



International Ocean Institute

Tel: +356 (-) 346528
+356 (-) 346529
Fax: +356 (-) 346502
Tlx: 1407 HIEDUC MW
Attention: IOI
Cables: INTEROCEAN

TELEFAX TRANSMISSION

Date: 27.3.95 **No. of Pages:** 2

To: Mr. Malcolm Booker
Deloitte & Touche Ltd.
21 Archbishop Street
Valletta VLT 07 **Fax:** +356 (-) 241 956

From: International Ocean Institute
IOI HQ
Msida, Malta **Fax:** +356 (-) 346 502

Subject: World Commission

Dear Mr. Booker

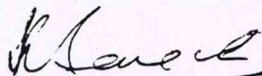
1. The name of Trust would be the Trust for the Independent World Commission on the Oceans.
2. The objective of the Trust would be to establish and maintain a Trust Fund whose monies shall consist of:
 - grants and donations.
 - acquisition through testamentary disposition, legacy or endowment.
 - any other acquisition.
3. The terms of reference of the Commission are:
 - . to refocus world attention on the importance of sustainable ocean development and the law of the sea;
 - . to monitor the ratification, implementation, and progressive development of the Convention, at national, regional and global levels;
 - . to examine whether States, especially developing countries, are able to fulfil their duties, enjoy their rights and generate their benefits under the Convention, to analyze the difficulties they might encounter, and to propose ways and means to overcome them;
 - . to monitor the implementation of Chapter 17 of Agenda 21, at national, regional and global levels and to observe the function of the Convention in this process (legal framework; peaceful settlement of disputes; enforcement);
 - . to follow the development of regional programmes of cooperation and development in the marine sector and examine how they adjust to the new requirements of integrated ocean management and sustainable development;

to examine the role of the Law of the Sea and ocean development in the process of restructuring the United Nations system as a whole for the 21st century and elaborate proposals to strengthen this role.

The main tasks before the Commission would be to:

- submit an interim report to the Fiftieth Session of the UN General Assembly;
 - submit final recommendations to the Commission on Sustainable Development in 1996;
 - finalise the Report of the Commission in 1997;
 - release the Report in 1998 (the Year of the Oceans).
4. The monies in the Trust Fund would be used in pursuance of the work of the Commission including, inter alia,
- meeting expenses in relation to the meetings of the Commission and its Committees and Working Groups including travel costs, subsistence allowance, communications and other incidental expenses.
 - the salary, allowances, honoraia, travel costs etc. of staff, consultants, professionals retained in relation to the work of the Commission.
 - expenses connected with the organisation of hearings conducted by the Commission, its President or Vice Presidents, Committees and Working Groups or such other organisations or institutions as may be authorised by the Commission, its President or Vice President to organise such hearings.
 - any other expenses incidental to activities related to the foregoing in the widest sense including but not limited to hiring services for translation administration, research, report preparation and publication.

Yours sincerely,



Dr. Krishan Saigal
Executive Director

FIRST MEETING OF THE EXECUTIVE COMMITTEE
OF THE INDEPENDENT WORLD COMMISSION
ON THE SEAS AND THE OCEANS

**FIRST MEETING OF THE EXECUTIVE COMMITTEE
OF THE INDEPENDENT WORLD COMMISSION
ON THE SEAS AND THE OCEANS**

	Page(s)
Item 1: Adoption of Agenda	1
Item 2: Finalisation of membership of the Independent World Commission on the Seas and the Oceans	2
Item 3: Consideration and approval of procedures to be followed by the Commission	4
Item 4: Proposed Action Calendar	7
Item 5: Proposed Budget for 1994-1998	10
Item 6: Consideration and approval of guidelines and background paper to be issued to the regional centres	24
Item 7: Requirements of staff, consultants, researchers etc.	84
Item 8: Any other matter with the approval of the President	

Adoption of Agenda

The agenda reproduced below may be adopted by the Executive Committee with such amendments as the Committee may consider necessary.

- Item 1: Adoption of Agenda
- Item 2: Finalisation of membership of the Independent World Commission on the Seas and the Oceans
- Item 3: Consideration and approval of procedures to be followed by the Commission
- Item 4: Proposed Action Calendar
- Item 5: Proposed Budget for 1994-1998
- Item 6: Consideration and approval of guidelines and background paper to be issued to the regional centres
- Item 7: Requirements of staff, consultants, researchers etc.
- Item 8: Any other matter with the approval of the President.

Dr. Krishan Saigal

**Finalisation of the Membership of the Independent
World Commission on the Seas and Oceans**

A preliminary list of 37 suggested members is attached (Annex A). Of these 25 have signified their acceptance in case they are invited.

The Executive Committee may consider the list as well as any other names and thereafter finalise the membership of the Commission.

Dr. Krishan Saigal

INDEPENDENT WORLD COMMISSION FOR THE SEAS
AND OCEANS

Preliminary list of suggested names:

1. President Mario Soares, Chairman
2. Professor Guido de Marco, Vice President, * Europe
3. Mr. Layachi Yaker, Vice President, * Africa
4. Dr. Elisabeth Mann Borgese, Vice President, * North America
5. Dr. Yoshio Suzuki, Japan *, Vice President, Asia
Latin America
6. Alicia Barcena, * Mexico
7. Mohammed Bedjaoui, * Algeria
8. Cheng (AALCC)
9. Umberto Colombo, * Italy
10. Rene Dupuy, France *
11. Jens Evensen, Norway
12. Carl-August Fleischhauer, * Germany
13. Tommy Koh, * Singapore
14. Abdul Koroma, * Sierra Leone
15. Gunnar Kullenberg, Denmark
16. Former Prime Minister Lubbers, * Netherlands
17. Ronald St. John MacDonal, * Canada
18. Mircea Malitzas ^{Spain} ~~Spain~~ ^{Romania}
19. Federico Mayor, * ^{Spain}
20. Dr. Merkel, Minister for the Environment, Germany *
21. (Prince) Moulay Hicham ben Abdallah of Morocco
22. Robert Muller, * France
23. Osmal, Kader (Minister of Forests & Water, South Africa)
24. Arvid Pardo, * Malta
25. Christopher Pinto, * Sri Lanka
26. Mario Ruivo, * Portugal
27. Juan Somavia, * Chile
28. James Gustave Speth, * USA
29. Danielle de St. Jorre, * Seychelles
30. Su Jilan * (Academician, Academic Sinics, China)
31. Professor Swaminathan, * India
32. Ted Turner
33. Joseph Warioba, * Tanzania
34. Alexander Yankov, * Bulgaria
35. Malaysia
36. Brazil
37. one meteorologist

* have indicated that they would accept if invited.

- 1 Sudan H. Mamm Halaq
- 2 Oceania
- 3 Indonesia/Rose
- 4

**Consideration and approval of the procedures
to be followed by the Commission**

The Independent World Commission on the Seas and the Oceans (hereinafter the Commission) has been established for refocussing world attention on sustainable ocean development and the law of the sea. The Commission has to establish its own procedure. The following suggestions are for the Executive Committee's consideration and approval with such changes as are deemed necessary.

**The Independent World Commission on the
Seas and the Oceans**

1. The objective before the World Commission on the Seas and the Oceans (hereinafter the Commission) is:
 - . to refocus world attention on the importance of sustainable ocean development and the law of the sea;
 - . to monitor the ratification, implementation, and progressive development of the Convention, at national, regional and global levels;
 - . to examine whether States, especially developing countries, are able to fulfil their duties, enjoy their rights and generate their benefits under the Convention, to analyze the difficulties they might encounter, and to propose ways and means to overcome them;
 - . to monitor the implementation of Chapter 17 of Agenda 21, at national, regional and global levels and to observe the function of the Convention in this process (legal framework; peaceful settlement of disputes; enforcement);
 - . to follow the development of regional programmes of cooperation and development in the marine sector and examine how they adjust to the new requirements of integrated ocean management and sustainable development;
 - . to examine the role of the Law of the Sea and ocean development in the process of restructuring the United Nations system as a whole for the 21st century and elaborate proposals to strengthen this roleas well as to undertake all that which is related to the foregoing in the widest sense.
2. The Commission will consist of a President, --- Vice Presidents and not more than --- Members.

[Provided that not more than 2 Members of the Commission shall be of the same nationality.]

3. The President and Vice Presidents shall constitute the Executive Committee of the Commission.
4. Membership of the Commission is terminated by resignation.

Executive Committee

5. The Executive Committee shall determine policy regarding activities, organisation and financial administration of the Commission.
6. The Executive Committee shall establish and maintain a Trust Fund whose monies shall consist of:
 - grants and donations
 - acquisition through testamentary disposition, legacy or endowment
 - any other acquisition.
7. The monies in the Trust Fund shall be applied to the activities of the Commission and in accordance with the budget approved by the Executive Committee. The Committee shall appoint one of its members to act as the Treasurer.
8. The Executive Committee shall appoint the Secretary to the Commission. The Secretary shall be the chief executive officer of the Commission and be responsible to the President and the Executive Committee.
9. The Secretary shall have executive and administrative authority for the implementation of the policies and decisions established by the Executive Committee and under empowerment by the President.
10. The Secretary can offer contracts for work to be undertaken for the Commission, open and close bank accounts, sign cheques and carry out other transactions within the limits and conditions determined by the Committee.
11. Within six months of the close of the financial year, which would run from January first up to and including December thirty-first, the Secretary shall draw up a financial statement covering the preceding year and shall submit the same for approval of the Committee.
12. The Committee shall appoint an independent auditor for the purpose of supervising the book-keeping regularly and to report to the Committee with regard to the financial statement.

Meetings of the Commission and Executive Committee

13. The Commission and Executive Committee shall meet regularly once a year. Additional meetings shall be held when the President finds it appropriate. *at least two meetings*

14. The President, and in his absence the Vice President appointed by him, will preside over meetings of the Commission and Executive Committee.

15. The meeting shall be convened by the Secretary by means of airmail letters mailed to the addresses of the Commission/Committee members at least 20 working days prior to the date of the meeting along with an annotated agenda.

Provided that when the President finds it appropriate he may reduce the 20 days time period.

16. The record of discussion of Commission and Committee meetings shall be kept by the Secretary and approved by the President.

Dissolution of the Commission

17. The Executive Committee is authorised to take the decision to dissolve the Commission.

18. After the decision of the dissolution, the Commission will continue to exist in so far as such is necessary for the liquidation of its affairs by the Executive Committee.

19. After the debts have been paid, the Executive Committee shall determine the allocation of the remaining assets of the Commission.

Dr. Krishan Saigal

Proposed Action Calendar

The Commission's terms of reference are:

- . to refocus world attention on the importance of sustainable ocean development and the law of the sea;
- . to monitor the ratification, implementation, and progressive development of the Convention, at national, regional and global levels;
- . to examine whether States, especially developing countries, are able to fulfil their duties, enjoy their rights and generate their benefits under the Convention, to analyze the difficulties they might encounter, and to propose ways and means to overcome them;
- . to monitor the implementation of Chapter 17 of Agenda 21, at national, regional and global levels and to observe the function of the Convention in this process (legal framework; peaceful settlement of disputes; enforcement);
- . to follow the development of regional programmes of cooperation and development in the marine sector and examine how they adjust to the new requirements of integrated ocean management and sustainable development;
- . to examine the role of the Law of the Sea and ocean development in the process of restructuring the United Nations system as a whole for the 21st century and elaborate proposals to strengthen this role.

The main tasks before the Commission would be to:

- submit an interim report to the Fiftieth Session of the UN General Assembly;
- submit final recommendations to the Commission on Sustainable Development in 1996;
- finalise the Report of the Commission in 1997;
- release the Report in 1998 (the Year of the Oceans).

1995.

The time table for 1995 could be as follows:

Executive Committee meeting, Lisbon	April, 1995	
First Plenary Session, Lisbon	June, 1995	2-6
Regional hearings <i>July-August</i>	April-December, 1995	
Second meeting of Executive Committee, Malta	August, 1995	
Second Plenary Session, Tokyo	September, 1995	5 7 4 Sept. - 9

The IOI regional centres would organise the regional hearings in July/December, 1995, summarise the results of such hearings and submit a report to headquarters. They could also make an interim report and submit in time for the second Plenary Session to be held in Tokyo in September.

A suggested action calendar for the regional hearings could be as under:

Item	Action	Date	Responsible Party
1.1	Advertise setting up of the Commission in the region	1 April, 1995 May	Centre Directors, IOI
1.2	Write to various authorities inviting memoranda, views and whether submitter wants to be heard in person fixing last date as 30 June, 1995	1 April, 1995 May	Centre Directors, IOI
1.3	Organise regional hearings	1 July - 31 December, 1995	Concerned Vice-President and Centre Director, IOI
1.4	Summarise memoranda etc. and emerging recommendations and submit to headquarters	15 July, 1995	Concerned VP and Centre Director, IOI
1.5	Prepare draft interim report and circulate to all members of the Commission	15 August, 1995	President and Executive Director, IOI
1.6	Consider interim report	15 September, 1995	Commission
1.7	Finalise interim report and submit to UNGA	15 October, 1995	President and Executive Director, IOI

As would be seen from the above time table, the concerned Vice-Presidents would supervise, guide and finalise the reports emanating from the Regional hearings. The allocation could perhaps be as under:

Vice President	IOI Centre	Area covered
Prof. Guido de Marco	Malta	Europe
Prof. E.M. Borgese	Halifax	North America
Amb. Layachi Yaker	Senegal	Africa
Mr. Yoshio Suzuki	Japan, South Pacific, India & China	Asia and Oceania
VP from Latin America	Costa Rica	Latin America

1996, 1997 and 1998.

In 1996 the Commission would submit its recommendations regarding the oceans to the Commission on Sustainable Development (CSD) as the CSD would be considering the sustainable development of the oceans. There could be two plenary meetings of the Commission and four meetings of the Executive Committee in 1996. The detailed time table and work plan would be submitted in September, 1995.

In 1997 the Commission would finalise its Report which would be released in 1998 (the Year of the Ocean). There could be two plenary meetings of the Commission and four meetings of the Executive Committee in 1997 and two meetings of the Executive Committee in 1998. Detailed workplans and time tables would be submitted in 1996 and 1997.

Approval of Committee.

The Executive Committee may approve the action calendar with such modifications as are considered necessary.

The Executive Committee may also like to fix dates for the two Plenary meetings of the Commission proposed to be held in 1995 - maybe June in Lisbon and September in Japan as well as the proposed agendas.

Dr. Krishan Saigal

Proposed Budget for the Commission
1995-1998

The proposed budget for the Commission would be dependent on the activities approved by the Executive Committee/Commission.

A note on the Budget based on the activities as proposed in Item 4 is at Annex A.

The proposed Budget, it may be noted, is in modular form and can be adjusted by taking out any activity (plenary meetings of Commission, meetings of Executive Committee, regional hearings etc.). The note as presented would thus enable the Executive Committee to finalise the activities based on its estimates of how much money can be raised.

A word may also be said about the staff expenditure. The staff expenditure is based on the IOI System providing all the infrastructure (office space, equipment like computers and fax machines, accounting services etc.) both at headquarters and the centres. The figures given at the moment are not only minimal but guesstimates. Exact figures can only be given after the matter has been discussed with all the centres on 25-27 May, 1995 at the biannual Directors meeting. The expenditure under the heading "staff" would cover both consultancies and staff. The expenditure of over \$ 20,000 on the preparatory expenses concerned with the establishment of the Commission have already been incurred by IOI.

The broad picture of the Budget year-wise is as below:

Item	1995 (9 months)	1996	1997	1998	Total
1.1 Preparatory work	20.0				20.0
1.2 Plenary meetings	480.0	480.0	480.0	-	1440.0
1.3 Executive Committee meetings	120.0	240.0	240.0	120.0	720.0
2.1 Regional hearings	240.0	-	-	-	240.0

Item	1995 (9 months)	1996	1997	1998	Total
3.1 Travel expenses					
* President/ Vice Presidents	108.0	60.0	60.0	24.0	252.0
* HQ staff	24.0	32.0	32.0	12.0	100.0
* Regional staff	64.0	-	-	-	64.0
3.2 Staff expenses					
* President/ Vice Presidents	45.0	60.0	60.0	-	165.0
* HQ	75.0	100.0	100.0	50.0	325.0
* Regions	75.0	-	-	-	75.0
3.3 Other Administrative expenses					
* HQ	37.5	50.0	50.0	10.0	147.5
* Regions	60.0	-	-	-	60.0
4.1 Publishing costs	10.0	20.0	-	100.0	130.0
Total	1358.50	1042.0	1022.0	316.0	3738.5
Contingencies @ 10%	135.85	104.2	102.2	31.6	373.85
Grand total	1494.35	1146.2	1124.2	347.6	4112.35

To assist the Executive Committee to arrive at a decision, the budget is also presented activity-wise under certain broad heads like:

- . Travel including DSA
- . Meeting expenses
- . Staff including consultancies etc.
- . Communications and stationery
- . Regional hearings etc.

Headwise the expenditure would be as under.

Item	1995 (9 months)	1996	1997	1998	Total
Travel including DSA	684.0	668.0	668.0	124.0	2144.0
Meeting expenses	112.0	144.0	144.0	32.0	432.0
Staff including consultancies	195.0	160.0	160.0	50.0	565.0
Communications & stationery	97.5	50.0	50.0	10.0	207.5
Regional hearings	240.0	-	-	-	240.0
Publishing expenses	10.0	20.0	-	100.0	130.0
Preparatory expenses	20.0	-	-	-	20.0
Total	1358.5	1042.0	1022.0	316.0	3738.5
Contingency @ 10%	135.85	104.2	102.2	31.6	373.85
Grand total	1494.35	1146.2	1124.2	347.6	4112.35

Funds Position.

The position regarding funds is briefly stated.

Government of the Netherlands

The Government of the Netherlands has responded favourably to a request for funds (letter from Mr. Pronk, Minister for Development Cooperation at Appendix 5). Though no amount has been mentioned in the letter, it is understood that the amount may be US\$ 300,000 per year.

Sasakawa Peace Foundation, Japan

The Sasakawa Peace Foundation has agreed to meet all the costs of a plenary meeting to be held in Japan in September, 1995 and amounting to US\$ 300,000.

Government of Germany

The Government of Germany might fund a plenary meeting of the Commission if it is held in Germany costing up to US\$ 300,000.

UNDP

A proposal has been sent to UNDP for a grant of US\$ 120,000 for the four IOI Centres in Fiji, Madras, Dakar and Costa Rica for funding regional hearings. The amount of US\$ 120,000 is likely to be approved.

Approval of Committee.

The Executive Committee may kindly decide:

- (i) how many of the proposed activities are to be approved.
- (ii) the modifications with which the budget is to be approved.
- (iii) the strategy to be followed in raising the required funds, including funding and donor agencies to be targeted.

Dr. Krishan Saigal

Note on the Proposed Budget for the Commission
1995-1998

The proposed budget for the Commission would depend on its activities.

As is clear from the proposed activities, the World Commission on the Oceans would be acting in both a centralised and decentralised manner. On the one hand all decisions vest in the Commission and the Executive Committee while on the other hand it would be, through its Vice Presidents, organising regional hearings and so acting in a fairly decentralised manner.

Its activities would be as under:

Centralised:

- . Preparatory work
- . 6 Plenary meetings of the Commission (2 each in 1995, 1996 and 1997)
- . 12 Executive Committee Meetings (2 each in 1995 and 1998, and 4 each in 1996 and 1997)
- . Preparation of:
 - * interim report to UNGA (1995)
 - * recommendations to Commission on Sustainable Development (1996)
 - * final report (1997)

Decentralised:

- . holding of 8 regional hearings
- . preparation of documents region-wise for:
 - * interim report to UNGA
 - * recommendation to CSD
 - * final report

The schedule of activities is at Appendix 1.

Estimates of Expenditure

1.2 Plenary

Each plenary (of 3 working days) is expected to cost \$ 240,000 as under:

Air fares for 30 Commissioners	\$ 150,000
DSA for 30 Commissioners (4 days)	\$ 30,000
Air fares for staff (5)	\$ 15,000
DSA for staff (5)	\$ 5,000
Meeting Expenses	\$ 10,000
Communications, telephone, fax etc.	\$ 20,000
Miscellaneous	\$ 10,000

Total	\$ 240,000

1.3 Executive Committee

Each executive committee meeting (3 days) is expected to cost \$ 60,000 as under:

Air fares for 6 persons	\$ 30,000
DSA for 4 days	\$ 6,000
Air fares for staff (2)	\$ 6,000
DSA for staff (2)	\$ 2,000
Meeting expenses	\$ 5,000
Communications etc.	\$ 5,000
Miscellaneous	\$ 6,000

Total	\$ 60,000

2.1 Regional Hearings

Each hearing is expected to cost \$ 30,000.

3.1 Travel Expenses

The President and the Vice-Presidents would have to have funds to cover their travel to the various regional hearings. The cost is estimated at \$ 108,000 for 1995 as under:

Three air journeys per person (18 journey @ \$ 6,000 per journey)	\$ 108,000

Total	\$ 108,000

For 1996 and 1997 the expenditure is estimated at \$ 60,000 per year.

The Executive Director and headquarters staff of IOI and the Regional Directors of IOI would also have to undertake journeys. The cost for 1995 is estimated at \$ 88,000.

Headquarters staff 6 journeys	\$ 24,000
Regional directors (8), 2 journeys each	\$ 64,000

Total	\$ 88,000

For 1996 and 1997 the expenditure is estimated at \$ 32,000 per year for headquarters staff including consultants.

3.2 Staff expenses

The staff both at headquarters and the regions would need to be augmented. The precise requirements would be worked

out after consultation with the Centres but a rough estimate for augmenting the administrative structure would be \$ 260,000 for 1995 and \$ 160,000 for 1996 and 1997, including providing secretarial assistance for the President and Vice Presidents (\$ 10,000 each).

Secretarial assistance to President / Vice Presidents	\$ 60,000
Headquarters	\$ 100,000
Regions (8) - for 1995 only	\$ 100,000

Total	\$ 260,000

3.3 Other administrative expenses

Other expenses are estimated at \$ 130,000 for 1995 and \$ 50,00 in 1996 and 1997.

Communications	
* Headquarters	\$ 30,000
* 8 centres - for 1995 only	\$ 40,000
Stationery etc.	
* Headquarters	\$ 20,000
* 8 centres - for 1995 only	\$ 40,000

Total	\$ 130,000

4.1 Publishing of reports

1000 copies interim report to UNGA (50 pages)	\$ 10,000
1000 copies recommendation to CSD (100 pages)	\$ 20,000
5000 copies final report (300 pages)	\$ 100,000

Cash flow

1995.

The cash flow requirements for 1995 are at Appendix 2.

The broad picture of cash flow requirements quarter-wise for 1995 (including 10% contingency) are:

Preparatory	\$ 22,000
Second Quarter	\$ 590,150
Third Quarter	\$ 605,550

Fourth Quarter	\$ 275,650

Total	\$1,494,350

In terms of heads of expenditure, the position would be as under for 1995:

Travel including DSA	\$ 684,000
Meeting expenses	\$ 112,000
Staff	\$ 195,000
Communications & stationery	\$ 97,500
Regional hearings	\$ 240,000
Publishing	\$ 10,000
Preparatory expenditure	\$ 20,000
Contingency @ 10%	\$ 135,850

Total	\$1,494,350

1996 and 1997.

In 1996 and 1997 there would be no regional hearings and so the staff of regions, travel of vice presidents, IOI HQ staff could be reduced. The cash flow would be as in Appendix 3.

The broad picture of cash flow requirements quarter-wise for 1996 and 1997 (including 10% contingency) are:

	1996	1997
First Quarter	\$ 413,050	\$ 413,050
Second Quarter	\$ 149,050	\$ 149,050
Third Quarter	\$ 435,050	\$ 413,050
Fourth Quarter	\$ 149,050	\$ 149,050
	-----	-----
Total	\$1,146,200	\$1,124,200

In terms of heads of expenditure, the position would be as under for 1996 and 1997:

	1996	1997
Travel including DSA	\$ 668,000	\$ 668,000
Meeting expenses	\$ 144,000	\$ 144,000
Staff	\$ 160,000	\$ 160,000
Communications & stationery	\$ 50,000	\$ 50,000
Publishing	\$ 20,000	-
Contingency	\$ 104,200	\$ 102,200
	-----	-----
Total	\$1,146,200	\$1,124,200

1998.

In 1998 there would be no plenary sessions of the Commission.

The cash flow would be as in Appendix 4. The total expenditure in 1998 would be \$ 347,600.

1995-1998.

The total budget for the Commission from 1995-1998, therefore, comes to \$4,112,350 as below:

1995	\$ 1,494,350
1996	\$ 1,146,200
1997	\$ 1,124,200
1998	\$ 347,600

Total	\$ 4,112,350

Headwise it would be as follows for 1995-98:

Travel including DSA	\$ 2,144,000
Meeting expenses	\$ 432,000
Staff	\$ 565,000
Communications & stationery	\$ 207,500
Regional hearings	\$ 240,000
Publishing expenses	\$ 130,000
Preparatory expenses	\$ 20,000
Contingency @ 10%	\$ 373,850

Total	\$ 4,112,350

Dr. Krishan Saigal

Activity	Yr	1995				1996				1997				1998				
		Qtr	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<u>Central-ised</u>																		
1.1 Preparatory work		x																
1.2 Plenary Meetings			x	x		x		x		x		x						
1.3 Execut- ive Com- mittee			x	x		x	x	x	x	x	x	x	x	x	x		x	x
1.4 Prep- aration of reports etc.					x				x					x				
<u>Regional</u>																		
2.1 Hearings			x	x	x													
2.2 Prepara- tion of docum- ents			x				x				x							

Cash Flow Budget

1995 (for 9 months)

Amount in '000 \$

Activity	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
1.1 Preparatory work	20.0			
1.2 Plenary Meetings		240.0	240.0	
1.3 Executive Committee		60.0	60.0	
2.1 Regional hearings (8 in all)		75.0	75.0	90.0
3.1 Travel expenses				
* President/Vice Presidents		36.0	36.0	36.0
* HQ staff		8.0	8.0	8.0
* Regional staff		20.0	24.0	20.0
3.2 Staff expenses				
* President/Vice Presidents		15.0	15.0	15.0
* HQ		25.0	25.0	25.0
* Regions		25.0	25.0	25.0
3.3 Other administrative expenses				
* HQ		12.5	12.5	12.5
* Regions		20.0	20.0	20.0
4.1 Publishing reports			10.0	
TOTAL	20.0	536.5	550.5	251.5

Total for 1995	\$ 1,358,500
Contingency @ 10%	\$ 135,850

Total	\$ 1,494,350

Cash Flow Budget

1996 and 1997

Amount in '000 \$

Activity	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
1.1 Preparatory work				
1.2 Plenary Meetings	240.0		240.0	
1.3 Executive Committee	60.0	60.0	60.0	60.0
2.1 Regional hearings				
3.1 Travel expenses				
* President/Vice Presidents	15.0	15.0	15.0	15.0
* HQ staff	8.0	8.0	8.0	8.0
* Regional staff				
3.2 Staff expenses				
* President/Vice Presidents	15.0	15.0	15.0	15.0
* HQ	25.0	25.0	25.0	25.0
* Regions				
3.3 Other administrative expenses				
* HQ	12.5	12.5	12.5	12.5
* Regions				
4.1 Publishing reports (only 1996)			20.0	
TOTAL	375.5	135.5	395.5	135.5

Total (1996) \$ 1,042,000
Contingency \$ 104,200

Total \$ 1,146,200

Total (1997) \$ 1,022,000
Contingency \$ 102,000

Total \$ 1,124,200

Cash Flow Budget

1998

Amount in '000 \$

Activity	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
1.1 Preparatory work				
1.2 Plenary Meetings				
1.3 Executive Committee	60.0	60.0		
2.1 Regional hearings				
3.1 Travel expenses				
* President/Vice Presidents	8.0	8.0	8.0	
* HQ staff	4.0	4.0	4.0	
* Regional staff				
3.2 Staff expenses				
* President/Vice Presidents				
* HQ	25.0	25.0		
* Regions				
3.3 Other administrative expenses				
* HQ	5.0	5.0		
* Regions				
4.1 Publishing reports		100.0		
TOTAL	102.0	202.0	12.0	

Total for 1998	\$ 316,000
Contingency @ 10%	\$ 31,600

Total	\$ 347,600

Ministry of Foreign Affairs

The Hague

To:

Ms. E. Mann Borgese
International Ocean Institute
Dalhousie University
1226 Le Marchant Street
Halifax, Nova Scotia
CANADA B3H 3P7

Date:

23 januari 1995

Reference:

DIO/JS-2474

Subject:

Subsidy request World Commission
for the Oceans

Department:

DIO/JS

Thank you for your letters of 25 September and 8 November 1994. I support the establishment of a Commission with sufficient authority worldwide to draw attention to the importance of sustainable ocean development and the law of the sea.

As I indicated earlier I intend to respond positively to your request for a financial contribution. I hope to be able to indicate an exact amount in the near future. The level of the Netherlands contribution, among other things, depends on the confirmed commitments of other contributors. I would also like to suggest that efforts are made to acquire commitments of a wide range of countries which are representative of the various regions of the world. This would certainly enhance the commission's stature and authority.

I look forward to receiving this information. After receiving such information, and after the establishment of the Trust Fund by the Commission, I will inform you about the Netherlands contribution.

THE MINISTER FOR DEVELOPMENT COOPERATION,

J.P. Pronk

Consideration and approval of guidelines
and background paper to be issued
to the regional centres

1. The Vice Presidents would be organising the hearings in consultation with the regional centres. A list of centres, along with the name, address, fax etc. of the concerned contact persons is at Annex A.
2. It is suggested that the centres:
 - be asked to contact all persons/organisations in their regions who are connected with oceans including, inter alia:
 - * ministries of the governments of the region concerned with ocean matters like law of the sea, fisheries, maritime transport, energy, mining, tourism etc;
 - * regional organisations concerned with ocean matters (illustrative list at Annex B);
 - * nongovernmental organisations having an interest in ocean matters and the environment;
 - * organisations of fishermen, sailors, shipping organisations, women, youth, indigenous people etc;
 - * IOI alumni and resource persons;
 - * persons having an interest in ocean and environmental matters.
 - be asked to send all such ministries / organisations / NGOs / individuals copies of the background paper on the World Commission (background paper at Annex C).
 - be asked to collate the memoranda / replies received and put up the same to the concerned Vice President.
3. The headquarters will contact the international organisations like UNESCO, FAO, UNIDO, ILO, ICSU, IMO, WHO, World Bank, IMF, UNCTAD, UNICEF, WTO, UNU, Habitat etc. (letter from DG UNESCO is at Annex D).
4. The Executive Committee may approve with such modifications as are deemed necessary:

- (i) the above procedure
- (ii) the background paper.

IOI Headquarters

1. Dr. Krishan Saigal
Executive Director
International Ocean Institute
Rooms 114-117, Block B
New Humanities Building
The University of Malta
Tal Qroqq
Msida
MALTA
- Tel: +356 (-) 346 528
Tel: +356 (-) 346 529
Fax: +356 (-) 346 502

IOI Regional Centres

2. Prof. Elisabeth Mann Borgese
International Ocean Institute
Dalhousie University
1226 Le Marchant Street
Halifax, Nova Scotia
CANADA B3H 3P7
- Tel: +1 (902) 494 1737
Fax: +1 (902) 494 2034
Fax: +1 (902) 868 2455
3. Prof. Hou Wenfeng
Director - IOI China
National Marine Data and Information
Service (NMDIS)
State Oceanic Administration of
China (SOA)
93 Liuwei Road
Hedong District
Tianjin 300171
P.R. CHINA
- Tel: +86 (22) 430 1297
Tel: +86 (22) 234 2958
Fax: +86 (22) 430 4408
4. Prof. Alejandro Guiterrrez
Director - IOI Costa Rica
Laboratorio de Oceanografia
Manejo, Costero
Universidad Nacional
Heredia
COSTA RICA
- Tel: +506 (-) 277 3347
Fax: +506 (-) 260 2546
5. Prof. G. Robin South
Director - IOI South Pacific
Office of Marine Studies
The University of the South
Pacific (USP)
P.O. Box 1168
Suva
FIJI
- Tel: +679 (-) 313 900
Tel: +679 (-) 305 446
Fax: +679 (-) 301 490

6. Prof. R. Rajagopalan
Director - IOI Operational Centre
IC & SR Building
Indian Institute of Technology (IIT)
Madras 600 036
INDIA
Tel: +91 (44) 235 1365
Fax: +91 (44) 235 2545
Fax: +91 (44) 235 0509
7. Prof. Tsutomu Fuse
Director - IOI Japan
Professor of International Law
Yokohama City University
22 - 2 Seto Kanazawa-Ku
Yokohama-Shi 236
JAPAN
Tel: +81 (423) 251 374
Tel: +81 (45) 787 2311
Fax: +81 (45) 787 2316
8. Fr. Peter Serracino Inglott
Rector
Rector's Office
The University of Malta
Tal Qroqq
Msida
MALTA
Tel: +356 (-) 333 903
Tel: +356 (-) 336 451
Fax: +356 (-) 336 450
9. Dr. Diafara Toure
Director
Centre Oceanographique De Dakar -
Thiaroye (CRODT)
Dakar
SENEGAL
Tel: +221 (-) 324 307
Fax: +221 (-) 342 792

Illustrative list of regional organisations

Regional offices of UN and its agencies like:

- ECLAC, ECA, ESCAP, ECE, ECWA
- UNDP, FAO, WMO, IMO, ILO, UNESCO/IOC, UNEP (especially Regional Seas Programmes), ICAO, WHO, ITU, WIPO, UNIDO
- African Development Bank, Asian Development Bank, Inter-American Development Bank

Other regional organisations like Organisation of Eastern Caribbean States, South Pacific Forum, SPREP, University of South Pacific, University of West Indies etc.

BACKGROUND NOTE
ON THE
INDEPENDENT WORLD COMMISSION FOR
THE SEAS AND THE OCEANS

Contents

	Page(s)
Background Note on the Independent World Commission for the Seas and the Oceans	32-44
Law of the Sea Convention	32
UNCED	34
Integrated coastal management	35
Marine environmental protection	35
Sustainable use and conservation of marine living resources	35
The elements of the New Global Partnership	35
Secretary-General's Agendas for Peace and Development	36
World Commission on the Seas and Oceans	37
The issues before the Commission	38
The Coastal Zone	38
Marine Pollution	39
Marine resources-living	40
Marine resources-nonliving	41
Sustainable ocean development and the law of the sea	42
Ratification, implementation, and progressive development of the Convention at national, regional and global levels	42
States, especially developing countries, and their ability to fulfil their duties and enjoy their rights and generate their benefits under the Convention; Agenda 21; regional programmes	43
Secretary General's Agenda for Peace and Development	44
Role of the Law of the Sea and Ocean Development in the process of re- structuring the United Nations	44
Table 1: Coastal Areas	45

Contents (contd.)

	Page(s)
Table 2: Levels of Human Disturbance, 1993	51
Table 3: International and Marine Protected Areas, 1993	57
Table 4: Marine Fisheries - Annual Catch 1989-91, Yield and Estimated Potential	63
Table 5: Coastal Resources - Offshore oil and gas	64
Table 6: Coastal Resources - Shipping 1988-90	69

Appendix A

Coastal Zone	74
Marine Pollution	76
Marine Resources - Living and Nonliving	77
Sustainable Ocean Development, the Law of the Sea and Secretary General's Agenda	78
Financial Requirements	80
Restructuring of the United Nations	81

The World Commission on the Seas and the Oceans has been established in the context of the basic importance of the world ocean in the development of human society, the maintenance of peace and the health of the biosphere.

The oceans cover three-fourths of the earth's surface. They are of crucial importance for the economy/ecology of the 21st Century. The new order for the seas and the oceans created by the United Nations Convention on the Law of the Sea, 1982, (LOS Convention) and which has come into force with effect from 16 November, 1994, creates a model for a new global order of the oceans which is capable of meeting the challenges of the next century. This model has been further expanded by the United Nations Conference on Environment and Development, 1992 (UNCED) to embrace the coastal zone as an important facet of the land-sea interface and as a matter of critical importance to the management of the global ecosystem and the oceans. The Secretary General's Agenda for Peace and his Agenda for Development underpins many of the issues generated by UNCED and the LOS Convention.

Law of the Sea Convention

The law of the sea has evolved since time immemorial in a pragmatic fashion, responding to the needs of particular historical eras for establishment of a legal order based on recognized and widely accepted rules - under the aegis of which the oceans could peacefully and profitably be used for the purposes of, and within the ambit of the techniques available to, the peoples of that era. Thus the law of the sea has, during its evolution, addressed among other things navigation, providing freedom of the sea, and fisheries, subsumed under the same doctrine. Later it began to establish the jurisdictional limits of the sea for peacetime and wartime purposes. As technology and the enhanced voyaging and exploiting power that went with it advanced, the law of the sea was used to establish ad hoc regulatory regimes - catching of some species of fish and cetaceans, for example, was regulated by quotas.

When the composition and ordering of international society began to change after World War II, with the advent of the United Nations and the impetus it provided for decolonization, and as both the world's population and its demands on the sea grew in tandem with unprecedented technological advances in navigating, exploiting, and surveying of the oceans and their resources, the new international community, especially its newly independent and still developing members, began to seek a new international economic order (NIEO) and looked to the oceans for partial realization of their goals. The Third United Nations Conference on the Law of the Sea (UNCLOS III), convened by the UN General Assembly from 1973 to 1982 to review all ocean issues, did not, however, fully realize the demands of developing states for a new international oceans order (NIOO). The very novelty of the provisions of the LOS Convention, for example, with respect to

deep seabed mining led to reservations on the part of the industrialised countries though the other provisions of the Convention have, by and large, tended to become customary state practice and law.

The LOS Convention has greatly expanded national jurisdiction through the concept of the 200 nautical miles exclusive economic zone (EEZ) where the coastal and hinterland states have rights and duties to explore and exploit the resources of the ocean. But although the LOS Convention confers rights and duties to coastal and hinterland states to explore and exploit the resources of the ocean, these rights do not, in actual fact, translate into tangible benefits for most of the developing states. The reasons for this are quite clear. In large measure the principal interest of the major powers in the oceans has been in security and other strategic matters. It is no surprise that some of the ocean areas, such as the Indian Ocean and its resources, have remained relatively unexplored and unmapped as compared to, for example, the Pacific and Atlantic oceans. For instance, the extent of the Indian Oceans' riches has for a long time been unknown. Even though steps toward comprehensive exploration and mapping of the ocean have been taken in recent years, most of the developing coastal states have almost entirely depended on external assistance because individual countries are hampered by lack of finances, technology, and a skilled labour force. This external assistance has more often than not been inadequate.

For many developing coastal states, expanded jurisdiction offers the promise of a greatly expanded resource base with regard to minerals, hydrocarbons, and living resources. However, many coastal states receive few benefits since rational management of ocean resources still remains largely unexplored and unexploited. Lack of resources in the form of capital, human resources, and technology has further complicated the situation.

The LOS Convention has established a new legal order for the oceans from which the development of all possible uses of ocean space and its resources will emanate. The LOS Convention recognizes the exclusive rights and jurisdiction of the coastal states over the resources adjacent to the coast and extending out to 200 nm (see Articles 56 and 57). Likewise, the Convention recognizes the right of the coastal states in the resources of their Continental Shelf, which may extend up to 350 miles or beyond under certain circumstances (see Articles 76 and 77). The immense resource potentials, both living and nonliving, if properly explored, exploited, and conserved, could certainly alleviate some of the economic problems affecting most developing countries and raise the living standards of their people. The Convention also gives developing countries a share of the profits emanating from the resources of the deep seabed in the area beyond national jurisdiction.

UNCED

UNCED ended in Rio de Janeiro, Brazil on 14 June 1992 with agreement on a wide range of environment and development issues.

Perhaps the most important outcome of this historic meeting was the new appreciation that environment and development are part of an indivisible whole and that they must be dealt with together. Consistent with the findings of the 1987 World Commission on Environment and Development (the Brundtland Commission and its report Our Common Future), the 172 nations gathered in Rio generally agreed that the greatest threats to a quality environment on a global basis are poverty, unrestrained population growth, and unsustainable patterns of consumption. **Sustainable development** has emerged as the key goal.

Oceans and coasts are but one chapter (Chapter 17) of the 40 chapters making up the 800 page 'Agenda 21' but many feel that it is one of the more substantive parts of Agenda 21.

Before discussing Chapter 17 of Agenda 21, it should be stressed that virtually none of the UNCED decisions are self-implementing- and, except for the conventions on climate change and biological diversity, none are legally binding on nations. However, nations participating in the drafting of the Agenda 21 action programmes and formally approving their content (as all of them did), have associated themselves with the findings of the Agenda (as to the existence of certain problems and needs) and with the prescriptions for solutions laid out in the document. Hence, Agenda 21 represents a collective commitment of most of the world's nations to address a set of environment and development-related problems using a common orientation (the goal of sustainable development) to the best of their abilities and given their individual needs, constraints and limitations.

The UNCED text on the oceans gives support to four concepts:

- that the marine environment (ocean and adjacent coastal areas) 'forms an integral whole that is an essential component of the global life support system';
- that the oceans and adjacent coastal areas are 'a positive asset presenting opportunities for sustainable development';
- that the LOS Convention sets forth rights and obligations of states and 'provides the international basis upon which to pursue the protection and sustainable development of marine and coastal environment and its resources'; and
- that, given increasing problems of environmental loss and degradation, 'new approaches to marine and coastal area management and development are needed (at the national, subregional, regional, and global levels), approaches that **are integrated in content, and precautionary and anticipatory in ambit.**'

Integrated coastal management

In the Agenda 21 text dealing with oceans and coasts, coastal nations commit themselves to integrated management and sustainable development of coastal areas and marine environments under their national jurisdiction. The text calls for integrated policy and decision-making processes and provides a series of suggested actions that can assist coastal states in strengthening their efforts at integrated management of coastal and ocean areas.

Marine environmental protection

Agenda 21 calls for coastal nations to increase their efforts to deal with land-based sources of marine pollution. While this component accounts for up to eighty percent of the pollution currently found in the oceans, international efforts to deal with the problem have lagged. Among other things, the Agenda 21 programme calls upon nations to employ coastal planning and management efforts, including the control of non-point sources of pollution, as a step in strengthening existing activities.

Increasing efforts at the regional level are also called for to deal with the regulation of land-based sources of pollution.

Sustainable use and conservation of marine living resources

The improved conservation and management of high seas fisheries stocks was one of the ocean topics most vigorously debated at UNCED.

It seems likely that the new Sustainable Development Commission will address the conservation and management of fisheries stocks as an issue of high priority. Given the mandates contained in Agenda 21, first priority may be given to the high seas issues (including highly migratory species), but conservation and management practices within national jurisdictions will also be addressed.

The elements of the New Global Partnership

Seen in its largest perspective, the actions taken at the Rio UNCED meeting represent a coordinated effort at creation of a new global partnership on environment and development. Setting aside national security concerns, the new partnership aims to address what arguably are the most fundamental problems facing the world today—those of poverty, overpopulation, and unsustainable consumption.

The new partnership has two specific goals:

- . providing funding and technical assistance to the nations of the South so that they can develop in ways

that minimize the impact of that development on the earth's environment and global life support system.

- . motivating nations of the North to begin to move away from unsustainable patterns of consumption in order to create 'environmental space' for the development of the South.

The overall goal, of course, is to encourage nations individually and collectively towards 'sustainable development' and here a delicate balance is required. Poorer nations of the South do not want to see policies that favour future generations at the expense of the present generation many of whom continue to live in impoverished conditions.

The new partnership, the seeds for which were sown in Rio, can be thought of as composed of five components:

- . a set of principles (the Rio Declaration) that collectively describe the goals of the 'new order' that is sought;
- . a set of policies and action programmes (Agenda 21) that call for the kinds of changes in national and international behaviour that will be necessary if the world is to move toward a condition of sustainable development;
- . a series of financial arrangements (largely grants and loans from the North to the South) that will fund the additional costs that will be incurred in implementing Agenda 21;
- . agreements that acknowledge that the South will need 'access' to the environmentally sound technologies of the North;
- . the creation of a new institution to oversee the implementation of Agenda 21 (the Sustainable Development Commission).

Secretary-General's Agendas for Peace and Development

The implementation of the Secretary-General's Agendas for Peace and for Development as well as the implementation of the decisions of the Social Summit would enhance sustainable development and comprehensive security, including economic security (development) and environmental security (conservation). Ocean development and the Law of the Sea could make significant contributions to the implementation of all three agendas. Their implementation in the marine sector is in fact essential. Regional cooperation and organisation, with proper linkages both to the mechanisms of national and of global governance, and an interdisciplinary, transectoral approach to decision-making and problem-solving, are central to all three, as they are to Agenda

21 and the Convention on the Law of the Sea. Planning from bottom up, not from top down; participation of the nongovernmental sector, women, youth, indigenous people; the eradication of poverty are goals in decision-making that all these programmes have in common. Conceptualisation of, and in a number of cases already practical experience with, the necessary institutional arrangements is more advanced in the marine sector than elsewhere. With the necessary adaptations, they could find wider application.

World Commission on the Seas and Oceans

To carry further the process initiated by the LOS Convention and UNCED, a World Commission on the Seas and the Oceans (the Commission) has been set up under the leadership of President Soares of Portugal.

The Commission's terms of reference are:

- . to refocus world attention on the importance of sustainable ocean development and the law of the sea;
- . to monitor the ratification, implementation, and progressive development of the Convention, at national, regional, and global levels;
- . to examine whether States, especially developing countries, are able to fulfil their duties, enjoy their rights and generate their benefits under the Convention, to analyze the difficulties they might encounter, and to propose ways and means to overcome them;
- . to monitor the implementation of Chapter 17 of Agenda 21, at national, regional and global levels and to observe the function of the Convention in this process (legal framework; peaceful settlement of disputes; enforcement);
- . to follow the development of regional programmes of cooperation and development in the marine sector and examine how they adjust to the new requirements of integrated ocean management and sustainable development;
- . to examine the role of the Law of the Sea and ocean development in the process of restructuring the United Nations system as a whole for the 21st century and elaborate proposals to strengthen this role.

As is clear, the main objective of the Commission is to synthesise the LOS Convention and UNCED's Agenda 21, to fill in the gaps, if any, to suggest other necessary measures, and to indicate the institutional mechanisms at the international, regional and national levels that would help the attainment of what is set out in Agenda 21 and the LOS Convention.

The Issues Before the Commission

The coastal zone.

The oceans and seas cover 70 per cent of the Earth's surface and are active components of the global biosphere. One of the major developments of the last 20 years has been the realization that this vast sector of the environment is dynamic and interactive; thus, long-term environmental management of even a small portion of the marine environment requires an integrated approach which must include consideration of the coastal zones and also their drainage basins and the atmosphere.

The coastal zone, here defined as the region between the seaward margin of the continental shelf and the inland limit of the coastal plain, is among the regions of highest biological productivity on Earth. It is also the zone with the greatest human population. According to UNEP, about 60 per cent of humanity (or nearly three billion people) live in the coastal zone, and two-thirds of the world's cities with populations of 2.5 million or more are near estuaries. Within the next 20-30 years the population of this zone is expected to almost double. Some data on the coastal zone is presented in Table 1. As will be seen from there, the rise in urban population is much higher in the South (more than double that in the North).

This increase is inevitably altering land-use patterns in coastal zones. Other impacts there - and in the coastal regions generally - come from pollution, flooding, land subsidence and compaction, and the effects of upland water diversion. Natural habitats are being lost through reclamation for urban and industrial development, agriculture and mariculture. Nearshore regions are being degraded by eutrophication and industrial waste; public health is threatened by sewage contamination of beaches and seafood; and the marine environment is being fouled by the progressive build-up of chlorinated hydrocarbons, plastic litter and the accumulation of tar on coastlines. Some of the waste products of coastal development, augmented by discharges through coastal outfalls and rivers, spread outwards to the world oceans, carried by the atmosphere, currents and ships.

The proper management and sustainable development of the coastal zone is thus an issue of critical importance that is being addressed by the World Commission. Some of the questions that arise are:

- what are the scientific and technological parameters that need to be addressed in this connection
- whether integrated institutional mechanisms exist to ensure sustainable development of the marine environment
- what environmentally sound technologies are required

Marine Pollution.

The sea is the ultimate sink for most of the liquid wastes and a considerable fraction of the solid wastes resulting from human activities on land. According to UNEP, more than three-quarters of all marine pollution comes from land-based sources, via drainage and discharges into rivers, through outfalls flowing directly to estuaries, bays and open coast, and from the atmosphere. The rest comes from shipping, dumping and offshore mining and oil production. The greater part of this pollution passes into coastal waters, and more than 90 per cent of all chemicals, refuse and other materials entering these waters remains there in sediments, wetlands, fringing reefs and other coastal ecosystems.

Such excessive nutrient loads bring marked ecological changes. The structure of plankton communities is altered, with preferential growth of small flagellates rather than the larger diatoms, and unusual plankton 'blooms', uncontrolled by the normal processes of grazing. The subsequent decomposition of the mass of organic matter deoxygenates the water, killing fish and invertebrates, while some species of algae produce foam and scum which interfere with fishing and reduce the amenity of beaches when washed ashore. In some cases the sea is discoloured, giving rise to the term 'red tide'. Some of the plankton species are toxic, and consumers of seafood exposed to such blooms are at risk from paralytic, diarrhoeic and amnesic shellfish poisons.

Some 6.5 million tonnes of litter finds its way into the sea each year. In the past, much of it disintegrated quickly, but resistant synthetic substances have in recent years replaced many natural, more easily degradable materials. Plastics, for example, can persist for up to 50 years, and because they are usually buoyant, they are widely distributed by ocean currents and winds. Many beaches are littered with plastic waste of various kinds, from land and ships. Along the beaches of the Mediterranean, about 70 per cent of the debris examined in one investigation was plastic: in the Pacific the figure exceeded 80 per cent. A major source of plastic debris is the fishing industry: UNEP has estimated that more than 150,000 tonnes of plastic fishing gear is lost (or discarded) in the oceans each year. Such debris is a nuisance to the tourist industry and can be a serious hazard to marine animals such as seals. A particularly serious new problem is posed by modern plastic drift nets, which are many kilometres in length and which, if they break free from a vessel, continue to float around the oceans entrapping and killing all manner of species.

Tables 2 and 3 give an account of the extent of human disturbance and a list of the international and marine protected areas. Both are, as is to be expected, much higher in the North relative to the South.

Some of the questions that arise are:

- what steps can be taken by the North to eliminate

and/or reduce sources of pollution;

- what steps can be taken in the South to minimise marine pollution consistent with the objective of eliminating poverty and raising standards of living;
- how can environmentally safe technologies be made available to the South;
- what institutional mechanisms can be developed to ensure the development and acquisition of such technologies by the South.

Marine resources-living

The seas are the source of resources like fish, drugs, seaweeds etc. which are good sources of protein, provide livelihood to millions and could be used for the cure of many diseases.

Marine fisheries, unlike terrestrial species, are not subject to the exclusive sovereignty of one state-except when they are located in internal waters or territorial seas-and generally migrate through a variety of jurisdictional zones in which foreign-flag vessels have certain rights.

Treaties that apply to conservation of migratory species in general or to trade in endangered species comprehend only such marine species of fish and mammals as are listed in their appendices, but many other marine species are increasingly susceptible to the threat of over-exploitation. Their conservation has, however, mainly been related to controlling access to fisheries and limiting catch. The rise in catches has been phenomenal: in 1938 the world fish catch was 15 million tonnes (m.t); by 1958 it had risen to 28 m.t.; by 1978 to 64 m.t.; by 1990 to 76 m.t. It is expected that by the year 2000 it may reach 100 m.t., at which point it is likely to level off. The reasons for this increase include rising populations, mostly located on coasts, the increase in the number of independent states, many wishing to enter or expand the fishing industry, but, above all, the enormous advances made in technological means of spotting, fishing, and processing fish. From use of rod and line and small and simple sailing boats operating close-inshore using simple nets and taking fish mainly for human consumption locally, developed sections of the industry have progressed to the highly sophisticated factory ships. Details of marine catches are at Table 4.

There is also a question of marine biodiversity. Over 90 per cent of the world's living biomass is contained in the oceans, which cover 71 per cent of the Earth's surface. Despite the predominance of marine ecosystems, only a small percentage of the oceans has been sampled. New marine phenomena, communities, and species are constantly being identified. In 1977, hydrothermal vents, or undersea hot springs, were discovered on the ocean floor. They support diverse communities, not through the

photosynthetic activity of primary producers such as plants or algae but through the chemical breakdown of hydrogen sulfide and other compounds to create energy. Marine biodiversity is so poorly known that we continue to discover even large vertebrates. In 1938, the coelacanth fish, long thought extinct, was found living in the Indian Ocean. In recent years, specimens of the megamouth shark, a 5-meter-long filter feeder, were caught.

How diverse are marine ecosystems? Recent discoveries have upped estimates of total marine species from 160,000 in 1971 to at least 10 million species, possibly more today. Although the marine environment may not rival its terrestrial counterpart in total number of species, it is more diverse in measures of uniqueness-of a total of 33 animal phyla, 32 are found in the ocean and 15 are exclusively marine-and of function-that is, for the variety of lifestyles its species has evolved to survive. For example, marine organisms ranging from zooplankton to baleen whales have adapted filter-feeding strategies to capture their food, a rare or nonexistent phenomenon on land. Marine ecosystems also exhibit more complex food webs.

Marine biodiversity provides a wealth of services. Photosynthetic phytoplankton lock up atmospheric carbon, a primary contributor to global warming. Fish and shellfish provide a plentiful supply of protein to human populations worldwide. Seaweed derivatives are used in the production of food, cosmetics, shampoo, detergent, and industrial lubricants. And because many marine organisms rely on chemical defences, the oceans are a promising source of new medicine. The same chemicals that protect species against predators may serve humanity in combating hypertension, cardiovascular problems, and viral and bacterial infections. The oceans could thus in the future provide many drugs and chemicals in combating many of the prevalent diseases.

Another untapped source is mariculture. The total marine fish, crustaceans and molluscs produced through mariculture was hardly 6 million tons per annum in 1989-90. This could increase manifold especially if allied to biotechnology. This is a fertile area for the South provided the developing countries can set up an appropriate scientific and technological infrastructure.

The issues that arise are:

- how to have sustainable development of marine resources both in the capture and aquaculture sectors
- what institutional, legal, financial, manpower development and technological steps are necessary in this regard

Marine resources-non living

The oceans have vast resources in the state of energy, minerals

and transportation systems. The present position regarding offshore oil and gas is at Table 5 and of shipping and transportation at Table 6. Obviously the proven reserves of oil and gas in the South will rise as more exploration takes place. But even as it is these is considerable scope for the developing nations to add to their resource base and economic welfare. The lack is of capital, technology and trained manpower. The issues that would arise would be similar to those that arise in the case of living resources.

Sustainable ocean development and the law of the sea

The Convention has parts and Articles relating to the protection and preservation of the marine environment (Part XII), conservation of living resources in the exclusive economic zone (Article 61), conservation and management of the living resources of the high seas (Part VII Section 2) and the co-operation of States bordering enclosed or semi-enclosed seas to co-ordinate the management, conservation, exploration and exploitation of the living resources of the sea (Article 123(a)).

The above provisions require the coastal states to promulgate laws and regulations in pursuance of the aims specified in the Convention and to co-operate both among themselves and with competent international organisations towards the achievement of these ends.

The questions that arise are:

- whether the actions taken by States so far can be considered to be adequate? If not what are the reasons for not taking adequate action? And what needs to be done to promote the taking of such action.
- whether the cooperation by States in the spheres of enforcement, conservation, science and technology, including the setting up of international, regional and subregional institutions can be considered to be adequate? If not, what more needs to be done.
- whether the specialised agencies of the United Nations (FAO, IMO, UNESCO/IOC, UNIDO, WMO) have been cooperating with the States, especially developing States, to further the prospects of sustainable development? If not, what needs to be done.

Ratification, implementation, and progressive development of the Convention at national, regional and global levels

The Convention has become law with effect from 16 November, 1994 but many states have not yet ratified it and many who have ratified it, have not yet implemented it.

The Convention mandates cooperation between States at national, regional and global levels in various areas including, inter alia,

- . sea lanes, and traffic separation schemes in straits (Article 41 (5))
- . navigational and safety aids and the prevention, reduction and control of pollution in straits (Article 43)
- . conservation of living resources, including highly migratory species, marine mammals and anadromous stocks (Articles 61, 64, 65 and 66)
- . conservation of living resources of the high seas (Articles 117 - 119)
- . enclosed and semi-enclosed seas (Article 123)
- . access for land-locked states to the sea (Articles 129, 132)
- . orderly, safe and rational management of the resources of the international area (Articles 150, 151 and 160)
- . protection and preservation of the marine environment (Articles 197, 199 - 202)
- . marine scientific research for peaceful purposes (Articles 242 - 244)
- . development and transfer of marine technology (Articles 266, 268 - 273)
- . establishment of regional marine scientific and technological research centres, particularly in developing States (Article 268)

The issue that needs to be tackled is the extent to which States have been cooperating in the above fields? What can be done to further such co-operation including the establishment of marine scientific and technological research centres?

States, especially developing countries, and their ability to fulfil their duties and enjoy their rights and generate their benefits under the Convention; Agenda 21; regional programmes

The Convention has vastly expanded the jurisdiction of coastal States. This gives to the States the opportunity to enjoy their rights and generate benefits. But at the same time the Convention also casts duties on the States - provision of safety and navigational aids, the establishment of search and rescue systems, establishment of total allowable catch, transfer of environmentally safe technology to developing countries,

providing assistance in the fields of marine science and research etc. At the same time the enjoyment of rights and the generation of benefits requires inter alia, inputs in the form of adequate surveillance systems, scientific research, exploration, marine technology, finance, trained manpower and integrated management systems - matters in which the developing countries in particular are lacking. The issue is a broad one and it is necessary to:

- specify the actions and policies necessary to remedy these deficiencies?
- indicate what needs to be done in this regard - by international organisations, the industrialised states, developing countries and the international funding agencies at the national, regional and international levels?

Secretary General's Agenda for Peace and Development

Ocean issues are integrally linked up with the issues of Peace and Development. Planning from the bottom up, participation of NGOs, women, youth and indigenous people, the eradication of poverty - these are all common goals.

Questions that will arise are:

- whether proper linkages can be established between the mechanisms and programmes for sustainable ocean development and the implementation of the Secretary-General's Agendas for Peace and for Development, and of the decisions of the Social Summit.

It is clear that problems of global governance, first pioneered in the Law of the Sea with the incredibly complex "Constitution for the Oceans," have matured considerably during the last decades. Ocean development and the Law of the Sea must now be considered in this broader context, as possible model for, and part of a new social, economic, and political order for the 21st century under a restructured United Nations.

Role of the Law of the Sea and Ocean Development in the process of restructuring the United Nations

There is talk of restructuring the United Nations so as to enable it to meet the challenges of the 21st Century. The Oceans cover 71 per cent of the globe but there is no adequate coverage of matters relating to the Oceans by the UN System. The broad issue is as to how the UN should be restructured to adequately deal with oceanic matters both at the international and regional levels.

Coastal Areas

	Length of Coastline (million km)	Maritime Area		Population in Coastal Urban Agglomera- tions		% rise
		Shelf to 200 m depth	EEZ	1980	2000	
Africa	37.9	1.3	12.0	43.2	111.6	158%
Asia	163.6	6.8	20.3	281.8	487.1	73%
Oceania	52.5	2.5	14.2	13.4	18.1	35%
North & Central America	184.0	5.6	18.8	88.9	121.4	36%
South America	30.7	2.0	10.1	59.6	104.6	76%
Europe	69.6	2.0	14.7	111.8	130.0	16%
USSR (former)	47.9	1.2	4.5	18.4	24.0	30%
World	568.2	21.4	94.6	617.1	996.8	62%

Source: Table 22.6 World Resources, 1994-95, Oxford University Press, 1994

Coastal Areas

	Length of Coastline (kilometres)	Maritime Area (thousand sq. km)		Population in Coastal Urban Agglomerations (thousands)		% rise 1980-2000
		Shelf to 200m in depth	EEZ	1980	2000	
AFRICA	37,908	1,326	11,981	43,213	111,643	158%
Algeria	1,183	14	137	3,493	7,613	118%
Angola	1,600	67	606	1,132	3,603	218%
Benin	121	x	27	585	2,527	332%
Cameroon	402	11	15	854	2,802	228%
Cape Verde	965	x	789	125	360	188%
Comoros	340	x	249	89	240	170%
Congo	169	9	25	217	571	163%
Cote d'Ivoire	515	10	105	1,495	4,125	176%
Djibouti	314	x	6	211	455	116%
Egypt	2,450	37	174	4,246	8,020	89%
Equatorial Guinea	296	x	283	181	392	117%
Ethiopia	1,094	48	76	760	1,909	151%
Gabon	885	46	214	155	498	221%
Gambia, The	80	x	20	109	293	169%
Ghana	539	21	218	1,336	3,139	135%
Guinea	346	38	71	696	2,025	191%
Guinea-Bissau	274	x	150	174	353	103%
Kenya	536	14	118	489	2,020	313%
Liberia	579	20	230	465	1,195	157%
Libya	1,770	84	338	1,496	4,322	189%
Madagascar	4,828	180	1,292	570	2,032	156%
Mauritania	754	44	154	238	1,177	395%
Mauritius	177	92	1,183	410	565	38%
Morocco	1,835	62	278	5,543	11,472	107%
Mozambique	2,470	104	562	1,109	5,240	372%
Namibia	1,489	x	x	76	290	282%
Nigeria	853	46	211	4,383	14,135	222%
Reunion	201	x	x	279	479	72%
Senegal	531	32	206	1,378	3,077	123%
Seychelles	491	x	1,349	x	x	x
Sierra Leone	402	26	156	453	1,175	159%
Somalia	3,025	61	783	1,186	3,308	179%

South Africa	2,881	143	1,553	4,272	8,294	94%
Sudan	853	22	92	356	1,193	235%
Tanzania	1,424	41	223	1,750	6,945	297%
Togo	56	1	2	324	983	203%
Tunisia	1,143	51	86	2,476	4,540	83%
Zaire	37	1	1	102	276	71%
ASIA	163,61	6,769	20,258	281,83	487,1	73%
Bahrain	161	5	5	279	582	108%
Bangladesh	580	55	77	1,809	5,053	179%
Brunei	161	x	x	x	x	x
Cambodia	443	x	56	50	287	474%
China	14,500	870	1,356	38,936	66,510	71%
Cyprus	648	6	99	291	457	57%
Hong Kong	733	x	x	4,614	6,088	32%
India	12,700	452	2,015	37,317	78,255	110%
Indonesia	54,716	2,777	5,409	29,166	58,303	100%
Iran, Islamic Rep	3,180	107	156	872	1,480	70%
Iraq	58	1	1	0	0	x
Israel	273	4	23	2,826	4,110	45%
Japan	13,685	480	3,861	78,349	88,798	13%
Jordan	26	x	1	70	146	108%
Korea, Dem People's Rep	2,495	x	130	5,973	14,233	138%
Korea, Rep	2,413	245	x	16,911	29,292	73%
Kuwait	499	12	12	1,190	2,660	123%
Lebanon	225	4	23	2,016	3,135	56%
Macao	40	x	x	x	x	x
Malaysia	4,675	373	476	3,997	9,158	129%
Maldives	644	x	959	x	x	x
Myanmar	3,060	229	509	3,923	7,695	96%
Oman	2,092	61	562	62	302	338%
Pakistan	1,046	58	318	5,215	12,350	137%
Philippines	22,540	178	1,786	17,736	37,181	110%
Qatar	563	24	24	197	455	131%
Saudi Arabia	2,510	78	186	1,954	4,201	115%
Singapore	193	0	0	2,414	2,950	22%
Sri Lanka	1,340	27	517	2,433	3,496	44%
Syrian Arab Rep	193	x	10	266	853	21%
Thailand	3,219	258	86	5,698	13,541	138%
Turkey	7,200	50	237	9,928	17,028	72%

United Arab Emirates	1,448	59	59	824	1,517	84%
Viet Nam	3,444	328	722	5,585	14,317	156%
Yemen	1,906	25	584	927	2,660	187%
OCEANIA	52,488	2,514	14,171	13,41	18,117	35%
Australia	25,760	2,269	4,496	10,568	13,902	32%
Fiji	1,129	2	1,135	244	423	73%
New Zealand	15,134	243	4,833	2,279	2,832	24%
Papua New Guinea	5,152	x	2,367	322	960	98%
Solomon Islands	5,313	x	1,340	x	x	x
<u>NORTH & CENTRAL AMERICA</u>	184,950	5,632	18,759	88,896	121,410	36%
Antigua and Barbuda	153	x	x	x	x	x
Bahamas	3,542	86	759	x	x	x
Barbados	97	x	167	100	146	46%
Belize	386	x	x	x	x	x
Bermuda	103	x	x	x	x	x
Canada	90,908	2,903	2,939	3,066	3,852	26%
Cayman Islands	160	x	x	x	x	x
Costa Rica	1,290	16	259	1,050	2,258	115%
Cuba	3,735	x	363	6,628	8,942	35%
Dominica	148	x	20	x	x	x
Dominican Rep	1,288	18	269	2,787	5,797	108%
El Salvador	307	18	92	1,680	3,049	81%
Greenland	44,087	x	x	x	x	x
Grenada	121	x	27	x	x	x
Guadeloupe	306	x	x	142	196	38%
Guatemala	400	12	99	780	932	19%
Haiti	1,771	11	160	1,216	2,845	134%
Honduras	820	53	201	583	1,923	230%
Jamaica	1,022	40	298	1,016	1,689	66%
Martinique	290	2	x	217	279	29%
Mexico	9,330	442	2,851	6,529	9,501	46%
Nicaragua	910	73	160	1,166	2,837	143%
Panama	2,490	57	306	989	1,749	77%
Trinidad & Tobago	362	29	77	623	1,110	78%
United States	19,924	1,871	9,711	60,324	74,305	23%
<u>SOUTH AMERICA</u>	30,663	1,985	10,125	59,553	104,628	76%
Argentina	4,989	796	1,164	12,273	16,643	36%
Brazil	7,491	769	3,168	25,616	49,160	92%
Chile	6,435	27	2,288	3,212	4,856	51%

Colombia	2,414	68	603	2,926	3,926	34%
Ecuador	2,237	47	1,159	1,529	3,877	154%
French Guiana	378	x	x	x	x	x
Guyana	459	50	130	213	425	100%
Peru	2,414	83	1,027	6,975	14,339	106%
Suriname	386	x	101	140	216	54%
Uruguay	660	57	119	1,511	1,862	23%
Venezuela	2,800	88	364	5,158	9,324	81%
<u>EUROPE</u>	<u>69,643</u>	<u>1,951</u>	<u>14,7</u>	<u>111,806</u>	<u>129,989</u>	<u>16%</u>
Albania	418	5	12	622	1,140	83%
Belgium	64	3	3	1,968	2,097	7%
Bulgaria	354	12	33	857	1,182	38%
Denmark	3,379	69	1,464	3,980	4,201	6%
Finland	1,126	98	98	1,539	1,998	30%
France	3,427	148	3,493	9,380	10,692	14%
Germany	2,389	41	50	3,944	4,301	9%
Greece	13,676	25	505	5,252	6,559	25%
Iceland	4,988	134	867	186	231	24%
Ireland	1,448	126	380	1,766	2,469	40%
Italy	4,996	144	552	21,232	23,721	12%
Malta	140	13	66	303	327	8%
Netherlands	451	85	85	7,764	9,032	16%
Norway	5,832	103	2,025	2,324	3,033	31%
Poland	491	28	28	1,842	2,853	55%
Portugal	1,693	39	1,774	2,352	3,499	49%
Romania	225	24	32	573	866	51%
Spain	4,964	170	1,219	13,903	17,925	29%
Sweden	3,218	155	155	4,018	4,306	7%
United Kingdom	12,429	492	1,785	26,765	27,790	4%
Yugoslavia (former)	3,935	37	52	1,236	1,767	43%
<u>U.S.S.R. (former)</u>	<u>47,892</u>	<u>1,249</u>	<u>4,490</u>	<u>18,372</u>	<u>23,975</u>	<u>30%</u>
Azerbaijan	x	x	x	x	x	x
Estonia	1,393	x	x	x	x	x
Georgia	310	x	x	x	x	x
Kazakhstan	2,909	x	x	x	x	x
Latvia	531	x	x	x	x	x
Lithuania	108	x	x	x	x	x
Russian Federation	37,653	x	x	x	x	x
Turkmenistan	1,786	x	x	x	x	x
Ukraine	2,782	x	x	x	x	x

Uzbekistan	420	x	x	x	x	x
------------	-----	---	---	---	---	---

Source: World Resources 1994-95, Table 22.6, Oxford University Press, New York.

Levels of Human Disturbance, 1993

Percentage of Total Land Area Classified as Regions of:

	Low Human Disturbance	Medium Human Disturbance	High Human Disturbance
Africa	49	35	16
Asia	30	38	32
North & Central America	56	21	23
South America	59	25	16
Europe	15	18	67
USSR (former)	57	16	28
Oceania	61	27	12
World	48	28	24

Source: Table 20.2, World Resources 1994-95, Oxford University Press, 1994

Levels of Human Disturbance, 1993

	Low Human Disturbance	Medium Human Disturbance	High Human Disturbance
AFRICA	49	35	16
Algeria	83	10	7
Angola	53	29	18
Benin	13	64	24
Botswana	57	42	1
Burkina Faso	12	67	21
Burundi	0	3	97
Cameroon	15	51	33
Central African Rep	46	44	10
Chad	54	40	6
Congo	57	36	8
Cote d'Ivoire	23	38	39
Djibouti	0	100	0
Egypt	79	15	6
Equatorial Guinea	84	0	16
Ethiopia	2	93	5
Gabon	81	2	5
Gambia, The	x	x	x
Ghana	2	56	42
Guinea	34	41	24
Guinea-Bissau	0	36	64
Kenya	43	45	12
Lesotho	0	81	19
Liberia	27	17	57
Libya	90	9	1
Madagascar	15	4	81
Malawi	4	37	59
Mali	67	31	3
Mauritania	92	8	0
Mauritius	x	x	x
Morocco	1	9	90
Mozambique	35	43	22
Namibia	76	21	4
Niger	75	24	1
Nigeria	3	54	43
Rwanda	0	34	66

Senegal	1	48	52
Sierra Leone	0	31	69
Somalia	32	65	3
South Africa	27	33	40
Sudan	32	59	9
Swaziland	0	50	50
Tanzania	41	43	16
Togo	0	58	42
Tunisia	18	56	26
Uganda	45	15	40
Zaire	45	40	15
Zambia	82	9	9
Zimbabwe	18	55	27
ASIA	30	38	32
Afghanistan	17	75	8
Bangladesh	0	19	81
Bhutan	29	58	13
Cambodia	22	21	57
China	32	35	33
India	2	42	55
Indonesia	52	10	38
Iran, Islamic Rep	6	83	11
Iraq	25	57	17
Israel	0	64	36
Japan	0	40	61
Jordan	47	41	12
Korea, Dem People's Rep	0	35	65
Korea Rep	0	18	82
Kuwait	33	54	13
Lao People's Dem Rep	28	6	66
Lebanon	0	13	87
Malaysia	41	19	40
Mongolia	60	35	6
Myanmar	7	47	45
Nepal	21	65	14
Oman	77	23	0
Pakistan	5	80	15
Philippines	3	10	87
Saudi Arabia	83	17	0
Singapore	x	x	x

Sri Lanka	0	60	40
Syrian Arab Rep	9	69	22
Thailand	8	19	73
Turkey	12	40	48
United Arab Emirates	90	10	0
Viet Nam	2	10	88
Yemen	34	66	0
<u>OCEANIA</u>	61	27	12
Australia	62	28	10
Fiji	x	x	x
New Zealand	27	4	69
Papua New Guinea	64	24	13
Solomon Islands	x	x	x
<u>NORTH & CENTRAL AMERICA</u>	56	21	23
Belize	36	0	64
Canada	95	5	2
Costa Rica	12	18	71
Cuba	2	14	84
Dominican Rep	18	16	65
El Salvador	0	50	50
Guatemala	25	12	62
Haiti	5	0	95
Honduras	32	4	63
Jamaica	0	25	75
Mexico	23	33	44
Nicaragua	32	13	56
Panama	99	0	1
Trinidad and Tobago	50	0	50
United States	25	36	39
<u>SOUTH AMERICA</u>	59	25	16
Argentina	37	47	17
Bolivia	78	18	4
Brazil	67	15	18
Chile	56	27	17
Colombia	69	11	20
Ecuador	47	12	41
Guyana	98	1	1
Paraguay	84	13	3
Peru	60	36	4
Suriname	91	3	6

Uruguay	0	76	24
Venezuela	0	79	21
<u>EUROPE</u>	15	18	67
Albania	0	28	72
Austria	0	39	61
Belgium	0	15	85
Bulgaria	0	37	63
Czechoslovakia (former)	1	28	72
Denmark	0	0	100
Finland	52	30	18
France	1	14	85
Germany	0	20	80
Greece	0	14	86
Hungary	1	7	93
Iceland	78	1	21
Ireland	0	0	100
Italy	0	16	84
Netherlands	0	2	98
Norway	66	21	13
Poland	0	13	87
Portugal	0	20	80
Romania	1	23	77
Spain	1	16	82
Sweden	57	17	26
Switzerland	0	35	65
United Kingdom	1	2	97
Yugoslavia (former)	1	24	76
<u>U.S.S.R. (former)</u>	57	16	28
Armenia	x	x	x
Azerbaijan	x	x	x
Belarus	x	x	x
Estonia	x	x	x
Georgia	x	x	x
Kazakhstan	x	x	x
Kyrgyzstan	x	x	x
Latvia	x	x	x
Lithuania	x	x	x
Moldova	x	x	x
Russian Federation	x	x	x
Tajikistan	x	x	x

Turkmenistan	x	x	x
Ukraine	x	x	x
Uzbekistan	x	x	x

International and Marine Protected Areas, 1993

Areas in Million Hectares

	World Heritage Sites		Biosphere Reserves		Wetlands of International Importance		Marine & coastal protected zones	
	No.	Area	No.	Area	No.	Area	No.	Area
Africa	28	28.1	43	20.6	53	4.2	43	9.6
Asia	16	1.7	39	13.2	49	2.4	189	14.0
North & Central America	22	21.5	71	98.2	64	15.5	214	135.8
South America	9	4.0	26	16.9	13	2.8	94	24.7
Europe	11	0.7	99	6.8	353	4.2	180	7.7
USSR (former)	1	0.1	22	10.9	13	3.0	22	4.9
Oceania	13	44.8	13	4.7	45	4.5	229	14.6
World	100	100.9	312	171.3	590	36.6	977	211.3

Source: Table 20.2, World Resources 1994-95, Oxford University Press, 1994

Niger	—	—	1	7,736	1	220	NA	NA
Nigeria	1	—	0	0	—	—	0	0
Rwanda	1	15	—	—	—	—	NA	NA
Senegal	3	1,094	2	929	4	100	4	81
Sierra Leone	—	—	—	—	—	—	0	0
Somalia	—	—	—	—	—	—	0	0
South Africa	—	—	—	—	12	228	13	152
Sudan	2	1,901	0	0	—	—	0	0
Swaziland	—	—	—	—	—	—	NA	NA
Tanzania	2	2,338	4	7,381	—	—	0	0
Togo	—	—	—	—	—	—	0	0
Tunisia	4	32	1	13	1	13	1	4
Uganda	1	220	0	0	1	15	0	0
Zaire	3	298	4	5,482	—	—	0	0
Zambia	—	—	1	4	2	333	NA	NA
Zimbabwe	—	—	2	1,095	—	—	NA	NA
ASIA	39	13,166	16	1,676	49	2,377	189	13,987
Afghanistan	—	—	0	0	—	—	NA	NA
Bangladesh	—	—	0	0	1	60	3	32
Bhutan	—	—	—	—	—	—	NA	NA
Cambodia	—	—	0	0	—	—	0	0
China	9	2,247	4	249	6	529	20	1,184
India	—	—	5	281	6	193	14	474
Indonesia	6	1,482	2	298	1	163	68	8,941
Iran, Islamic Rep	9	2,610	0	0	18	1,358	3	725
Iraq	—	—	0	0	—	—	0	0
Israel	—	—	—	—	—	—	1	31
Japan	4	116	0	0	4	10	30	637
Jordan	—	—	0	0	1	7	0	0
Korea, Dem People's Rep	1	132	—	—	—	—	0	0
Korea, Rep	1	37	0	0	—	—	3	285
Kuwait	—	—	—	—	—	—	0	0
Lao People's Dem Rep	—	—	0	0	—	—	NA	NA
Lebanon	—	—	0	0	—	—	0	0
Malaysia	—	—	0	0	—	—	9	52
Mongolia	1	5,300	0	0	—	—	NA	NA
Myanmar	—	—	—	—	—	—	0	0
Nepal	—	—	2	208	1	18	NA	NA
Oman	—	—	0	0	—	—	1	1
Pakistan	1	31	0	0	9	21	1	16

Philippines	2	1,174	0	0	—	—	5	31
Saudi Arabia	—	—	0	0	—	—	2	475
Singapore	—	—	—	—	—	—	0	0
Sri Lanka	2	9	1	9	1	6	6	303
Syrian Arab Rep	—	—	0	0	—	—	0	0
Thailand	3	26	1	622	—	—	10	625
Turkey	—	—	1	10	—	—	3	114
United Arab Emirates	—	—	—	—	—	—	0	0
Viet Nam	—	—	0	0	1	12	2	34
Yemen	—	—	0	0	—	—	0	0
OCEANIA	13	4,745	13	44,848	45	4,519	229	14,547
Australia	12	4,743	10	42,168	40	4,481	184	13,035
Fiji	—	—	0	0	—	—	1	4
New Zealand	—	—	2	2,677	5	38	32	1,386
Papua New Guinea	—	—	—	—	—	—	0	0
Solomon Islands	—	—	—	—	—	—	0	0
NORTH & CENTRAL AMERICA	71	98,150	22	21,541	64	15,515	214	135,781
Belize	—	—	0	0	—	—	x	x
Canada	6	1,050	6	14,710	30	13,016	48	7,106
Costa Rica	2	729	1	585	2	30	7	194
Cuba	4	324	0	0	—	—	6	227
Dominican Rep	—	—	0	0	—	—	7	270
El Salvador	—	—	0	0	—	—	0	0
Guatemala	2	1,236	1	58	1	48	3	13
Haiti	—	—	0	0	—	—	0	0
Honduras	1	500	1	500	—	—	1	350
Jamaica	—	—	0	0	—	—	0	0
Mexico	6	1,288	1	528	1	47	11	1,119
Nicaragua	—	—	0	0	—	—	0	0
Panama	1	597	2	804	1	81	6	898
Trinidad & Tobago	—	—	—	—	—	—	2	3
United States	44	22,335	10	4,357	11	1,192	107	54,317
SOUTH AMERICA	26	16,866	9	4,043	13	2,820	94	24,717
Argentina	5	2,410	2	655	3	82	7	1,499
Bolivia	3	435	0	0	1	5	NA	NA
Brazil	1	4,937	1	170	—	—	20	2,032
Chile	8	2,417	0	0	1	5	32	10,050
Colombia	3	2,514	0	0	—	—	9	615
Ecuador	2	1,446	2	1,038	2	90	5	8,975
Guyana	—	—	0	0	—	—	0	0

Paraguay	—	—	0	0	—	—	NA	NA
Peru	3	2,507	4	2,180	3	2,416	4	710
Suriname	—	—	—	—	1	12	5	128
Uruguay	1	200	0	0	1	200	1	3
Venezuela	—	—	0	0	1	10	11	704
<u>EUROPE</u>	99	6,765	11	661	353	4,248	180	7,700
Albania	—	—	0	0	—	—	5	28
Austria	4	28	—	—	7	103	NA	NA
Belgium	—	—	—	—	6	10	0	0
Bulgaria	17	25	2	41	4	2	0	0
Czechoslovakia (former)	9	563	0	0	8	17	NA	NA
Denmark	—	—	0	0	27	734	3	12
Finland	1	350	0	0	11	101	0	0
France	6	576	1	12	8	423	27	849
Germany	12	1,259	0	0	31	661	14	732
Greece	2	9	0	0	11	107	13	84
Hungary	5	129	0	0	13	110	0	0
Iceland	—	—	—	—	2	58	5	509
Ireland	2	9	0	0	21	13	0	0
Italy	3	4	0	0	46	57	18	211
Netherlands	1	260	—	—	15	313	10	54
Norway	1	1,555	0	0	14	16	12	3,508
Poland	4	161	1	5	5	7	4	73
Portugal	1	—	0	0	2	31	8	132
Romania	3	614	1	547	1	647	0	0
Spain	11	716	1	4	17	102	9	75
Sweden	1	97	0	0	30	383	5	12
Switzerland	1	17	0	0	8	7	NA	NA
United Kingdom	13	44	2	1	57	215	35	1,194
Yugoslavia (former)	2	350	3	51	7	131	12	227
<u>U.S.S.R. (former)</u>	22	10,930	1	88	13	2,993	22	4,925
Armenia	x	x	x	x	x	x	x	x
Azerbaijan	x	x	x	x	1	133	x	x
Belarus	1	76	1	88	x	x	x	x
Estonia	1	1,560	x	x	1	49	x	x
Georgia	x	x	x	x	x	x	x	x
Kazakhstan	x	x	x	x	3	1,238	x	x
Kyrgyzstan	1	24	x	x	x	x	x	x
Latvia	x	x	x	x	x	x	x	x
Lithuania	x	x	0	0	x	x	x	x

Moldova	x	x	x	x	x	x	x
Russian Federation	14	9,029	0	0	3	1,168	x
Tajikistan	x	x	0	0	1	6	x
Turkmenistan	1	35	x	x	1	189	x
Ukraine	3	160	0	0	3	211	x
Uzbekistan	1	48	x	x	x	x	x

Marine Fisheries - Annual Catch 1989-91
Yield and Estimated Potential

All figures in million metric tons

	Marine Fish		Cephalopods & Crustaceans		Total	
	Annual Catch	Poten- tial	Annual Catch	Poten- tial	Annual Catch	Poten- tial
Atlantic Ocean	18.3	25.5- 33.3	1.9	2.7- 3.9	20.2	28.2- 37.2
Pacific Ocean	45.0	31.0- 45.1	3.3	3.1- 4.4	48.3	34.1- 49.5
Indian Ocean	5.4	4.7- 7.1	0.6	0.6- 0.9	6.0	5.3- 8.0
Mediterr- anean & Black Sea	1.2	1.1- 1.4	0.2	0.2	1.4	1.2- 1.6
Antarctic	0.1	NA	0.3	NA	0.4	NA
Arctic	0.0	NA	0.0	NA	0.0	NA
World	69.9	62.3- 86.9	6.2	6.5- 9.3	76.1	68.8- 96.2

Source: Table 22.4, World Resources 1994-95, Oxford University Press, 1994

Coastal Resources - Offshore Oil and Gas

	Annual Production				Proven Reserves	
	Oil (million tons)		Gas (billion cubic metres)		Oil (billion tons)	Gas (trill- ion cubic metres)
	1982	1992	1982	1992	1992	1992
Africa	63.8	117.7	6.1	2.1	3.5	4.0
Asia	229.4	309.3	19.5	73.7	18.8	6.8
Oceania	17.8	25.0	7.4	20.0	0.3	0.9
North & Central America	143.6	128.4	156.5	120.6	6.7	3.7
South America	61.2	73.4	1.1	13.2	1.7	1.0
Europe	132.8	181.3	87.3	117.2	5.2	5.0
USSR (former)	8.8	30.9	14.7	10.4	0.3	-
World	657.4	866.0	292.6	357.2	36.5	21.4

Coastal Resources - Offshore Oil and Gas

	Annual Production				Proven Reserves	
	Oil (thousand tons)		Gas (million cubic metres)		Oil (million tons)	Gas (billion cubic metres)
	1982	1992	1982	1992	1992	1992
AFRICA	63,792	117,677	6,080	2,119	3,479	3,957
Algeria	0	0	0	0	0	0
Angola	4,365	19,422	0	486	241	57
Benin	0	0	0	0	117	0
Cameroon	0	7,470	0	52	76	110
Cape Verde	0	0	0	0	0	0
Comoros	0	0	0	0	0	0
Congo	4,316	7,022	0	72	150	76
Cote d'Ivoire	467	0	0	41	3	100
Djibouti	0	0	0	0	0	0
Egypt	28,386	0	755	0	367	142
Equatorial Guinea	0	996	0	0	1	3
Ethiopia	0	0	0	0	0	0
Gabon	5,105	11,952	81	0	190	11
Gambia, The	0	0	0	0	0	0
Ghana	65	598	76	0	4	0
Guinea	0	0	0	0	0	0
Guinea-Bissau	0	0	0	0	0	0
Kenya	0	0	0	0	0	0
Liberia	0	0	0	0	0	0
Libya	0	6,972	0	0	109	3
Madagascar	0	0	0	0	0	0
Mauritania	0	0	0	0	0	0
Mauritius	0	0	0	0	0	0
Morocco	0	0	0	0	0	0
Mozambique	0	0	0	0	0	0
Namibia	0	0	0	0	0	0
Nigeria	18,498	61,254	5,168	1,468	2,040	3,398
Reunion	0	0	0	0	0	0
Senegal	0	0	0	0	136	0
Seychelles	0	0	0	0	0	0
Sierra Leone	0	0	0	0	0	0
Somalia	0	0	0	0	0	0
South Africa	0	0	0	0	0	0

Sudan	0	0	0	0	0	0
Tanzania	0	0	0	0	0	28
Togo	0	0	0	0	0	0
Tunisia	1,520	1,245	0	0	34	0
Zaire	1,070	747	0	0	11	28
ASIA	229,432	309,308	19,492	73,691	18,784	6,805
Bahrain	0	0	0	0	13	0
Bangladesh	0	0	0	0	0	0
Brunei	6,026	7,470	8,786	7,442	137	212
Cambodia	0	0	0	0	14	99
China	0	2,241	0	496	560	120
Cyprus	0	0	0	0	0	0
Hong Kong	0	0	0	0	0	0
India	12,799	35,856	1,457	6,202	1,047	430
Indonesia	26,677	57,270	5,685	7,236	286	1,447
Iran, Islamic Rep	0	23,904	0	2,791	408	453
Iraq	0	0	0	0	0	0
Israel	0	0	0	0	0	0
Japan	43	697	286	72	1	0
Jordan	0	0	0	0	0	0
Korea, Dem People's Rep	0	0	0	0	0	0
Korea, Rep	0	0	0	0	0	0
Kuwait	0	0	0	0	0	0
Lebanon	0	0	0	0	0	0
Macao	0	0	0	0	0	0
Malaysia	15,050	35,308	0	18,606	530	1,529
Maldives	0	0	0	0	0	0
Myanmar	0	0	0	0	109	54
Oman	0	797	0	413	11	28
Pakistan	0	0	0	0	0	0
Philippines	822	1,245	0	0	39	57
Qatar	8,341	9,064	0	1,437	0	0
Saudi Arabia	119,122	78,684	0	6,099	7,888	1,331
Singapore	0	0	0	0	0	0
Sri Lanka	0	0	0	0	0	0
Syrian Arab Rep	0	0	0	0	0	0
Thailand	0	1,992	0	7,029	65	357
Turkey	0	0	0	0	0	7
United Arab Emirates	40,553	49,800	3,227	7,598	7,072	396
Viet Nam	0	4,980	0	8,269	544	283

Yemen	0	0	0	0	60	0
OCEANIA	17,773	24,950	7,370	19,950	313	935
Australia	17,337	24,153	5,685	16,952	258	538
Fiji	0	0	0	0	0	0
New Zealand	435	797	1,685	2,998	18	82
Papua New Guinea	0	0	0	0	37	314
Solomon Islands	0	0	0	0	0	0
NORTH & CENTRAL AMERICA	143,613	128,384	156,517	120,641	6,659	3,674
Antigua and Barbuda	0	0	0	0	0	0
Bahamas	0	0	0	0	0	0
Barbados	0	0	0	0	0	0
Belize	0	0	0	0	0	0
Bermuda	0	0	0	0	0	0
Canada	0	498	0	0	162	298
Cayman Islands	0	0	0	0	0	0
Costa Rica	0	0	0	0	0	0
Cuba	0	0	0	0	0	0
Dominica	0	0	0	0	0	0
Dominican Rep	0	0	0	0	0	0
El Salvador	0	0	0	0	0	0
Greenland	0	0	0	0	0	0
Grenada	0	0	0	0	0	0
Guadeloupe	0	0	0	0	0	0
Guatemala	0	0	0	0	0	0
Haiti	0	0	0	0	0	0
Honduras	0	0	0	0	0	0
Jamaica	0	0	0	0	0	0
Martinique	0	0	0	0	0	0
Mexico	81,604	85,656	9,261	11,370	5,712	1,926
Nicaragua	0	0	0	0	0	0
Panama	0	0	0	0	0	0
Trinidad & Tobago	6,731	6,922	5,047	5,799	78	261
United States	55,278	35,308	142,208	103,471	707	1,189
SOUTH AMERICA	61,233	73,405	1,074	13,179	1,727	953
Argentina	0	0	0	0	31	57
Brazil	8,810	26,145	49	7,236	631	2
Chile	0	847	0	569	54	65
Colombia	0	0	1,024	0	10	40
Ecuador	0	0	0	0	5	20
French Guiana	0	0	0	0	0	0

Guyana	0	0	0	0	0	0
Peru	1,323	3,685	0	0	31	4
Suriname	0	0	0	0	0	0
Uruguay	0	0	0	0	0	0
Venezuela	51,101	42,728	0	5,375	966	765
<u>EUROPE</u>	132,799	181,272	87,263	117,209	5,152	5,024
Albania	0	0	0	0	67	0
Belgium	0	0	0	0	0	0
Bulgaria	0	0	0	0	0	0
Denmark	1,693	6,474	0	3,101	35	93
Finland	0	0	0	0	0	0
France	0	0	0	0	0	0
Germany	0	398	0	0	11	3
Greece	0	299	0	0	4	11
Iceland	0	0	0	0	0	0
Ireland	0	0	1,551	2,067	0	23
Italy	498	3,685	10,523	3,618	8	227
Malta	0	0	0	0	0	0
Netherlands	0	2,191	11,071	17,573	18	283
Norway	26,606	89,640	25,842	32,044	2,364	3,088
Poland	0	0	0	0	27	0
Portugal	0	0	0	0	0	0
Romania	0	697	0	0	18	0
Spain	1,413	697	0	920	1	7
Sweden	0	0	0	0	0	0
United Kingdom	102,588	77,190	38,277	57,886	2,598	1,289
Yugoslavia (former)	0	0	0	0	1	0
<u>U.S.S.R. (former)</u>	8,815	30,926	14,678	10,337	315	17
Azerbaijan	x	19,920	x	0	272	0
Estonia	x	0	x	0	0	0
Georgia	x	0	x	0	0	0
Kazakhstan	x	0	x	0	0	0
Latvia	x	0	x	0	0	0
Lithuania	x	0	x	0	0	0
Russian Federation	x	10,558	x	10,337	41	17
Turkmenistan	x	398	x	0	2	0
Ukraine	x	50	x	0	0	0
Uzbekistan	x	0	x	0	0	0

Coastal Resources - Shipping
1988-90

Million Metric Tons

	Average Annual Volume of Goods Loaded & Unloaded		
	1988-90		
	Crude Petroleum	Petroleum Products	Dry Cargo
Africa	382.5	44.3	285.7
Asia	947.2	306.5	1,392.6
Oceania	14.4	12.0	286.6
North & Central America	370.4	151.2	800.7
South America	111.6	41.0	302.1
Europe	562.0	296.8	1,302.5
USSR (former)	69.9	51.2	123.0
World	2,458.0	903.0	4,493.2

Coastal Resources - Shipping
1988-1990

Thousand Metric Tons

	Average Annual Volume of Goods Loaded & Unloaded		
	1988-1990		
	Crude Petroleum	Petroleum Products	Dry Cargo
<u>AFRICA</u>	382,522	44,255	285,737
Algeria	29,110	24,409	15,266
Angola	18,438	376	2,749
Benin	31	429	743
Cameroon	8,098	1,264	3,704
Cape Verde	x	x	x
Comoros	x	x	115
Congo	6,172	246	3,519
Cote d'Ivoire	1,849	1,670	6,422
Djibouti	x	652	684
Egypt	146,855	4,204	25,351
Equatorial Guinea	x	x	165
Ethiopia	763	476	2,444
Gabon	10,341	217	607
Gambia, The	x	24	348
Ghana	1,149	243	2,922
Guinea	x	132	11,451
Guinea-Bissau	x	26	285
Kenya	2,173	109	5,401
Liberia	462	77	18,375
Libya	48,241	4,545	7,242
Madagascar	x	398	1,135
Mauritania	x	107	9,862
Mauritius	x	321	1,992
Morocco	4,910	140	28,990
Mozambique	515	121	5,098
Namibia	x	x	x
Nigeria	73,373	1,018	10,673
Reunion	x	203	845
Senegal	177	367	4,770
Seychelles	x	118	148
Sierra Leone	189	16	1,745
Somalia	498	48	969
South Africa	20,842	286	88,307

Sudan	1,294	87	3,460
Tanzania	688	742	2,532
Togo	x	124	1,458
Tunisia	4,330	937	13,762
Zaire	2,024	50	1,816
<u>ASIA</u>	947,243	306,454	1,392,641
Bahrain	x	12,658	4,452
Bangladesh	1,207	889	8,546
Brunei	8,579	5,174	1,266
Cambodia	x	x	109
China	30,909	4,993	120,377
Cyprus	545	502	4,586
Hong Kong	x	7,654	55,646
India	18,597	5,841	45,445
Indonesia	46,975	26,235	32,817
Iran, Islamic Rep	97,160	4,629	13,291
Iraq	x	x	x
Israel	6,463	1,412	15,593
Japan	189,707	81,238	499,734
Jordan	x	x	17,619
Korea, Dem People's Rep	3,258	1,034	1,812
Korea, Rep	35,995	9,678	152,628
Kuwait	41,372	17,319	8,288
Lebanon	23	205	1,058
Macao	x	316	4,354
Malaysia	22,229	14,164	53,703
Maldives	x	5	94
Myanmar	x	55	1,423
Oman	31,752	192	2,401
Pakistan	4,732	2,891	14,633
Philippines	9,690	1,222	26,966
Qatar	15,602	785	2,662
Saudi Arabia	141,697	38,104	44,591
Singapore	44,854	44,900	64,088
Sri Lanka	1,507	438	10,089
Syrian Arab Rep	16,233	3,287	6,070
Thailand	7,211	2,317	47,178
Turkey	84,837	8,130	40,205
United Arab Emirates	65,491	5,001	13,494
Viet Nam	x	347	1,461

Yemen	4,002	1,750	3,523
<u>OCEANIA</u>	14,395	12,046	286,622
Australia	10,974	8,328	260,610
<u>Fiji</u>	x	497	691
New Zealand	3,421	984	14,885
Papua New Guinea	x	897	3,339
Solomon Islands	x	34	601
<u>NORTH & CENTRAL AMERICA</u>	370,382	151,238	800,718
Antigua and Barbuda	x	62	83
Bahamas	10,524	3,702	3,222
Barbados	107	51	573
Belize	x	106	306
Bermuda	x	363	254
Canada	16,623	8,981	201,526
Cayman Islands	1,357	36	117
Costa Rica	464	336	2,662
Cuba	5,850	3,821	14,244
Dominica	x	5	93
Dominican Rep	1,630	785	4,358
EL Salvador	716	17	1,140
Greenland	x	187	392
Grenada	x	22	71
Guadeloupe	x	370	1,221
Guatemala	683	204	4,232
Haiti	x	11	838
Honduras	397	204	1,849
Jamaica	1,210	1,203	10,122
Martinique	231	282	876
Mexico	71,817	7,377	19,833
Nicaragua	495	183	1,280
Panama	1,192	441	1,939
Trinidad & Tobago	6,518	2,670	5,638
United States	237,010	112,707	519,921
<u>SOUTH AMERICA</u>	111,570	41,009	302,118
Argentina	260	3,336	32,367
Brazil	31,467	3,607	184,934
Chile	2,462	230	17,333
Colombia	9,442	6,901	15,231
Ecuador	7,423	1,280	3,472
French Guiana	x	137	273

Guyana	x	474	1,919
Peru	1,175	857	12,504
Suriname	x	615	6,185
Uruguay	975	9	1,123
Venezuela	58,367	23,564	26,768
<u>EUROPE</u>	562,016	296,790	1,302,488
Albania	x	71	1,673
Belgium	20,598	20,609	110,975
Bulgaria	10,659	871	15,311
Denmark	6,303	5,888	32,753
Finland	10,723	6,880	39,495
France	68,135	40,443	110,786
Germany	x	17,695	134,357
Greece	15,407	4,590	26,680
Iceland	x	557	2,407
Ireland	3,405	1,585	18,127
Italy	88,893	46,074	100,510
Malta	x	564	1,546
Netherlands	87,630	47,442	226,503
Norway	44,653	5,779	36,468
Poland	1,383	3,798	42,436
Portugal	7,750	2,833	16,601
Romania	16,192	6,947	21,831
Spain	47,932	22,958	89,717
Sweden	15,547	16,462	73,950
United Kingdom	86,127	41,179	176,820
Yugoslavia (former)	8,827	3,044	22,946
<u>U.S.S.R. (former)</u>	69,858	51,202	122,961
Azerbaijan	x	x	x
Estonia	x	x	x
Georgia	x	x	x
Kazakhstan	x	x	x
Latvia	x	x	x
Lithuania	x	x	x
Russian Federation	x	x	x
Turkmenistan	x	x	x
Ukraine	x	x	x
Uzbekistan	x	x	x

Matters to be taken into consideration when
addressing issues raised in the
background paper

Coastal Zone.

Issue 1: What are the scientific and technological parameters that need to be addressed in this connection.

Some of these could be:

- . Monitoring changes in the marine environment and its living resources
- . Remote sensing
- . Building standards, building codes for coastal areas, ways of combating likely sea rise
- . Energy efficiency: reducing greenhouse gas emissions using renewable sources like wind energy, wave energy, biomass conversion, OTEC etc.
- . Waste water treatment including recycling
- . Treatment of solid wastes including recycling
- . Conversion / replacement of obsolete, polluting technologies;
- . Technology acquisition including selection and development
- . Sustainable fisheries management
- . Aquaculture mariculture development for
 - * food
 - * pharmaceutical and chemical products
- . Post-harvest conservation methods
- . Genetic engineering and its impact on ocean resources
- . Sustainable use of nonliving resources (sand and gravel, coal, tin, etc.)
- . Port management including management of new shipping technologies
- . Management of tourist activities
- . Environmental impact assessment using state-of-the-art technologies
- . Risk management
- . Disaster preparedness
- . Environmental accounting
- . Cost-benefit analysis in a sustainable development matrix

- . Deficiencies in the country/region regarding the above

- . Suggested remedial measures for overcoming the identified deficiencies including, inter alia:
 - . development of human resources
 - . access to environmentally safe technologies
 - . funding

Some strategies for the above could be:

- . Training programmes

- . Establishing data dissemination mechanisms
- . Cooperation with competent international organisations
- . Joint ventures for technology development

Issue 2: Whether integrated institutional mechanisms exist to ensure sustainable development of the marine environment.

Some matters to be taken note of in addressing the above issue would be:

- . Indigenous and traditional ownership patterns, management, and conservation systems
- . Fisheries cooperatives
- . Women's organisations
- . Scientific institutions
- . NGOs
- . Port authorities
- . Local authorities
- . Municipalities and their links with national governments
- . Municipalities-national, regional and international cooperation
- . Regional cooperation in marine science: data collection, dissemination, utilisation
- . Regional technological cooperation: acquisition and development strategies
- . Surveillance and enforcement: national and regional systems
- . Existing institutional models for integrated coastal and marine management
- . Adaptation of such models to different economic, social and political infrastructures.

Implementation of Programme 1 of Chapter 17

Programme 1:

Integrated management and sustainable development of coastal areas, including exclusive economic zones.

The main parameters of programme 1 concern:

- . Possibilities of an integrated policy and decision-making process...to promote compatibility and balance of uses.
- . Identification of existing and projected uses of coastal areas and their interactions.
- . Concentration on well-defined coastal management related issues.
- . Need for applying preventive and precautionary approaches in project planning and implementation, including prior assessment and systematic observation of the impacts of major projects.
- . Possibility of promoting the development and

application of methods, such as national resource and environmental accounting, that reflect changes in value resulting from uses of coastal and marine areas...

- . Methods of providing access to relevant information and opportunities for consultation and participation in planning and decision-making at appropriate levels.

Issue 3: What environmentally sound technologies are required:

Areas where technologies are necessary could be for:

- . Monitoring of the marine environment
- . Selecting appropriate fishing gear
- . Fish processing
- . Oil pollution combatting
- . Sewage treatment & recycling
- . Garbage recycling and re-usage
- . Controlling emissions of greenhouse gases.

Marine Pollution.

Implementation of Programme 2 of Chapter 17 of Agenda 21

The main parameters of programme 2 of Agenda 21 (marine environmental protection) concern:

- . Prevention, reduction and control of degradation of the marine environment so as to maintain and improve its life support and productive capacities (General Objective).
- . Application of preventive, precautionary and anticipatory approaches to avoid degradation and reduction of ...adverse effects.
- . Ensuring prior assessment of activities which may have significant adverse impacts...
- . Integration of protection of the marine environment into relevant general environmental, social and economic development policies.
- . Developing of economic incentives...to apply clean technologies...the internalisation of environmental costs such as the polluter pays principle...
- . Improvement of the living standards of coastal populations, particularly in the developing countries...

Issue 4: What steps can be taken in the South to minimise marine pollution consistent with the objective of eliminating poverty and raising standards of living?

A possible solution could be the taking up of dual-purpose or multi-purpose projects, under integrated management, serving both purposes simultaneously, such as:

- . Energy efficiency enhancement
- . Bio-gas production from sewage
- . Garbage recycling
- . Integrated industrial management, where one factory utilizes the waste products of another, following the biological pattern of aquatic polycultures
- . Slum clearance, sewage and sewage treatment facilities, which improve public health and living standards and reduce pollution
- . Improved public education, which serves both purposes.

Issues 5 & 6: How can environmentally safe technologies be made available to the South? What institutional mechanisms can be developed to ensure the development and acquisition of such technologies by the South?

National educational measures

- . Building national infrastructure
- . Training of trainers

Establishment of Regional Centres for Marine Science and Technology (implementation of Articles 276 and 277 of the Law of the Sea Convention)

Cooperation with competent international organisations (UNIDO, IOC/UNESCO, FAO, UNEP, IMO, etc.)

Joint ventures with private sector.

Marine Resources - Living and Nonliving

Issue 7: How to have sustainable development of marine resources both in the capture and aquaculture sectors

Stock assessment

Environmental impact

- . Pollution
- . Habitat destruction
- . Temperature and/or current changes
- . Overfishing, national, regional
- . Interaction of natural and man-made causes of depletion
- . Interaction between capture fisheries and aquaculture
- . Sustainability, public health, trade
- . Straddling stocks management
- . Management measures, national, regional.

Issue 8: What institutional, legal, financial, manpower development and technological steps are necessary in this regard?

Linkages between local, national, regional management of the manpower, technology development and funding systems.

Implementation of Programme 3 and 4 of Chapter 17 of Agenda 21

Programme 3.

- . Sustainable use and conservation of marine living resources of the high seas.
- . Development and increase in the potential of marine living resources to meet human nutritional needs and social, economic and development goals.
- . Maintenance or restoration of populations of marine species to levels which can support maximum sustainable yield levels...
- . Promotion of the development and use of selective fishing gear and practices that minimize waste...
- . Ensuring effective fisheries monitoring and enforcement...
- . Protecting and restoring endangered marine species.
- . Preserving habitats and other ecologically sensitive areas.
- . Promoting scientific research with respect to the marine living resources in the high seas.

Programme 4.

- . Sustainable use and conservation of marine living resources under national jurisdiction.
- . ..Obtaining full social and economic benefits from sustainable utilization of marine living resources...(General Objective).
- . ..Meeting human nutritional needs and social, economic and development goals...
- . Taking into account traditional knowledge and interests of local communities, small-scale artisanal fishermen and indigenous people in development and management programmes.
- . Maintaining or restoring populations of marine species at levels which can produce the maximum sustainable yield...
- . Promoting ... selective fishing gear and practices that minimize waste of catch...
- . Protecting and restoring endangered marine species.
- . Preserving rare or fragile ecosystems ...habitats and other ecologically sensitive areas.

Sustainable Ocean Development, the Law of the Sea and the Secretary General's Agenda

Issue 9: Whether the actions taken by States so far can be considered to be adequate? If not, what are the reasons for not taking adequate action? And what needs to be done to promote the taking of such action?

- . Information; awareness enhancement; role of media; role of NGOs
- . Education and training; development of human resources, from pre-school to adult education; curriculum development; leadership seminars involving government and private sector.
- . Building of national infrastructure.

Issue 10: Whether the cooperation by States in the spheres of enforcement, conservation, science and technology, including the setting up of international, regional and subregional institutions can be considered to be adequate? If not, what more needs to be done?

- . Improvement of coordination and integration of policies of existing regional institutions, regional offices of global institutions, NGOs;
- . Improvement of interaction with continental regional organisations and institutions (U.N. Regional Commissions; Regional Banks).
- . Marine-centres and organisations provide excellent mechanisms for inter-regional and inter-continental co-operation (e.g., the Mediterranean, between Europe, Africa, and Asia; the Indian Ocean, between Africa and Asia, etc.)

Issue 11: Whether the specialised agencies of the United Nations (FAO, IMO, UNESCO/IOC, UNEP, UNIDO, WMO) have been cooperating with States, especially developing States, to further the prospects of sustainable development? If not, what needs to be done?

Issues 12 & 13: Identify the deficiencies that do not enable developing countries to enjoy their rights under the LOS Convention and indicate what needs to be done.

Issue 14: Whether proper linkages can be established between the mechanisms for sustainable ocean development and the Secretary General's agendas for peace and development.

- . Institutional constraints: antiquated sectoralised structures
- . Financial constraints, need for new sources for financing projects
- . Intellectual constraints: Lack of a generally acceptable concept of sustainable development and its implications. Need for policy research.
- . Technological constraints
- . Manpower constraints
- . Mobilising new sources of funding.

Implementation of Programme 6 of Chapter 17 of Agenda 21.

Programme 6.

- . Strengthening international, including regional, cooperation and coordination.
-Promoting institutional arrangements...to support the implementation of programme areas in Chapter 17. (General Objective)
- . Integrating relevant sectoral activities...
- . Promoting effective information exchange and...institutional linkages...
- . Promoting within the UN system regular intergovernmental review and consideration of environment and development issues with respect to marine and coastal areas.
- . Promoting the effective operation of coordinating mechanisms...in the UN system...on environment/development in marine and coastal areas and links with international development bodies.

Financial Requirements.

In preparation for the Rio Conference, the UNCED Secretariat made some rather detailed calculations of the costs for the implementation of Agenda 21 as well as the funding from international sources that should be available to assist developing countries in this process. Since there was no agreement on the figures, they were omitted in the final version. A number of factors involved, in fact, simply cannot be quantified, and, costs of programmes are overlapping. The figures are nevertheless indicative of orders of magnitude. For Chapter 17 they are as follows:

Average annual cost (1993-2000)

Programme 1	\$ 6,000 million
Programme 2	\$ 200 million
Programme 3	\$ 12 million
Programme 4	\$ 6,000 million
Programme 5	\$ 750 million
Programme 6	\$ 50 million
Programme 7	\$ 130 million

Total annual cost	\$ 13,142 million
-------------------	-------------------

Dividing these costs among approximately 180 States, the average cost per State would be \$ 73 million.

Funding available from international sources was estimated as follows:

Average anual cost (1993-2000)

Programme 1	\$	50 million
Programme 2	\$	200 million
Programme 3	\$	12 million
Programme 4	\$	60 million
Programme 5	\$	480 million
Programme 6	\$	50 million
Programme 7	\$	50 million
Total anual cost	\$	902 million

Dividing by aproximately 120 developing countries, the average annual contribution from international funding sources would be roughly \$ 7.5 million. Net total annual cost per average developing country would be in the order of \$ 73 million - \$ 7.5 million = \$ 65.5 million. Clearly, additional international funding, from new sources, must be found.

Restructuring of the United Nations.

Issue 15: How should the UN be restructured to adequately deal with oceanic matters at both the international and regional levels?

The existing system of UN relating to the oceans:

- . UNESCO/IOC
- . UNDOALOS
- . IMO
- . FAO
- . UNIDO
- . WMO
- etc.

Deficiencies existing therein.

How can Security Council / UN General Assembly / Commission for Sustainable Development be made effective fora for ocean affairs?

What interlinkages between UN Agencies can be considered to get an integrated policy mechanism?

UNESCO united nations, educational, scientific and cultural
 organisation
 organizacion de las naciones unides para le educacion,
 la ciencia y la cultura
 organisation des nations unies pour l'education, le
 science et la culture

7, place de Fontenoy
75700 Paris

The Director-General

6 MAR 1995

reference: DG/95/135

Dear Elisabeth,

Many thanks for the full information you have provided concerning the establishment of an Independent World Commission for the Ocean, on the initiative of the International Ocean Institute (IOI). I welcome action that can contribute to addressing the multidimensional aspects of the oceans at a time when, the United Nations Convention on the Law of the Sea having come into effect in November 1994, all "marine eyes" are now trained on Lisbon 1998 and the International Year of the Ocean, which was proposed by UNESCO and has been approved by the UN General Assembly.

I am willing to provide a link between the Independent Commission and the UN system through communication with the relevant UN mechanisms, including the ACC Sub-Committee on Oceans and Coastal Areas, for which UNESCO provides the Secretariat through the IOC, as well as the Inter-Secretariat Committee on Scientific Programmes relating Oceanography.

UNESCO and its IOC can certainly benefit from the studies and recommendations that will emanate from the Commission and I am ready to provide a number of facilities (information, contacts with world experts and institutions, etc.) in order to co-operate both in the work of the Commission and in the follow-up to its outcome, particularly through IOI but also through other concerned UNESCO programmes.

Professor Elisabeth Mann Borgese
Founder, Chair
International Ocean Institute
1226 Le Marchant Street
Halifax, Nova Scotia
Canada B3H 3P7

Fax: (1. 902) 8682455

I have communicated to the Secretary-General of the United Nations, Mr. Boutros Boutros-Ghali, the intention of the Board of IOI to request President Mario Soares of Portugal to chair the Independent World Commission for the Oceans. His chairmanship is indeed most welcome and augurs well for the Commission's work, as do your own commitment and unstinting efforts.

I hope that the results of the Commission's work will be finalised in good time and in a way that would enable me to transmit them to the IOC and to forward them with the letter's and my own observations to UNESCO's General Conference and as well to the Secretary-General of the United Nations.

In order to keep the IOC and myself informed, I would propose that the Commission's Secretariat bring us periodically (every 6 months?) up-to-date with the activities and preliminary results of the Independent Commission. Without in any way wishing to affect the independence of the Commission, I consider it essential to establish from the outset, close links between UNESCO and its IOC and the Commission. Not only would this enhance the Commission's relevance and efficiency. It would also correspond to your intention of having close co-operation with UNESCO and its IOC from the beginning.

The paper "Establishment of an Independent World Commission for the Oceans" may well serve as a basis for determining the Commission's programme and methods of work. It is important, however, to leave the final decision in this regard to the Commission itself so as to ensure its highly functional and independent character.

The Independent Commission would have no-ordinating function but would aim at providing, at this particular juncture and its relation to oceans, general guidelines for the intellectual and scientific contributions to the multiple facets of this highly relevant field. I would thus heighten worldwide visibility and awareness of ocean-related issues and concerns.

You may consider this letter the formal expression of UNESCO's and its IOC's readiness to support the work of the Independent Commission and to review its outcome for appropriate action in due course. Its contents should also serve to revise accordingly the draft paper you so kindly sent me on the establishment of the Commission.

With my best personal regards,

Cordially,

FEDERICO MAYOR

Requirements of staff, consultants, researchers etc.

The requirements of staff etc. depends on the work to be done and the available funds. Once the activities and budget are approved by the Executive Committee, discussions will be held with the Directors of Regional Centres who are going to have a meeting in Malta from 25-27 May, 1995 and a list of requirements would be prepared and put up to the Executive Committee for their approval.

Dr. Krishan Saigal