right time.

Tang: I am not sure about the FAO processes and if the code or principles would be adopted by regional level or ministerial level. I will talk with my colleagues. One issue we need to discuss is the mechanism for maintaining momentum of this document/project. There must be a mechanism to sustain momentum and to ensure that someone or some group takes this on. Someone must be charged with moving this along, as it is too big to be remaining voluntary. The logical next step would be to recommend that resources be made available for cenTER for next 3 to 5 years to develop principles, to have a workplan for field testing and the national/local adoption of the code.

Don: This is very sensible and desirable. The question is whether we are now looking at a project rather than looking for money to continue on an ad hoc basis. But to whom would a project be submitted? It would not fall under the normal project design that groups are used to funding.

NN: I have to leave soon, but wanted to confirm with you that MAP will be involved. If we do workshops, then MAP will need funding. I will reach out to the network with news from these meetings. Some of our network will take part in commenting through the internet.

Don: MAP is an example of a good mechanism for implementation, but not a project. There is EU, but very large. Ed, what about UNEP or GEF?

Ed: I agree that this is a good product and that we have ideas for taking it forward. It is a project, but there are no obvious roots for funding of the implementation. A proposal and/or concept note is necessary to take this forward, including noting the investment and work that has been done to date. UNEP has core budgets and programs, and this project doesn't exactly fit in. However, governments that give money to UNEP also sometimes ask UNEP what other projects they should fund. UNEP keeps a list of projects they want funded. This could be a possibility.

Don: What is the format for those proposals?

Ed: Now I think we would just need a short paper rather than a formal proposal. I can then help formatting a proposal if there is informal interest. Needs to be an attractive concept.

Ron: I will be more proactive about looking for funding. The Bank tends to send out announcements saying that X has given money for Y (theme) in Z (country/region). Not much has come up relating to mangroves.

Tang: I will speak at World Forestry Conference and how they could possibly fund this. Requested concept note in case any opportunity arose.

SESSION X: PLENARY

Chairman: Sanit Aksornkoae

Rapporteur: Don Macintosh

The discussion in this session focused on the proposed follow up activities: firstly to develop the next version of the draft Code of Conduct through further editing and feedback mechanisms into "Principles for a Code of Conduct" as agreed by the workshop participants and, secondly, to begin activities to field test the document and adapt it for local, more specific applications.

An LFA approach was taken, in the form of a table showing the proposed follow up activities and the expected output(s) from each activity. The inputs required to support each activity, and the assignment of responsibilities for coordination and implementation, were then discussed and agreed.

Refer to LFA (Table 1) that was completed during the session.

It was agreed that some of the listed follow up activities are critical, while others are desirable but not essential. Thus, the activities should be prioritised in relation to the possibilities of funding. An agreed time scale for the next phase of project was also prepared.

Several potentials sources of funding and other support were discussed. It was agreed that the Task Team Manager Ron Zweig would look into the possibilities of an additional single source contract over the next six months to ensure that the priority tasks identified in the LFA could be supported without delay. This will depend on the follow up work being contracted by 31 Dec 2003, and completion of the work under a new WB contract by 31 March 2004.

To fit with this time scale, some of the downstream workshops identified under field testing of the code would also be financed within this period, namely stakeholder consultation workshops. Details of the location and format of each workshop should be developed in cooperation with the MAP and the present expert group. These would be small NGO supported workshops with local community groups plus 2 regional workshops.

A workshop for the Pacific region, including Japan, Australia and New Zealand was proposed, as this region was not represented in the workshops conducted this year. Peter Bridgewater should be contacted as he could provide support and advice on holding such a meeting. Similarly, it was agreed that the Greater Caribbean region, including Mexico, should be the location for a second regional workshop.

Details of the proposed coordinating mechanisms for these new activities were discussed and it was agreed that cenTER Aarhus could undertake the lead on coordination, supported by the agencies and programmes represented at the workshop. The working relationship with the World Bank developed through implementation of the work to prepare the draft Code gave cenTER Aarhus confidence that it could coordinate the planned work well, despite its complexity and the tight deadlines involved.

Table 1: Next Steps: Outputs and Inputs

Activities	**Expected Outputs**	**Required Inputs**	**Cost/Source**	**Responsible**
Editing of Present document	Next version produced as "Principles for a Code of Conduct" (December Version)	2 months of editing time	USD 8 000	cenTER Aarhus
Technical Editing		1 month (professional editor)	USD 6 000	Ron
Dissemination of Revised Draft Principles (end December 2003)			USD 500	cenTER Aarhus
Standardized PowerPoint Presentation			No cost	cenTER Aarhus
Translation, Spanish (Jan 31, 03)	Spanish version	1 month of time	USD 1 000	Pati/Jesus
Translation, French (Jan 31, 03)	French version	1 month of time	USD 1 000	Pati
Dissemination of Spanish version			USD 500	MAP, WWF …
Dissemination of French version			USD 500	MAP, WWF …
Feedback from Spanish (in UK) to DJM (end April 2004)			No cost	MAP
Feedback from French (in UK) to DJM (end April 2004)			No cost	MAP
Other feedback on Revised Draft Principles to DJM (end April 2004)			No cost	cenTER Aarhus
Coordination of feedback (01 Jan – 31 Mar)	Summary of comments to date	3 months part-time	USD 6 000	cenTER Aarhus
White Water/Blue Water Workshop in Miami (add on day)	Comments from the Greater Caribbean Region		USD 2 000	Melanie
Pacific Regional Workshop	Feedback from local stakeholders in English		USD 8 000 (Ramsar/Japan/Australia)	
Latin America Regional/National?? Workshops	Feedback from local stakeholders in English		USD 8 000 (USFWS)	USFWS & MAP
			USD 41 000 (approx)	

Finalization & Publication	Published Document (out June 2004) (2 000 copies @ 10 USD)	2 month of editing time Funds for Layout etc Funds for Publication	USD 12 000 USD 3 000 USD 20 000	Ron will look into how to resource this
Downstream Activities				
2 National Workshops	Feedback from local stakeholders	Costs for Workshops and participation of trainers/facilitators	USD 10 000	MAP Network
Student Training Courses			No cost	cenTER Aarhus
Preparation of locally adapted versions of the Principles (4 local versions)			USD 2 000	
Field Testing				
North Vietnam	Results and Analysis of field tests	1 PhD Student & 1 Research Assistant (2 years)	USD 18 000	MoFi & cenTER Aarhus
West Africa	Results and Analysis of field tests	Funds for travel and Workshops	USD 30 000	CAW
Brazil – Schoolchildren Version			USD 3 000	D. Lacerda
Other sites?				

CLOSING OF MEETING

Professor Sanit Aksornkoae

ANNEX 1: DETAILED RECORD DISCUSSIONS

Session III: Peer reviewer comments

Gill was asked to be the first peer-reviewer to give comments

The first step should be to agree on the perspective of the document. It should be a ***training*** document. This should be reflected in the language and the format of the document. Only minor changes are required to reach this (e.g. few more boxes)

Need to agree on a clear definition of what a mangrove ecosystem is in the context of this document (he has given a suggestion for a definition in his written comments)

It should be GUIDELINES rather than a CODE OF CONDUCT, to allow easy adopting of the document by the international multilateral agreements on environment (e.g. CBD and Ramsar). Guidelines are at a "higher level" than a Code of Conduct. Guidelines are for States/governments to use make legislation that in turn can be made into local Codes of Conduct. The vehicle to get the information from the document to the governments is through the international multilateral agreements. The Countries that have signed onto an Agreement are mandated to implement guidelines adopted under the agreement they have signed on to.

Jesus: A code is a set of rules. The document should either change name to Guidelines or change content to be a true code.

Gill: Article 10 on Fisheries and Aquaculture should be split into two separate articles to reflect the significant impact of aquaculture (especially shrimp farming) has on the mangrove ecosystem.

ALL AGREED TO SPLIT ARTICLE 10 INTO TWO SEPARATE ARTICLES. ONE ON FISHERIES and ONE ON AQUACULTURE.

NN: The term Code of Conduct is a mis-conception. Suggested to change to guidelines, which still have to be developed further.

Ron: Hope to finalize the DRAFT Document by 30 November (with comments from the participants and other stakeholders). The Printed Version will be out by Jan 2004. The document was modeled after the FAO Code of Conduct for Responsible Fisheries. We are not looking for a single publication, but rather one with the "bare" text of the articles and one with the boxes and illustrations.

Tang: Comments from FAO Rome: This is not really a Code of Conduct. The form and language is not consistent with the Code of Conduct principle. The document can be transformed into a Code of Conduct with some effort (FAO has suggested proper changes).

Cintron: Multilateral agreements when they are signed up states become committed to implement that agreement. Guidelines have powe of law. I am not aware of the FAO Code of Conduct for Fisheries but usually codes are for industrial laws.

Melanie: How about calling it a guide to states.

Ron read from the FAO code suggesting that we should try and stay in this framework as there is also a code for forest logging now as well.

Thomas: The FAO Codes of Conduct have been adopted by the various international agreements, why should this not be possible for this document with a Code of Conduct as the title?

Pati: As long as people use the document what is the problem with the name?

Sanit suggested that as an implementer guidelines will seem easy but a code would be more important to follow.

Tang: The term use is very important. A code of conduct is a very specific set of rules. To use a code need consistency of language. Could maybe call a guide or guidelines for implementation of a code of conduct of management of mangrove ecosystems. So countries can use these guidelines to produce their own codes of conduct.

Ron suggested "Draft principles and standards towards a code of conduct for sustainable management of mangrove ecosystems**"**

Ed: It is the content not the title that is important for the document to be adopted by e.g. the CBD, here it is the "Technical and Science Board" that has to endorse it.

NN: Are the FAO Codes of Conduct being implemented? Have we seen a rise in fisheries as a consequence of the FAO Code?? By using the term Guidelines we allow the local communities to get involved in the process of formulating the text.

Tang: The FAO comments show that the document is more Guidelines. The Code of Content for Logging has been used by states as an interim Code of Conduct until they themselves could formulate their own regulations.

Cintron: A sovereign state such as Mexico has expressed that they would not follow recommendations in a voluntary Code of Conduct, however Guidelines adopted by international agreements they would have to follow.

Don: It is a two-step process. 1) We finalize the draft document (guide) followed by 2) consultations with governments/states to make it a fully adopted Code of Conduct

Zweig: Maybe we could give it some thoughts to tomorrow on what to call it?

ALL AGREED THAT IT WOULD BE SENSIBLE TO RE-NAME THE DOCUMENT.

NN: Adopting of a Code of Conduct by a country does not mean it will be implemented. Some mechanisms to involve local people or local governments to make this "their" document are needed.

Cintron: The next version of the document will need to include an explanation on what the purpose of the document is and how it is to be used. Transfer of ownership to local people is a key issue to secure success of the document in the long run.

Elizabeth: In India the National Government is working on drafting a national Code of Conduct. They are very pleased with this initiative and they plan to use some of the articles. They will also transform this national management plan into local plans for specific regions.

Ed: The long term objectives need to be changed to. "…….. is to arrest ***and reverse*** the recent and rapid destruction …"

Melanie: There is very little discussion on the importance of maintaining and managing the hydrology of the mangrove ecosystem

Pati: Suggests an Article on Hydrology of the Mangrove Ecosystem or give more emphasis throughout the document**. Also the n**eed to include other aspects of the ecosystems. The document seems a bit focused on the tree part of the ecosystems, what about mudflats and salt areas?

Elizabeth: Comments from Green to make an Article on the Ecosystems Approach or maybe we could try and combine with Article 15 and/or bring this closer to the beginning.

NN: Often mangroves are destroyed unintentionally due to changing/destruction of the hydrology for development purposes (e.g. road construction). Information on how to prevent this could be included so we can understand why mangroves are destroyed.

Don: The purpose and usefulness of the document could be missed if it becomes too technical and detailed. Better to make two documents a Code and a Technical Manual on how to go about taking action (e.g. mangrove ecosystems restoration)

Tang: Who is the target of the document? This will have implications on the title and the re-writing of the document.

Article 1 Mangrove management objectives

Don – introduced the first five articles as the background and approach to the Code.

Article 1 tries to be an overview of the whole code, overriding principles.

Gill - should be working definition of mangrove ecosystem.

Jesus – what does global population mean?

Gill – should be local populations

Melanie add at 1.1c importance of migratory birds

Gill – rewording of 1.1a

NN Table 1 North America mangroves should be highlighted

Don – if we add one more region must add all e.g. USA, Pacific, Caribbean and Australia

NN – has contacts in Pacific

Tang – ISME has a station in Fiji, FAO also has a subregion in Samoa.

Melanie – WI has an office in Pacific that can provide information

Gill after 1.1f add another paragraph

Tang – FAO change ecosystem approach to management combine with precautionary approach

Gill – wrote a box on definition of ecosystem approach and example

Pati – enhance mangrove resource utilisation to objectives

WB – global population should be kept is global issue

Don – drafted that global population meant society if use local population lose something.

Ron – FAO says both local to global populations

Jesus – 1.1 promote restoration

NN – 1.2 infrastructure at a local level has to be talked about. 1.4 states need to regulate runaway industries if there is corruption in the regulatory industries. Law enforcement actions. If local people could be enforced for protection. Best police is the local communities. Add another point in promoting the local communities as new 1.4g.

Gill – activities in mangrove ecosystems should be integrated into ICZM.

WB 1.4d enactment of effective and appropriate frameworks including local ordinances, actually doing it.

Gill – reworded 1.4d

Tang – add somewhere where use and application of code will be, should be inserted in the preface

Gill – application of the precautionary approach add a box of practical application

Article 2 Precautionary approach to management

Melanie – add at end of first sentence of 2.2b "…and ecological processes."

NN – important to have precautionary approach but how do we strengthen

David – IUCN looking at effective guidelines for precautionary approach. FAO code of conduct had precautionary approach and used successfully. Need to have mapped out what actually mean by precautionary approach.

NN – precautionary approach could be supplemented if include ecological footprint.

Gill – FWS add text for 2.1 remind states that precautionary approach often low cost approach where mitigation of damages may not be available. In designing and implementing precautionary approach.

Tang – remove sustainable before management in top as all management should be sustainable. Conserve and manage sustainably

Gill 2.2e reworded

Pati – no ecosystem approach article maybe include as article 3 as followed in article 1 management objectives

Gill – need a box to explain ecosystem approach and then box on practical application

Pati – separate and make things easier to understand

Gill – keep effort to make concise

NN make article 2 ecosystem approach and add precautionary principles e.g. ecological footprint

Don – put ecosystem approach upfront and continues throughout text.

Tang – drop precautionary from article 2 and just talk about management approach. If keep precautionary think in next follow management objectives. Way presented and how people link when they read.

Gill – each chapter should be a progressive step towards other chapters

NN – 2.2c regulation of introduction of exotic species e.g. for aquaculture. Sometimes realised through accidents, or intentionally, Promote closed systems or raising native species. Diseases can also be a problem for the wild system.

Katherine – some discussion in aquaculture section on native species add to a supplementary technical paper. 2.2c addresses this therefore no need to add more

Article 3 Legal framework

Tang – Article 3 change title to policy and legal frameworks as content covers this. Ultimately this is what we want to do is influence policy.

NN – how do we ensure 3.1 happens?

Gill – comments for discussion, usefulness of where this code comes as a training manual. States should review national legislation and useful for managing mangroves. Ramsar urges states to review national plans and legislation. 3.1 should make reference to ramsar. Also establish basic principles of wetland management. However, not lack of legislation but lack of enforcement.

Ed– Box 3A could have points expanded. Philippines protects mangroves but lost lots needs to criticise.

Pati – boxes mainly positive but not negative. Need to get a balance look.

Gill – have to be very careful how criticise. Add box with flaws and don't make specific to countries put in a box the factors that make legislation imperfect or not as affective as it should be.

Don – History of good examples very low at moment been lot of problems. Country case studies document in detail the problems. Good idea to summarise key reasons for deficiencies in past.

Tang – FAO given 4 pages on Article 3. One key issue not addressed is land tenure. Lots of issues, code needs to provide sound and undisputed evidence if you do not do this. Very difficult to do and what resources have to do this. Need some element of conviction so that they will do this. Document is a good starting point and timely but need to find a way as fast as can to enhance implementation. Once issued very difficult to go back and produce a better document. Need to put together a document that makes policy makers want to do more. Leave with secretariat what is and is not relevant. Important looking at process who are the primary targets and how to impact on them.

Gill – land tenure very important and has to be addressed see added comments. 3.1e cognizant.

David – add regional conventions e.g. wider carribbean

Ed – there are so many general points in conventions that cover general ecosystems. Run risk of having code too full of text too full of too general information. Rapidly hard to assimilate and digest if full of general examples.

Ron – could maybe handle as a footnote

Ed – add as a box a few of the most important conventions so don't distract from text.

Gill – yes text sent can be added as a box. As long as covered format does not matter. Most concerned about content than format.

Ron – land tenure very important, as mangroves are dynamic systems.

Gill – land tenure basic issue needs to be covered either as basic text or as box. Suggested Box on access to justice. One reason why local frameworks don't work is that local people don't have access. Costa Rica and Brazil guarantees access. Law and legal systems.

NN – Box 3F – lot of wasted money goes into restoration. Should have in code what is effective restoration. Before doing any planting Robin Lewis suggested 5 points. Distribute Lewis paper.

Gill – many misconceptions due to restoration, restore areas that were never mangroves, or costly when should have just waited.

Article 4 Implementation

Tang – if agree article 3 changed should add in chapeau of Article 4 policy and legal framework as well

Gill – Give factors that impair implementation possibly in a Box.

Jesus – wording of article should be more forceful. Should be more proactive inducing people to make sense. When have all elements we should rewrite.

Tang – suggest merging article 4 with article 15.

Gill – implementation of ecosystem approach then should be incorporated with article 15. If any difficulty with implementation of law should go into article 3.

Gill comments in reference to article 4 should therefore be incorporated into article 3 as thought to do with legal implementation.

Don - Enforcement e.g. 4.4 go into article 3, whereas rest goes with article 15.

Katherine - prefers moving 15 to 4 and add ecosystem approach

Tang - Article 15 more working with other coastal systems talking about bigger picture. Articles on specific sectors should come first.

Melanie – if move mangrove management further up should be more general including ecosystem approach and biodiversity.

Ron – move articles to 2 different places and then decide on sequence.

Gill – good document will have a lot of valuable training effort.

Article 5 Mangrove inventory for management

Pati – not sure if right place but if talking about mangrove ecosystems should also include section on other resources e.g. salt flats and mudflats.

Katherine if have a technical supplement there would be a substantial need here to add one. Instead of boxes should have technical supplements.

Melanie – appropriate to include in here a few more bullets on doing inventories, as biodiversity is an important component.

Don – this article showed most clearly a technical manual was needed, simple ways to quantify and qualify a mangrove resource. Some countries have an area of mangroves but that this is often degraded.

Gill – Ways to modify this so that references are included. Very physical at moment, a local narrative may be important to add example how the ecosystem is used. Cant come up with specific now, but books on socio-economic rural rapid assessment methodologies have room here but not been mentioned. Maybe add a box on this. Local people discuss in own terms system and importance, valid component needs to be added. Will send by email specific approaches.

NN – highlight bird migratory routes

Tang – highlight ecosystem products, functions and attributes as otherwise disappears. Need to emphasise these before how we can measure them. E.g. 5.0 to introduce these definitions.

NN – important to mention local uses e.g. medicinal uses are often unique in certain countries.

Tang – need a good graphic artist to show linkages in ecosystem

NN – Robin Lewis had some references to add in here box 5A. If fly over areas can see how areas are degraded. Good idea to set up a baseline before monitor. How much is healthy of area of mangrove.

Ron – dynamic nature of mangroves accreting and eroding areas. Natural transition

NN – MAP trying to promote sharing of information, future workshops between decision makers is a possible future downstream activity. Sometimes ramsar sites very remote and personnel not on hand for close monitoring need to involve local communities to longterm monitoring.

Tang – there are a lot of suggestions but how begin to do this. Is there any mechanism? ISME able to do this? Highlighting importance of getting information but how as countries often short on funds.

NN – local communities have a lot of wisdom of mangroves. In Thailand good example at community level, add as a box. Communities learn from success of neighbours and copy in there own ways.

Don – monitoring of local resources by communities if see the benefits they get e.g. ownership and livelihood support, e.g. tourist/youth guides.

Tang – Box 5c would the databases in Kenya and Senegal enabled them to take action they could not have done otherwise. Useful and have more impact if the databases have made an impact and what they have been able to do with them.

Gill – Sometimes databases are not accessible. Databases do not say what they are used for or where or what access is. Minimal use if don't have access.

Pati – okay making a database but often cannot get access to grey literature as in certain institutions.

Don – try and get into boxes the demand for information and how well being used by managers and policy makers.

Article 6 Socio-economic considerations

Sanit – socio-economic considerations are very important especially article 6.1. In Thailand for example when trying to decide to do a development project in mangroves have new constitution because public hearing very important not EIA. Thailand have local people participating at start of project not at end after EIA. EIA carried out for government to do process.

NN – good idea people often don't believe they are feeling a part of process.

Melanie – indigenous groups should also be included in chapaux

Pati – Importance of women need to be inclusive maybe refer to in chapaux as well.

Ron – all seen lots of examples around the world where the local communities need to be organised and empowered.

NN – Hands of the fishers workshops, local people don't like to talk in front of government officials, need a bridge between local communities e.g. with NGOs or universities.

Melanie – 6.3 need to increase awareness among local and traditional resource users of value of mangrove resources. Reworded ask for written comments.

NN - Through workshops and training need to increase the awareness

Pati – this is discussed in the capacity development article.

Katherine – there are local codes of conduct, manner communities managing resources sustainably. Need to say that local communities don't necessarily always know the right case.

NN – local communities not all saints and know how to do management.

Sanit – 6.5 also include ecotourism possibilities. Box 6C examples of regulation to control pollution in coastal areas. Lots of countries also now have to force companies to pay for pollution. E.g. in Thailand trying to estimate how much they contaminate water. E.g. polluter pays principle. People who do shrimp farming come from other areas and leave pollution when left.

NN – e.g. Ecuadorians and Taiwanese shrimp farmers going to Brazil now need to pay for their pollution.

Tang – Box 3e need to be careful what put in Boxes if good or should be carried out by others. If only in theory and not happening in practice. What recommending should be something need to emulate. In follow up activities need to strengthen effectiveness of this document.

Gill – Box 6C is an example of a self imposed code of conduct add an e that says a strategy of adoption is as a code of conduct and then add the Brazil example. In 6.4 mechanisms include give examples see notes. Put in box or as bullet points.

Melanie – not sure where valuation should be added in, maybe in this Article. WI done a manual with case studies maybe add a box in here of the socio-economic valuations. Please give reference and example.

NN – give a list of positive examples e.g. sustainable use of mangrove products e.g. nipa used in Thailand but not in Sri Lanka, developing alternative low intensive products as an incentive to conserve mangroves by local communities.

6.9 training local people to be mangrove wardens and then also respected in local community as well.

Melanie – 6.9 developing alternatives for wetland products

NN – 6.9 Diversifying income opportunities e.g. collecting honey

Ron – also having technology development transfer as alternatives for dependency on natural resources full range and adaptive and exchanging of information

NN – in sulawesi have efficient ovens, bamboo houses and wastewater gardens. In West Africa 75% of mangroves lost for smoking wood. In Cameroon made smokehouse ovens using less wood to help.

Article 7 Cultural and community issues

Tang – Article 7 could be merged with Article 6 many similar issues e.g. gender and livelihoods.

Ron – Article 7 more spirituality and important cultural not socio-economic. Some aspects could be moved but not merge.

Jesus – don't agree joining cultural and community issues with socio-economics.

Sanit – Box 7a sure about Chao Le. Think now recognised. Too dangerous to put like this.

Don – is sensitive but also very remote in country almost unchanged just collecting oysters, see genetic inbreeding and poor health

Tang – do you lose anything stopping after 200 years and don't mention still no government recognition.

NN – how do we keep out negative intrusions e.g. tenure ends or influential people move into there areas. E.g. whole villages moved because land been bought by urban man for shrimp farming. How to keep out? Promote tenure rights and acknowledge importance of local people in managing and conservation of mangrove resources. Peoples have rights and responsibilities. Need to promote this concept.

Gill – 3.1b addresses this issue but in a different way. States must recognise that community based systems are structured around… Issue of tenure again. Resources regulated by local communities but not recognised by governments.

Tang – this is sufficiently important to be mentioned in a number of places. Land tenure is a tool. In Thailand community forest act been held up for ages due to right of tenure. E.g. people been there for x duration should not be removed.

Ron – try and get a copy of WB operation policy on indigenous peoples, lifestyles and livelihoods. Very sensitive subject, important to mention here and could be used in some detail.

Katherine – In article 7 there should be some mention of the official or unofficial land tenure of local communities and if doing development this should be taken into consideration.Document should not imply that local communities are always sustainably using resource. Increase in natural population and markets also affect.

Gill – many of these systems until very recently have been sustainable by necessity as people depended on them. Issue comes when demand increases and also selling to others. Overexploitation often due to increase in demand.

NN – add more information on women?

Pati – no okay 2 boxes

NN – may be add something on children and young people to educate them. MAP have a 300 page education curriculum trying to spread. Trying to get funds to train teachers. Also have a comic book very good educational tools. In Japan have educational comic books to get across serious points. Showed us an example.

Tang – 7.4 wording as stands contribution of women now not very significant or is we should recognise then promote and strengthen.

NN – can we add an analysis of how mangroves are being lost.

Don – maybe in the inventory section we could add an analysis of threats

Katherine - there is already a Table 0.2 of threats may be talk about this now.

NN – there are a lot of threats to mangrove forests need to list these and see how they are changing.

Article 8 Capacity development

Tang – in Box 8a should include ISME mangrove training programme sponsored by JICA

Elizabeth – also add in mangrove educational curriculum developed by MAP in Box 8A.

NN – the educational curriculum has been adapted for different regions and also developed into own languages so a lot of work is needed.

Gill – Article 8 is very important. 8.2 reworded and added another concept. In wildlife field and coastal management field an approach has been developed that is based on extensionism. Universities develop capacity for extension services that support efforts of community to manage their resources. E.g UDFWS provides funds to universities to support communities to mange wildlife resources and NOAA for coastal resources. Provided a few 10,000 USD for computers (extension unit) for training. Promoted for educational needs in local communities e.g. BIOMA box. Added a new 8.3 on scholarships good.

NN - Ramsar has a CEPA programme

Gill – more technical, some professionals, multidisciplinary including law students, architecture. Been going for 5 years in Brazil.

Pati – very good way investing in future in the people.

NN – Capacity development very important for MAP, building demonstration projects

Don – two examples may fit better in research section, they are capacity development but important for research

Gill – have to be careful of research as emulates what has been done in developed countries and not applied so no immediate use to community.

Tang – section 8 capacity building could be combined with section 14 research.

Don – these are the real cross-cutting issues that cover across all articles. Need to integrate these important threads throughout code.

Pati – add at end of document e.g. recommendations that will help achieve objectives. Seems that something like that is missing from end of document.

NN – video of methods for restoring mangroves e.g. documentary. Tools take to remote areas to help promote awareness.

Ron – Article 14 talks about information exchange.

Gill – new 8.8 promote engagement of private sector in sponsorship of practical research e.g. by shrimp farmers.

Tang – can I ask for clarification that we will have confirmation of new draft by end of today.

Don – we will work through all comments and then forward it out for further comments to check.

Jesus – maybe come in earlier tomorrow

Pati – not really any controversy about articles we can discuss with email. I think we should discuss important things tomorrow.

Tang – suggest facilitate process if we ask don/liz to lead discussions on changes and invite substantiate new changes as going round and round may help make quicker.

Pati – we do not want to have a document on the shelf we need it be useable. Ways of how this can be put into practice.

NN – process needs to be open and continuing

Pati – so many objectives needs suggestions on how get things done.

Ron – can get 3 more hours

Don – can we use morning to discuss main issues.

Tang – things to be discussed are content, format and structure and lead in Don/Liz hands so devote more time for next steps and implementation. Should also revise title of document.

Don – discussion at coffee discussed as a two step process and next draft “Principles for sustainable management of mangrove ecosystems: a guide to/foundations for developing a code of conduct”. Then from next step if could be organised and funded a code of conduct could be formulated. Majority in favour of producing a document called this out sooner rather than later. Then next steps take longer process.

Gill – agree this now is a good training document which can now produce specific codes of conducts.

Don – at workshops it was much more important to have training of trainers rather than a perfect document.

NN – happy with this so can send to people waiting to hear and use as a training tool.

Article 9 Forestry/Silviculture Management

Don - suggest main changes in next three articles forestry, fisheries and aquaculture, the others thereafter are actually straight forward. Principle comments from FAO about forestry. Need to reorganise and include better reference to many existing documents. Gil suggested a box on silvicultural utilisation as mangroves very good for this.

Sanit – talk about multiple use management and give any examples of success in a box. What does abandoned silvicultural areas in Box 9A mean.

Don – issue of ownership, may not actually be abandoned. Degraded is a possible alternative term.

Jesus – heard of abandoned silvicultural area in Venezuela and could add as a box.

Don – contradiction in terms

Gil – should say concessions not area, they were not economically viable so they were abandoned.

Jesus – the cooperation was closed and forest not recovered 20 years later. Wording of article chapeau landfill should not be there as a dead word. Isn't it a stimulus for people to throw things into the mangroves.

Don – in Brazil they filled land in and built on top, or not a typical word, best to take out.

Gil – take out landfill as a legal use

Ron – also don't know what pollution in there

Tang – also delete waste management

Sanit – any examples of planting on seagrass and coral reefs

Don – yes explained, discourage local authorities from planting here.

Ron – example in TR from Honduras on waste management recycling

Jesus – mangroves have been shown to be metal sinks, but waste management can have the wrong effect

Gil – use water quality regulators

Pati – water treatment

Sanit – please use water treatment as have study in Thailand where trying to use dirty water.

Gil – 9.6 put planting on mudflats only if they were there before at beginning of sentence

Don – move Box 9A and clarify each case for reason of abandonment from Lacerda.

Jesus – failed in Venezuela because not physically economic only ¼ produced

Ron – take out oil from start of title of Box 9a

Don – unless box can be readily understood it should not be used. Oil pollution move to agriculture article. Box 9a started out as examples of rehabilitation.

Melanie – discard box 9a. Add a box on silvicultural

Gil – add a list of factors have to take into consideration before planting and could add as a box.

Tang – maybe necessary considering time to leave to secretariat decisions

Don – agree with this. Most substantial reference made by FAO is no mention of non-timber products and their importance in some sort of box.

Gil – List of other potential uses and services provided by mangroves mentioned under 9.1 and added in as a box.

Ron – Lewis sent 5 critical steps for restoration, provides guidance and a strategy should that be added in here or as a technical manual. Good box to support it.

Don – lots of technical guidelines that should be refered to but not repeated in code. The 5 steps are good guiding principles/

Ron – Lewis notes as a box as supports 9.4

Article 10 Fisheries and Aquaculture

Don – been suggested divide into two but be careful don't replicate what is already said in TR. Don't want to become too technical and repetitive. Keep to principles. Hard to be objective as lot of rewording.

Katherine – danger of becoming too technical. Gils comments I agree with 100% but too technical or need to be reworded. States should do x because aquaculture can do y, not cases where all problems. Not a clear delineation between traditional aquaculture and shrimp farming on a commercial scale. This needs to be clear. I will type up my comments.

Melanie – can we come up with a consensus to split this- yes. Ok lets start with aquaculture.

Ron – in terms of FAO code of conduct and responsible fisheries includes aquaculture. Japan also considers fisheries with aquaculture. One part could be on fishing and other aquaculture.

Sanit – think better as similar to FAO

Melanie – is there a negative side from splitting apart?

Ron – Japan really try to keep together. Different institutions look at these as 2 sub sectors

Don – justify in case of mangroves that separate into 2 separate articles

Sanit – 10.7 don't think should include in just around mangrove ecosystems

Don – be good to advocate for no commercial application of aquaculture in mangroves but can you regulate against all commercial applications and just small scale or floating cages. Or better to say all commercial aquaculture go through an EIA

Tang – mean endorsing commercial aquaculture in mangroves

Sanit – illegal in Thailand to have shrimp ponds in mangroves just promote sustainable small scale

Katherine – maybe add a 10.7b in mangrove ecosystems all shrimp farms are prohibited

Gil - states should not sanction further conversion of mangroves including associated systems for large scale, industrial use.

Katherine – need to specify if just for shrimp

Ron – important to add conversion, if not subsistence is commercial.

Gil – my 11.1 is reworded in this way. Also need to add a new chapeau

Ron – maybe add a box on the causes of aquaculture impacts

Katherine - delete second 11.2 from aquaculture

Ron – what is a functioning mangrove ecosystem?

Gil – from ocean to innermost point saltwater comes in. Coastal wetland call mangrove, bulk of profile is mangrove forest but all a functioning biological entity. Both front and back. Slope of platform small, maybe 1 km in still flooded by highest tides of year and don't find terrestrial plants but mangrove associates. Many migratory birds use these back areas for feeding. Sealevel intrusion goes inwards.

Melanie – need a clear definition of a mangrove ecosystem. In each article use mangrove ecosystem instead of just mangrove. 10.7 change to within the mangrove ecosystem.

Don – best at beginning to redefine and add mangrove ecosystems contain significant waterways which are important for fisheries and small scale aquaculture.

Katherine – defining mangrove ecosystem should we do today or at a later stage

Liz – I will combine and send out for peer review for acceptance

Tang – may be useful to avoid confusions to add in preface of use, reference to mangrove ecosystem

Ron – Gils definition refers to intertidal zone only but also some subtidal components as well as in Lewis.

Don – wetlands defined as anything above 6 m

Gil – tidally influenced includes waterways

Ron – needs rewording

Katherine – needs on this section a literature list to add in more technical references (maybe a box with additional reading)

New Article on Fisheries

Ron – add WWF on TR 10.1

Don – FAO made a point that destructive methods should be completely banned as otherwise run counter to Fish code. This article 10.4 was discussed at great length especially in Asia, that in Bangladesh and Vietnam there are still a lot of people heavily dependent on destructive activities. Yes it would be nice to stop all destructive activities but reality still a lot of dependency. Which way do we go?

Pati – I agree, there needs to be more specific regulations e.g. certain mesh size or time or areas for fishing.

Ron – another approach is that we maintain as FAO requests but these bans be done in consultation with alternative income generations

Pati – problem old fisherman never like these options. Cant ban but can regulate based on scientific evidence still happy with 10.4 but add more on regulations.

Katherine – must be carefully regulated by give examples say in a box.

Ron – cant regulate destructive practices. Many examples if have a closed fishing season.

Liz – maybe more specific with destructive fishing e.g. cyanide or blast fishing

Tang – destructive methods should be banned not must. Don't want to open a window pandoras box to say can do destructive fishing. FAO code already been accepted as should not.

Gil – instead of word banned use discouraged

Katherine – maybe more specific otherwise could be just overfishing that is destructive

Ron – read from FAO code.

Don – very destructive method when use very fine mesh nets around mangroves

Ron – good addition to include in list dynamite, poisoning,

Pati – separate destructive fishing from regulating overfishing

Katherine – or destructive that stops recruitment or destroys habitats

Melanie – agree take from FAO fish code and add in another bullet or part b reference to discouraging use of mangrove specific destructive activities e.g. fine nets

NN: Suggests that section 10.7 should read something like "*States should not sanction further conversion of mangroves or their associated ecosystems, such as mudflats, salt flats and salinas for large-scale, industrial aquacultue or other developments, as these wetlands also serve vital ecosystem functions and support a variety of wildlife, including migratory shorebird species.*"

Article 11 Agriculture, salt production and mining

Add a Box on oil mining from Venezuela

Don – FAO ran out of comments for Agriculture article onwards. In Africa agriculture was specifically very important. Tourism also well accepted. Old article 13 add more reference to other conventions and agreements that cover fair trading practices. Very fast changing subject hard to capture.

Jesus – oil mining/drilling mentioned in article 11 but big issue in some countries, may be we could add a box. In Orinoco delta cutting mangroves for drilling. Volunteered to provide information for a box.

Article 12 Tourism, recreation and education

Sanit – do we need to specify education in article 12 as mainly on tourism

Don – education also covered in capacity development, really educating tourists. Confusion due to cross-cutting issue of education.

Gil – need to cross refer to capacity development article 8. Need to use mangroves for education and environmental outreach. Develop potential of mangrove tourist sites for this

Sanit – in many schools in Thailand established walkways in mangroves and used as an educational system. If include education in title need to add example here with paragraph and box.

Gil – 12.4 needs to be tweaked

Katherine - is tourism worlds largest and fastest growing sector? Check

Gil – delete are no exception from chapeau.

Don – mangrove ecosystems can provide ecotoursits with unique habitats…

Article 13 Mangrove products and responsible trade

Katherine – to what extent are mangrove products on global economy?

Pati – difficult to commercialise something gave e.g. of charcoal producers spending lot of money on packaging. Also need to add in 13.3 improved product techniques

Gil – problem with 13.2. Does not apply to all products, e.g. non-sustainable. Delete first sentence. Traditional and sustainable produced mangrove goods should be promoted under fair-trading.

Pati – 13.4 illegal products sell cheaper. Need to add paragraph on illegal trade or activities. Not sure how worded

Gil – suggest add another 13.6 on CITES

Katherine – only section on sale of mangrove products States should carefully regulate the sale of mangrove products to ensure their sustainability and help prevent illegal activities. In 13.4 add value added processing

Tang – notes rewording In 13.4 ..into new, improved or value added products and techniques from mangroves ..

Ron – delete wherever possible after 13.5. Don't like box 13.1 need some kind of regulation or critique, size etc.

Tang – FAO provided detailed amendment to 13.5

Melanie – delete Fig 13.1 in wrong place

Jesus – general comment. Is it necessary to use word poor or low income better.

Melanie – use impoverished

Jesus – no that means lost money

Don – low income means different in other places

Article 14 and 15

Article 14 Mangrove Research and Information Exchange

Don: (reviewed list of earlier comments on the article) Apart from ISME and the GLOMIS database, there is a lack of examples of structured ways to exchange information on mangrove management. It has been suggested that Article 14 be combined with capacity development but on balance research is very important for cross-cutting and information exchange is growing all the time.

Gil – I agree with this and capacity development so important should not be diluted

Jesus- Therefore Article 14 stand by itself

Don – not too many examples of a structured way to exchange information except GLOMIS, may be we could add MAP here, any other examples?

Gil: The IUCN has a regional information center for wetlands in Central America. This used to be active, but I don't know if it is now and I cannot remember the name. Also, Universidad Nacional Autonoma de Costa Rica (UNA) (or the national university of Costa Rica) has a documentation center where they keep grey literature on natural resources, wildlife, etc and publish the holdings. They have an extensive mangrove collection. You can request for copies/reprints to be sent to you. They have a number of masters' level theses in their collection. Whole program has a website.

Ron – In Table 14.1 the economic valuation aspect needs to be expanded upon. There are a lot of externalities. Also, add another bullet to 14.4a that says something like "Comprehensive research on the economic benefits of mangrove ecosystems including marine fisheries benefits, etc."

Jesus: 1)Add "and sea level rise" after the phrase "global climate change" in the last bullet of 14.4a. 2) Chapeau gives impression that lack of research is only reason for problems with conservation and research instead of hampers use. Change "continues" to "contributes" in the first line, and change "poor" to "inadequate".

Gil: I'm concerned that scientific information per se is not what is missing, rather it is the application of the science that is the problem or availability for management. All kinds of mangrove research but not all suitable for management. In 14.1 add "applied" before "scientific knowledge" in the first line. Science research needs to be of use in management.

Jesus: Agree. This is somewhat addressed in 14.2 with the exchange of ideas.

Sanit: In 14.4b, the term "promote" is not strong enough. Change to "intensify".

Gil: NN asked me to have the group add MAP's email discussion list to Box 14B. The discussion list is at http://www.earthisland.org/map/

Jesus – can we suggest that glomis website be more friendly

Article 15 Integration of Mangrove Management into Coastal Zone and River Basin Management

Don: This was covered yesterday in terms of discussion about integrating 15 with 3 or 4. Other than that, there have been no specific comments except on 15.1, saying that international cooperation is also necessary and should be added to regional cooperation.

Gil: Check the Ramsar handbook—they have guidelines related to transboundary management and river basin management. They may be applicable items. Handbook number 7 maybe.

Don: We are concerned that we don't just leave a list of other places to look. For this document to be suitable it is our responsibility to summarize and box up key points. We would like your help summarizing these Ramsar guidelines and what the key issues in them are.

Gil: I will review it.

Liz – just want to clarify Article 15 is moving to Article 4.

Katherine – yes that is what was agreed

Ron: In the beginning there needs to be a little bit about the organization and implementation of coastal resource management plans and how mangroves fit into them. Article 15.2 is excellent statement. Another point is that most of active decision making is at the municipal/district level, which are then combined for state plans, which are then combined for national plans, etc. We must get down to the local government level. In China, this is particularly well-structured.

Edits made on Article 15:

1) In the italicized section at the beginning of the article, delete "the" in front of "coastal zone". 2) In 15.6, add "within Coastal Zone Management Plans" after "Mangrove Management plans" on the first line.

3) In 15.6, insert "Mangrove" between "National" and "Action" on the second line.

4) In 15.8, change "control" to "abstain from" in the first line

5) In 15.9, change "are environmentally sound" to "go through an EIA process" in the last line.

6) Add something after 15.9 on the other benefits of mangroves for biodiversity conservation, fisheries habitat, breeding grounds, as a source of livelihood, etc.

Gil: at 15.8 where says control should change to states should abstain from mangrove conversion for agriculture …

Add after 15.9 another bullet/point that says that mangroves should be made part of national sea level rise mitigation measures and response strategies (e.g. setting "no construction" zones).

Ron: I am not sure I understand.

Gil: The countries have to leave space behind the mangroves for them to move back.– strategies – set no construction zones so sealevel can rise and not cause damage. These are offsets

Tang – wouldn't mitigation be better than response strategies

Gil – need to get impact of sealevel rise. Mangroves need space to adjust. Not losing infrastructure to sealevel rise.

Don – too late in some countries already built infrastructure right up to coast. UNEP project found mangroves a good indicator to sealevel rise and how they would respond.

Tang – just clarify combining article 4 and 15 yes but not sure which way yet

Katherine – nice to have 15 into 4 so have idea of multimanagement throughout

Session X: Plenary:

Don – while we were at lunch we put up approximate costs to follow up actions. Do you agree these figures are reasonable, and if so how we will go about requesting help and funds for these follow up activities?

Tang – can we get a copy of this after we finish?

Ron – estimation needs refining. It needs to prioritise items so get document to next version. Other people have said could possibly find funding and some translations from own heart. WB complex procurement process. May need to bunch things together. MAP and individuals are listed so may need to go into a combined contract or a single source. Everything under contract now needs to be finished by end of March. What resources I have at moment only half committed upstream. I have 40,000 USD from now till March 31.

Tang – remaining 20,000 USD fits into costs of regional workshops for feedback. There is a need for that but then big problem have final document but no way of publishing it.

Don – look for other funding for publication

Tang – what is risk if then don't have any money to publish

Ron – next code ready by December 31.

Don – MAP organise national workshops and facilitator, we will provide objectives, power point and draft. Want feedback on document and process of how it can be used as a tool.

Tang – not discussed distribution of workshops. International in Caribbean region, nationals anywhere in all regions?

Jesus – more expensive for regional than national workshops.

Gil – for budget purposes can use for Latin America workshops. Have other funds for other areas but specific. We work closely with Ramsar and also has opportunities to work in Latin America.

Ron – therefore focus resources on Pacific, and other regions not covered so far.

Gil – Australia has lot of interest in Pacific. The Ramsar executive director is from Australia and maybe he can help you obtain funding for this his name is Peter Bridgewater. Maybe get funding from Japan through Ramsar. He will be in DC Oct 30. Lives in Switzerland. Maybe Maragrita can make an appointment for a telephone conservation

Tang – need to put in bold the must do events, others nice to if have resources, maybe over pay Liz so can then pay for printing later!

Ron – most important thing is editing of present document

Don – next draft improve standardisation of technical editing need to get language fitting principles.

Ron – who is going to coordinate from all stakeholders: governments, universities, NGOs.

Liz – agree this needs to be added. Happy to coordinate

Don – not worried about finding money for who will publish, sure will find money. Maybe ISME could help with what money is left from previous contract.

Gil – possibility we could fund one or two workshops and yes we could do it with MAP. However could also ask for Ramsar funding in Latin America for MAP. E.g. 2 workshop one in central America and one elsewhere e.g. Brazil.

Tang – are you comfortable that these processes will happen. Who is driving all these activities.

Don – I am comfortable with this if continued into new contract with WB. Time scale very tight trying to squeeze everything in by March. However, if we get additional support then yes it is possible. What worries me most is translations and getting new inputs in from different languages. This is new but think is possible.

Tang – separate from these activities need to do a draft concept note and hope we get something from potential donors for next steps. Are we going to have a record from this meeting?

Don – yes we will get a similar output as with the other workshops by the end of this month.

Sanit – on behalf of ISME we would like to thank WB for these activities especially Ron. In some countries not have mangrove management plan and this code will be important to get there.

Ron – thanks to everyone for contributing, done a lot for advancing this. Thanks also to ISME, cenTER and the team. Importantly the detailed comments from everyone. Proved to be very useful

done a lot in two days. Very much a collective piece and good stewardship from ISME consultants and good to see where we have come.

Tang – on behalf of FAO want to thank WB and small cenTER team produce such an effort. Immediate opportunity to try and coordinate with FAO. Thanks everyone else for inputs too.

Gil – Handbook produced 20 years ago with Sanit in Hawaii still used. Challenge, tough job ahead. Nice to see people put a lot of effort and skils and talents into a good cause. Reflected in quality of document. If criticism because topic very comprehensive. My comments also reflected from those of Brazil.

Jesus – mind expanding experience, very enriching. Good to hear WB involved in mangrove conservation.

Katherine – thanks for inviting me and Jason. Very impressive, congratulate you. Very interesting few days and look forward to final product.

ANNEX 2: PEER-REVIEWERS COMMENTS

Name and address	Date	Comments
Junaid K. Choudhury, Team Leader, CMSB, IUCN, Bangladesh.	130703	This is an innovative piece of work and deserves appreciation. I feel this may lead us to evaluate and assess about the mangroves globally, once refined and improved further through more discussions and inputs from the people working with mangroves around the globe. Basically this has suggested 15 Articles as major entities of mangrove possessing some such features described there in. Under each of these articles there are elaborations that may be termed as sub-articles. They carry some descriptions with some examples as well. The report says “CODES” but what has been given are Articles. I am not clear of this. I feel that this report should have a chapter on how to delineate a given mangrove area into mangrove ecosystems so that the code may be applied for each of the mangrove ecosystems delineated as such. I feel that some flow chart or key sort of thing may be developed based on this and other available information, to reach a six-digit code, starched to three tires. Say for example we may choose the tires as under (according to my idea). The **first** tire that may relate to management status and will contribute the first (first and second) two digits of the code. Mangroves under some sort of management. This may be numbered as 01 Mangroves under no management. This may be numbered as 02 and so on The **second** tire that may relate to ecological aspects and will contribute the second (third and fourth) two digits of the code. Completely degraded and denuded. This may be numbered as 01 Under the process of degradation. This may be numbered as 02 Stable ecologically. This may be numbered as 03 Improving ecologically. This may be numbered as 04 and so on The **third** tire that may relate to socioeconomic aspects and will contribute the third (fifth and sixth) two digits of the code. Community infested ecosystem. This may be numbered as 01 No community within the ecosystem. This may be numbered as 02 Serves livelihood to some communities. This may be numbered as 03 Serves the Nation through revenue generation. This may be numbered as 04 Serves eco-tourism aspects. This may be numbered as 05 Strictly under conservation. This may be numbered as 06 Under a serious anarchy. This may be numbered as 07 Under some local norms of harvest. This may be numbered as 08 and so on Thus if we code a given ecosystem, delineated as per the given guidelines, using the above stated coding system and find that ecosystem has got coded as 010306, then this code will mean that the given ecosystem has the following features as of today (during

		the coding period). • It is under some sort of management. • It is a stable from the ecological viewpoint. • It is strictly under conservation. Against each code of each tire three sets of things may be given in the report such as 1. Long term objectives. 2. Short term objectives. 3. Probable management guidelines. There may be repetition of items but that I thing is no problem. A given ecosystem may have two or more codes simultaneously. Say 010306 and 010305. This means that the given mangrove ecosystem (stated above) also has the eco-tourism values. In such a case the suggested guide lines of the two entities will be amalgamated to formulate the management recommendations. A coding of a given mangrove ecosystem, as such, may lead us to evaluate the existing condition of the given system and may give some guidelines for its future management. The coding itself, at later periods may work as a monitoring and evaluation of the given ecosystem and indicate the trend to which it is subjected. **A few specific observations:** Ref Page 7 paragraph 5 The community that has interest in using a given mangrove ecosystem but does not have any interest in its conservation will not get included into stakeholders as par the contents given herein. Ref Page 7 paragraph 6 It is not clear how the code will achieve the log term goal of conserving the mangrove ecosystem. It may provide guidelines to achieve sustainability and management for a given mangrove ecosystem. Ref Page 7 paragraph 7 The code can probably be good guidelines but not tools for management and sustainability of the given mangrove ecosystem. Ref Page 8 Table 0.1 Under the column of “Threats”, ‘Forestry’ been shown as one. It is not clear how forestry can be an item of threat.
Chris Gordon and Jesse Ayivor, Centre for African Wetlands, Accra, Ghana Email:ja@afriwet.org	140803	1. Page 8 ACKNOWLEDGEMENT “He thinks it would be a good idea to give a list of all participants as an appendix to show the degree of consultation 2. Page 25 BOX 3E Examples of Community self -regulation : The item in the box should be replaced by “In Ghana, several coastal areas which are sacred to the local people and are therefore well protected exist. Due to the value of mangroves, and the lack of alternative forms of energy, coastal communities depend heavily on mangrove for domestic fuelwood. In the Lower Volta area, the eight main communities that supply the largest mangrove wood market in Ghana decided to institute a quota on their members when the impact of unregulated cutting was explained to them.” 3. Page 27 Box 4A. The paragraph on Ghana should be replaced by “In Ghana, the changes in hydrology of Volta river (discharge and hydro period) that followed the construction of the Akosombo (1964) and Kpong (1983) dams have limited the

		extend of saline intrusion into the Volta estuary. This change in water chemistry, flooding and sedimentation has led to die off mangroves near the coast. 4. Page 31 Box 5C (Under Regional) the last sentence should read: It serves therefore as a reference point for information on West African wetlands, including mangroves. 5. Page 31 Box 5C (Under International) Delete the last sentence "The ISME Regional Centre----------" 6. Page 38 Box 7E (Third Paragraph) Replace with: "The Gulf of Guinea Large Marine Ecosystem (GOGLME) project involved five West African countries (Nigeria, Ghana, Benin, Cote d'Ivoire and Togo) The community based project allowed for exchange of ideas, greater public awareness and demonstration of mangrove rehabilitation projects." 7. Page 38 Box 7E (5th Paragraph) Replace with "In Ghana, the Wild life Division has an Office in the Songor Ramsar site with a programme for mangrove rehabilitation, empowerment of women and income generation projects, in several villages in the Ada-Obani area. 8. Page 39 Box 8A (4th Paragraph) The sentence should read "the Centre for African Wetlands based at the University of Ghana supports studies on wetlands under the Mphil Environmental Science Programme. Examples of ---------- 1. Managing Coastal Wetlands in Ghana: A case study of the Songor Ramsar Site.(This is followed by 2----------and 3----------" 9. Page 40 Fig. 8.2 (Caption) "Traditional leaders from mangrove areas at the World Wetlands Day 2002. Photo by Chris Gordon, University of Ghana." 10. Page 41 Box 8C (4th Paragraph) Delete the entire paragraph "The Centre for African Wetlands (CAW)----------"
Nishanthi Perera Programme Officer South Asia Cooperative Environment Programme #10, Anderson Road, Colombo-5 Sri Lanka Email: np-sas@eureka.lk	190803	1. Preface/Introduction? The distribution/extent of Mangroves should be elaborated more. The importance of mangroves especially in fishery, coastal protection and biodiversity should be stressed. 2. Under Precautionary approaches to mangement, you can mention identification of mangroves which face the danger of vanishing due to climate change and sea level rise. Threats of Oill spills in the coastal areas can also be included. 3. Gaps - Information on Pakistan's mangroves is lacking (Indus delta mangroves is one of the largest arid mangorve areas in the world. You can mention UNEP-GPA (Global Programme of Action for the Protection of the Marine Environment from the land-based activities. Its a non-binding Multilateral Environment Agreement. Under that Physical alteration of coastal habitats is being addressed. Another new approach is the Integrated Coastal area and River basin Managment (ICARM).
Hemanth Meka Rao Bungalow 3, Madhuli, Dr. A. B Rd Worli, Mumbai-18, INDIA. Ph: +91-22-24910000 Fax: +91-22-24939857 Cell: +91-9820001718 Email: hemanth@hemanth.net Web: www.hemanth.net	260803	While the work done by Professor Macintosh and Dr. Ashton is extensive, and the opinions from various parts of the globe show the extent to which work has been done, I feel that this document will not serve a realistic purpose in its current form. The reason for this is that there is no sustainable solution provided for Urban development and population pressure. In Table 0.1 in the document, Population pressure is High and Increasing. As is Urban and Industrial Development, along with over exploitation and aquaculture. Currently, mangroves occupy very expensive sea-front land. Who wouldn't like a house by the sea. Whether we like it or not, they will disappear as long as economics exist. In India, it is illegal to cut mangroves. However, it is very easy to

		get around this. Employ people to go and chop the mangroves overnight, then apply for environmental clearance. Or dump rubble over the mangroves - killing them off. Currently, there exist no proper methods for demarcating mangrove areas in India. They need to be demarcated as Mangrove forests with proper demarcations. I feel that this document should highlight mitigation measures more than anything else. Developers want this land. But we should keep in mind that this is a natural phenomenon. As population grows, people will be looking towards mangrove lands for development, even though they might know how important they are to the ecosystem. People in urban areas don't really feel the need for eco-system preservation. To get to the point, what I would very much like to see in this document is this: Mitigation measure such as - if someone wants to develop land which has mangroves, he should be allowed to replant 3 times (or whatever the exact multiple) the number of mangroves in a near area or in an area that could use this. And MANAGE it for a certain period of say, 10-20 years. Florida has been doing this and this can be replicated in other countries too. Otherwise, everything will happen illegally, and before we know it, there won't be many mangroves left.
Felix N.Sugirtharaj Secretary Coastal Poor Development Action Network, Chennai, INDIA Email:arpmds@md3.vsnl	090903	We are expressing our protest concerning the lack of real input and representation regarding the Code of Conduct for Mangrove management and conservation to be adopted in the World Bank Workshop without understanding the needs and aspiration of those who are richly benefited by mangrove forests in the developing countries especially South Asia like India, Sri Lanka, Bangladesh and Pakistan. Most of us who are involved in the propogation and regeneration of mangroves to save Lagoons and waterbodies from ecological death victimising millions of small fisherfolk to starvation and marginalised with the economic and political powers welded in the elite controlling the countries, multinational corporations, IMF, WB, ADB and WTO there is very little space life for grass roots organisation in the poorer countries to advocate and campaign for reorientation and reconstitute global governance. Though poor fishing communities ekk out their subsistence living from mangrove resources such as fish species, fodder and fuel etc the Code of Conduct for mangroves is certainly against the interest and option taken by a large members of environmentalists who are mostly in building an eco-friendly sustainable livelihood processes between mangroves and the people who are protectors and stake holders. Therefore we plead for better participation of NGOs and fisherfolk leaders from mangroves forest regions to speak in favour or against the Code of Conduct of mangrove eco system before it is finalized.
Mette Løyche Wilkie Forestry Officer (Forest Management) Forest Resources Division FAO Forestry Department Viale delle Terme di Caracalla Rome 00100 Italy Tel: +3906-5705-2091	090903	**Firstly** let me congratulate the authors for the huge work involved in compiling the information contained and in reconciling the views and values of numerous contributors from around the world. Not an easy task. **Secondly**, and before you open the file attached, let me stress that the points below and the extensive comments in the attached file reflect the interest in and importance afforded to the topic by FAO. Quite a few colleagues have contributed to this review. I have attempted to summarise a few of the key comments below for ease of reference. They refer to the design process, the relationship with other instruments, the style and structure of the document and some suggestions for the way forward. For details and for comments on the technical content of the document, please refer to the attached

Fax: +3906-5705-5137 E-mail: Mette.LoycheWilkie@fao.org		file. **1. Process** Although the Preface and Acknowledgements suggest that many inputs into the Draft Mangrove Code have been made by a large number of institutions and individuals, it is not clear whether the document was developed in response to a specific request from countries and through a meaningful consultation process so that all relevant stakeholders, including governments, interested IGOs and NGOs, could get full ownership of the same. In comparing the FAO Code of Conduct for Responsible Fisheries (the Fish Code) to this Draft Code, we note that the Fish Code is the result of a global effort, developed and adopted under the auspices of FAO as a specialised international organization. It is also the result of sustained collaborative efforts between many disciplines (involving fisheries managers, scientists, politicians, lawyers) supported by the technical expertise of the FAO Secretariat. It has therefore gained a broad international "ownership" and support, and more importantly enthusiasm in implementation. However, there is still time to broaden the consultation process and secure ownership by key stakeholders. See suggestions on the way forward below. **2. Relationship with other instruments** This needs to be further clarified and depends on the type of end product you wish to obtain. **3. Style and Structure** While the document contains many valid points, the overall impression is that, in its current form, it is not really a code of conduct in the usual meaning of the term, but more a mixture between a code, a set of general guidelines and some awareness raising material. More specifically, while the Mangrove Code is voluntary and not meant to be a legally binding instrument, a certain level of consistency of language and style is nevertheless expected in an international instrument naming itself a code of conduct. In this respect, the Mangrove Code appears to suffer from a lack of legal consistency as well consistency on style. If, as stated in the Introduction, the Mangrove Code is meant to provide principles, guidelines and recommended practices, then this needs to be clear from the wording of the text and the document should, perhaps, be renamed Guidelines along the lines of those produced by the ITTO, which consist of a set of Principles, each followed by one or more recommended actions. (Refer to the ITTO Policy Development Series.) **4. Proposed way forward** Below, please find some suggestions for a possible way forward as input to the Workshop items 5 Strategies toward getting the Code adopted by states through cooperation among multilateral and bilateral agencies, NGOs, and others and 6 Next steps Given the detailed comments on the style and structure of the document, we suggest that a decision be made as to whether the current document should become a set of Guidelines or a Code of Conduct.

		If a decision is taken to change the title to Guidelines, then most of the comments on style and structure can be ignored, although the authors may wish to refer to the ITTO Guidelines since the current structure (principles plus recommended action) is similar to those. If, on the other hand, a decision is made to prepare a full-fledged Code of Conduct, then we suggest that 1) The technical comments received by mail and during the review workshop be incorporated; 2) The style and structure of the current document be revised to make the draft consistent with other, similar Codes of Conduct; 3) A specific mandate from countries to continue the development of the draft Mangrove Code be sought to ensure political will for the implementation of the Code once finalized; 4) A broader consultative process through the appropriate channel and for a be undertaken (involving government representatives as well as international governmental and non-governmental organisations, regional development banks and major donors) to obtain broad acceptance and ownership of the Mangrove Code and enhance the chances of wider support to its implementation. For an instructive example of the steps and the consultative process involved in obtaining agreement on and widespread support for the implementation of a Code of Conduct refer to: http://www.fao.org/fi/agreem/codecond/ficonde.asp#BAC In view of its experiences with the development and adoption of the Code of Conduct for Responsible Fisheries and its technical mandate under the United Nations, FAO would certainly be able to help integrate the development of the Code into a governmental process, provide further technical assistance (in agriculture, forestry, fisheries, sustainable development and legal affairs) for the refinement of the Code as well as support to its implementation through closer WB-FAO collaboration.
		FAO COMMENTS ***1. Design Process*** Although the *Preface* and *Acknowledgements* suggest that many inputs into the Draft Mangrove Code have been made by a large number of institutions and individuals, it is not clear whether the document was developed in response to specific requests from countries and through a meaningful consultation process where all relevant stakeholders, including governments, interested IGOs and NGOs, could get full ownership of the same. Apparently this didn't really happen. If this is true, a broader consultative process would still be required if the future Mangrove Code is to get wide support and to be significantly implemented once finalized. International organisations undertaking mangrove related activities and missing from the list of contributors include the International Tropical Timber Organization (ITTO), UNESCO, UNEP (including the World Conservation Monitoring Centre), WWF and IUCN. As regards country representatives, the following absences were particularly noteworthy: Indonesia (the largest mangrove country in the world and one with high deforestation rate and limited recent information on area extent) and Australia (the fourth largest mangrove country). Other countries among the "Top 10" mangrove countries not included/represented are: Cuba, Mexico and Papua New Guinea. Regions and sub-regions not well represented include: Arid zone mangroves/Near East, Central Africa, Central America/Caribbean and the Pacific Islands. A list of prominent mangrove specialists, not currently listed, has already been

		provided to the WB. In comparing the FAO Code of Conduct for Responsible Fisheries (the Fish Code) to this Draft Code, we note that the Fish Code is the result of a global effort, developed and adopted under the auspices of FAO as a specialised international organization. It is also the result of sustained collaborative efforts between many disciplines (involving fisheries managers, scientists, politicians, lawyers) supported by the technical expertise of the FAO Secretariat. It has therefore gained a broad international "ownership" and support, and more importantly enthusiasm in implementation. ***2. Relationship with other instruments*** The second last paragraph of the introduction to the Mangrove Code attempts to shed some light on the Code's relation with other international instruments and initiatives. If a clarification on the legal status of the Code is considered necessary, it might be appropriate to address it in the body of the Code itself and not in passing in the introduction. (The Fish Code for instance devotes an article, with 4 paragraphs, to the "Nature and Scope of the Code"). Apart from that, the reference to "relevant declarations and international instruments/agreements" does not seem to attempt to distinguish between the more important international agreements and initiatives by international agencies – e.g. the 1982 UN Convention on the Law of the Sea is mentioned in the same breath as the FAO Mangrove Forest Management Guidelines. If the purpose is to list all international initiatives of relevance without attempting to distinguish between, this is fine, but then greater care should be taken to include all relevant references. For example, the Fish Code and its implementing Technical Guidelines are not referred to, nor is the "Mangrove Charter", developed by the International Mangrove Ecosystems Society, or the "Forest Principles" adopted at UNCED. In this respect also, Article 10 on Fisheries and Aquaculture sets out to list relevant international instruments that states "should follow", but the same is not done in e.g. Article 9 on Forestry/Silviculture Management (e.g. the "Forest Principles[1]") or in Article 15 on Integration of Mangrove Management into Coastal Zone and River Basin (The Fish Code and its Technical Guidelines on Integration of Fisheries Into Coastal Area Management should be of great interest here). There appears to be little attention paid to ensuring consistency throughout the Mangrove Code in this regard. ***3. Style and Structure*** The **overall impression** is that this is not really a code of conduct in the usual meaning of the term, but more a mixture between a Code, very general technical guidelines and/or awareness raising and extension material. While there are quite a few sensible points made in the document, as a whole the document suffers from: • too many points set forth at such a high level of abstraction that they don't really provide much guidance for action on the part of States and others; • many provisions not being action-orientated, i.e. they are often descriptive and not formulated as directives as is expected of a code. (While some paragraphs start with

[1] Full title: Non-Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests

		the words “States should…” many others do not. Some parts could be considered as part of a Code, others as components of Guidelines.) • a certain degree of inconsistency in the way the introductory paragraphs (*chapeaux* or principles?) of the various articles are worded: while the *chapeaux* are generally formulated in terms of behaviour (e.g., Articles 2, 3, 5, 6, etc), which is what the guidelines are supposed to be about, in some cases the *chapeaux* either point to a specific shortcoming (e.g., Articles 4, 7, 10) or are in the form of a general statement (e.g., Articles 12 and 14), which is not how a conduct is usually suggested; and • a certain sense of randomness in presentation -- while the headings of the various articles make sense, the points underneath each heading don't necessarily add up to a coherent approach, and there is little attention to separating priority items from those that are perhaps less significant; • the formatting (with boxes, figures and examples), which detracts rather than re-enforces “principles” or guidelines, thus harming the intended objective of the code. And making the document much too long to appeal to policy and decision makers. More specifically, while the Mangrove Code is voluntary and not meant to be a legally binding instrument, a certain level of consistency of language and style is nevertheless expected in an international instrument naming itself a code of conduct. In this respect, the Mangrove Code appears to suffer from a lack of legal consistency as well consistency on style. In particular: • the introduction of the boxes introduces a level of detail that is not commonly found in codes of conduct. The Fish Code, for example, is implemented by its technical guidelines; • some articles include statements more commonly found in preambles or background sections than in operative articles, e.g. Article 10.5: “States should be aware that many millions of people depend on traditional fishing activities in mangrove ecosystems for food and income generation”; • the mix of articles and boxes creates a tension between the general guidelines provided by the articles and specific (and not necessarily universally applicable) solutions chosen in certain locations. Though sometimes interesting, the **use of boxes** throughout is problematic. First of all, it is not sure they are appropriate in a code of conduct. Secondly, it is not always clear what point a particular example is intended to make. For example, Box 3A presents as an example of a “legal framework” a law from the Philippines "prohibiting the cutting of any mangrove forest, whether natural or plantation forest." It is true that this is an example, but what end is served by including it here? Is this an example that should be emulated? Surely a blanket prohibition against any cutting could have severe impacts on livelihoods of local communities, which elsewhere the document suggests are important to support. So are we sure the Philippines example is a "good" one? The document should be providing insights into what criteria might be applied to decide if a legal framework is appropriate or not. This is not accomplished by just providing uncritical examples of regulations that somehow deal with mangroves. Similar comments could be made about many of the boxes. 3E, for

		example, presents an example from Ghana of community self-regulation. First of all, the box says that in Ghana many coastal wetlands are regarded as the abode of Gods, "and therefore are well revered and protected" -- a naïve presentation of the facts, or at least one that needs to be heavily qualified, as wetland degradation in Ghana is widespread. Second, the box says that tribal elders still influence the allocation of mangrove resources to families in their communities. Again, is the document saying that this *necessarily* is a good thing? Is it suggested that this should be emulated? While mechanisms for meaningful community involvement in management and use are needed (which actually, the document really never gets around to saying), there is no magic to "community self-regulation" that automatically means it is a good thing in all circumstances and in all forms -- there are a host of very complex reasons why it works sometimes and can be a disaster at other times, and a gigantic literature on this subject exists. For the most part, the document skirts over complexities like this in a way that does not help inform policy makers. If, as stated in the Introduction, the Code is meant to provide principles, guidelines and recommended practices, then this needs to be clear from the wording of the text and the Code should, perhaps, be renamed Guidelines along the lines of those produced by the ITTO, which consist of a set of Principles, each followed by one or more recommended actions. (Refer to the ITTO Policy Development Series.) The Articles could be structured in a number of ways. You may wish to re-visit the Code of Conduct for Responsible Fisheries - since the aim is a similar type of document - or use the Mangrove Charter or the principles of the Ecosystem Approach as the main framework. Alternatively, the headings of articles could reflect the main components of mangroves management that includes management institutions, information gathering-research-education, management measures, monitoring and enforcement, management plan, stakeholder consultation, etc. ***4. Proposed way forward*** Below, please find some suggestions for a possible way forward as input to the Workshop items 5 ***Strategies toward getting the Code adopted by states through cooperation among multilateral and bilateral agencies, NGOs, and others*** and 6 ***Next steps*** Given the detailed comments on the style and structure of the document, we suggest that a decision be made as to whether the current document should become a set of Guidelines or a Code of Conduct. If a decision is taken to change the title to Guidelines, then most of the comments on style and structure can be ignored, although the authors may wish to refer to the ITTO Guidelines since the current structure (principles plus recommended action) is similar to those. If, on the other hand, a decision is made to prepare a full-fledged Code of Conduct, then we suggest that 1) The technical comments received by mail and during review workshop be incorporated; 2) The style and structure of the current document be revised to make the draft consistent with other, similar Codes of Conduct; 3) A specific mandate from countries to continue the development of the draft Mangrove Code be sought to ensure political will for the implementation of the Code once finalized;

		4) A broader consultative process through the appropriate channels and for a be undertaken (involving government representatives as well as international governmental and non-governmental organisations, regional development banks and major donors) to obtain broad acceptance and ownership of the Mangrove Code and enhance the chances of wider support to its implementation. For an instructive example of the steps and the consultative process involved in obtaining agreement on and widespread support for the implementation of a Code of Conduct refer to: http://www.fao.org/fi/agreem/codecond/ficonde.asp#BAC In view of its experiences with the development and adoption of the Code of Conduct for Responsible Fisheries and its technical mandate under the United Nations, FAO would certainly be able to help integrate the development of the Code into a governmental process, provide further technical assistance (in agriculture, forestry, fisheries, sustainable development and legal affairs) for the refinement of the Code as well as support to its implementation through closer WB-FAO collaboration. ***5. Specific Comments*** There are many comments one could make regarding points of detail. A few are made here, but these are indicative points only and are far from being the exhaustive critique the document needs. **Title** Code of Conduct for Sustainable Use of Mangrove Ecosystems is suggested as, perhaps, a more accurate title. (The term "sustainable management" may be viewed differently in the Fisheries and Forestry sectors.) **Preface** The most recent estimate of total mangrove area in the world indicates that it may have fallen below 15 million hectares. See www.fao.org/forestry/mangroves for details. "Aquaculture has been one of the major causes of mangrove loss…" suggest to add "in Southeast Asia and parts of Latin America". **Introduction** Part of the text in this section might be better placed in two articles on the Nature and Scope of the Code (including relation with other international instruments and agreements) and on the Objectives of the Code in the final version. What is the source for ***Table 0.1***? It would be useful if the Pacific and the Near East were added. As the threats in these sub-regions are likely to differ from those listed for South and Southeast Asia and Africa respectively. On the other hand, the table could be excluded and summarised in the text, as some of the findings appear to be very general and not applicable to all countries within each region. ***Table 0.2*** This LFA could benefit from some additional work. Given that the Development Objective is Conservation it is noteworthy that none of the Immediate Objectives mentions conservation practices. (Conservation is only mentioned under policies.) Perhaps the last "P" could be changed to "Practices" and reworded to include conservation measures?

		The link between this LFA and the structure of the remainder of the text is not clear. Please also note the wrong spelling of FAO in the text and in ***Figure 01***. (As well as in the Glossary and the list of acronyms.) **Article 1 – Mangrove Management Objectives.** This article could be more broadly entitled (or preceded by an article on) Objectives of the Code. If left as is, we suggest to add "local and" to "global population". ***1.1b "Adopting the ecosystem approach to the conservation of mangroves…"***Change "conservation" to "management"? ***1.4a*** You may wish to add a sentence to ensure that the management plan is prepared within the framework of any existing integrated coastal area management plan and is prepared in a participatory manner. ***1.4c "Explain the purpose of conservation measures to the users of mangrove resources…"***Again, the formulation gives the impression of a top-down approach and it would have been better if these measure were developed through a participatory approach. ***1.4g "Before committing funds for development projects e.g. roads, dams and irrigation systems"*** add "housing, tourism facilities, ports etc." ? If the figure with the education examples is retained, it might be good to also mention the ISME slide collection: "Know your mangroves". **Article 2 – Precautionary approach to management.** ***Chapeau :"…but a lack of scientific information should not be used as an argument for postponing, or failing to implement conservation and sustainable management measures. "*** Suggest to delete the word "sustainable". (Or better yet: reword as Principle 15 of the Rio Declaration.) ***Articles 2.2 and 2.2.a-c*** might be better placed in a separate paragraph on planning and conservation of biological diversity respectively. **Article 3 - Legal Frameworks.** This Article could be more broadly entitled "Policy and Legal Frameworks", as it covers matters of both policy and legal nature (In addition to legal frameworks, policy, institutional and administrative frameworks issues are also dealt with – e.g. Article 3.1). If in deed dealing with all these issues in Article 3, it should be considered to also include regional cooperation here rather than in Article 15 on Integration of Mangrove Management into Coastal Zone and River Basin Management. Some of the problems with this Article are symptomatic of the problems found in most Articles. It is easiest to convey this critique by looking at each of the paragraphs in turn. ***"3.1 States should ensure that effective policy, legal, institutional and administrative frameworks are developed at the local, national and transboundary levels, as appropriate, to support mangrove management."*** It is hard to argue with this statement, but it is also without any substance. The issue is *what are the elements* of "effective policy, legal, institutional and administrative frameworks." This issue is not addressed in this paragraph. To make it a bit more specific, one could suggest the following additions: *"3.1 States should ensure*

		that effective ***and coordinated*** *policy, legal, institutional and administrative frameworks are developed at the local, national and transboundary levels, as appropriate, to support mangrove management.* ***To this effect, existing policies, laws and institutions dealing with mangroves should be reviewed and amended as needed.*** *"* ***"3.2 The legal and institutional framework for mangroves is often complex and poorly understood at all levels. The regulatory authority should review the legal status of mangroves at national level, then consolidate and summarize the key points into a form that can be easily understood by stakeholders; e.g. as a pamphlet in the local language with illustrations."*** Legal literacy on mangrove issues is indeed important, and it is good the Code stresses this. However, improved information is not likely to be of much use if the legal framework itself is poor. Hence, we come back to the first point -- we need first to understand what elements are required for an "effective" legal framework. Questions can also be raised in analysing this paragraph, such as what is meant by “the legal status of mangroves” or whether the intention is that the regulatory framework relating to mangrove management be reviewed, guides to understanding principal points/requirements of the regulatory framework be produced for public consumption. A point of detail: "regulatory authority" should perhaps read "relevant authority". ***"3.3 Clear agency responsibilities for mangrove management are needed, but the lead agency concerned must support effective cooperation mechanisms with other concerned agencies and all stakeholders."*** Does this mean that there *should* be one agency that takes the lead on mangroves? In the affirmative, what are the reasons for this? It would also be useful here to identify the types of agencies that are most likely to be involved -- forestry, fisheries, water, environment, land use planning, tourism, etc. -- so that the reader understands in more concrete terms the types of coordination challenges that are likely to be encountered. The Article should also highlight the need for coordinating the legal frameworks that apply to all of these sectors – i.e., it is not just a matter of working out cooperation at the level of administration, but of harmonizing laws. ***"3.4 It is desirable to have clear targets for mangrove conservation and rehabilitation. The overall goal should be to protect and sustainably manage all remaining mangrove ecosystems. It is especially important to avoid further fragmentation of mangrove habitat."*** This is a mangrove management issue. It does not seem to belong in the Article on the legal framework. ***"3.5 Physical zoning of mangroves can be a valuable, practical means to help implement conservation and other management objectives. Mangrove areas should be clearly zoned, with the function and conservation status of each zone clearly identified and legally defined."*** A sentence explaining *why* physical zoning can be valuable and what exactly it means would be helpful. Otherwise it is not clear why this should be a priority from a legal point of view. ***"3.6 Engineering works such as sea walls, embankments and roads, which may affect the normal tidal flow and sediment deposition along mangrove-fringed coastal belts, should not be permitted without a prior study of their impact on the hydrological regime as part of a full, independent EIA and approval by the governmental authorities responsible for***

		mangroves." One would change the wording of this sentence around, so that the focus is on the legal framework aspect (which is what Article 3 is about) and not on the types of land uses that should be prohibited. It seems that the message that one wants to get across here concerning the "legal framework" is that the legal framework (a) should provide a mechanism by which EIA's are triggered and conducted in the case of activities that potentially impact mangroves [and a lot could be said on this point] and (b) should ensure that the agency(ies) responsible for mangrove conservation are given a voice in approving activities inside an outside of mangroves that could affect mangroves. ***"BOX 3A: Examples of the legal framework for mangroves*** ***• Thailand currently (2002) has about 170,000 hectares of mangrove forest. The national policy is to increase this area to 200,000 ha by 2006. There is a recently assigned Office of Mangrove Conservation under the Department of Marine and Coastal Resources, which is a department under the new Ministry of Natural*** ***• The Philippines has a law prohibiting the cutting of any mangrove forest, whether natural or plantation forest.*** ***• In Brazil, it has been illegal to cut mangroves since 1926 and the legislation was amended in 1965 to make it even more restrictive. Some exceptions are permitted, e.g. to allow for important public utilities, such as bridges and electricity lines. Environmental legislation was further strengthened by the law on environmental."*** Comments have already been made on this box -- just to note that the first bullet point is not a "legal framework" example at all. ***"3.7 In view of the multiple uses of the coastal zone, States should ensure that representatives of all the different sectors/stakeholders are consulted in the decision-making process in development and management planning, and in environmental protection activities for mangroves."*** A fine goal, though overly broad and not especially related (as worded) to the issue of legal frameworks. Perhaps this could be made more germane to the subject of Article 3 by saying something like the legal framework governing mangroves should provide a mechanism (create a forum) (put in place procedures) designed to ensure that everyone is consulted. Also, it would be useful to add a point about how the laws and regulations themselves should be the product of a consultative process. ***"3.7a The best multiple use systems for coastal areas involving mangroves need to be determined by careful assessment of the environmental and socio-economic conditions affecting local stakeholders and with all stakeholders participating in the assessment process."*** ***"3.7b Non-destructive uses of mangrove ecosystems should be encouraged over activities that involve destroying mangroves and/or altering their hydrological conditions."*** ***"3.7c All decisions on development activities in mangrove ecosystems should be well founded from a wide base of knowledge, including resource assessments, research studies and stakeholder consultations."*** ***"3.7d States should provide the financial and economic conditions for coastal cities to have adequate sewage and landfill treatment systems. Mangroves can be used to treat sewage on a small scale but not for large cities."*** None of these are really "legal framework" issues. They belong

		elsewhere in the document. ***"3.8 States and mangrove managers should ensure that the laws and regulations protecting mangroves provide for effective penalties against violations, which are adequate in severity to be effective, including withdrawal, refusal or suspension of user authorizations in the event of non-compliance."*** ***"3.9 The following measures are recommended to promote compliance with the appropriate laws and regulations:*** ***• Licensing systems to legalize the activities of legitimate mangrove users***. The first step is to "legalize the activities of legitimate mangrove users." Not sure what licensing has to do with this, though it would be desirable to have a licensing system as a management tool. ***• Designated mangrove forest areas set aside to help meet the subsistence fuelwood and timber needs of very poor mangrove dwellers.*** ***• Penalties for violations should reflect the severity of the malpractices concerned.*** ***• Speedy disposition of cases involving violations of laws and regulations are strongly urged to protect mangrove resources, and as a deterrent to would-be violators.*** "Speedy disposition" of cases is a nice goal, but unlikely to be influenced very much by that part of government directly involved with mangroves, as it is usually a chronic problem running throughout the administrative and judicial structure -- it is questionable whether reform issues of this scope fit into a subject-specific code of conduct of this sort. (It's a bit like saying that mangrove management would be better if governments adopted democratic constitutions). It might be better to phrase this from the narrower perspective of what actors from the sector itself might do in order to help speed up cases. ***• Education of all stakeholders in key aspects of mangrove legislation (see also Article 3.1a)*** ***• Develop actions to promote the organisation of local communities in order to ensure supervision and the full respect of the law and local planning."*** What does it mean "to ensure supervision?" What types of organisational activities might lead to "full respect of the law and local planning." ***3.10 In conformity with their national legislation, States should implement effective assessment, monitoring, surveillance and law enforcement measures to protect their mangroves.*** ***3.10a Surveillance and law enforcement are most effective when supported by self-regulation by the local communities themselves.*** ***3.10b Monitoring/assessment of mangroves must be simple and inexpensive, but reliable. Two levels of assessment are desirable (a) routine, low level monitoring by local people; (b) more intensive, periodic monitoring by governmental agencies, NGO's and researchers. (See Article 5 for recommended methodology).*** ***3.10c States should encourage studies and research which supports the legal actions and the establishment of the maximum sustainable extraction quantities for fish, molluscs and crustaceans.*** No attempt is made to explain what self-regulation by local communities is and what is required to encourage it to take place.

		Indeed, the entire subject of community management or co-management (including resource tenure regimes, legal mechanisms for recognising rights and assigning responsibility, balancing of competing interests within communities and between communities and outsiders, dispute resolution, etc.) is an area strangely neglected by this Article. There is a tremendous amount that could be said on this issue. ***3.10c*** is written in a confusing way -- not sure what the point is, and if it is a legal framework issue. And why limit the extraction to fish, molluscs and crustaceans? ***3.11 States should identify and adopt mechanisms by which mangrove conservation activities can be financed, so that much of the cost of conservation, management and supporting research and education can be recovered. Mangrove Forest Development Funds (MFDFs) or Environmental/Ecological Trust Funds are recommended as good potential mechanisms for financing mangrove conservation activities. A percentage of the royalty is charged on mangrove products (e.g. timber, aquaculture products); this levy is placed in the MFDF exclusively to support mangrove conservation and rehabilitation.*** Such Funds could perhaps be helpful, but only in a limited way, as the royalties derived from mangrove products (particularly in areas where conservation is the main priority) are likely to be very low. Hence, 3.11 is a bit misleading in its optimism. Are there any examples of successful Funds of this type? [None of the examples given in Box 3F is specific to mangroves]. ***Final note***: This Article does not address tenure of mangroves – wetland tenure, tree tenure and other resource tenure. As with other rural areas, however, tenure issues in mangrove ecosystems, including ownership and use rights of mangrove dwellers and mangrove-dependant people, are generally important and should be given some consideration here, and maybe elsewhere in the document (e.g. in Article 7 on cultural and community issues). Note that under Article 5 ("mangrove inventory") Box 5A provides standard methodologies for mangrove survey and inventory, for which the basic information required includes "land/water use and ownership". This is the only mention of a tenure-related matter that is (vaguely) made in the document. [In a different context, Article 14.4d alludes to the "rights and ownership of indigenous/local people", which should be recognized in relation to research on traditional knowledge of mangroves.] **Article 4 – Implementation. Suggest this be merged with Article 15 and renamed.** Should also address the issue of monitoring and evaluation. Under ***Article 4.5***, the last sentence could be reworded as follows: "For this purpose *the establishment of* national coordinating body for mangrove management *may be desirable"* [instead of "is strongly recommended"], as such body may not be needed in all countries, for instance where a coordinating institution already exists with a mandate that covers mangroves (e.g., an inter-ministerial body dealing with land-use planning or environmental matters). ***Article 4.6*** could be moved to a separate Article on Conservation of biological diversity. **Article 5 – Mangrove Inventory for Management.** ***Box 5A Guidelines for mangrove survey and inventory.*** The list of key references on methodologies includes two which do not

		provide any guidance on survey and inventory methodologies (8 and 9). If this box is maintained, you may wish to instead include the FAO Guidelines on mangrove forest management which contains chapters on Information needs; The use of remote sensing in mangroves; Planning and implementation of forest surveys in mangroves; and Resource assessment and forest inventories of mangroves. ***Box 5C Examples of mangrove databases***. For your information, FAO has recently established a number of databases related to mangroves. Some of these refer to FAO projects and publications on mangroves. Others provide a short description of the mangrove vegetation on all the countries and areas in which mangroves occur. And the largest and most recent database provides contains more than 2800 datasets related to recent and past mangrove area estimates. See www.fao.org/forestry/mangroves for details. WCMC also has a database with maps and with the area estimate given in Spalding et al. 1997. **Article 6 – Socio-economic considerations.** ***Article 6.5*** Suggest to add eco-tourism to the list of potential livelihood opportunities as e.g. seen in Egypt and Malaysia. ***Article 6.6*** The pressure by livestock in mangroves is less through grazing than through browsing. Particularly by camels in Near East - West Asia. In the same connection it is implied in ***Box 6B*** that mangrove plantations have been established in the 3 countries mentioned to provide fodder. This is not the case in Egypt, which, to my knowledge, has no mangrove plantations. I am not sure whether Eritrea does either. ***Articles 6.7 Pollution and 6.8 Rehabilitation***. Perhaps these might be better placed in a section on mangrove protection and rehabilitation than on socio-economic considerations? **Article 7 – Cultural and Community Issues.** Could possibly be integrated into Article 6. ***Article 7.3*** deals with livelihood opportunities and should be moved to 6. **Article 8 – Capacity Development**. Could be incorporated into an overall article on implementation aspects or into article 14. If the lists of educational programmes is retained, then we suggest to add the ISME mangrove training programme sponsored by JICA. **Article 9 – Forestry/silviculture management**. Suggest this be renamed Silviculture and forest management. This is one of the weaker sections of this document. On could get round (most of) this by simply referring to some of the existing (and forthcoming?) guidelines on mangrove forest management (The FAO Guidelines are about to be updated and revised) as done in Article 10. Mangrove forest management objectives may be much broader than those listed in the ***Chapeau*** and ***Article 9.1*** since the trees are viewed as part of the larger ecosystem. We suggest these lists be deleted and the *Chapeau* be worded as a principle or suggested action. ***Article 9.2*** Suggest this be changed to “States should provide a clear framework for mangrove silviculture and forest management.

		The framework should be consistent with any existing integrated coastal area management framework and other existing legislation and be based on past experiences…" ***Article 9.3 (Priority to be given to protect any stands of mature mangroves that are still reproductively viable.)*** Assuming that this section deals with mangrove areas which have been designated as to remain "forested", all stands should be protected – also (and in some cases particularly) those recently planted/regenerated and which are susceptible to attacks by crabs, monkeys, livestock and barnacles and to floating debris. There may be a special case for leaving good seed trees behind during harvesting, but that is a different matter. ***Articles 9.4 – 9.7 Rehabilitation and planting***. It might be useful to merge a couple of these and to clearly distinguish between rehabilitation/restoration/reforestation on one hand and afforestation on another. A couple of suggestions: • Priority should in the first instance be given to the management of existing mangrove areas – including the rehabilitation of degraded sites where needed. • Rehabilitation should preferably be done through natural regeneration – or assisted natural regeneration (including restoring the hydrological regime), followed by enrichment planting and planting/afforestation of areas previously covered by mangroves. • Priority should be given to the use of local species and provenances (where the health and form of these are good) • Afforestation sites (for coastal protection or provision of wood) should be chosen with extreme care (include the need to avoid sea grass beds and mudflats important for waterbirds – I am not sure I understand the need to mention coral reefs, unless this refers to raised coral beds, where mangroves are unlikely to grow anyway due to lack of sufficient substrate.) • Introduction of new species should be avoided where possible (example of Nipa palm in Nigeria and *Rhizophora* in Hawaii) ***Article 9.8 Involvement of local population***. It is important also to involve the local population in the site selection and design of any mangrove rehabilitation or plantation schemes to make sure their needs in terms of landing sites, boats and walking routes, collection sites for crustaceans and their knowledge of the importance of certain areas for birds and marine life is taken into account. (And as an aside, not all mangroves need to be raised in nurseries, so perhaps also add collection of seeds/propagules.) The local population should, of course, also be involved in the management of existing mangrove sites. ***Box 9A*** seems out of place in this Chapter. In ***Table 9.1*** the example on Biodiversity conservation is not well chosen. This could be placed in the box below on rehabilitation if the Table is retained and replaced e.g. with an example from the Sundarbans on tigers and deer. An example on production of non-wood forest products would also have been appropriate. (See below). Missing pieces: The articles included in this chapter mainly concern the management objective, protection of mature stands and rehabilitation/mangrove planting. There is little or no mentioning of:

		• Selection of seed sources and material • Protection against pests (and the need to avoid use of pesticides), pollution and floating debris • Silviculture (including tending and thinnings) for wood production or to enhance the provision of non-wood goods and services (both natural forests and plantations) • The need to undertake sustainable forest management and to remain within limits of sustained yield/ecosystem resilience • Harvesting and transport of wood and non-wood forest products • The equitable sharing of costs and benefits of mangrove management (possibly mentioned elsewhere) • The need for planning, monitoring, evaluation and plan revision • The need for integrating forest management objectives and practices with other uses of the mangrove ecosystem NB: Non-wood forest products are extremely important in mangroves, yet they are not mentioned in any of the articles. In addition to fisheries products (not always included as NWFPs), they include honey, medicine, thatch, fodder (mentioned elsewhere but important to also include here), handicraft materials, sugar, vinegar and wine from the Nipa palm, tannin to name a few. Over-exploitation of any of these can be just as damaging to the ecosystem (but more difficult to detect before it is too late) than felling of trees. **Article 10 – Fisheries and Aquaculture.** As a general comment, the whole section could be developed into a Technical Guideline on Mangrove Fisheries Management, such as is done for the Fish Code. ***Article 10.1***: in this context, one could mention the various Technical Guidelines developed for the implementation of the Fish Code to date, namely the – • Technical Guidelines for Aquaculture Development and its supplement Good Aquaculture Feed Manufacturing Practice, • Technical Guidelines for Inland Fisheries, • Technical Guidelines for Integration of Fisheries Into Coastal Area Management, • Technical Guidelines for Fisheries Management and its supplement The Ecosystem Approach to Fisheries, • Technical Guidelines for Fishing Operations • Technical Guidelines for Precautionary Approach to Capture Fisheries and Species Introductions • Technical Guidelines for Responsible Fish Utilization. It should be noted that there is no such thing as an "FAO Code of Conduct for Responsible Aquaculture Development". The correct title is listed above. The reference to the Shrimp farming & Environment Consortium should include WWF, as one of the four partners. Most references for the key documents listed are missing. ***Article 10.2***, particularly the second sentence, could be

		reformulated so that it is a directive encouraging States to choose from the options provided. ***Article 10.4***: destructive fishing methods should be completely banned, and there should not be exceptions. Otherwise it would run counter to the Fish Code (Article 8.4.2) and general state practice as evidenced by national fisheries legislation. ***Articles 10.5, 10.6, and 10.8*** should be considered for reformulation as they are not directives. ***Article 10.7***. The requirement for EIA is important but should be expanded to include recurrent environmental monitoring efforts, after the establishment of aquaculture operations. ***Article 10.8***. The reference to the "ecological footprint" (also in the subsequent box) might be questioned by some scientists, especially theoretical ecologists, for theoretical AND practical reasons. To some, it is scientifically flawed, not a concept, and not more than an illustrative awareness raising or advocacy tool. ***Article 10.10***. The unspecific reference to "chemicals and drugs" is not really helpful. Many such substances would not necessarily have adverse effects on the recipient environment, e.g. antibiotics and their residues are much more of an issue in the food safety domain than in the environment . ***Box 10 E*** reproduces the concern/allegations over the use of drugs, but without any specific reference to an environmental or ecological impact. **Article 11 & 12** No comments received to date. **Article 13 – Mangrove Products and Responsible Trade.** ***Article 13.5*** could be amended and complemented as follows: "The Convention on Biological Diversity guidelines on benefit-sharing should be followed *where appropriate. Other relevant conventions dealing with benefit sharing in respect of genetic resources should also be complied with, including the International Treaty on Plant Genetic Resources for Food and Agriculture.* **Article 14 - Mangrove research and information exchange.** Could possibly be combined with Article 8 on Capacity building. **Article 15 – Integration of Mangrove Management into Coastal Zone and River Basin Management.** This Article includes paragraphs dealing with institutional and policy frameworks as well as integrated mangrove management issues. There is a certain amount of repetition with regard to institutional and policy frameworks in Articles 3 and 15, which should be harmonized. Could be merged with Article 4: Implementation. ***Article 15.1***: the first sentence deals with regional cooperation, and should not be limited to this article. Clearly international and regional cooperation is needed in all areas where states share a mangrove area or a waterway affecting mangrove areas. **Annex 2:** A very useful overview. But also one that highlights the lack of consistency of language and style of the Code (see comments above). Article 15 (Integration) could, perhaps be moved up as Article 4 as this is an overarching recommendation for implementation. Conservation of biological diversity might merit a separate paragraph. **Glossary:** It is somewhat inconsistent in that most terms are

		simply and concisely defined, as is usually the case in glossaries, but some terms are explained in a detailed manner (e.g. "Biosphere Reserve", "Convention on Biological Diversity", "Ecosystem Approach", etc). Moreover, the definition sources used are quite heterogeneous and don't always pertain to mangrove-related matters (e.g., the definition for "capacity building" is taken from the WB glossary of *waste* management terms) – sometimes the definition source is not specified. Note also that: (i) the definitions of "assessment", "inventory", "monitoring", "afforestation" and "reforestation" are not those commonly used by FAO; (ii) the definition of "biodiversity" should be exactly that given in article 2 of the CBD (not a quote from a secondary source); same with "genetic resources"; (iii) under "sustainable development", no reference is made to the WSSD. Note also that the Code of Conduct on Responsible Fisheries (CCRF) is based in its entirety on international law (especially UNCLOS), not only in parts. Suggest to authors to review CCRF Article 3. "Relationships with other international instruments". Most of the CCRF is voluntary while the so-called Compliance Agreement is binding (Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas). The CCRF has been discussed several times and endorsed by COFI, and was adopted by the Twenty-eighth Session of the FAO Conference on 31 October 1995. http://www.fao.org/fi/agreem/codecond/codecon.asp **References**: Some FAO publications are not mentioned, including the 1998 Guidelines for ICAM and the series of Technical Guidelines for Responsible Fisheries that were developed under the Fish Code (referred to above, and several of which are of direct interest to mangrove management). **Mangrove web sites**: You may wish to add FAO's web site on mangroves: http://www.fao.org/forestry/mangroves **Acronyms**: Please correct the entry for FAO to **Food and Agriculture Organization of the United Nations** (not Agricultural Organisation)
Dr. Edmund Green Head, Marine and Coastal Programme UNEP World Conservation Monitoring Centre 219 Huntingdon Road Cambridge CB3 0DL United Kingdom Email: Ed.Green@unep-wcmc.org	090903	**General comments:** I found the format (list of 15 articles) makes reading the code rather difficult and with the abrupt ending after Article 15 I was left wondering how the code should be applied. The code reads very much as an extensive wish-list, and I wonder if the actions could not be divided into general, non-sectoral, points (e.g. application of the precautionary principle, the application of the ecosystem approach, promotion of ICZM, etc) which apply equally to all ecosystems and those actions which are specific to mangroves. General point: the boxes are highly informative and illustrative providing positive examples of mangrove management from around the world. I suspect the geographic bias in the boxes (most examples are drawn from just a few countries, e.g. Vietnam, Thailand, Ghana, Brazil, Bangladesh etc) reflects the availability of information but it is noticeable that there are very few, if none, examples from Central America, the Caribbean, USA or any Small Island Developing State. Perhaps this also reflects the attendance at the three consultation meetings but examples from these areas would help to balance the subject matter presented in the boxes. Consideration should be given to including some negative examples (i.e. outlining the consequences of not implementing an action which is now recommended in the code of conduct). In that the box series is a wonderful resource for information which might be very hard for a reader to obtain otherwise I suggest that where appropriate contact details are included for more information. [many of the boxes are not linked to the text ? this would be helpful to guide the reader in the points which are being elaborated by the

		boxes] It may very well be beyond the scope of the present work but an analysis of if, where, when and how the various actions have been applied to mangroves would be highly complimentary to the present text. A list of dozens and dozens of recommendations is very well but even the most optimistic reader would never expect it to be possible to implement them all, or even the majority. An analysis of cases in which various actions have been attempted and have succeeded or failed would be useful ? in some respects this covered by the boxes but not for every point and so I found myself asking for each recommended action if it had ever been attempted, and if not why not. Reference should be made in the introduction of the existing knowledge gaps which would constrain the implementation of this code, i.e. (1) lack of data on the present coverage of mangroves (the data in Spalding et al is now at least a decade old and given the recent and rapid decline in mangroves it is probably insufficiently accurate to support direct management), (2) the need for the threats facing mangroves to be spatially modelled and applied to revised spatial date, (3) the spatial relationship between existing management schemes, especially Protected Areas and mangroves (i.e. how much mangrove is presently protected and what is the distribution of this protection?), (4) the effectiveness of Protected Areas at conserving mangrove ecosystems. Although referred to in passing in the introduction no part of the code recommends action to mitigate the impact of future climate change. **Specific comments:** Pg2 I suggest that the wording of the long-term objective be reworded to 'the long term objective is to arrest and reverse the recent and rapid?.' To capture the sense that the present status of mangroves is a deterioration from historic levels and that recovery is needed in most cases. This would then give a rationale to the management techniques for allowing mangroves to either regenerate naturally or to direct restoration efforts outlined throughout the code. Pg5 ? how were the threats in table 0.1 determined, expert consultation? Pg6 ? mention should be made alongside the reference to the Biosphere Reserves of the recent determination to address the under-representation of mangroves in Ramsar sites. The references to WSSD should be expanded to describe the decision to establish a ecologically representative network of MPAs and the present inability to determine the protection presently afforded to mangroves, and that which will be needed to be afforded in establishing this network. Pg19 ? box 3f does not elaborate point 3.11 well enough. The Nigeria example is too vague, the Philippines and Malaysia examples require details of the revenue actually raised. Pg22 ? cf my earlier comment, what is required is are national inventories of protected and unprotected mangroves areas (by analyzing protected area and mangrove distribution data) as a basis for regional planning (and delivery on WSSD targets etc). Pg23 ? box 5A please add Green, E.P., Mumby, P.J., Edwards, A.J. and Clark, C.D., (Ed. A.J.Edwards), 2000. Remote sensing handbook for tropical coastal management. Coastal Management Sourcebooks 3, UNESCO, Paris. x + 316pp. to the methodologies references (it compares different mangrove mapping techniques in terms of process, cost and accuracy). The following reference could also be added as a resource for techniques used in

		mangrove inventory: Green, E.P., Clark, C.D, Mumby, P.J., Ellis, A. C., and Edwards, A.J. 1998. Remote sensing techniques for mangrove mapping. International Journal of Remote Sensing, 19(5): 935-956. Pg40 ? coastal protection, it is odd to emphasise the total ban on cutting mangroves when India provides the classic tragic examples of huge numbers of deaths resulting specifically from storm surges along coasts where the mangroves have been felled. Pg 42 ? 10.1 the general reader would be assisted by a description of what these guidelines state with respect to mangrove fisheries. Pg 46 ? 10.12 reference should be made here to the work which has been carried out on the restoration of abandoned shrimp ponds Pg47 ? 10.14 examples of the escape of farmed animals and consequences for biodiversity are needed here.
Salif Diop (UNEP-DEWA) & Arona Soumare Centre de Suivi Ecologique Dakar - Sénégal	100903	**Comments on page cover:** 1. More references need to be included as far as mangrove ecosystems research and assessment in Africa are concerned. 2. For exemple: the latest publication realized on "Mangrove Ecosystems"by Springer Verlag, where pages 63 to 121 have been consacrated to Mangrove Ecosystems in Africa; The same for ITTO/ISME with reports dealing with African Region of more than 200 pages….Those need to be considered. 3. How to make sure that this Code of Conduct will work with the involvement of local major local stakeholders of the mangrove ecosystems in Africa? Obviously through consultations with key partners such as ministries of environment, fisheries, agriculture, water, etc…that need to be undertaken (Modalities for those consultations need to be worked out in details…). The document is not clear how this will be done. 4. I am not sure that information gathered from WAAME need to be extend and complete What about the other NGO's working in the areas of mangrove management and conservation… **Page 5. ACKNOWLEDGMENTS** for Sénégal - Dr. Amadou Tahirou Diaw, University Cheikh Anta Diop (not Cheika) - Add Dr Arona Soumare (Centre de Suivi Ecologique) and Prof. Salif Diop (UNEP) who also contributed to by providing background information for the Senegal case study. Just some examples: - Diop E. S., Sall M., Sow A.A., Soumare A., and al. 1998. Plan de gestion intégrée de la Réserve de la Biosphère du Delta du Saloum (Sénégal) - Propositions préliminai*res*; UCAD-UNESCO/Division des Sciences Ecologiques-MAB; R*apport Final*, 83 pages + cartes, figures et tableaux , publié à Dakar, en septembre. - Diop E. S., Soumaré A., Diallo N. , Guissé A et Diouf M.; 1998 . Raising mangrove nurseries for reforestation of coastal areas in Senegal - Somone lagoon and Saloum Islands; ISME *Technicals reports* published in April, May and September - 19, 10 and 19 pages + illustrations. Dakar; juin. - Etc…. **Page 5 INTRODUCTION.** Table 0.1 row No. 2 column 3, should be high *increasing*.

		Column No. 3 should be medium and increasing. Row No. 8 Salt Production column number 3, where is it high? Review this threat. Row No. 10, Urban and Industrial development row number 3, it should be low. Not sure whether it is even medium. Row number 12 Hydrological diversions ..and 3 column where is it medium-high?. Row 13 column 3 it should be low. Row 14 and column 3 should be 'High and traditional management Stable'. **Page 6 – 7. INTRODUCTION**. "This has caused a shift in the forest composition towards smaller trees and secondary growth as the larger ones are removed." This is not always true. "This Code of Conduct is designed to provide support to such on-going activities and guidance for pipeline activities, e.g. the Africa Process and NEPAD (New Partnership for African Development)". Instead of being focused on "pipeline activities" we should take into account the broad issue of linear developments. The NEPAD will basically consist of linear developments (roads, highways, pipelines transmission lines, railways). However, from a biodiversity perspective, these developments can be very damaging given the lack of clear environmental procedure taking into account biodiversity issues (including mangrove ecosystems). How do we include this issue into the NEPAD Programme? **Page 8.** Table 0.2: Logical Framework Analysis On people – Provide alternatives sources of income Generally, every activity sees to be targeted at anthropogenic human activities and interrelated. What about the prime importance of natural phenomena **Page 9. ARTICLE 1 MANGROVE MANAGEMENT OBJECTIVES,** After 1.1e on Mitigation Introduce a specific point on **Monitoring**. Number of reasons for conducting monitoring within mangrove management objectives: • To provide an early warning of unpredicted impacts, the information to be used for impact management • To check that mitigation measures have been implemented properly • To check that mitigation measures are effective ▪ Again, too much inclined to human induced activities – not always the core in synthesis **Page 15, MANAGEMENT PRIORITIES FOR MANGROVE FOREST AREAS** Tables 2.1 and 2.2 (the management priorities for mangrove forest areas in Southeast Asia and South America) Can we provide the same information for Africa? For example, The Senegalese biodiversity action plan classify the mangrove as high priority conservation area and they are almost located in protected area (The Delta du Saloum national park in Senegal has been designed as national park because of its extensive mangrove area). **Page 16.** Article 3 legal framework National and international legal frameworks are required to provide guidance for conservation of mangrove resources …..How? It is

		not clear???? **Page 17**. Zonation Saloum; A work has been carried out with the technical support of the Ecological Monitoring Centre in order to map all these areas of the Biosphere Reserve using satellite data (Landsat and Spot) “Zonation schématique d’une réserve de biosphère” in French, translate it in English Page 18 – 3.8 It is not realistic or clear on how this law or guideline can be enforced, particular if key stackeholders are not involved since the begining of the process. **Page 24. 5.1.b** States should develop and adopt simple indicators as a tool to monitor environmental changes It is important to go beyond the traditional ecological indicators to include indicators which have also economic or cultural value for local population. Example; oyster abundance (high = positive indicator) disappearance of some flagship species For example, in the Saloum delta, the decrease in the quantity of oysters collected is locally perceived as a sign of mangrove degradation. The harvest of oyster in one of important source of income for women Page 25 – In Box 5c – Paragraph 2 Include references on research, management and assessment already achieved in those areas. **Page 26. ARTICLE 6 SOCIO-ECONOMIC CONSIDERATIONS, 6.1.** It is important put the emphasis on both EIA and SIA. In many EIS, the socio – economic aspects are very poorly addressed due to inadequate terms of reference for the specialist studies, poor baseline surveys/data, etc. Page 29 Within management, there is need to take into account the Traditional Ecological Knowledge, particular in those tropical regions. This is a big issue that needs careful consideration. Page 32. How can an NGO increase awareness at all levels. Most of the examples are from WAAME in Sénégal, are there other NGOs carrying out similar work? Certainly, but need to be find out. **Page 33. BOX 7E: Examples of inter-community cooperation to promote mangrove rehabilitation** In Sénégal, many other related activities a have been developed including scientific from the University and local population. This experiences have been documented in UNESCO – CSI website (http://www.csiwisepractices.org) on “wise practice” See also. E.S. DIOP, **A. SOUMARE**, N.DIALLO et A. GUISSE, 1996 **-** Mangrove restoration through reafforestation in Senegal. An experience between local population, NGO’s and scientists. In Mangroves, n°17, edited by ISME, Japan, June 1996, p. 4- Page 34- Box 8A: In Senegal, there is a first year PhD course on coastal areas and islands at the Department of Geography of the University of Dakar which is supported by UNESCO. CSI … See web site : http://www.unesco.org/csi/ **Page 44 on 10.7 EIA for commercial aquaculture developments** EIA should also consider a “doing nothing” option and also alternatives sites (avoiding mangrove areas) and type of activities. **Page 48. BOX 11A: Examples of mining damage to mangrove ecosystems**

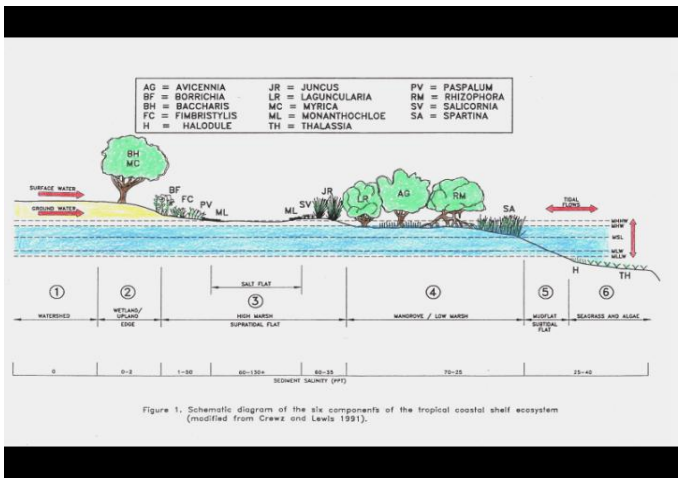
		The negative impacts from mining include high rate of subsidence due oil drilling. This has a direct effect on coastal erosion (example Nigeria). 11.5 - It is difficult to see how the polluter pays principle should be adopted and applied in some of the targetted regions, due to poverty levels, and other factors. Page 49 – Guidelines and tourism development, management and activity should involve the local communities from the very beginning. Page 52 – Research should link up with farmers living in the mangrove areas. Model centres with well thought out marketing strategies should be established and supported by government structures. **Page 53. ARTICLE 14 MANGROVE RESEARCH AND INFORMATION EXCHANGE** To make more effective the strong provision to carry out EIA for any development which is likely to have a negative impact on mangrove ecosystem, it is important to provide or disseminate guidelines on the "best practice" to incorporate mangrove (biodiversity) considerations into the EIA procedure. It is crucial to ensure that various levels of biodiversity in mangrove are explicitly treated in a wider context and scale, but also to take into account the structural and functional relationships within the mangrove ecosystem, which are often omitted from many EIS. **BOX 14F: Examples of mangrove rehabilitation at selected sites** Comment on Senegal Saloum Biosphere reserve. Scientists from the University (UNESCO chair on integrated coastal management) also participated by providing assistance Page 58 – The issue of integration of Mangrove Management into Coastal Zone and River Basin Management should become part and parcel of the Ecosystems approach, which links the freshwater, and Coastal water. This should build on input from sub-regional, regional and International Activities.
Erin Gubelman Email:EMOSHA@aol.com Former WWF consultant	110903	**Accountability of Agencies Governing Protection** I can only speak of the Kenyan case, but I would speculate that it might be applicable broadly. In Kenya, traditional utilization practices focused on harvesting of dead wood. During colonial times, restrictions placed upon cutting, i.e. requirements to pay for permits, led to widespread animosity and initiated retaliation via cutting of live tree which would later become common practice. Following independence, institutionalized corruption, although not immediate, infiltrated those agencies governing mangrove conservation and management. Typical practices up to recent times included underreporting of trees felled, with money paid by the cutter over a particular recorded harvest simply pocketed and duplication of permit books, which was extremely widespread. Only official books would be submitted for recording. While this is a delicate topic, and in Kenya, under new government, strides may indeed be moving forward to control rampant corruption, there should be some broader system of accountability introduced. Both officials and local citizens, long conditioned to the nuances of working the permit system, must be retrained and transactions must be made visible at the local, national, and international level. On page 19, Box 3D, of the Draft, it states that no charge is levied for cutting for domestic use. However, in the cases of cutting for purposes of building one's own home, building a local school, cutting for boat building purposes, domestic firewood collection,

		and other domestic and community uses, a fee is indeed charged. **Conversion & Promotion of Alternative Livelihoods** I felt that much more attention should have been paid to the topic of conversion from unsustainable to sustainable practices. This is a huge endeavor, the costs of which should not be borne by local communities alone. Divested of outright ownership of natural resources by the state and yet required to adhere to conservation measures, insufficient mention is made of the work required to facilitate their conversion to more sustainable fishing and forestry practices. In section 10.5 it states only that " Great care should be taken to support the livelihoods of mangrove fishers, to promotes awareness of the fisheries importance of mangrove ecosystems, and to help local communities to adopt more sustainable fishing and/or aquaculture practices." No mention, as far as I could tell, was made of assisting communities to adopt alternative livelihoods and yet in many instances, again with reference to Kenya, over-harvesting has all to do with lack of available alternatives. The collapse of shark, kingfish, sailfish, and other key income generating populations of fish leading to the demise of the shark fishery off the coast of northern Kenya (more likely attributable to international trawling and long line fishing off the coast as to overharvesting by local fishermen) prompted a large conversion of fishermen to lobster fishing. In the 1970s, the rock lobster fishery in northern Kenya was established and within 30 years catches had dropped from 30-50 kilos per day per diving dhow to 2-4 with the same or greater man effort (Gubelman & Kavu, 1996). Divers continue to dive simply because there is no alternative. Indigenous knowledge, including that of traditional medicines, midwifery, oil pressing, flour milling, and traditional natural resource management techniques is rapidly disappearing, as are local languages. What is called for is an intensive investment in maintaining the integrity of local communities and fostering apprenticeships in traditional roles and techniques that will support community self-reliance and stewardship of natural resources. Where livelihoods are unsustainable now, investment must be made to assist conversion to more sustainable practices or adopt entirely different livelihoods which support conservation objectives. **Valuation** It is critical to outline the broad economic transfers that must take place over the long run if mangroves are to be conserved in perpetuity. The glossary mentions option value and existence value, but I did not see where these values were discussed at length. For conservation to be attained in perpetuity, the full spectrum of values of the resource must be recognized and the benefits that these resources provide the world community must be paid for, essentially by channeling the values held in the West for these resources to those responsible for their conservation. In economic terms, once existence, option, and bequest values are recognized, not to mention values associated with biodiversity conservation, flood control, carbon storage, etc., etc,. there must be put in place a mechanism whereby costs of protection are borne by <u>all</u> users. Mangrove forests, as a habitat, are a public good, valued by the global community, and the global community thus constitutes the user community. Currently, only a select proportion of the global community principally represented by the NGO conservation community, is paying for the conservation of these natural assets while local communities incur direct costs associated with livelihood restrictions. In the long run, mechanisms must be found to address the disparity of costs born by local communities and conservation agencies to protect this global

		heritage.
Patti Delgado Email: Patti.Delgado@noaa.gov	110903	**General comments:** 1. I found the document to provide good detailed information about the different aspects that need to be considered for a sustainable management of mangrove ecosystems. 2. The document provides throughout the different chapters good examples of different activities undertaken to promote sustainability of mangrove ecosystems in different countries. Most of these examples, however, are focused on the regions of South and Southeast Asia, Africa and some countries of South America. There is a lack of information, however, about initiatives taken place in Central American countries, where mangrove ecosystems represent also an important resource for many local populations. Including some examples from any of these countries might make the document more complete and a little more "personal" to stakeholders from this region. 3. Hydrological alterations through river damming, dredging, levee construction, road construction, canalization, etc. are common activities that affect mangroves and that need better planning and management. If possible I would like to suggest including in the document an Article addressing this factor as done for example for agriculture, salt production and mining in Article 11. 4. As a general comment: I found a lack of connection between the organization of the objectives of the Code of Conduct for Mangroves (Given in Table 0.2) and the organization and development of the document. **Specific comments:** 1. Page 8, Table 0.2. Section: Development Objective: Conservation. I would like to suggest mentioning capacity development (Article 8) or environmental education within this section (add as another activity required) to emphasized its importance in mangrove conservation. 2. Page 8, Table 0.2. Please give a definition on the glossary of what do you consider as Governance structures. 3. Page 9, point 1.1b. I would like to suggest including the definition of ecosystem approach (given in the glossary) within the text in Article 1 (as a text Box). You could even add a different article about this approach as you did for the precautionary approach to management (Article 2). 4. Page 9, point 1.1. Add if possible: point 1.1g. Enhance mangrove resource utilization, use local appropriate management practices and promote non-intrusive activities. These different points are also mentioned in other sections of the text, but it would be a good idea to include them again within the mangrove management objectives. 5. Page 23, Box 5A: Point: Structure of the forest (add: dbh, species composition, regeneration, biomass). 6. Page 47, point 10.14. Include Pollution and hydrological alteration. 7. Page 48, point 11.1. Should "not" be there? I think is a typo!
Rene Tomas Capote Fuentes Email: renetomas2003@yahoo.com Centro Nacional de Biodiversidad (CeNBio)	120903	In the Code page 2: The Code identifies key linkages and coordination needs among government departments, NGOs, nearby communities…." Researchers or research institutions should be explicitly mentioned, it relates to key linkages among knowledge production and use. **Article 1** Mangrove management Objectives "The fundamental objective of mangrove management is to promote conservation,

Instituto de Ecologia y Sistematica (IES) Carretera de Varona, Cuba Temporary: International Doctoral Program for Development Studies, Center for Development Research (ZEF), Bonn University, Germany		rehabilitation…" Write rehabilitation, restoration and not only rehabilitation, here and in the following 1.1. Unfortunately rehabilitation and restoration remain to be confusing terms and the code is directed to a wide public. Apart from that, the Code itself doesn't stress always the difference. **Article 2** Precautionary approach to management page12. Are there not conservation management priorities for any region in Africa? **Box 5A** Guidelines for Mangrove Survey and Inventory. In the Management features it would be recommendable to include an institutional issue like "related institutions" or "ongoing projects", just to promote collaboration and avoid duplicated work. Glossary mangrove ecosystems definition. Apart from starting word Important, and the ecological features of mangroves, some features should be at least briefly mentioned (social, cultural, economic etc), if it is possible in one of the starting sentences. It is just to follow requesting attention of all the stakeholders. **Annex1:** Guidelines for planting mangroves. Though many of the guidelines apply for mangroves all over the world, it should be clarified in the title of Annex 1 that these guidelines are for Asia as it is said on page 39.
Chief Anki Daniel Traditional ruler/Mayor Isangele Rural Council, Cameroon Email: cabec_sefe30@yahoo.com	130903	The draft Code document which is now pervaded in our communities by the struggle to Economize Future Environemnt (SEFE) is causing lot of sensation in the locale. This has frced a rethinking in the minds of the local population towards the coastal programme currently undertaking SEFE in the Rio Del Estuary of Cameroon. After perusing through the document I realized that there were some short-comngs which means that there was total lack of communication between the drafters and the many lead organizations in the South and coastal communities whose needs and aspirations are properly handled by the present draft. I therefore wish to comment that the workshop has clear input and representation from those in the south who are going to be affected by the utility of the draft code of conduct for mangrove. However, it is not too late to amend this mistake and I therefore urge you to reconsider bring all major plays before the finalization of the draft code to give it a wide range ownsership. For it will be a waste of time and resources if you continue to swelve these people from this kind of decision-making process where they would have otherwise discussed their needs and aspirations which to the best of my knowledge is missing from the draft. "Prevention is better than cure".
Maurizio Farhan Ferrari Coordinator Wetland Forest Peoples Programme 1c Fosseway Business Centre Stratford Road, Moreton-in-Marsh, GL56 9NQ, UK Email: mfferrari@pd.jaring.my Web:www.forestpeoples.org	150903	I am sure that the several community-based organizations involved in coastal resource management and the protection of mangrove ecosystems welcome initiatives directed at protecting and sustainably managing what is left of these extremely important ecosystems, and to rehabilitate them, including the draft Code. However, in many cases, with projects initiated by international institutions, the people directly living and depending on these resources, are unfortunately always the last ones to be consulted and to be involved in developing policies concerning these resources. I am aware that three regional workshops have been organized to discuss the draft Code, bu how many representatives of local communities involved in mangrove management or actively defending these ecosystems from external threats have participated in theses regional consultations? If many local community representatives already participated that would be a very good start. If not, I would strongly suggest that new funding be allocated for carrying out more consultations with local and indigenous communities depending on mangroves before the draft

		gets finalized.
Ashraf-Ul-Alam Tutu Coordinator, CDP and SBCP Watch Group Email:	150903	We have our own Citizens' Forum for conservation of Biodiversity in the Sudarban, and the Sundarban Biodiversity Conservation Project (SBCP) Watch Group. The forum is a general purpose forum of NGOs and Civil Society leaders advocating sustainable use of the Sundarban, while the latter, also known as SBCP Wach Group, is a group of NGOs and activists engaged in critical review of the project of that name, to which the GEF is also a contributor of funds. Our deep interest in the Sundarban, therefore motivates us to request you that, before finalizing the Code of Conduct for Mangroves, opinions of people who are wholly or partly dependent upon mangroves in the tropics Latin America, Africa and Asia may kindly be ascertained, so that this fast disappearing world heritage may be properly conserved for the benefit of mankind. We therefore most earnestly request you kindly to organise not only regional but also local workshops in the various sub-regions in the tropics, in Asia, Africa and Latin America. In the event of your deciding to hold such a workshop in Khulna, we assure you that we ad the partner organisations in our network shall extend our wholehearted cooperation to make the event a fruitful one. In this connection, we can also assure you that in Bangladesh, there is no lack of experts who have intimate knowledge about mangroves, and are capable of providing inputs to any document related to mangroves. We are ourselves involved in mangrove conservation and restoration issues. As such, we request that the Draft Code remain a "Draft Code" until such time as those who are intimately involved with mangroves are able to give their inputs and suggestions.
Charles Di Leva Lead Counsel ESSD and International Law WB	150903	Article 3.3 should refer to zoning mangroves as part of the overall coastal zone management plan, so that it is not viewed as an isolating zoning activity. The reference to educating stakeholders was excellent, but it should be specifically noted that this would include members of the judiciary who may have to hear cases pertaining to the issue. The references to CBD as the source for addressing policy formulation on invasives might also mention the work of the Global Invasive Species Program which along with the IUCN has developed some specific legal recommendations for dealing with invasives. A handbook on the issue was produced by the IUCN Environmental Law Center.
Roy R. Lewis III Lewis Environmental Services, Inc. PO Box 5430 Salt Springs, FL 32134	140903	The document is commendable in its stated objectives on page 2 to "arrest the recent and rapid destruction of mangrove ecosystems, to improve their management, and to conserve biodiversity..." and "to provide a tool for the effective management of mangrove ecosystems..." However the code as presently written, while having all the right words, does not provide an accurate scientific basis to accomplish these objectives. There are **three** critical problems the approach the document takes to sustainable management of mangrove ecosystems. The **first** is lack of a clear definition and appropriate diagrams to define what is a "mangrove ecosystem." Because of this, the remainder of the document focuses almost entirely on "mangrove forests" not "mangrove ecosystems." A mangrove ecosystem, as shown in the attached **Figure 1**, is a tidal flat landform that extends from the edge of the tidally influenced upland/wetland edge on the landward side, to the end of the mudflats and the beginning of seagrass meadows on the seaward side (numbered areas 2-5, Figure 1). It is a hydrologically interconnected system that is ecologically controlled by the interaction of surface runoff and groundwater from the watershed contributing to the particular mangrove ecosystem in question (numbered area 1), tidal flows,

		and the topography of the tidal flat in between. Kjerfve (1990) was one of the first scientists to recommend a watershed approach to mangrove ecosystem management.  Figure 1. Schematic diagram of the six components of the tropical coastal shelf ecosystem (modified from Crewz and Lewis 1991). Successful management of any mangrove ecosystem must BEGIN with an understanding of what actions of man can disrupt this hydrological interconnectiveness. The document on the other hand launches quickly on page 8 into a “logical framework analysis” that does not even mention the importance of protecting the basic hydrology of the ecosystem as a first step. Again, nice words, but to what ultimate affect? I would take strong issue with the statement at the bottom of Table 0.2 that “It should be noted that some countries already have legislation protecting all mangroves e.g. Brazil.” This is one of the clearest indications that the effort has slipped away from discussing mangrove ecosystems to mangrove forests alone. The critical salt flat habitats located on the landward side of mangrove forests in Brazil (Figure 1 area 3) are not protected in essentially all of the world except the USA, and their modification to accommodate development like shrimp aquaculture is very disruptive to an essential habitat first (see www.saltflatsworld.com), and secondly disruptive to one of the essential hydrologic features of the mangrove ecosystem. The **second** critical problem is a clear statement or plan on how the World Bank, the sponsor of this study, intends to actually implement actions to “arrest the recent and rapid destruction of mangrove ecosystems, to improve their management, and to conserve biodiversity...” It is fine to publish a code of conduct, and trust that the “states” will follow the code, but leadership on the part of the World Bank is required to see that the job gets done. The World Bank has in the past funded schemes very destructive to mangrove ecosystems. How is this proposed to change in the future? The **third** issue is the lack of reference to the massive amount of work that went into the “Shrimp Farming and the Environment” collaborative program, funded in part by World Bank funds, that is available on the web at www.enaca.org/shrimp. For those like myself that participated in that effort, it seems strange that all that work is ignored and not referenced here. Finally, as I have done a lot of work with mangrove ecosystem restoration I would point out that Article 9, pages 39-41, and supporting references on pages 69-71, do not fairly reflect the diversity of scientific work on this subject, and although cautions about planting mangroves are given, the examples used only reflect sites that have planted mangroves. Failures of plantings, often on a massive scale, are discussed in Lewis (1999),

		Stevenson et al. (1999), de Leon and White (1999) and Erftemeijer and Lewis (2000). Although hydrologic restoration is mentioned, some of the key papers on the subject are not cited or listed (Turner and Lewis 1997, Brockmeyer et al. 1997). Restoration of existing areas of damaged or destroyed mangrove forests in the United States, Puerto Rico and the U. S. Virgin Islands has been previously discussed by Cintron-Molero (1992), Crewz and Lewis (1991), Field (1996) and Lewis (1982; 1990a, b; 1999, 2000), Turner and Lewis (1997), and Lewis and Streever (2000). Saenger (2002) adds examples from Southeast Asia, India, Arabia and Australia. These may be considered the essential reading list for anyone interested in the subject. Most of these references are not cited or listed The glossary does not contain the words “ecological restoration” It is an important term to include in this discussion and has been defined as “the process of repairing damage caused by humans to the diversity and dynamics of indigenous ecosystems” (Jackson et al. 1995). Ecological restoration of mangroves is discussed by Lewis (1999, 2000). It differs from simple restoration in having four key steps: (1) judgement of need; (2) an ecological approach; (3) goal setting and objective evaluation of success in meeting those goals and (4) acknowledgement of limitations in our knowledge to complete the process. Target ecologically restored ecosystems are designed to provide the most complete diversity and function that can be reconstructed. Biodiversity is paramount. It is not aimed at restoring just one or two species of particular concern. Silvaculture that aims at planting one or two species of mangroves for future harvest is not ecological restoration. It has been reported that mangrove forests around the world can self-repair or successfully undergo secondary succession over periods of 15-30 years if: 1) the normal tidal hydrology is not disrupted and 2) the availability of waterborne seeds or seedlings (propagules) of mangroves from adjacent stands is not disrupted or blocked (Lewis 1982, Cintron-Molero 1992). Because mangrove forests may recover without active planting efforts, it has been recommended that restoration planning should first look at the potential existence of stresses such as blocked tidal inundation that might prevent secondary succession from occurring, and plan on removing that stress before attempting restoration (Hamilton and Snedaker 1985, Cintron-Molero 1992). The second step is to determine by observation if natural seedling recruitment is occurring once the stress has been removed. Only if natural recovery is not occurring should the third step of considering assisting natural recovery through planting be considered. Unfortunately, many mangrove restoration projects move immediately into planting of mangroves without determining why natural recovery has not occurred. There may even be a large capital investment in growing mangrove seedlings in a nursery before stress factors are assessed. This often results in major failures of planting efforts. For example, Sanyal (1998) has recently reported that between 1989 and 1995 9,050 ha of mangroves were planted in West Bengal, India with only a 1.52% success rate. Lewis and Marshall (1998) and Stevenson et al. (1999) have suggested five critical steps are necessary to achieve successful mangrove restoration: 1. Understand the autecology (individual species ecology) of the mangrove species at the site, in particular the patterns of reproduction, propagule distribution and successful seedling establishment with local mangrove forest communities. 2. Understand the normal hydrologic patterns and other

		stress factors that control the distribution and successful establishment and growth of targeted mangrove species 3. Assess the modifications of the previous mangrove environment that occurred that currently prevents natural secondary succession, including hydrologic modifications and any additional stresses (i.e., cutting of timber, grazing, fires, disease, etc.) 4. Design the restoration program to initially restore the appropriate hydrology and/or remove any additional stressors that might prevent natural secondary succession. Then attempt to utilize natural volunteer mangrove propagule recruitment for plant establishment Only utilize actual planting of propagules, collected seedlings or cultivated seedlings after determining through Steps 1-4 that natural recruitment will not provide the quantity of successfully established seedlings, rate of stabilization, or rate of growth of saplings established as goals for the restoration project. These critical steps are often ignored and failure in most restoration projects can be traced to proceeding in the early stages directly to Step 5, without considering Steps 1-4. Lewis and Marshall (1998) and Stevenson et al. (1999) refer to this approach as "gardening," where simply planting mangroves is seen as all that is needed. The single most important factor in designing a successful mangrove restoration project is determining the normal hydrology (frequency and duration of tidal flooding) of the existing mangrove plant communities in the area in which you wish to do restoration. A 500 ha mangrove restoration site at West Lake near Fort Lauderdale, Florida, USA was very successful using a combination of excavation of dredged material and hydrologic restoration (see Lewis 1990a, Lewis and Streever 2000). No planting of mangroves took place or was necessary. All three of the local Florida species of mangroves volunteered on their own. Another form of this hydrologic restoration is to reconnect impounded mangroves to normal tidal influence (Turner and Lewis 1997, Brockmeyer et al. 1997). Brockmeyer et al. (1997) was able to keep restoration costs to US$250/ha with careful placement of culverted openings to impounded mangrove wetlands along the Indian River Lagoon, USA. Milano (1999) describes in some detail the planning and construction process for ten wetland restoration projects in Biscayne Bay, Florida, USA (Miami), of which eight were mangrove restoration projects. Careful planning to achieve success is emphasized, as are methods of insuring cost control. The eight projects ranged in cost from US$4,286 to US$214,285 per ha, with a mean of US$100,308/ha. King (1998) has updated his 1993 cost estimates (King and Bohlen 1994) to 1997 cost estimates for various wetland restoration costs and lists mangrove restoration at US$62,500/ha excluding any land costs. It is obvious that at these rates, mangrove restoration can be expensive, and therefore should be designed to be successful to avoid wasting large amounts of hard-to-get restoration dollars. These kinds of cautions, with examples of past failures, are not cited or discussed in the draft Code. Ecological restoration of mangrove forests is feasible, has been done on a large scale in various parts of the world and can be done cost effectively. Lewis (2000), however, has pointed out that the failure to adequately train, and retrain coastal managers in the basics of successful coastal habitat restoration all too often leads to projects "destined to fail, or only partially achieve their stated goals." Training in successful hydrologic restoration is an important need not cited in the Code.

		It is unfortunate that much of the research into mangrove restoration that has been carried out to date has been conducted without adequate site assessment, documentation of the methodologies or approaches used, and subsequent follow-up or evaluation. Unsuccessful (or only partially successful) projects are rarely documented. The five step common methodology approach discussed in Stevenson et al (1999) should be extended to all mangrove habitat restoration projects. Those involved could then begin to learn from both successes and failures, act more effectively, and reach a wider target audience with this information. The simple application of the five steps to successful mangrove restoration outlined by Lewis and Marshall (1997) and Stevenson (1999) would at least insure an analytical thought process and less use of "gardening" of mangroves as the solution to all mangrove restoration problems. Crewz and Lewis (1991) in examining the critical issues in success and failure in tidal marsh and mangrove restoration in Florida found that the hydrology, as created or restored by excavation to the correct tidal elevation, was the single most important element in project success. This caution should be more clearly stated in the Code. **References** Brockmeyer, R. E. Jr., J. R. Rey, R. W. Virnstein, R. G. Gilmore and L. Ernest. 1997. Rehabilitation of impounded estuarine wetlands by hydrologic reconnection to the Indian River Lagoon, Florida (USA). Wetlands Ecology and Management 4(2):93-109. Cintron-Molero, G. 1992. Restoring mangrove systems. Pages 223-277 in G. W. Thayer (ed.), Restoring the Nation's Marine Environment. Maryland Seagrant Program, College Park, Maryland, USA, 716 pp. Crewz, D.W. and R.R. Lewis III. 1991. An evaluation of historical attempts to establish emergent vegetation in marine wetlands in Florida. Florida Sea Grant Technical Publication No. 60. Florida Sea Grant College, Gainesville, Florida, USA. 76 pp. + append. de Leon, R.O.D., and A.T. White. 1999. Mangrove rehabilitation in the Philippines. In: W. J. Streever (ed.). An International Perspective on Wetland Rehabilitation. 37-42. Kluwer Academic Publishers, The Netherlands, 338 pp. Erftemeijer, P. L. A., and R. R. Lewis III. 2000. lanting mangroves on intertidal mudflats: habitat restoration or habitat conversion? Pages 156-165 in Proceedings of the ECOTONE VIII Seminar "Enhancing Coastal Ecosystems Restoration for the 21st Century, Ranong, Thailand, 23-28 May 1999. Royal Forest Department of Thailand, Bangkok, Thailand. Field, C.D. (ed.). 1996. Restoration of Mangrove Ecosystems. International Society for Mangrove Ecosystems, Okinawa, Japan. 250 pp. Hamilton, L. S. and S.C. Snedaker (eds.). 1984. Handbook of mangrove area management. East West Centre, Honolulu, Hawaii, USA, 123 pp. Jackson, L. L., N. Lopoukhine and D. Hillyard. 1995. Ecological restoration: a definition and comments. Rest. Ecol. 3(2):71-75.. King, D. 1998. The dollar value of wetlands: Trap set, bait taken, don't swallow. National Wetlands Newsletter 20(4):7-11. King, D., and C. Bohlen. 1994. Estimating the costs of restoration. National Wetlands Newsletter 16(3):3-5+8. Kjerfve, B. 1990. Manual for investigation of hydrological processes in mangrove ecosystems. RAS/86/120. UNESCO/UNDP. 79 pp. Lewis, R.R. 1982. Mangrove forests. pp. In: R.R. Lewis (ed.),

		Creation and Restoration of Coastal Plant Communities. 153-172. CRC Press, Boca Raton, Florida, USA, 219 pp. Lewis, R.R. 1990a. Creation and restoration of coastal plain wetlands in Florida. In: J.A. Kusler and M.E. Kentula (eds.) Wetland Creation and Restoration: The Status of the Science. 73-101. Island Press, Washington, D.C., USA. xxv + 595 pp. Lewis, R.R. 1990b. Creation and restoration of coastal wetlands in Puerto Rico and the U. S. Virgin Islands. In: J.A. Kusler and M.E. Kentula (eds.) Wetland Creation and Restoration: The Status of the Science. 103-123. Island Press, Washington, D.C., USA. xxv + 595 pp. Lewis, R. R. 1999. Key concepts in successful ecological restoration of mangrove forests. Pages In: Proceedings of the TCE-Workshop No. II, Coastal Environmental Improvement in Mangrove/Wetland Ecosystems, 18-23 August 1998, Danish-SE Asian Collaboration on Tropical Coastal Ecosystems (TCE) Research and Training. 19-32. NACA, Bangkok, Thailand. Lewis, R. R. 2000. Ecologically based goal setting in mangrove forest and tidal marsh restoration in Florida. Ecological Engineering 15(3-4): 191-198. Lewis, R. R., and M. J. Marshall. 1998. Principles of successful restoration of shrimp aquaculture ponds back to mangrove forests. Page 327 in World Aquaculture Society Book of Abstracts, Aquaculture '98, Las Vegas, Nevada. (Abstract). Lewis, R. R., and W. Streever. 2000. Restoration of mangrove habitat. Tech Note ERDC TN-WRP-VN-RS-3.2. U.S. Army, Corps of Engineers, Waterways Experiment Station, Vicksburg, Mississippi, 7 p. (http://www.wes.army.mil/el/wrtc/wrp/tnotes/vnrs3-2.pdf) Milano, G. R. 1999. Restoration of coastal wetlands in southeastern Florida. Wetland Journal 11 (2): 15-24+29. Sanyal, P. 1998. Rehabilitation of degraded mangrove forests of the Sunderbans of India. Program of the International Workshop on the Rehabilitation of Degraded Coastal Systems. Phuket Marine Biological Center, Phuket, Thailand. 19-24 January 1998. Page 25 (abstract). Saenger, P. 2002. Mangrove ecology, silviculture and conservation. Kluwer Academic Publishers, The Netherlands, 360 pp. Stevenson, N. J., R. R. Lewis and P. R. Burbridge. 1999. Disused shrimp ponds and mangrove rehabilitation. In: W. J. Streever (ed.). An International Perspective on Wetland Rehabilitation. 277-297. Kluwer Academic Publishers, The Netherlands, 338 pp. Turner, R. E., and R.R. Lewis. 1997. Hydrologic restoration of coastal wetlands. Wetlands Ecology and Management 4(2): 65-72.
Gilberto Contron United States Fish and Wildlife Services, North America Programme (Washington Office) C/o USFWS, Division of International Affairs 4401 North Fairfax Drive, Room 730-ARLSQ, Arlington, VA 22203-1622, USA Phone: (703)358-1765		**P.7 Preface,definition.** The definition of mangrove is not consistently applied throughout the document. The way the definition is used effectively truncates the ecosystem. The term mangrove appears in much of the document to be misinterpreted to mean the forested component of a mangrove ecosystem only. This is just a portion of the more inclusive definition presented (a tidally influenced wetland ecosystem within the intertidal zone). The definition presented could be clarified to read as follows: **"The term "mangrove ecosystem" refers to a tidally influenced wetland complex, consisting of mangrove forests, tidal flats, salt flats and other associated habitats within the intertidal zone of tropical and subtropical latitudes" [This definition should be inserted in Article 1, section 1.1].** The term "mangrove" is generally used indiscriminately to mean mangrove species or trees, or the mangrove plant community or to the

E-mail: Gil_Cintron@Fws.Gov		mangrove ecosystem. Because of this ambiguity the terminology needs clarification. The term mangrove ecosystem is far more encompassing than the individual plants, or the plant community itself, and includes the woody plant community, the associated herbaceous (salt marsh, algal, seagrass) and microbially driven components (salt flats and mud flats, water bodies and planktonic communities), as well as the physical context (tidal ramp or geomorphic/landform or setting) where these units are embedded, and all underlying processes that insure system integrity and sustainability (tidal inputs, fresh water inputs flows of materials and organisms). The larger a land unit morphology (the physical context) the greater the probability that some of these components may be spatially displaced from each other, in which case the ecosystem is perceived as manifesting a greater level of spatial complexity and hierarchy of associated forms. However, an ecosystem management approach requires that the system be viewed as a whole. A holistic management approach conserves the capacity for creativity of the system, that is, its ability to shift in space in order to accommodate to the changing geomorphic processes through time while providing for persistence of continuation of biological function. These systems must accommodate to changing climatic and near coastal oceanographic conditions (for example, decadal and long-term variability in sea-level and climate). Mangroves have a huge capacity for accommodation, persisting through the large-scale fluctuations in sea-level associated with the expansion and contraction of the Quaternary ice sheets. In fact, the present location of mangroves is a fairly recent event, in many places not older than 6,000 years. Because of this capacity to track sea-level mangroves and coastal wetlands must be considered part of sea-level rise response strategies. This means that the space required on a coastline for mangrove and associated habitats maintenance is much greater than the area the system it occupies at a given time frame. Furthermore, because mangroves are open systems conservation and management strategies must necessarily extend beyond their borders. Barriers to inputs or outputs of materials have severe consequences because tides and hydrology are the primary forcing functions. Factors that impair tidal flushing, or restrict fresh water inputs and its associated habitats have rapid and significant effects on system structure and function. Thus, mangrove conservation and management extends on a short-term time scale to the limit of the highest tides and on longer time scales beyond that. To use the term mangrove to refer exclusively to the woody component (forest), as in many sections of this document, truncates the ecosystem to a small portion of its total structure and function. The mangrove ecosystem must be visualized as an intertidal wetland composed of a mosaic of interacting components linked by flows of energy, water and animal populations that move among its component elements. In a search for surface to define a mangrove ecosystem one must search for a natural surface that coincides with the largest number of limits. The landward limit coincides with the limit of the highest of the highest tides, and most landward saline intrusions because the major component of the energy that drives this ecosystem is tidal. Elevated salt levels and sulfides are indicators of saline intrusions. The offshore boundary is more difficult to define because the ecosystem merges with the nearshore coastal system in a seamless fashion with benthic and pelagic habitats within the coastal domain. Mangroves ashore, and coral reefs and seagrass beds offshore can be linked into a macroecosystem (an integrated seascape) through active exchange of populations that share use of the three habitats at different parts of their life cycles. Mangrove ecosystems elements that are spatially separate can be linked by

		animal migrations and active dispersion of food web components. The truncated application of the definition used in the document impairs many of its subsequent parts, findings, and recommendations. A possible method for correcting this weakness and flaw is to change the title of the document to Draft Guidelines for the Sustainable Management of Mangrove Ecosystems and Associated Habitats. [See below our disagreement to the use of the term Code-of_Conduct]and to incorporate the changes that would be required by this broader, but more realistic scope. P.9. Summary matrix. The Low-Medium rating for Natural disaster vulnerability for Central America should be changed to High. Central America is well within the Tropical hurricane belt and is subject to periodic highly destructive disturbances. South America is impacted by rainfall/drought ENSO events that are reflected on both coasts of the continent. Prolonged droughts in Brazil have been correlated with ENSO events. In the Threats category aquaculture must be rated as High and Increasing. Satellite images easily confirm the explosive growth of coastal aquaculture in Northern Peru, Ecuador, Mexico's Pacific coast and Brazil's NE coast. P.10. The development of a Code-of_Conduct is thought necessary to guide States. [Comment] Guidance to States labeled as "Code-of_Conduct" appears inapropropriate. Guidance to States should follow format used in MEA's, that is, advise is provided to states through guidelines and guidance documents. NOT through Codes-of-Conduct. It is explicitly stated that the purpose of this document is to assist in the creation of mechanisms for adequate legislation and the development, implementation and monitoring of coordinated policies for the protection of mangrove resources. This is not quite compatible with a code of conduct. The purpose of guidelines is to help establish uniform conservation rules. This is well along the lines of the purpose of this document. Changing the name of the document to "guidelines" makes this product coherent with the way counsel is circulated to the parties of the various global and regional MEA's. It seems logical that this document should be circulated using institutions such as relevant MEA's as catalysts. These instruments, such as Ramsar and CBD disseminate their counsel in the format of guidance labeled as "guidelines". The logical flow structure of this approach is as follows: 1) Guidelines generated; 2) Circulated for adoption by MEA Secretariats and advisory bodies; 3) Considered by CP's National Authorities; 4) Adapted/adopted/incorporated by National/regional instruments for wetland conservation and sustainable use; 5) Integrated into appropriate institutional mechanisms for wetland conservation; 6) Integrated into local networks of management units; 7) Integrated into regional coordination initiatives. The role of States (Are states the most appropriate recipients of this guidance?). We considered if States were the most appropriate recipients of this guidance and agreed that it is proper and constructive to provide this guidance to States. Although most of the most intense and damaging impacts on the natural environment are exerted by

		private enterprise, corporations and comparable organizations and institutions, because of their uniquely “sovereign” role in the global system, states are the cognizant and ultimately responsible aggregators and record keepers for their populations, their environmental accounts, and their performance on environmental issues (agenda 21). Although international groups can provide guidance and support most actions will occur at national level through governmental and non-governmental organizations. **However, we suggest that global and regional financial institutions must share responsibility for supporting environmentally damaging projects when they knowingly support projects where the legal infrastructure is weak or inadequate to regulate the industry sufficiently in order to reduce or eliminate its environmental impacts.** Therefore, these guidelines are relevant to those organizations and this guidance should also be directed at these organizations as well as to Aid Agencies involved on marine and coastal global and regional development issues. **The issue of Guidelines vs Code-of Conduct.** Earlier we suggested that the delivery of information presented as a Code-of Conduct may be inappropriate. Informal consultation other governments indicated that our concern was shared by others. However, a more comprehensive view makes it clear that many theorists suggest that state regimes are similar to systems in their structure and function. A system-based view suggests that the most appropriate term to describe state actions is not conduct but behavior. In systems thinking a system consists of many components that may be specialized and differentiated, but that display tight integration. The multilateral connections constitute a relational network governed by rules. The emergent manifestation of the application of rules is described as system behavior (not conduct). Conduct is more appropriately used to describe personal behavior, although the word is used in a business management context to describe the direction of management or administration of a business States, on the other hand, display patterns of social behavior or practice around which expectations converge. The social structure of a regime is said to display behavior not conduct. The term guidance is more appropriate as an instrument for influencing behavior. State level behavior is underlain by a generic dilemma: Activities taken for pursuit if legitimate ends (economic growth, industrialization) can have ecologically dislocating and environmentally threatening consequences. Our view is that these guidelines must be seen as non-binding prescriptions for state regimes, they are hierarchically well above Codes of Conducts. A logical, nested hierarchical set may be: 1) Guidelines; 2) National Policies (Laws and Regulations); 3) Environmental Management Systems (EMS); 4) Codes of Conduct (Company-level); 5) Company/Corporative Management Systems There are many examples of non-binding environmental approaches that provide a basis for influencing national policies and multisectoral planning (Agenda 21). The CBD requires each Party, in accordance with its particular conditions and capabilities to prepare national biodiversity strategies, plans, and programs for this purpose. These objectives must be integrated, as far as possible, and as appropriate into relevant sectoral or cross-sectoral

		plans, programs and policies. National decision-making should include consideration of the conservation and sustainable use of resources or measures to minimize adverse impacts on biological diversity. This modality is common among MEA's. Ramsar has identified two approaches to wetland policy-making: (1) National Wetland Policies may be developed as stand-alone instruments; or, (2) elements of other national conservation planning initiatives. Ramsar makes it clear that both approaches are equally legitimate. Ramsar routinely develops, through its STRP guidelines directed at its Contracting Parties. In the hierarchical scheme described earlier each unit is built upon the foundations provided by a more general institution (set of rules). At the core of every sovereign state is a cluster of rights and rules (Laws and Regulations) from these the lower level structures devolve. National Policies provide the vehicle for delivering specific conservation objectives and for developing the appropriate means for legitimate use of resources. Rights are those to which an individual is entitled by virtue of its role as citizen. Rights are designed to ensure availability of key resources. Rights include property rights and common property rights. In contrast rules are well-defined guides to action that members are expected to perform, or refrain from performing under appropriate circumstances. Rules exhibit the following features: (1) An indication of the relevant subject group; (2) A behavioral prescription; and, (3) An specification of the circumstances under which the rule is operative (domain). Of relevance to the hierarchical scheme presented is that effective implementation of the lower level cannot be expected in a regulatory void. **It is doubtful that Codes-of Conduct by themselves would be effective unless they are embedded within a governance framework that provides successful high-level control. In such environments Codes-of-Conducts implementation failure is likely to be very high.** P.11 Table 0.2 Interventions, **add** in Conservation: • **Raise awareness among stakeholders, public.** • **Increase participation in decision-making** • **Promote empowerment of local communities, local people** • **Provide for increased recognition of local values, traditional** indigenous or local resource use systems. P.11 Table 0.2 Interventions, **add** in 1.Policy • **Improve and reform governance structures to provide for Integrated management and conservation.Promote Rule of Law through legal frameworks and enforcement of laws that support sustainable practicesRecognize local knowledge systems. Develop methods for local knowledge systems reviews focused on co-management** • **Strengthen, safeguard rights of common-use.** • **Provide for environmental performance bonds and pollution taxes to make available environmental mitigation and restoration** P.11 Table 0.2 Productivity, **rewite** under Activities • **Increase productivity…..[Change text to ….. Promote increasingly sustainable utilization of mangrove resources** • **Add additional bullet: Promote interdependent land**

		use, and maintenance of landscapes that meet multiple nutritional, ecological, cultural and economic objectives.P. 12**Nature and Scope of the Code [Guidelines]**The legal basis follows in a more logical fashion if the term Code is changed to Guidelines. General objectives of the Code Delete "To promote fair trade of mangrove products….": **Add**: • **Add new bullet**: **Promote improved production practices through trade by restricting environmentally unsound, or ecologically damaging or unsustainable practices. Promote environmental sustainability as a major objective of resource development and trade.** • **Add new bullet**: **Reorient national mangrove resource policies toward an ecologically and economically sustainable view as per CBD's definition of sustainability (See Box) . CBD's Sustainable Use definition reads "Sustainable use entails the introduction and application of methods and processes for the utilization of biodiversity to prevent its long term decline, thereby maintaining its potential to meet current and future human needs and aspirations.** • **Add new bullet**: **Conceptualize mangrove resources as natural capital in order to increase probability that environmentally favorable decisions would be taken.** • **Add new bullet: Move away from trade-offs, in which economic benefits are achieved at the expense of environmental deterioration, to the unambiguous recognition that sustainability means co-evolutionary behavior and full integration of man activities with nature.** P.13 General Principles: **Add text**: **Mangrove ecosystem management and resource users should promote the functional integrity and the conservation of natural capital. Critical renewable natural capital is that defined as the part of the natural environment that performs important irreplaceable functions.** General Principles (P13) Par. 4. **[Revised text] States should adopt the ecosystem approach to management of mangrove ecosystems. The ecosystem approach recognizes that mangroves are an integral part of a complex of strongly interlinked units (rivers, estuaries, lagoons, mudflats,salt marshes, saltflats (salinas, apicuns, albinas coastal sabkhas[See Box], seagrass beds and coral reefs). The mangrove ecosystem must be visualized as a mosaic of components linked by flows of energy, water and animal populations that move among its component elements. Ecosystem management requires that the system be viewed and conserved as a functional whole.** ADD BOX: Salt Flats, salinas, apicums, albinas and coastal sabkhas: Threatened components of mangrove wetlands **Salt flats are hypersaline flatlands partially or totally devoid of vascular vegetation. Salt flats have diverse origins they may be inland or coastal. Coastal Salt Flats are often extensive, and become a dominant landscape feature on gently dipping coasts with marked tidal rhythms and dry climate where the Potential Evapotranspiration (PET exceeds Precipitation throughout the year, or where there are**

		prolonged dry seasons. They are characterized by very low gradient slopes and t idal flooding by Spring or Equinoctial Tides. These extensive floodable areas act as natural evaporating basins and high salinities develop in the substrate. Salinity levels rise beyond the physiological tolerance of most plant species (pore water salinity level above 100), and the substrate appears bare but microbial films become dominant. During the dry season these flats are also subject to extreme drying, and during any month may be affected by alternating periods of flooding by Spring tides followed by drying. These salt flats are referred to as salt barrens, salt flats, salinas, salitrales, sabkhas, sebkhas, and by various local names such as apicums and albinas, tannes, among many. Coastal salt flats usually develop between the Mean High Water Spring (MHWS) line and the upland tidal boundary. Saline lagoons and salt flats are extremely productive due to the activity of microbial mats. They are extremely important food sources to migratory shorebirds such as plovers and sandpipers and some migratory waterfowl. The mangroves that line these saline ponds and alt flats provide a habitat for nesting populations of herons, pigeons and many songbirds. **Salt flats are threatened by the disruption of processes that maintain their ecological character and integrity. This includes water diversions that reduce runoff inputs of water and the direct or indirect effects of urban, and industrial expansion, and coastal development and infrastructure such as roads marinas, harbours, airports, as well as reclamation for agriculture and aquaculture (fish and shrimp farms). The greatest modern threat to salt flats is the expansion of aquaculture and conversion of salt flats into shrimp ponds. Tidal flats and salt flats are important elements of many migratory routes, such as the Australasian Flyway, the West Pacific Flyway, the Central Asian-Indian Flyway, the African-Eurasian Migratory Flyway, and the Atlantic and Pacific Flyways.** **Source: [MAP Guidance document on Salt Flats]** **General Principles** **New paragraph (Add)** On many countries the intertidal zone is in the hands of the national government, and in most, the concept of "property of common use" is acknowledged. States shall protect ecologically-sensitive intertidal lands and abstain from sponsoring actions that displace traditional users, restrain or taking away their original rights. (Add before Par 8) States should appropriately protect the rights of subsistence….. P. 15 Article 1Mangrove Management Objectives. *The fundamental objective of* ***ecosystem-level mangrove*** *management is to promote conservation, rehabilitation and sustainable use of mangrove ecosystems* ***and its associated habitats*** *to benefit* ***local*** *populations.* **Note: This section needs to define what is being managed first. That should be 1.0 [here inserted,missing in drafttext]** **1.0**"**The term "mangrove ecosystem" refers to a tidally influenced wetland complex, consisting of mangrove forests, tidal flats, salt flats and other associated habitats within the intertidal zone of tropical and subtropical latitudes"** 1.1 The fundamental objective of mangrove management is to

		promote conservation, rehabilitation and sustainable use of mangrove ecosystems [**Add**] **and its associated habitats.** States can achieve this objective by: 1.1a **[Rewrite & renumber] Adopting holistic management practices, such as the CBD's Ecosystem approach (EA) or Integrated Management Approaches, (Such as Coastal Zone Management or Watershed management frameworks) or the Ramsar's Wise Use approach following its "*Frameworks for Managing wetlands of International Importance and other wetlands"* for managing mangroves and associated coastal wetlands, (such as salt flats and salt marshes and coastal lagoons) as well as their watersheds, adjacent and coastal ecosystems, and transboundary areas [See New Box Ecosystem Approach].** 1.1b **[Renumbered 1..1c]** Identifying and protecting biodiversity hot spots, endangered species **and habitats of importance for critical ecological processes (such as salt flats and mud flats that support long-distance migrants)** associated with mangrove ecosystems. 1.1c [Renumbered 1.1a] Taking the precautionary approach to the management of mangrove ecosystems. 1.1.d **[Rewrite]** Recognizing and supporting the needs of traditional mangrove communities and **local** mangrove resource users. **It is essential to involve local people, local communities and indigenous groups in the management of coastal wetlands and recognize their needs, as well as their local management practices including access rules to common use resources.** 1.1e Mitigating against adverse environmental impacts on **local** communities and other mangrove resource users. 1.1.f [No comments] 1.1g **[New, insert] View mangroves as an integral part of the coastal zone rather than as isolated units. However, decisions concerning the use of mangroves and associated habitats should be made in the context, first and foremost of local community needs.** P.16 **1.2 [Rewrite] Conservation and other management measures at all levels should take in account traditional knowledge and cultural values, legal local rights and management systems, and protect local communities from outsiders. Short-term considerations should not compromise this goal.** **ADD BOX the Ecosystem approach** **Box The Ecosystem Approach (EA)** **An ecosystem is an interconnected community of living things, including humans, and the physical environment within which they interact. The ecosystem approach to environmental management is a method for sustaining or restoring natural systems and their functions and values. It is goal driven, and is based on a collaboratively developed vision of desired future conditions that integrates ecological, economic, and social factors. It is applied within a geographic framework defined by ecological boundaries. The ecosystem approach integrates ecological protection and restoration with human needs to strengthen the essential connection between economic prosperity and environmental well being. The approach provides the framework that**

		draws together national, local, and community-based management practices to achieve the ultimate goal of a healthy and sustainable environment. It requires agencies to be sensitive to the needs and rights of landowners and to work with them toward common goals. The approach recognizes the fundamental connection between human communities and the environment. The inadequacy of the traditional resource management paradigm to deal with multiple scales and larger areas that encompass both public and private lands coupled with growing concerns over increasing environmental degradation and biodiversity loss gave rise to its development. It is based on collaborately developed vision of desired future ecosystem conditions that integrates ecological, economic, and socio-cultural concerns. P. 18 **2.1 [Add] Application of the Precautionary Approach is often a low-cost option when compared to the huge costs and risks of failure involved in restoration. This concern is particularly important for developing countries where resources for restoration or mitigation of damages may not be available.** **2.2 [NEW Add] In designing and implementing national systems for impact or risk assessment the principles of transparency and inclusiveness are fundamental.** **NEW Box Applying the Precautionary approach** **The Precautionary principle acknowledges that: (1) People have a duty to take anticipatory action to prevent harm; (2) The burden of proof of harmlessness of a new technology, process or activity lies with the proponents, not with the general public; (3) Before introducing a new technology, process, or starting a new activity, people have an obligation to examine "a full range of alternatives" including the alternative of doing nothing; (4) Decisions applying the precautionary principle must be "open, informed, and democratic" and "must include all affected parties."** **Policy makers must take a precautionary approach by: 1) Acknowledging uncertainty; 2) Acknowledging that it is easier to conserve the landscape and its embedded ecosystems before development than to engineer to provide for harmonization after the landscape is developed; 3) Recognizing that it is easier and more effective to avoid harm than to restore. The precautionary approach considers every management decision as an experiment. Because of the uncertainties normally involved in natural resource management these decision must involve small discrete small steps in case the actions taken lead to undesirable outcomes.** P.19 2.2e **[Rewrite] Incorporate mangrove ecosystems in landscape-level integrated management plans. Identify landscape capabilities (opportunities) and constraints. Inventory habitats and Identify special environments. Assess capability and capacity and assess cumulative impacts of landscape-level development. Adopt stringent precautions where compatible economic development activities in mangrove ecosystems are planned (EIA's at local and landscape or regional levels). Avoid activities(e.g. industry, urban development, agriculture, aquaculture)within intertidal areas that involve loss of mangrove ecosystem and associated habitats integrity.**

		2.2f [**Add bold**] Adopt strict protection and conservation management measures for mangroves **and associated habitats** (for example; green belt, buffer zones) where natural phenomena (such as typhoons/storms surges/cyclones **and natural geomorphic erosional processes** have a significant adverse effect on the coastline. Mangrove forests mitigate the effects of storms, by absorbing wind and wave forces, **stabilizing the substrate** and thereby reducing the risks of disasters. Similarly erosion-prone coastlines and riverbanks should be protected with legally designated mangrove green belts. **Article 3 Legal Frameworks** 3.1 **[Rewite] States should ensure that an effective policy, legal, institutional and administrative frameworks are developed at the local, national, and transboundary levels, as appropriate to support mangrove management . One of the first steps for States in reviewing their legislation and policies is to identify and eliminate economic and fiscal provisions that are inconsistent with mangrove conservation and wise use. Policy should be based on the following four principles: (1) No further loss of coastal wetlands, including mangroves and associated habitats; (2) No further wetland degradation; (3) Wise use of wetlands, and; (4) Wetland Improvement and restoration. However, all too often it is not lack of legislation but poor enforcement of applicable laws, regulations and rules that works against wetland conservation on the ground.** **3.1 a. The problems of enforcement are aggravated by:** • **Lack of surveillance monitoring procedures** • **Absence of legally-backed rights to information** • **Lack of participation in natural resources decision-making processes** • **Lack of political will and public awareness** **3.1b [New Text] On many countries coastal wetlands and their resources are considered as state property. A vacuum in the management of many wetlands under the public property regime has cleared the way to allow for informal community-level management. States must recognize that many rural communities do not exert an open access modality of resource use on tidelands because these resources are used under well-structured and complex communal use arrangements. More often than is recognized rules exist that regulate access and joint use, and steer communal harvesting efforts clear of depletion. These systems vary from settlement to settlement and different resources may be regulated by different locally imposed (community) rights regimes. These community-based systems are structured around sustainable land and resource use practices that are of great importance on a regional context and require a minimum of centralized management. However, national legal systems often fail to provide security and access to local or indigenous people, while at the same time have left the way open for alienation of these areas for private agriculture or aquaculture.** **3.1c [Rewrite] Clear agency responsibilities for mangrove management are needed. Where there is a multiplicity of management responsibilities and a general lack of legislation there is likely to be administrative confusion and resource deterioration. Systematic institutional coordination is needed. A lead agency must be designated to support effective coordination and cooperation mechanisms with other concerned agencies and stakeholders. It is desirable to have clear targets for mangrove conservation and rehabilitation. The overall goal should be to protect and sustainably manage all mangrove forests and associated habitats. It is especially**

		important to avoid further fragmentation or conversion of mangrove ecosystem habitats. 3.1d **[Add bold]** Physical zoning **(land-use restrictions),** of mangroves can be a valuable, practical means to help implement conservation and other management objectives. Mangroves should be clearly zoned with the function and conservation status of each zone clearly identified and legally defined. **Zoning must be complemented by an impact and performance bond system to be truly effective. Incentives for wetland conversion should be eliminated. Economic instruments favoring conversion include special subsidies, grants, low interest loans, and technical assistance that encourage development in mangrove areas and associated habitats.** **3.1e [Add NEW] States should be cognizant of their treaty obligations. These are generally broad mutually agreed commitments that require development of site-specific measures based on national legal frameworks. For example the CBD expressly requires that national decision-making should include consideration of the conservation and sustainable use of biological resources (CBDArt. 10). The Ramsar COP, in turn, issues specific recommendations at each of its meetings. Development like these, backed by increasingly stringent reporting requirements makes compliance with treaty obligations through responsive feed-through and local implementation of international obligations and recommendations, a primary responsibility of states.** **3.1 f [Add NEW] States should be cognizant that Article 8 of the CBD obliges the parties to respect, preserve and maintain knowledge, innovations, and practices of indigenous and local communities embodying traditional lifestiles relevant for the conservation and sustainable use of biological diversity and their wider application with the approval and involvement of the holders of such knowledge, innovations, and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices.** 3.1g Physical constructions such as embankments, roads, **dikes**, **ponds** and **canals** that may affect the normal tidal flow, surface runoff and sediment deposition dynamics along mangrove fringed coastal should not be permitted without a prior independent EIA and approval by governmental authorities responsible for mangroves. 3.1h **[Add New] The approval and development of mariculture activities should be based on national or regional plans that identify critical resources and conflicts with other actual or potential resource uses. Such plans should include the protection of critical coastal habitats required for local sustainable capture/harvest fisheries, supporting tourism, and maintaining sustainable levels of ecological functions.** P.24 **3.2a [no comments]** **3.2b [Rewrite] Non-destructive uses of mangrove ecosystems and associated habitats should be encouraged over activities that involve conversion, destruction or degradation, and/or alter hydrologic conditions.** **3.2.c [Rewrite] All decisions on development activities should be formulated based on a wide base of knowledge, including landscape-level or regional resource capability assessments, research studies, traditional/local nkowledge and ample, open consultation with local stakeholders and traditional users.** **3.3 States and mangrove managers should ensure that no**

		destruction or alteration of an area or protected habitat occurs without required permits, and secondly. That any conditions attached to the permit, particularly mitigation measures are complied with. Laws and regulations protecting mangrove ecosystems and associated habitats should provide effective penalties that are adequate in severity to deter violations. These can include, penalties, fines, suspension of user authorization or refusal of permits, in order to promote compliance. Planning and activity-based legislation must provide for mechanisms, whether in the form of administrative orders, or judicial injunctions, to put a halt to illegal operations. Deposit performance bonds provide a useful mechanism to ensure compliance with permit conditions. **3.4 [Add new bullets]** • **Provide for performance requirement bonds to insure compliance with environmental regulations and restoration of degraded habitats.** • **Provide mechanisms that facilitate access to justice or the enforcement of environmental or collective rights. (See New Box Access to Justice)** **BOX Access to justice** **In Brazil one of the most important laws is Law No. 7.347 of 1985 that states that NGO's and public prosecutors can initiate "popular civil actions" for the enforcement of environmental and other "diffuse" "collective" rights. NGO's as well as the Public Prosecutor and other governmental entities are authorized to seek monetary damages and injunctions in the enforcement of consumer, environmental and cultural rights. (Source Nogueira Souza Patu 2002). In Costa Rica, the Organic Environmental Law provides for an Environmental Inspector and an Environmental Administrative Tribunal. The Inspector is obliged to report violations of the Environmental legislation and related laws to the Environmental Attorney's Office, the authority responsible for the public maritime domain as well as the Ministry of Public Affairs. The Tribunal is empowered to record and adjudicate charges brought against public or private entities for alleged violations of the legislation on environmental protection and natural resources. The Tribunal may impose administrative fines or penalties and its decision is final. (IUCN Law Paper 38).** P. 27. 4.2 **[Rewrite] Management objectives should encourage sustainable use of biological resources, be coherent with legal frameworks for mangroves, and affirm local people's rights.** 4.3 **[Add Bold]** The management of the mangrove system as a whole should include clear management objectives for each of its individual resources. Management plans should be reviewed and adjusted periodically so that each resource can be managed **for sustainability.** 4.4 States should harmonize institutional arrangements for mangrove management to clearly define responsibilities and minimize duplication of efforts and funding among the various agencies/departments concerned. 4.5 No comments 4.6 **[Reworded] Mangrove conservation should be strengthened by assigning protected area status to appropriate locations, especially those that have important ecological, cultural or historical significance. Such areas**

		should be legally protected through governmental legislation. Countries can also nominate a protected area for international recognition if it conforms to one or more of the existing international conventions or regional conservation frameworks [See New Box Reentrancias for example of a dual nomination under global and regional conservation frameworks]. P.28 Table 4.1 Examples of Protectected Areas involving Mangroves. Note: Omitted from the table is Reentrancias Maranhenses Protection Area A WHSRN Site Location and Ramsar site (Wetland of International Importance) and one of the eight largest Ramsar sites. **ADD Box Reentrancias** **[Brazil Box Reentrancias] Reentrancias Maranhenses Protection Area A WHSRN Site Location and Ramsar site (Wetland of International Importance)** **Northwest coast of the state of Maranhao, Northern Brazil.** **The Reentrancias Maranhenses Protection Area Between the mouth of the Gurupi River and the Bay of San Marcos, including Cajual Island, is a very geomophologically diverse area, with bays and estuaries, mangroves, sandy beaches and coastal dunes.Tides are up to 8 meters. The area comprises 2,680,911 hectares Reentrancias Maranhenses Protection Area is a Western Hemisphere Shorebird Reserve Network site and a Ramsar site (1,775,036 ha) composed of extensive low, seasonally flooded coastal lands characterized by fields, gallery forests, mangrove swamps, and lacustrine basins along the northeast coast of Brazil. The site qualifies under all of the representative/uniqueness criteria and most of the Ramsar biodiversity criteria, including those for waterfowl and fish. This site is among the eight largest Ramsar sites in the world. The coast of North-Central Brazil, between Belem and Sao Luis area stands out as one of the most spectacular areas in terms of importance for migratory shorebirds for the hemisphere.** **Article 6 Socio Economic Considerations** **[Header Reworded]** ***Mangroves provide important socio-economic benefits to indigenous groups and local communities worldwide and the sustainable management of mangroves is necessary to maintain and improve their livehoods.*** P32 6.1 **[Reworded]The approval and development of activities within mangrove areas should be based on national and regional plans that identify critical resources and conflicts with all other actual or potential resource uses. Such plans should include an assessment of direct and indirect impacts, cumulative effects, socio-economic effects and cultural impacts and benefits to local communities and include the protection of coastal habitats for sustaining traditional fisheries, supporting tourism, and maintaining the integrity of ecological functions.** 6.2 No comment 6.3 **[Reworded] States should work closely with local and traditional resource users to broaden the knowledge base necessary for decision-making to ensure that the level of extraction of natural resources are kept within sustainable levels.** 6.4 **[Rewrite] In mangrove ecosystems where natural resource utilization already exceeds sustainable levels states should**

		introduce mitigation measures in consultation with the user groups. Mechanisms should be established to reduce exploitation to a sustainable level and to monitor and enforce this effectively. Mechanisms include species/resource-level catch/harvest-quotas, zoning and graduated access and harvest schemes, partial closures (shifting harvest) and rotation schemes to allow system recovery (fallow cycles), protection of refugia (propagule source areas) and asset redistributions. Small grants may be given to local communities or councils to provide local protection to these resources. 6.5 **[Add [Small-scale artisanal fishing, crabbing, shellfish harvesting, hunting] to listed potential livehood activities.** 6.7 **[Rewrite] Pollution from human activities, such as solid and liquid waste disposal from urban, industrial, agriculture or aquaculture sources should be avoided or regulated. The inputs of organic matter, nitrogen and phosphorus compounds into estuaries coastal waters should be kept to an absolute minimum through the use of adequate treatment before discharge. This is particularly true in the more stagnant mangrove channels where eutrohication can lead to anoxic (oxygen depleted) conditions, and severe degradation of the aquatic system.** 6.8 **[Reworded] States should ensure that mechanisms are enacted to insure restoration. There are various ways by which the law can support restoration of degraded wetlands. One is through the establishment of a system of environmental performance bonds. Legislation may also provide for the making of environmental restoration orders. This type of order may be issued where individual wetlands are damaged or destroyed by the actions of a natural or legal person and the damage is detected and the responsible party is identified. Breach of these laws would constitute a criminal offense subject to financial or other penalties. Mangrove rehabilitation projects should seek to restore maximum benefits in terms of habitat recovery and ecological functioning at the minimum cost socially and economically.** **6.9 [Add bullet]** • **Establish environmental impact performance bonds system for wetland restoration.** P.39 **ARTICLE 8 Capacity Development** 8.1 No comments 8.2 **[Reworded] States should develop curricula/teaching modules and supporting teaching materials on mangroves suitable for adoption into national education programs for (a) primary and secondary schools; and (b) institutions of higher education ans/or promote the establishment of academic extension units can can help transfer academic knowledge into practical resource use or protection applications [See Box BIOMA].** **Box BIOMA Bioma: A successful experiment on capacity building and extension].** **Bioma is a unique concept, created out of an experiment on how young talent can be focused toward the promotion of the long-term conservation and wise use of mangroves and other fragile coastal wetlands. The Laboratory is a training unit within the University of Sao Paulo, Brazil. Its goal is to engage young undergraduate and graduate students in conservation issues of great importance to civil**

		society and to the conservation of national heritage. As a result, numerous master-level thesis and PhD dissertations have been produced that were specifically designed to meet the needs of local resource managers, addressing important information gaps, and capable of directly supporting specific wetland conservation actions. The scope of Bioma has been broadened to offer free, high-quality technical services to local governments, conservation groups and local communities concerned about the management of their mangrove wetland resources. Bioma is self- supported by voluntary contributions by its members, and maintains its high level of social engagement without extra costs to its host institution. Its principal assets are the level of engagement that has been generated among the students that participate in its activities, and the high level of technical expertise available through its multidisciplinary approach. Although Bioma is hosted by the Oceanographic Institute, its members include students from several faculties such as:Economy, Biology Oceanography, Law, and Architecture. Bioma serves as a practical example on how to direct academic strengths to leverage conservation actions where they are most needed, and where financial resources may be limited. 8.3 **[NEW] States should support basic and applied research through small grants and scholarships to graduate level students working on their Master thesis or PhD dissertations. These grants may be provided through the academic institutions or National Research Councils.** 8.3 **[Rewrite] States should promote practical training courses to enhance their own in-house capacity to address mangrove and coastal wetland management problems in collaboration with academic institutions, NGO's or international organizations with know-how in this field.** 8.4 No comments. 8.5 No comments 8.6 No comments 8.7 No comments 8.8 **[NEW] States should promote engagement of the private sector in the sponsorship of basic and applied research in mangrove and coastal wetlands.** P.43 **Article 9 Forestry Silviculture management** 9.1a **Add**. **Mangrove forest management may include silviculture. Certain characteristics mangroves are often well suited for silvicultural treatment. These include: rapid growth rates, high regenerative power, few species, tendency to form uniform (even aged) stands, and diversity of forest products**. [Text from 9.1 follows this intro]. 9.1b. **The rational management of mangrove forests is based on an in-depth understanding of the forest and its environment that must be obtained through observations and measurements of composition, structure, and ecology. This information is used to assess the capability (aptitude) of the area for silvicultural utilization and management See New Box** **Box Silvicultural utilization** **Information Usually the information necessary for**

		silvicultural utilization is collected through a forest survey that includes inspection and analysis of aerial photographs, ground-truthing, and actual on-the-ground measurements to assess the volume of forest products that is available for harvest. Also needed is the time it takes for the forest to reach maturity. Mangrove forests may be harvested at different ages (rotations) to yield various end products. The rotation time is the time for the trees to reach the desired size, or the stand to reach the desired volume. The rotation period depends on the growth rate of the trees. This in turn depends on the quality of the site. Local people may have information that can help determine the rotation time. High quality sites for silviculture are those where growth rates are highest. Managing or sustained yield is like utilizing the interest while protecting the capital. The coupe is the annual harvest allowable while providing a sustainable yield. In theory the coupe is 1/Rth of the total area suitable for management. Notice should be taken that in some areas, irrespective of size of the annual coupe or silvicultural system used for harvesting, regeneration fails to take place as expected, or is very poor. In these cases the harvesting protocol must be changed or regeneration speeded through plantings. It has been found that clearcuts of narrow strips at an angle to waterways work best to favor natural regeneration. However uncut fringes along coasts and waterways are maintained to avoid bank erosion. 9.5 A **careful technical assessment should be made. Particular attention should be given to the the factors that control establishment and development [New BOX Problems]** **Box Problems or Factors that control Establishment and Development::** • **Isolation from natural propagule sources** • **Wrong planting elevation for desired species** • **Excessive wave or current exposure** • **Unsuitable substrate** • **High salinity** • **Excessive substrate temperature** • **Damage by flotsam and wrack accumulations** • **Disease, isopod infestations** • **Grazing, trampling, vandalism** P.33 Box 6B States that Brazil has recently introduced regulations for monitoring effluents from aquaculture. This conveys little information as presented. Suggest deletion or insert reference to web page where these regulations are posted if they exist. Notice that the next statement actually makes specific reference to cited regulations. ARTICLE 10. Traditional, Artisanal Fisheries **[Add separate chapter for Aquaculture, see ARTICLE 11 (NEW)] Suggest that Aquaculture be treated as a separate Article considering its proportionately greater impact on mangroves than fisheries. Note that whereas overexploitation may transiently cause a depletion of a resource it does involve conversion to another use, as is the case for aquaculture.** **Header[Rewrite]** ***Mangrove associated fisheries have worldwide importance in providing subsistence food and***

		income, as well as commercial benefits, for a wide range of stakeholders, from local fisher communities to small commercial fishery operators. It should be recognized that lack of enforcement of existing fishery regulations to protect nursery sites and habitat degradation are major causes of unsustainable fishing. **10.1 [Rewrite] States should be cognizant of the general guidelines that exist to promote responsible fisheries. These include FAO Code of Conduct for Responsible Fisheries (1995) SEAFDEC Regional guidelines for responsible Fisheries in Southeast Asia. The following articles relate specifically to fisheries including subsistence collecting of aquatic resources in mangrove ecosystems.** **10.2 NEW Replaces 10.2] On many states the intertidal zone is in the hands of the national government, and in most, the concept of "property of common use" is acknowledged. States shall protect ecologically-sensitive intertidal lands and abstain from sponsoring actions that displace traditional users, restrain, or take away their original rights. States should recognize that one of the major causes of habitat destruction and unsustainable use of coastal intertidal resources is the failure to exert control and allow the misappropriation of tidal lands. States, on the other hand must protect the rights of subsistence users of these intertidal common use lands. States must recognize that many rural communities do not exert an open access modality to common-use tidelands because these resources are used under often well-structured and complex communal use arrangements. That is, more often than is recognized rules exist that regulate access and joint use and steer harvesting efforts clear of depletion. These systems vary from settlement to settlement and different resources may be regulated by different locally imposed (community) rights regimes. [10.3 follows].** **10.3.{Rewrite] States should, in partnership with local communities demarcate intertidal common-use areas where community regulated access for non-destructive fishing activities are permitted for local communities.** **Article 11 Aquaculture (NEW)** **[New Header]** ***Aquaculture, particularly shrimp farming has rapidly become a large industry on a global scale. It presents the greatest challenge to coastal management. Poor aquaculture management practices and/or lack of enforcement of environmental regulations has caused large-scale socioeconomic problems and degraded many coastal areas.*** **11.1 In principle, States should not sanction further conversion of mangroves, including salt flats and salt marshes and associated coastal wetlands for aquaculture (see Ramsar Resolution VII.21) and should seek restoration of abandoned facilities. Aquaculture within mangrove ecosystems is generally unsustainable due to potential acid sulphate soil conditions prevalent on mangrove areas, or because it causes the irreplaceable loss of important coastal habitats such as tidal flats and salt flats that are important critical coastal transitional environments and habitats critical for sustained coastal productivity and the persistence of frail global-scale ecological processes such long-distance bird migrations.** 11.2 **The rapid expansion of shrimp farming has caused socioeconomic problems, such as dislocation of poor coastal communities, closed access to traditional common-use areas, and degraded coastal habitats**

		including mangrove forests and other coastal wetlands such as ecologically important salt flats. 11.3 **The challenge is to make aquaculture develop in a manner compatible with the maintenance and persistence of coastal ecological processes. These areas provide critical habitats for biodiversity, including long-distance migrants and are critical transition zones. The process of fitting aquaculture to the landscape is a learning process that seeks the maintenance and development of an increasingly robust and supportive environment. This requires the protection of the existing landscape and its ecological processes. Sustainability cannot be packaged into a simple recipe, cannot be imposed, it is a learning process that involves learning practices and creating institutional and policy frameworks that support sustainable resource .** **BOX Ramsar Resolution VII.21** **BOX Ramsar Resolution VII.21 San José, Costa Rica, 10-18 May 1999, recognizes the critical economic, social and environmental values of intertidal wetlands, including tidal flats, salt marsh, mangrove and seagrass beds for fisheries, biodiversity, coastal protection, recreation, education, and water quality. It recognizes that the livelihood of substantial numbers of people around the world depend on the productivity of intertidal wetlands and that a large proportion of these are being been lost to reclamation, unsustainable aquaculture, and pollution, and that, in some regions, the scale of reclamation is increasing. It noted the growing scientific evidence of, and awareness by,local communities of the productivity of intertidal wetlands, in particular of tidal flats, and that the expertise in dealing with the conservation and wise use of intertidal wetlands at local and national levels is rapidly increasing but that there are no adequate mechanisms at the global level to share and benefit from these experiences and expertise. It reminds the Contracting Parties that recommendation 6.4, urges countries to work together in the area of information exchange to contribute to the long-term conservation of migratory waterbirds and their habitats; and noted that many such migratory waterbird populations are dependent upon intertidal wetlands are globally threatened. It reminds the parties that Recommendation 6.7 urges the designation of coral reefs and associated ecosystems, including mangrove forests and seagrass beds, to the List of Wetlands of International Importance; and called the Contracting Parties to document the extent of loss of intertidal wetlands that has occurred and to inventory remaining intertidal wetlands, and their conservation status. It asks the Parties, in collaboration with the Ramsar Bureau, International Organization Partners, and relevant groups, to develop initiatives to disseminate information on the extent of loss of these wetlands and its impacts, and on alternative development strategies for the remaining intertidal areas. It urges the review and modification of policies that adversely affect intertidal wetlands, and urges introduction of measures for their long-term conservation. It urges all Contracting Parties to suspend the promotion, creation of new facilities, and expansion of unsustainable aquaculture activities**

		harmful to coastal wetlands until such time as assessments of the environmental and social impact of such activities, together with appropriate studies, identify measures aimed at establishing a sustainable system of aquaculture that is in harmony both with the environment and with local communities. **11.2 Estuaries and coastal wetland complexes that contain mangroves and salt flats sustain adjacent coastal systems through high rates of primary production and nutrient cycling. These systems are critical transition zones (CTZs). The conversion of salt flats can result in the decimation of animal populations that are depend on these habitats including long-distance migrants. Estuaries and coastal wetlands include:** • **Sand or mud flats** • **Salt marshesMangrove forests** • **Hypersaline lagoons** • **Intertidal flats including: salt flats, salt pans, salinas, "salt barrens", apicuns, tannes and coastal sabkhas** **11.3 Primary production from the coastal wetland complex that includes mangroves is transferred through lateral diffusion and transport of original primary production via food web linkages and through passive dispersal and migration of food web components (outwelling) to coastal areas. The high productivity of coastal waters is reflected in abundance of fish and massive, active migrations of fish and shrimp. Substantial fractions of these populations are caught by artisanal fisheries and remain undocumented. In general, depleted resources undermine national economies and social stability.** **11.4 Aquaculture contributes to nutrient loading of adjacent waters. Wastes include uneaten food, feces, mucus, dead animals, dead or living bacteria and viruses. Waste enters water directly into stagnant areas. The results are coastal eutrophication, algal blooms, slime films, anoxia, loss of transparency, mass mortalities. The results are not only degradation near the ponds, but also within the ponds that are often densely sited along coastlines.** **11.5 Aquaculture can result in unintentional release of exotic species into the environment. Releases include parasites and disease agents that can affect wild stocks. These releases result from leakage, breakouts, floods, vandalism, human failures. To reduce vulnerability to disease, the quality of coastal waters must be protected and the density and stressful conditions within the ponds must be reduced. Introduced species, parasites, and disease agents can lead to epidemic die-offs or displacement of native species.** **11.6 Industry "collapses" in Asia and Ecuador offer "landscape-level" lessons. They have cost industry and society billions of dollars but provide an opportunity for major scientific learning as well as potential understanding of how to avoid, or restrict, future effects on the industry and coastal marine ecosystems. Boom-bust cycle indicates lack of integration of aquaculture into the landscape. In many cases ponds do not recover their productivity. Crop failures appear to be largely from crowding of farms on landscapes and poor management**. **11.7 Maximization of individual crop yields or stock yields by specialized monocultures cannot lead to sustainability. Sustainable agriculture or aquaculture is not attained by maximizing crop yields but by interdependent land use and maintenance of landscapes that meet multiple nutritional, ecological, cultural and economic objectives. Aquaculture**

		must be integrated into development that conserves land, water, plant and genetic resources, is environmentally non-degrading, technically appropriate, economically viable and socially acceptable" **11.8 The major objective of sustainable aquaculture, agriculture and rural development is to increase food production in a sustainable way and enhance food security. This involves education initiatives, utilization of economic incentives, and development of appropriate and new technologies to ensure stable supplies of nutritionally adequate food, access to those supplies by vulnerable groups, production for markets, employment, and income generation to alleviate poverty, and natural resource management and environmental protection.** **11.9 States must provide frameworks for adequate regional planning/siting and promote environmentally friendly designs, appropriate technology (production and waste management, and siting through regulatory and incentive programs. Crowding must be avoided through regional planning to disperse sites and discharges. The vulnerability to disease emergence and spread should be controlled through site-specific and landscape-level measures such as, farm density limitations (siting) and water quality (effluent) control measures. The use of chemicals and therapeutic agents must be avoided or strictly regulated. States should provide for the creation of restoration funds and mitigation procedures.** **11.10 States shall assess individual and cumulative impacts and promote siting based on previous landscape-level land suitability assessments. Critical habitats such as coastal wetlands including mangroves, salt flats salt and marshes must be avoided. Ample buffers of undeveloped land must be left between aquaculture developments and intertidal areas. Aquaculture Projects should not be approved on a farm-by-farm basis. Siting should be based on land capability (and receiving water body capacity) considerations. Coastal development should be done within a regional-level Coastal Zone Integrated Planning framework.** **11.11 States shall provide for local community involvement by providing mechanisms for local participation, mechanisms for conflict management and incorporation of pluralism and multiple perspectives in decision-making. 11.12 Indicators of sustainable aquaculture are: (1) gradual landscape change; (2) stable landscapes; (3) dispersed siting; (4) absence of clumping; (5) ample buffers of undeveloped landscape remain; (6) reduced disease emergence and spread; (7) involvement (participation) of local communities (integrated local communities); (8) Multi-level (local, regional, national) integrated flexible governance in place; (9) Industry has EMS systems in place; (10)Monitoring programs are in place to monitor environmental quality, performance of aquaculture activities; (11) Limited or non-use of chemicals and medicals; (12) reduced waste production, clean effluents. Provisions for zoning, restoration and mitigation; (13) high landscape diversity (multiple use).** **11.13 The process of fitting aquaculture to the landscape must be constantly monitored to ascertain that the process remains:** **Socially desirable** **Culturally acceptable** **Economically sustainable** **Operationally viable**

		Environmentally friendly **Generationally sensitive** **ADD BOX Sustainability Defined** **CBD's Sustainable Use definition reads "Sustainable use entails the introduction and application of methods and processes for the utilization of biodiversity to prevent its long term decline, thereby maintaining its potential to meet current and future human needs and aspirations."** **Article 10 of the Convention sets the sustainable use agenda for Parties, which should:** • **integrate consideration of the conservation and sustainable use of biological resources into national decision-making;** • **adopt measures relating to the use of biological resources to avoid or minimize adverse impacts on biological diversity;** • **protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements;** • **support local populations to develop and implement remedial action in degraded areas where biological diversity has been reduced; and** • **encourage cooperation between its governmental authorities and its private sector in developing methods for sustainable use of biological resources.** **11.14. Pond siting protocols should include performance requirements for the protection of natural habitats surrounding the ponds; specifically drainage and natural patterns of runoff and tidal ingress and egress.** **11.15. Whenever a pond system is abandoned the impondmend dikes should be removed and the topography and drainage of the area restored.** **Article 11 [Renumbered 12] Agriculture, salt production and mining** 11**12.1 [Reworded] In principle, States should not sanction further conversion of mangroves, salt flats, salt marshes and associated intertidal wetlands for aquaculture, agriculture or mining {See Ramsar Resolution Box]. Agriculture and aquaculture are generally unsustainable due to potential acid sulphate soil conditions prevalent in these areas. However, salt extraction is more compatible with local natural systems because it only needs extremely shallow ponds and minimal bunding (diking) requirements. In many places wind power is used to pump water in salt evaporation ponds.** **12.2 Salt Pans should be sited well behind the mangrove forest zone and where possible integrated into existing landforms so that minimal alteration to the terrain is needed (The combination of Artemia brine shrimpculture with salt production in the same ponds should be explored.** 12.3 **[Reworded]Coastal Aquaculture and salt production should only proceed after individual and cumulative impacts have been assessed and siting is based on landscape-level land suitability assessments and integrated coastal development plans that insure appropriate siting to avoid critical habitats(such as coastal wetlands including mangroves, salt flats salt and marshes) and to promote multiple use and to**

		avoid crowding of facilities or effluent discharges into stagnant waters. Ample buffers of undeveloped land must be left between aquaculture developments and intertidal areas. **12.4 [Reworded] As a guiding principle, all development of this type should be designed to (a) minimize changes to the hydrological conditions in surrounding wetlands; and (b) have built-in safeguards against pollution, such as adequate waste treatment and disposal systems, and monitoring of effluent quality and quantity. The "polluter pays" principle should be adopted through performance bonds (to restore abandoned facilities) or effluent taxes could be used to provide incentives for using most appropriate technologies. 12.5 States should provide for the creation of restoration funds and uniform mitigation procedures (such as mitigation banks). States should implement the principle of zero pollution from aquaculture, and salt production areas near common-use, or community co-managed areas, designated protected areas (nationally or internationally designated) and other habitats of recognized ecological importance.BOX Migratory Birds (Shorebirds)** **There are 214 species of shorebirds (sandpipers, plovers, oystercatchers, avocets, and stilts) worldwide. Shorebirds use a wide variety of habitats, including interior and coastal wetlands such as mud flats and salt flats. These wetlands are essential features of the landscape, providing feeding sites where migratory shorebirds can stop to feed, rest, and gather energy while en route between breeding and wintering grounds. Habitat conservation is of key importance for the reproduction and survival of shorebirds in their breeding and wintering grounds, as well as in stopover sites along migratory routes or flyways. Migratory routes are diverse and include many countries between Alaska and Tierra del Fuego, southern South America, and the Caribbean basin. Because many shorebirds are long-distance migrants, international collaboration is needed to manage and conserve their populations. Conventions such as Ramsar and the Western Hemisphere Convention provide mechanisms to promote the international collaboration needed to conserve shorebirds and their habitats.**
Melanie Steinkamp, Wetlands International, 4401 North Fairfax Drive, Room 730, Arlington, Virginia, 22203. Melanie_steinkamp@fws.gov		Wetlands International is pleased to review this important effort to develop guidelines for resource managers and policy makers on the management of mangrove ecosystems and would like to congratulate you on the draft produced to date. We fully support the draft document's objective to "arrest the recent and rapid destruction of mangrove ecosystems" by providing a tool to effectively manage mangrove ecosystems. We have the following comments: **GENERAL COMMENTS** Document Title – It's not clear why this is called a 'Code of Conduct.' If it is a non-binding document to be used by states as a tool to develop policy it would be better called guidelines. A code of conduct seems better suited for something at a more local level – such as within a community. A code of conduct might be developed by a local community or a state in response to these guidelines. Definition of mangrove – Throughout the document, the definition of mangrove is not used consistently. Often, when the term

		mangrove ecosystem is used, it is referring only to the forested portion of the ecosystem. This is not inclusive of the mangrove ecosystem and needs to be clarified to include mud flats, tidal flats, salt flats and other associated habitats within the intertidal zone. In the past decade there has been a shift in perspective on how to manage mangrove ecosystems and we understanding today that to effectively manage mangrove ecosystems we must be inclusive in our approach and manage at scale of the watershed. Hydrology – There is little discussion about the importance of managing or protecting the hydrology of the ecosystem. Without protection and/or management of the hydrology of the ecosystem, efforts to manage habitats or components within the mangrove ecosystem will fail. We suggest a discussion of the critical component of hydrology of mangrove ecosystems be discussed early on in the introduction and incorporation into an article addressing ecosystem approach. Responsibilities for Implementation – Who will help implement the "Code of Conduct" or "arrest the recent and rapid destruction of mangrove ecosystems, to improve their management and to conserve biodiversity. We believe that the States are the appropriate level to provide guidance. However, implementation by most states is resource or capacity – limited and states will look to international development agencies and NGOs for support. Governments, aid agencies and NGOs have considerable capacity and power – through money, education, skills, knowledge, ideas, opportunities, confidence, and political access. The document should spend some time discussing the need for these groups to provide leadership by carefully selecting to support only projects with adhering to the guidelines described in this document. The draft fails to highlight the importance of mangrove ecosystems to migratory species, including migratory waterbirds. Many of these species are in decline as a result of loss of habitat. Migratory birds should be added as an important component of the mangrove ecosystem and should be included when reviewing potential impacts to the mangrove ecosystem by human activities. Wetlands International would be happy to contribute a box on the value of salt flats and/or mangrove ecosystems to migratory birds. **INTRODUCTION** Page 9, Table 0.1- What about the Caribbean? The summary matrix of the main threats to mangroves should include the Caribbean, Central and South America. Natural disasters in Central America should be rated as medium-high due to the frequency and potential for disturbance and destruction by hurricanes. Aquaculture in Central and South America is a rapidly increasing activity in Peru, Ecuador, Mexico (Pacific coast) and Brazil and should be rated as high. Page 11, Table 0.2 – Conservation – Add Awareness raising among stakeholders, public, local communities Improve capacity within local communities for sustainable and wise use of mangrove ecosystems…. Under 3. Productivity, remove the word "increase" and replace it with the following (or something similar): Promote wise, sustainable use of mangrove resources, such as….. Page 12, General Objectives of the Code Objective 6 – Add "terrestrial" to … promote the protection of

		terrestrial and aquatic resources…. This will add migratory birds not always seen or referred to as aquatic resources. Page 13, General Principles, This entire section is too focused on mangrove forests. Paragraphs need to be added discussing the other essential components of mangrove ecosystems, including salt flats and mud flats. para 4. Mudflats ARE part of the mangrove ecosystem – they are not an ecosystem by themselves. This text should be revised to include something like the following, … "states….recognize that mangrove ecosystems are inclusive of a complex of interlinked habitat types, including rivers, estuaries, lagoons, mudflats, salt marshes, saltflats…. Etc." Ecosystems must be managed as a whole, not a system of separate components. We suggest that special note be made of salt flats which are undergoing tremendous pressure in Latin America (Brazil) by aquaculture. Salt flats are extremely productive systems and provide critical habitat for migratory and endemic waterbird species. The loss of this component of mangrove ecosystems has been left out of many conservation efforts and needs special recognition. The Western Hemisphere Shorebird Reserve Network has been established to provide special recognition and conservation protection to critical migratory shorebird sites. Additionally, Birdlife's Important Bird Areas Program identifies coastal wetlands of significance to both endemic and migratory waterbirds. We suggest a box be created highlighting one WHSRN site within the western hemisphere (in a mangrove ecosystem) that provides important habitat to a shorebird of concern. We would be happy to provide text for this if necessary or desired. **Article 1** – In general, more reference to local communities or local peoples would strengthen this section. 1.1c. Identifying ….. endangered species **and habitats important to long distance migratory waterbirds and endemic waterbirds, such as mud flats, salt flats…** 1.1d – Traditional mangrove communities? This may better be defined as "local people, communities and indigenous groups." **Article 3** – Add an article recognizing the need for enforcement of mangrove legislation – both existing and planned. **Article 4-** 4.2 – This should be re-written to state something like, "Management objectives should encourage sustainable and wise use practices of biological resources by local communities within the legal framework…." 4.3. Change the last word, optimally, to sustainably. **Article 5 -** Article - Include a definition of baseline data – describe that baseline information includes all components of the ecosystem and that baseline indicators will vary from site to site, between regions and use an example site. This information may be more appropriate in a box. **Article 6 –** Reword the article to state, " Mangroves provide important socio-economic benefits to local communities, including indigenous groups around the world and the sustainable …. 6.3 Need to increase the awareness among local and traditional resources users before policies can be developed. "Increase awareness among local and traditional resource users to affect policy such that the level of extraction of natural resources are kept within sustainable measures." 6.5 Add hunting, shellfish harvesting, crabbing, small-scale artisanal fishing to list of potential activities. 6.7 For mangrove ecosystems where there is little flushing, nutrient

		inputs need to be avoided or regulated at minimal levels by treatment before discharge. 6.9 There are direct and indirect economic incentives. Add another incentive - Develop alternatives for wetland products and/or alternative wetland products. This section could include a box or reference to the publication, "The Socio-Economics of Wetlands" published by Wetlands International, Ramsar and Riza, which delineates the particular values associated with wetland system functions and provides ideas and case studies for incentive programs. This would add a box on "valuation of mangrove ecosystems." We would be happy to provide this. **Article 8 -** Add a bullet that recognizes the need for research grants and scholarships to graduate students working with the state on mangrove ecosystems conservation or management. Box 8A – In the Caribbean, the West Indian Whistling Duck has produced a teaching tool called "Wonderful West Indian Wetlands." This is a manual for teachers to use in schools to teach their students an appreciation about the value of wetlands. While based on wetlands in general, because it was developed for the West Indies, a significant portion is devoted to mangrove ecosystems. This project could be added to the box. **Article 9 –** 9.6 We're not comfortable suggesting the use of mudflats for planting mangroves, unless it is returning them to their native condition. In many developing countries, mangroves are now recognized as valuable components of the coastal ecosystem and aquaculture activities have been relegated to the mud and salt flats. This is having repercussions on migratory wildlife. Bullet 9.7 states that sea grass beds and coral reefs should not have mangroves planted on them because they are important ecosystems in their own right. Mud flats should be provided the same protection. **Article 10 –** Fisheries and Aquaculture should be separated out. Aquaculture is having greater impacts to mangrove ecosystems in Latin America and is more closely aligned with agriculture than fisheries. Information from the Guidelines for Sustainable Shrimp Farming can be used under the article on Aquaculture.
Katherine Bostick, Researcher: Aquaculture and Agriculture, Conservation Strategies Unit, World Wildlife Fund, 1250 24th St, NW, Washington, DC 20037	Sept 28, 2003	**Comments on the *Principles for a code of conduct for the sustainable management of mangrove ecosystems.*** Your team has done an amazing job of putting together this draft. I congratulate you on this effort, which I believe will result in a useful tool for governments, communities, multi-lateral agencies, and NGOs. The inclusion of boxes and figures with concrete examples is excellent. These are an opportunity to show some successes, as well as demonstrate failed attempts at conservation that have valuable lessons. However, as was mentioned at the discussion at the Workshop on the 16-17, they pose a layout problem. The final document, and ideally the next draft, should be laid out such that these boxes and figures are secondary, and that they do not draw attention away from the main text. The following are my detailed comments, which are in addition to the verbal comments I gave at the workshop. 1. Box 6C: The Brazilian Association of Shrimp Farmers introduced a self-imposed code of conduct for monitoring effluents, they are not "regulations" per se.

		2. Article 8 has two different points numbered 8.2, the article needs to be renumbered. 3. Article 10 should be split into two different articles, one on fisheries and the other on aquaculture. o New header for aquaculture: *Mangrove associated aquaculture has worldwide importance in providing subsistence food and income, as well as commercial benefits, for a wide range of stakeholders, from local communities to major companies that have invested in aquaculture and seafood processing. Unfortunately, some aquaculture development has also resulted in severe environmental degradation and socio-economic problems, due, in part, to poor aquaculture management practices and/or lack of enforcement of environmental regulations. The importance of effective management in relation to aquaculture development cannot be overestimated.* {Comment on Gil Cintron's comments: I think that Gil's new header is too negative, and does not address the potential benefits of aquaculture} o As it is now, the fisheries and aquaculture components of 10.1 need to be separated. Include in the mention of the WB/NACA/FAO/WWF consortium resources, the website: www.enaca.org/shrimp. {We have plans to post a number of shrimp aquaculture protocols/certification standards on this web site, along with comments on them. This should be a useful site for States or others to visit in order to see the GAA Guidelines, FAO Code for Aquaculture, etc. all in one place}. The draft accidentally left WWF off of this consortium list, please be sure to add us! o In 10.1, the GAA guidelines are mentioned. You should be aware that the GAA Guidelines were developed by the industry and have not been vetted by multiple stakeholders. While I do not think the GAA guidelines should necessarily be excluded, I do feel they should be part of a larger list of codes/guidelines to which States could refer. There are a number of other codes and guidelines that can be added to 10.1. These include the *Thai Code of Conduct for Responsible Shrimp Aquaculture* (1999), *Code of Conduct for Responsible Aquaculture Development in the U.S. Exclusive Economic Zone* (NMFS 2002), *Naturland Standards for Organic Aquaculture* (2002), and the *Environmental Code of Practice for Australian Prawn Farmers* (1998). o Expand 10.6 so that "mangrove ecosystems" are not the most suitable sites for aquaculture pond construction. Gil addressed this point in his comments in his 11.1. I agree with his inclusion of the information on the Ramsar

		Resolution VII.21, and the box that expands upon this point. o As was discussed in the meeting, this article needs to be clear that the conversion of mangrove ecosystems should be strictly regulated, thereby regulating shrimp farms while allowing for more traditional forms of aquaculture. It is important to recognize the differences among aquaculture systems; that some can be highly beneficial to local communities without damaging the environment, and that even large commercial shrimp farms, if well-managed and strategically sited, are not necessarily bad for communities or the environment. States regulating the development of aquaculture should look not only at the potential impacts of one aquaculture project, but at the cumulative impacts of them all. o Comments on Gil's comments: Generally, I agree with his commentary, but I feel that Liz and Don need to take these and adapt them such that the new aquaculture article does not become a list of the negative impacts of shrimp aquaculture. There is no need in these principles/this code to become too detailed as to the science of aquaculture. Gil includes several good points in his new article 11 on aquaculture, which address the importance of coastal wetland areas as critical transition zones and as habitat for migratory birds (See his 11.1, his 11.2 that begins with "estuaries", and his 11.3 that begins with "primary production"). These points should be integrated into the document's discussion of the ecosystem approach rather than into the article on aquaculture. The document will be most effective if the reader understands early on the definition of "mangrove ecosystem" and the roles that this ecosystem plays. I hope you find these comments useful. Please contact me if you have any questions. I look forward to seeing the next draft.