

INTERNATIONAL OCEAN INSTITUTE

ENDOWMENT PLAN

Background

The International Ocean Institute (IOI) was officially established at the University of Malta in 1972. The founder was Professor Elisabeth Mann Borgese, a globally known person in the areas of environment and the oceans. Its origin goes back to a collaborative effort between the Center for the Study of Democratic Institutions (Santa Barbara, California, USA) and the Government of Malta, following Malta's initiative of 1967, when Ambassador Pardo introduced in the General Assembly the concept that the oceans are the Common Heritage of Mankind. This collaborative effort culminated in the first Pacem in Maribus Conference in 1970 to explore the philosophical and ideological parameters of the concept as well as its legal and economic content and institutional implications. It was felt, at that time, that, more than a Conference, the issues needed sustained research and progressive development, which could best be achieved by an international ocean institute. The IOI was established with the assistance of the United Nations Development Programme.

The IOI's task, as defined in its Statutes, is:

- to promote education, training and research to enhance the peaceful uses of ocean space and its resources, their management and regulation as well as the protection and regulation as well as the protection and conservation of the marine environment.

The IOI is an independent, nongovernmental, international, nonprofit organisation, incorporated in the Netherlands, with headquarters in Malta. It has operational centres in Malta (University of Malta), Canada (Dalhousie University), Fiji (University of the South Pacific), India (Indian Institute of Technology), Senegal (Institute for Economic Planning (IDEP), and Colombia (Jorge Tadeo Lozano University). These last four centres have been established with funds made available by the Global Environment Facility. Three more operational centres, in Japan, China, and Qatar will be established in 1994, on invitation of the host countries.

Through these centres, the International Ocean Institute will extend the results of its research programmes and Pacem in Maribus Conferences to the general public, policy makers, civil servants, other nongovernmental organisations and representatives of the private sector. This activity is largely, but not exclusively, aimed at organisations and institutions and persons in developing countries. The main objective of the symposia, conferences, and training programmes to be conducted by the centres is to focus attention on the oceanic environment with special reference to land-sea-air interactions, the problems of small islands and the sustainability of the oceans, especially of enclosed and semi-enclosed seas like the Mediterranean, the Baltic, the Black Sea, the Sea of Japan, the Caribbean, the Red Sea, and Persian Gulf, and the Arctic.

The approach of IOI is to bring together the various specialists involved in the oceans -- science, technology, economics, law, management -- to help them transcend their narrow specialisations and create a common language that can lead to the development of a common culture: a new common faith. This language must be kept simple so that the average person can understand and help in the creation of a new global environmental culture. This is in line with the attempts being made today to harmonise science and spirituality, materialism and ethics.

IOI activities are directed by a Governing Board, with the advice of an academic Planning Council. The members of these governing bodies are listed in Annex 1. The Statutes of IOI is attached in Annex 2. The Governing Board appoints the Executive Director who appoints his staff.

A small staff conducts operations in the six centres. Each centre is directed by a Director/coordinator and has its own Advisory Council. In addition, there are project directors for individual projects, associates and consultants, as teaching staff, a curriculum committee, and a Board of Editors for the **Ocean Yearbook**.

In its work, the IOI has aimed to serve as a stimulus and catalyst -- but not to be utopian. In trying to achieve this goal, the work has been organised in four major, mutually interdependent, components: Research, training programmes, publications, conferences and seminars.

Research

The IOI has completed a long series of research projects, starting with a project on the pollution of the Mediterranean (1971) and on Environment and Development in the Mediterranean (1972), and continuing with a variety of policy subjects ranging from the question of the reservation of the oceans for peaceful purposes to the possibilities of establishing an ocean development tax; from the potential of ocean mining to the institutional implications of sustainable development in the marine sector. IOI has been seminal in advancing the establishment of regional centres for R&D in marine industrial technology, a concept that has been endorsed by UNIDO and UNEP. IOI had observer status at UNCLOS III, has now observer status at the Preparatory Commission for the International Sea-bed Authority and for the International Tribunal for the Law of the Sea, and has contributed a number of working papers to the work of these bodies. IOI also has consultative status with UNESCO, a MOU with UNESCO's Intergovernmental Oceanographic Commission (IOC); consultative status with the International Maritime Organisation (IMO), and an MOU with the United Nations University. IOI has acted as consultant to UNIDO, UNEP, UNESCO, and the World Bank for specific research projects.

IOI has also produced research papers for the Governments of Austria and Colombia.

Additional regional research while maintaining the broadly interdisciplinary and comprehensive approach developed by the IOI, will draw on the differing strengths of the operational centres and the needs of the region, for example:

- . IOI Africa on oceans, food, technology development and human resources development;
- . IOI India on technology development, ocean energy, management of technology, establishment of science and technology infrastructure;
- . IOI South Pacific on regional co-operation in fisheries, distance learning, potential for joint surveillance and enforcement, regional denuclearisation, and small island development;

- . IOI Mediterranean (Malta) on North-South co-operation in enclosed seas, problems of small islands, desalination;
- . IOI Canada on Law of the sea, oceanography, environmental and sustainable development, coastal zone management and ocean policy development;
- . IOI Colombia on regional co-operation in science and technology and peaceful uses of navies.

Training

The purpose of the Training Programme is to deepen the understanding of the ever-increasing importance of the oceans and their resources in world politics and sustainable economic development; to assist developing countries in the formation of a core of decision-makers fully aware of the complex issues of ocean management; and to maximize benefits to be derived from the United Nations Convention on the Law of the Seas through the proper integration of ocean management into national and international development strategy.

IOI training programmes cover:

- . Oceanography
- . Law of the Sea
- . Sustainable Development and Implementation of the UNCED Programmes
- . Management of Living Resources
- . Management of Nonliving Resources
- . Coastal Management
- . Development of Ports and Harbours
- . Shipping and Navigation
- . Technology Development and Transfer
- . National Legislation and Institutional Infrastructure
- . Regional Cooperation and Development
- . the Impact of UNCLOS and UNCED processes on the Restructuring of the U.N. System

During the past ten years, over 40 courses of ten weeks' duration have been completed, each including 300 class-room hours, field trips, and simulation exercises. These programmes have been attended by over 800 participants from over 100 developing countries. New courses are being developed every year. An annual one-week course on the Law of the Sea Convention is given every year in cooperation with the World Maritime University in Sweden.

The number of courses and of participants will double during the next two years, owing to the establishment of the new operational centres. In response to this expansion, the IOI is developing a series of teaching modules, consisting of texts, audio tapes, videos and simulations, which can be exchanged between the operational centres as well as applied to distance learning and extension programmes. This work is being carried out in cooperation with UNDP, the Division for Ocean Affairs and Law of the Sea of the United Nations, and UNCTAD/Trainmar, among others. It is part of IOI's effort to incorporate the most advanced teaching technologies in its programmes.

A sample training programme syllabus is attached in Annex 3.

Publications

IOI's major publication is the **Ocean Yearbook**, published by the University of Chicago Press. Ten volumes of 600 pages each have appeared to date. Proceedings of various conferences are published by the University of Malta Press, Pergamon Press, and the United Nations University Press. Occasional Papers are published by the University of Malta Press. These include **The Common Heritage** by Arvid Pardo, edited by Elisabeth Mann Borgese (1974, about to be re-issued) and **The Law of the Sea and the New International Economic Order** (1976), by Arvid Pardo and Elisabeth Mann Borgese, on a research grant by the Ministry for Development Cooperation of the Netherlands. A series of 5 monographs was published by IOI and UNEP, starting with a booklet **The Oceans, the Convention and You**, followed by 4 booklets analysing the impact of the Law of the Sea Convention on regional development in the Mediterranean, the Caribbean, the South Pacific, and the Indian Ocean.

To this selective list should be added the books authored or edited by the Founder since they are closely related to the work of IOI: **The Ocean Regime** (1968); **The Drama of the Oceans** (1976); **Seafarm: the Story of Aquaculture** (1981); **The Mines of Neptune** (1986), **The Future of the Oceans: A Report to the Club of Rome** (1986); **Ocean Frontiers** (1992); and a book for children, on the ocean environment, **Chairworm and Supershark** (1992).

Conferences

IOI's Annual Conference is called **Pacem in Maribus**, which means "Peace in the Oceans. It is a paraphrase of Pope John XXIII's famous Encyclical **Pacem in Terris**, "Peace on Earth." Peace in the oceans, peaceful settlement of disputes, and the advancement of the peaceful uses of the oceans, indeed constitute the primary mission of the IOI, since without peace there can be neither economic development nor conservation of the environment.

The **Pacem in Maribus** Conferences have been conducted in all parts of the world -- North, South, East, and West. They have explored many global and regional issues as they arose, e.g., EEZ management, Technology Development and Transfer; Monitoring and Surveillance, Ports and Harbours as Nodal Points in a Global System, the Economic Potential of the Oceans; Naval Disarmament. The 19th Conference, which was held in Lisbon in 1991, provided much of the material which went into the UNCED process, in particular into Chapter 17 of Agenda 21, which deals with the seas and oceans. **Pacem in Maribus XX** (Malta, 1992) examined possible lessons from the 25-year ocean experience for the governance of other global issues, such as outer space, the atmosphere, for food, energy, and science and technology.

The latest Conference, held just now in Japan, explored the issues of bringing regional seas programmes from a sectoral approach focusing on the environment to an approach that should integrate environment and development concerns. Much attention was given to the problem of nuclear pollution in the Sea of Japan, and possible remedies. The Conference also

broke new ground by involving the general public in the international meeting of experts and specialists in ocean affairs.

Besides its *Pacem in Maribus* conferences, the IOI also conducts regional and specialised seminars and workshops. The number of these seminars, especially leadership seminars, is going to increase sharply during the next years, owing to the establishment of the operational centres.

Recognition

The Work of the IOI has been widely recognized. UNEP has always been generous enough to state that its pilot regional seas Programme in the Mediterranean, articulated in the Barcelona Convention and its Protocols and Action Plan, is based on IOI's pioneering work in the Mediterranean in 1971 and 1972 -- preceding the Stockholm Conference on the Human Environment.

In 1987 the Founder was awarded the United Nations Sasakawa Environment Prize.

In 1993 the Founder was awarded the St. Francis of Assisi International Environment Prize. The citations are attached in Annex 4.

Present Financial Status

Until now the IOI has relied on funding from multilateral and bilateral funding agencies and private foundations like the MacArthur Foundation, the Rockefeller Foundation, the Ford Foundation and the Sasakawa Foundation. The largest donors have been the World Bank, UNDP, the Commonwealth Secretariat and various bilateral aid agencies like the Canadian International Development Agency (CIDA), The Ministry for Development Cooperation of the Netherlands, the Swedish International Development Agency (SIDA), the Norwegian Agency for Development (NORAD), etc.

During 1992 the expenditure of IOI amounted to US\$ 1,6 million. The budget for 1993 is \$ 2.3 million. It will increase considerably in 1994 due to funds from the UNDP/GEF Project.

The funding from the World Bank's Global Environment Facility signified a quantum jump in IOI's financial status. The Project Document and contract with UNDP is attached in Annex 5

Audited accounts, and the budget for 1993 are attached in Annex 7 and 8.

Future Financial Status

Core funding for the coming three years appears well assured. 7 percent of the GEF grant of US\$2.6, or US\$ 182,000 comes to Headquarters for the administration of the project; CIDA, whose total contributions exceed \$3 million, has extend its contract with IOI for another three years, for a total of CA\$ 1 million. The Contract with CIDA is at Annex 9. The Commonwealth Secretariat will provide 30-50 scholarships \$10,000, or a

total up to \$500,000; the Netherlands Government has pledged 20 scholarships, or \$200,000 over the next four years. Additional scholarships will come from UNEP and IOC, and there are pledges from private donors for \$200,000 per year, or a total of \$600,000 for the next three years. Additional funding is being negotiated for specific research project, e.g., on the future of artisanal fisheries, with a number of case studies; or on institutional change in the Mediterranean Regional Seas Programme. A Three-year work-plan (indicative) is attached in Annex 10.

The Endowment Fund

The World Bank (GEF) funds have to be supplemented by other funds during the next two years, especially for research programmes and scholarships for the training programmes. We also have to ensure that, once the GEF programme is completed (in 1996), the International Ocean Institute with its family of centres will be self-sustaining. For this purpose the IOI is now in the process of raising an endowment fund.

1. Pacem in Maribus

The average cost of a Pacem in Maribus Conference is about \$500,000. This amount, until now, has been raised on an *ad hoc* basis, partly by the host country, partly by the IOI. Special efforts have been made, every year, to put together a fund to enable experts from developing countries to participate in the conference.

It need not be underlined that *ad hoc* fund raising is time consuming, wasteful, and always leaves open the risk of discontinuity. If Pacem in Maribus could be endowed, as, e.g., the Pugwash Conference, more time could be spent on research and the quality of the content. An endowment would enhance security, continuity as well as quality.

An endowment of \$5 million would be sufficient to ensure this result in perpetuity. Additional funding would be provided by host countries.

2. Scholarships.

The average scholarship for a training programme of 10 weeks (300 class hours plus field trips, simulations, case studies) is about \$10,000. This includes air fares, two and a half months of room and board, tuition, field trips, teaching materials, medical insurance and pocket allowance. We have raised scholarships for all our 800 participants on an *ad hoc* basis, consuming a great deal of energy which would have been better spent on the quality of the course itself. To endow one scholarship in perpetuity would cost \$100,000. We have just begun to try to raise such endowments. The first one came spontaneously from a small Foundation in Canada. We intend to build on this success. Our final goal is to raise 10 such endowed scholarships for a total of \$1 million for each one of the operational centres. Without including new centres which may be established over the next few years, this would amount to a total endowment of \$6 million.

3. Other Endowment Areas

Other areas particularly suitable for endowment, that would enhance the quality, continuity, and security of IOI's work would be the building of working libraries in all operational centres. An endowment of \$1 million would enable us to purchase books and journal subscriptions for the centres every year. Another area might be communications infrastructure, both for inter-centre data base information exchange and for distance learning. An endowment of \$1 million would ensure these activities in perpetuity.

4. Time Schedule and Modalities

Using the World Bank contribution as a bridge from an *ad hoc* phase of fund raising to greater stability and consolidation, we would hope to be far advanced with the endowment by the time the GEF project is completed in 1996. The modalities for the administration of the Fund could be of various kinds: The funds might actually remain under the administration of the donors, and only the annual interest would accrue in perpetuity to the IOI; or an integrated fund might be established, under a small Board of Trustees including the principal donors. Perhaps it would be opportune to organise a donors- and potential donors meeting as soon as possible.

Annexes:

- Annex 1:** lists the members of the Governing Board of the IOI as well as those of the Planning Council.
- Annex 2:** contains the IOI Statutes.
- Annex 3:** contains same sample training course syllabi.
- Annex 4:** contains award citations.
- Annex 5:** contains the contract with UNDP.
- Annex 6:** contains the GEF project document (bulky document available on request).
- Annex 7:** contains audited accounts.
- Annex 8:** contains budget for 1993.
- Annex 9:** contains contract with CIDA.
- Annex 10:** contains a 3-year work-plan (indicative).

Annex 1

LISTS OF MEMBERS OF THE GOVERNING BOARD
OF
THE IOI AS WELL AS THOSE OF THE PLANNING COUNCIL

Governing Board

Prof. Elisabeth Mann Borgese	Canada
Ms. Alicia Barcena	Costa Rica
Prof. Salvino Busuttil	Greece/Malta
Prof. Umberto Colombo	Italy
Dr. Ivan L. Head	Canada
Dr. Alexander King	France
Ambassador Christopher Pinto	The Netherlands
Mr. J.P. Pronk	The Netherlands
Dr. Mario Ruivo	Portugal
Prof. Rev. Peter Serracino Inglott	Malta
H.E. Mr. Bhagwat Singh	USA
Mr. Manmohan Singh	India
Mme. Danielle de St. Jorre	Seychelles
Dr. Anton Vratusa	Slovenia
Hon. Dr. Joseph Sinde Warioba	Tanzania
Ambassador Layachi Yaker	Ethiopia
Dr. Alexander Yankov	Bulgaria

Planning Council

Dr. Sidney Holt	Italy
Prof. Elisabeth Mann Borgese	Canada
Prof. Patricia Birnie	Malta
Prof. Silviu Brucan	Romania
Mr. Maxwell Bruce	Malta
Mr. Thomas Busha	England
Mr. Nigel Calder	England
Dr. Reynaldo Galindo Pohl	Guatemala
Dr. Orio Giarini	Switzerland
Prof. Norton Ginsburg	USA
Dr. S.P. Jagota	India
Dr. Geoffrey Kesteven	Australia
Dr. Anatoly Kolodkin	USSR
Dr. Aldo Chircop	Canada
Ambassador Nicolas Salom	Colombia

Annex 3

SAMPLE TRAINING COURSE SYLLABI

Annex 3

SAMPLE TRAINING COURSE SYLLABI

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China Syllabus	1-4
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Madras Syllabus	41-53

DRAFT SYLLABUS

TRAINING PROGRAMME FOR MANAGERS, POLICY AND PROJECT PLANNERS
FOR THE ENTERPRISE OF THE INTERNATIONAL SEA-BED AUTHORITY,
UPON THE COMING INTO FORCE OF THE UNITED NATIONS CONVENTION ON
THE LAW OF THE SEA

WEEK 1

Lecturer: Dr. Joseph Warioba

Monday, October 4, 1993

Introduction to the Law of the Sea. Events leading up to UNCLOS III. Main issues. Organisation of Conference. Redistribution of ocean space.

Tuesday, October 5

Part XII. Environmental issues, and link with UNCED. Parts XIII and XIV, Marine Scientific Research and Development and Transfer of Technology. Part XI: The Common Heritage of Mankind. The International Sea-bed Authority (ISA). The Enterprise. The Sea-bed Disputes Chamber of the International Tribunal for the Law of the Sea.

Wednesday, October 6

Commission on the Limits of the Continental Shelf (Annex II). Conditions for Prospecting, Exploration, and Exploitation (Annex III). Financial Terms of Contract.

Thursday, October 7

The Enterprise. Its statute (Annex IV), system of governance, links with the ISA; finances, operating systems; transfer/acquisition of technology; legal status, immunities.

Friday, October 8

Workshop I. Alternative operating models of the Enterprise in the context of N-S, E-W cooperation (group work).

WEEK 2

Guest Lecturer: Dr. Luis Preval

Monday, October 11

Establishment of the Preparatory Commission. Resolutions I and II the Arusha Understanding. The Registration of the Pioneer Investors. The Obligations of the Pioneer Investors.

Tuesday, October 12

Work of Special Commissions I, II, III & IV. "Assumptions" Metals demand forecasting. Land-based production and ocean mining. Ocean mining in the broad context of international equity.

Wednesday, October 13

The first mine site for the Enterprise. Location; geomorphology; resources: Manganese nodules; other resources; marine environment. The Pioneer joint programme for exploration of the first mine site of the Enterprise. Analysis of technologies to be employed.

Thursday, October 14

Development of deep-sea mining technology: Exploration; lifting; transportation, and processing systems: 1983-93. 3 to 7 metal recoveries. Case studies (to be prepared by participants):

- China
- France
- India
- Japan
- Russia
- Germany, Norway, Finland, USA

Friday, October 15

Workshop II: Alternative technology acquisition options for the Enterprise (group work). Project Planning.

WEEK 3

Guest lecturer: Dr. Krishan Saigal

Monday, October 18

The economics of sea-bed mining. Changing perspectives: the MIT study; the Australian study; the French and Norwegian studies. Role of the private sector; role of the public sector. Investment appraisals.

Tuesday, October 19

The Management of uncertainty. Financial, economic environmental, and technological uncertainties.

Wednesday, October 20

Project funding. Suppliers credit, flotation of bonds, etc. Leverage and its implications. Capital budgeting for a state-of-the-art project.

Speaker: Dr. Krishan Saigal

Preparation of project profiles in conditions of uncertainty. Methods of futurecasting, links with technology acquisition strategies. Technology fusion as opposed to technology development.

Thursday, October 21

Research and Development. Funding alternatives. Systems configuration and development. Systems for selecting and managing projects. Flexible, adaptive organisations. Matrix system. High-tech project management.

Friday, October 22

Workshop III. Development of a financial and economic profile for the Enterprise (group work).

WEEK 4

Guest lecturers: Dr. Hans Amann; Dr. Alejandro Nadal

Monday, October 25

Environmental Impacts of sea-bed mining. Studies by the University of Kiel and Thetis & Co.

Tuesday, October 26

Joint ventures. Equity, contract, management and service types. The Secretarial paper. The German Paper. The Austrian Paper (JEFERAD); the Columbian Paper (The International Enterprise). Advantages of joint ventures with pioneer investors. Joint technology development and environmental assessment. The Thetis paper. Japanese, European, US systems. Security and sustainability.

Wednesday, October 27

Intellectual property rights in joint ventures in R & D. The AALCC paper.

Thursday, October 28

Sea-bed mining technology: spin-off benefits for the development and management of the nonliving resources of the EEZ.

Friday, October 29

Workshop IV. Development of an integrated five-year project for joint technology development and environmental impact (exploration; development of human resources; technology development; environmental impact;

cost; economic feasibility).

WEEK 5

Monday, November 1
Tuesday, November 2

Workshop IV continued

Wednesday, November 3
Thursday, November 4

Individual research and report writing on topics to be selected by participants in consultation with the Director.

Friday, November 5

Final presentation and closing ceremony.

Saturday, November 6

Departure.

COASTAL ZONE MANAGEMENT WITH FOCUS ON
SMALL ISLANDS

Introduction to Syllabus

It is a truism to say that the world is in transition. Growing global interdependence, increased interactions between institutions and individuals, exponentially growing technology and new directions in the processes of development are some of the overriding characteristics of the last decade of this century.

In the marine sector, scientific and technological advances have triggered off political and legal change processes culminating in three major developments: (i) the adoption of the U.N. Convention of the Law of the Sea in 1982; (ii) the World Commission on Environment and Development (the Brundtland Commission) 1987; and (iii) the United Nations Conference on Environment and Development (U.N.C.E.D.) in Rio de Janeiro in 1992.

These have basically transformed the uses of the oceans and increased the salience of marine affairs on both national and international agendas. The development of oceanography as a multi-disciplinary scientific activity has greatly added to the knowledge sector while the penetration of the latest phase of the industrial revolution into the oceans has added a new dimension to national growth strategies. At the same time, the Law of the Sea Convention, signed by 159 States and now ratified by 54, may come into force next year. This Convention, if properly implemented and utilized, could constitute one of the building blocks of a new international order, including a new international economic order.

The Brundtland Commission laid stress on sustainable development and the need for bridging the technology gap between North and South. The United Nations Conference on Environment and Development (UNCED), adopted a Declaration, two important Conventions, and a detailed plan of action for sustainable development during the next century, "Agenda 21." This agenda contains an important chapter on marine and coastal activities, thus linking the UNCLOS and the UNCED processes, and sustainable development of ocean space and resources with sustainable development on land. In view of the fundamental importance of the world ocean, in its interaction with the atmosphere, for possible climate change, possibly accompanied by sea-level rise, this linkage is unbreakable.

UNCED has begun to exercise its influence on a wider process of restructuring the 50-year old United Nations system: In accordance with the decisions taken at Rio, the 47th General Assembly created a whole new sector to deal with Sustainable Development, including sustainable development in the oceans.

The large dimensions and special characteristics of the oceans has led to the emergence of new concepts: "integrated ocean and coastal zone management", economic theories synthesising growth dynamics with environmental considerations, theories of organisation articulating concepts like organic structures and matrix systems. All this requires a new type of civil servant, and a new type of manager or scientist, capable of interfacing the social sciences with the natural sciences, of law with science and technology, of economics with ecology, of managerial structures with processing systems. Only then can she/he be able to manage the ongoing high-tech revolution, the environment, and multi-cultural human resources.

This is especially true of island states supporting as they do small communities. Since small island states cannot maintain all necessary specialists training has to be aimed at producing cadres of managers or scientists, engineers and coastal planners able to integrate the many variables that go into integrated coastal management.

It is in this context that this programme has been designed with the emphasis on the felt needs of island developing countries. The programme is so organised as to give participants an overview of the many and varied aspects of ocean and coastal management and to familiarize them with the broad range of issues encountered in the marine area in the sphere of diplomacy, law, science, technology, economics and management. Particular emphasis is given to the importance of regional cooperation and development in this broad context. The evolution of regional systems, such as the Regional Seas Programme and South Pacific Regional Environmental Programme (SPREP), will play a crucial role in ocean governance for sustainable development.

SYNOPSIS

- Week 1: The International Setting.
- Week 2: Managerial Implications, Information Requirements.
- Week 3: Management of Coastal Zone Resources - Living.
- Week 4: Management of Coastal Zone Resources - Nonliving.
- Week 5: Coastal Zone Activities and Economics.
- Week 6: Policy Making and Project Formulation.
- Week 7: Risk Management.
- Week 8: Practical Exercise.

WEEK 1: THE INTERNATIONAL SETTINGMonday.

- Session I: Opening Ceremony
- Session II: Introduction to the course, training methodology, expected outputs, administrative arrangements.
- Session III: The changing international order: technological, economic, political.
- Session IV: New foci, perceptions and expectations of the international community. Islands in the new world order: vulnerabilities and opportunities.

Tuesday.

- Session I & II: Introduction to the law of the sea. New concepts, analysis of new provisions; spaces created by the Convention; territorial sea, contiguous zone, exclusive economic zone, archipelagic waters, the regime of islands.
- Session III & IV: Convention on the Law of the Sea: international ocean space, the high seas, marine scientific research, protection of the marine environment.

Wednesday.

- Convention on the Law of the Sea - contd.
- Session I: Technology, its development and transfer. New concepts of codevelopment of technology, technology fusion etc.
- Session II: Regional and subregional considerations: Arts. 276 and 277 - their implementation. Meditech and Technocaribe.
- Session III & IV: Workshop I: the emerging new world order; issues arising in the technological, managerial and economic domains.

Thursday.

- Session I: UNCED and its links to UNCLOS. Chapter 17 of Agenda 21 and its programmatic content.
- Session II: The Commission on Sustainable Development and supporting measures. Changes necessary in regional and national institutions.

Session III: The longterm implications of UNCED. Sustainability as a process: resources, society and culture.

Session IV: Application to Islands: measures necessary: technological, economic, instiutional.

Friday.

Session I: Economic sustainability: public goods and externalities; environmental economics.

Session II: Costs of pollution and how to internalise; sustainable human consumption

Session III & IV: Workshop I: continued.

WEEK 2: MANAGERIAL IMPLICATIONS, INFORMATION REQUIREMENTSMonday.

- Session I: Managerial implications of extended national zones. Needs for harmonising land use with sea use, natural sciences with the social sciences and of resolving conflicts of multiple-uses.
- Session II: Information requirements for management: An overview: the intersection of demographic, economic, geographical and natural scientific parameters.
- Session III: Oceanography and its importance. The impact of advancing technology - electronics, remote sensing, new materials, genetics; the changing research vessel.
- Session IV: Oceanography for developing countries: the software dimension, data collection, collation and dissemination. Economics of data collection and assessment.

Tuesday.

- Session I: Geophysical oceanography; plate tectonics; vulcanism and metallogenesis. Inshore oceanography: currents, waves, tides. Coastal erosion and sediment transportation.
- Session II: Ocean air interface: meteorology and its importance for African countries.
- Session III & IV: Chemistry of sea-water: isotope oceanography, age and rate of sedimentation. Chemical oceanography and the chemistry of pollution. How to measure, control and reduce pollutants from the oceans. Environmental oceanography.

Wednesday.

- Session I: Biodiversity: threats, causes of extinction, need to conserve. Management tools and case studies.
- Session II: Cooperation with competent international organisations in marine science and technology.
- Session III & IV: Workshop II: knowledge acquisition and its use; problems facing developing countries.

Thursday.

Session I: Land use competition: locational concepts: economic and social, agriculture, extractive industry, manufacturing industry, residential, touristic, historical/archeological.

Session II: Sea use competition: fishing, aquaculture, tourism/sport, shipping, offshore oil and gas, mining for placers & sands.

Session III: Coastal area management: planning and siting techniques. EEZ management: problems of multiple-uses, conflicts and surveillance.

Session IV: Interlinking and interfacing of coastal area management and EEZ management. Systems analytical approach to ocean management.

Friday.

Session I: Investment appraisal methods: the private sector. Return on investment, pay-back period, discounted cash flow, internal rate of return.

Session II: Investment appraisal methods: the public sector. Nonlinearities, multiple objectives, shadow prices.

Session III & IV: Workshop III: management of science and technology with reference to the coastal zone.

WEEK 3: MANAGEMENT OF COASTAL ZONE RESOURCES-LIVINGMonday.

- Session I: Management and conservation of living resources: fisheries biology and population dynamics.
- Session II: Stock assessment techniques: traditional methods, computer models.
- Session III: Management strategies; restricted entrance; mesh size control; restricted areas and seasons.
- Session IV: Effectiveness and deficiencies of existing management systems; participation of fishing communities. Traditional forms of management and conservation.

Tuesday.

- Session I & II: Fisheries technology: detection; capture technology; post harvest; processing; waste recycling; marketing.
- Session III: Effect and impact of flora on the coastal ecosystem. Role of mangroves and other coastal plants.
- Session IV: Case study: management of coral reefs and/or mangroves (coral reefs on the East African Coast).

Wednesday.

- Session I: The fishing industry: employment and output of the fishing industry; management of the fish population; species composition; fisherman's cooperatives and unions; conservation.
- Session II: Fisheries economics: integration into development strategy; contribution to GNP.
- Session III & IV: Workshop IV: management of living resources: biological, technological, economic considerations.

Thursday.

- Session I: Aquaculture and mariculture: Post-World War II developments; FAO Kyoto Conference.
- Session II: Aquatic plants; fish, mullusc and crustacean farming; sea ranching; genetic engineering of aquatic plants and of fish.

Session III: Aquaculture development through remote sensing techniques and satellite imageries.

Session IV: Monitoring and surveillance in the EEZ. Foreign fishing fleets and their impacts: economic, ecological, political. Access and joint venture agreements.

Friday.

Session I & II: Workshop on Coastal Zone Resources. Presentation of three papers and discussion.

Session III & IV: Field trip to the Senegal Ocean Institute.

WEEK 4: MANAGEMENT OF COASTAL ZONE RESOURCES- NONLIVINGMonday.

- Session I: The farming of fin fish: cage culture, sea ranching; fish behaviour conditioning; genetic engineering of fish; implications for the future.
- Session II: Artisanal fisheries and the impact of technological developments. Indigenous systems environmental viability, women in traditional artisanal fisheries.
- Session III & IV: Establishing legal regimes for management of resources: environmental impact legislation, legislation to regulate activities in the coastal zone and the EEZ.

Tuesday.

- Session I & II: Mining: resource exploitation and sustainable development; oil and gas; gravel, sand and near shore minerals; minerals of the deepsea bed.
- Session III & IV: Mining (cont): mining technology; environmental implications of sea-mining; toxicity, coastal erosion and other hazards associated with mining.

Wednesday.

- Session I & II: Offshore oil and gas: prospecting methods, drilling techniques, exploitation methods.
- Session III & IV: Workshop V: Management of marine resources: legal considerations.

Thursday.

- Session I & II: Principles of management and planning: management strategies; integrated coastal management: the need, techniques, economics.
- Session III & IV: Financial planning; project preparation; institutional and human resource requirements for coastal management.

Friday.

All Day: Field visits: reverse osmosis plan, a tourist
 complex, a port.

WEEK 5: COASTAL ZONE ACTIVITIES AND ECONOMICSMonday.

- Session I: Criteria for measuring economic development: Gross Domestic Product and Gross National Product; deficiencies of GNP; use of social indicators; vulnerability indicators.
- Session II: The Human Development Index: the sub-indices of the HDI; education; health; income distribution; HDI scores for typical African economies.
- Session III & IV: Characteristics of island economies: small size; diseconomies of scale; high degree of openness; over dependence on trade; narrow range of exports; insularity, remoteness and transport costs; special problems of atolls and archipelagos.

Tuesday.

- Session I: Tourism and island economies: over dependence on tourism; impact on the environment; effect on culture; use of coastal space, sustainable tourism; eco-tourism and cultural tourism.
- Session II: Economics of tourism: multipliers; demand; competitiveness; development of new products.
- Session III: Shipping developments: technological developments; globalised door to door transport; containerization and multimodal transport; tanker traffic and safety regulations; free-ports, shiprepair and shipbuilding industries.
- Session IV: Sea ports: main ports and feeder lines; regional cooperation; management of sea ports; port regulation; port dues and revenues; traffic control; and land-sea interface.

Wednesday.

- Session I: Desalination technologies to meet fresh water demands.
- Session II: Energy from the sea: OTEC, wave, tidal.
- Session III & IV: Workshop VI: management of ocean resources - links with the overall economic planning.

Thursday.

Session I &
II:

Technological developments: the electronics and communications revolutions, remote sensing, their impacts on CZM.

Session III &
IV:

Coastal engineering: harbour and port design, preventing coastal erosion and flooding from the sea, ensuring unpolluted water for brackish water aquaculture, outfalls from thermal power plants, waste water discharge etc.

Friday.

Session I &
II:

Coastal engineering (contd.)

Session III &
IV:

Workshop VII: the engineering dimension in managing ocean resources - managerial, economic and technological considerations.

WEEK 6: POLICY MAKING AND PROJECT FORMULATION

Monday.

Session I: Policy analysis: the multivariate nature of the oceans, the need for multi-level analysis and planning, coordination at both horizontal and vertical levels, need for interagency harmonization.

Session II: Foreign internal policy; national, state and local policy; need of integration.

Session III & IV: Integrated policy-making: its parameters; problems of harmonising different policies, tools and methods of arriving at a correct policy-mix.

Tuesday.

All Day: Simulation exercise in making policy for an island.

Wednesday.

All Day: Simulation exercise (contd.)

Thursday.

All Day: Coastal zone management in the Maltese islands: human impact on the island ecosystem with special reference to the coastal zone; land-use competition in the coastal zone; planning and environmental management - a historical review; recent developments - integrated planning for sustainable development.

Friday.

Morning: Field Visits.

Afternoon: Coastal zone management in the Maltese islands (contd.)

WEEK 7: RISK MANAGEMENTMonday.

Session I &
II:

Environmental risk management: need, types, techniques. Components of risk management strategy: risk identification, estimation, evaluation; risk profiles and contingency plans; economic considerations (cost-benefit and risk-benefit analyses). Regional, national and local responses.

Session III &
IV:

Case studies and discussion.

Tuesday.

Session I:

Natural hazards: floods, tsunamis, storm surges, hurricanes, tornadoes, seismic activities, soil and shoreline erosion.

Session II:

Interaction between natural and man-made hazards. Environmental Impact Assessments. Concepts and the management of such hazards.

Session III:

The Intergovernmental Panel on Climate Change; Scientific findings, model predictions and uncertainties.

Session IV:

Sea level rise and coastal zone management: multiple vulnerability and sensitivity profiles.

Wednesday.

Session I &
II:

Review of major contamination risks, including major spills and chronic pollution. Environmental impact of marine contaminants. Contingency planning and management of resources.

Session III &
IV:

Workshop VIII: methods of tackling and minimising risks.

Thursday.

Session I:

Emerging technologies development and management: risks and uncertainties.

Session II:

Methods of tackling uncertainty and risks

Session III: Project Management: preparation and management in conditions of uncertainty and methods of minimising risk.

Session IV: Financial management and capital budgeting for risks and uncertain projects.

Friday.

All Day: Designing a Coastal Resources Management Programme for selected Participant countries
- issue definition and analysis

WEEK 8: PRACTICAL EXERCISE

Monday.

Designing a Coastal Resources Management Programme for selected participant countries.

Session I & II:- issue definition and analysis

Session III: - setting objectives

Session IV: - preparing a policy paper

Tuesday.

All Day: Designing a Coastal Resources Management Programme (contd.)

- selecting resource management strategies
- designing methods of getting public input and support

Wednesday.

All Day: Designing a Coastal Resources Management Programme (contd.)

- designing an organisational strategy for implementing work plan
- preparing projects in the fields of:
 - . fisheries
 - . tourism
 - . transport etc.

Thursday.

All Day: Designing a Coastal Resources Management Programme (contd.)

- writing workplan (s)
- general seminar with faculty to critically examine workplan and policies

Friday.

Closing Ceremony.

09.00 - 10.30	Session I
10.30 - 10.45	Tea break
10.45 - 12.15	Session II
12.15 - 14.00	Lunch
14.00 - 15.30	Session III
15.30 - 15.45	Tea break
15.45 - 17.15	Session IV

Monday:

Session I	Changing international scene: technological, economic, political
Session II	Growing salience of ocean matters on the international agenda. UNCLOS III (1973-82), Brundtland Commission (1987), UNCED (1992): historical development and links between them
Session III	Managerial and policy implications of Convention on the Law of the Sea: extended jurisdictions, legal and surveillance implications
Session IV	Economic and resource implications of new Law of the Sea

Tuesday:

Session I	New Industrial Revolution: emerging technologies, the marine technology matrix.
Session II	Implications of extended jurisdictions and new technologies for science and technology policy: technology development, technology co-development, systems configuration, technology fusion
Session III	Emerging technologies management with special reference to marine technology
Session IV	Oceanography and advancing technology: emerging research vessels, changing methods of data collection, collation and dissemination.

Wednesday:

Session I	Information requirements of policy makers and decision-makers: demographic, economic, geographical and natural scientific parameters
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Session II Coastal area management and exclusive economic zone management: their interlinkages and interfacing

Session III The engineering dimension: outfalls from power plants, waste water discharge, prevention of coastal erosion

Session IV Energy from the sea: OTEC, wave, tidal

Thursday:

Session I The new economics of the environment: sustainability, renewable resources, service economy

Session II Policy analysis: the multivariate nature of the oceans, the need for multi-level analysis and planning, coordination at both horizontal and vertical levels, need for interagency harmonization

Session III Foreign and internal policy; national state and local policy; their integration; problems and prospects

Session IV Harmonising of different policies, tools and methods of arriving at a correct policy-mix

Friday:

Sessions I & II Workshop: Drawing up a framework of an ocean-policy and management framework integrating the legal, scientific, technological, financial and economic parameters (group work)

Sessions III & IV Review of programme with the faculty

COASTAL ZONE MANAGEMENT WITH FOCUS ON
AFRICA

Introduction to Syllabus

It is a truism to say that the world is in transition. Growing global interdependence, increased interactions between institutions and individuals, exponentially growing technology and new directions in the processes of development are some of the overriding characteristics of the last decade of this century.

In the marine sector, scientific and technological advances have triggered off political and legal change processes culminating in three major developments: (i) the adoption of the U.N. Convention of the Law of the Sea in 1982; (ii) the World Commission on Environment and Development (the Brundtland Commission) 1987; and (iii) the United Nations Conference on Environment and Development (U.N.C.E.D.) in Rio de Janeiro in 1992.

These have basically transformed the uses of the oceans and increased the salience of marine affairs on both national and international agendas. The development of oceanography as a multi-disciplinary scientific activity has greatly added to the knowledge sector while the penetration of the latest phase of the industrial revolution into the oceans has added a new dimension to national growth strategies. At the same time, the Law of the Sea Convention, signed by 159 States and now ratified by 54, may come into force next year. This Convention, if properly implemented and utilized, could constitute one of the building blocks of a new international order, including a new international economic order.

The Brundtland Commission laid stress on sustainable development and the need for bridging the technology gap between North and South. The United Nations Conference on Environment and Development (UNCED), adopted a Declaration, two important Conventions, and a detailed plan of action for sustainable development during the next century, "Agenda 21." This agenda contains an important chapter on marine and coastal activities, thus linking the UNCLOS and the UNCED processes, and sustainable development of ocean space and resources with sustainable development on land. In view of the fundamental importance of the world ocean, in its interaction with the atmosphere, for possible climate change, possibly accompanied by sea-level rise, this linkage is unbreakable.

UNCED has begun to exercise its influence on a wider process of restructuring the 50-year old United Nations system: In accordance with the decisions taken at Rio, the 47th General Assembly created a whole new sector to deal with Sustainable Development, including sustainable development in the oceans.

The large dimensions and special characteristics of the oceans has led to the emergence of new concepts: "integrated ocean and coastal zone management", economic theories synthesising growth dynamics with environmental considerations, theories of organisation articulating concepts like organic structures and matrix systems. All this requires a new type of civil servant, and a new type of manager or scientist, capable of interfacing the social sciences with the natural sciences, of law with science and technology, of economics with ecology, of managerial structures with processing systems. Only then can she/he be able to manage the ongoing high-tech revolution, the environment, and multi-cultural human resources.

It is in this context that this programme has been designed with the emphasis on the felt needs of African countries. The programme is so organised as to give participants an overview of the many and varied aspects of ocean and coastal management and to familiarize them with the broad range of issues encountered in the marine area in the sphere of diplomacy, law, science, technology, economics and management. Particular emphasis is given to the importance of regional cooperation and development in this broad context. The evolution of regional systems, such as the Regional Seas Programme, will play a crucial role in ocean governance for sustainable development.

SYNOPSIS

- Week 1: The International Setting.
- Week 2: Managerial Implications, Information Requirements.
- Week 3: Management of Coastal Zone Resources - Living.
- Week 4: Management of Coastal Zone Resources - Nonliving.
- Week 5: Coastal Zone Activities and Economics.
- Week 6: Policy Making and Project Formulation.
- Week 7: Risk Management.
- Week 8: Practical Exercise.

WEEK 1: THE INTERNATIONAL SETTINGMonday.

- Session I: Opening Ceremony
- Session II: Introduction to the course, training methodology, expected outputs, administrative arrangements.
- Session III: The changing international order: technological, economic, political.
- Session IV: New foci, perceptions and expectations of the international community. African in the new world order: vulnerabilities and opportunities.

Tuesday.

- Session I & II: Introduction to the law of the sea. New concepts, analysis of new provisions; spaces created by the Convention; territorial sea, contiguous zone, exclusive economic zone, archipelagic waters, the regime of islands.
- Session III & IV: Convention on the Law of the Sea: international ocean space, the high seas, marine scientific research, protection of the marine environment.

Wednesday.

- Convention on the Law of the Sea - contd.
- Session I: Technology, its development and transfer. New concepts of codevelopment of technology, technology fusion etc.
- Session II: Regional and subregional considerations: Arts. 276 and 277 - their implementation. Meditech and Technocaribe.
- Session III & IV: Workshop I: the emerging new world order; issues arising in the technological, managerial and economic domains.

Thursday.

- Session I: UNCED and its links to UNCLOS. Chapter 17 of Agenda 21 and its programmatic content.
- Session II: The Commission on Sustainable Development and supporting measures. Changes necessary in regional and national institutions.

Session III: The longterm implications of UNCED.
Sustainability as a process: resources, society
and culture.

Session IV: Application to Africa: measures necessary:
technological, economic, instiutional.

Friday.

Session I: Economic sustainability: public goods and
externalities; environmental economics.

Session II: Costs of pollution and how to internalise;
sustainable human consumption

Session III &
IV: Workshop I: continued.

WEEK 2: MANAGERIAL IMPLICATIONS, INFORMATION REQUIREMENTSMonday.

- Session I: Managerial implications of extended national zones. Needs for harmonising land use with sea use, natural sciences with the social sciences and of resolving conflicts of multiple-uses.
- Session II: Information requirements for management: An overview: the intersection of demographic, economic, geographical and natural scientific parameters.
- Session III: Oceanography and its importance. The impact of advancing technology - electronics, remote sensing, new materials, genetics; the changing research vessel.
- Session IV: Oceanography for developing countries: the software dimension, data collection, collation and dissemination. Economics of data collection and assessment.

Tuesday.

- Session I: Geophysical oceanography; plate tectonics; vulcanism and metallogenesis. Inshore oceanography: currents, waves, tides. Coastal erosion and sediment transportation.
- Session II: Ocean air interface: meteorology and its importance for African countries.
- Session III & IV: Chemistry of sea-water: isotope oceanography, age and rate of sedimentation. Chemical oceanography and the chemistry of pollution. How to measure, control and reduce pollutants from the oceans. Environmental oceanography.

Wednesday.

- Session I: Biodiversity: threats, causes of extinction, need to conserve. Management tools and case studies.
- Session II: Cooperation with competent international organisations in marine science and technology.
- Session III & IV: Workshop II: knowledge acquisition and its use; problems facing developing countries.

Thursday.

- Session I: Land use competition: locational concepts: economic and social, agriculture, extractive industry, manufacturing industry, residential, touristic, historical/archeological.
- Session II: Sea use competition: fishing, aquaculture, tourism/sport, shipping, offshore oil and gas, mining for placers & sands.
- Session III: Coastal area management: planning and siting techniques. EEZ management: problems of multiple-uses, conflicts and surveillance.
- Session IV: Interlinking and interfacing of coastal area management and EEZ management. Systems analytical approach to ocean management.

Friday.

- Session I: Investment appraisal methods: the private sector. Return on investment, pay-back period, discounted cash flow, internal rate of return.
- Session II: Investment appraisal methods: the public sector. Nonlinearities, multiple objectives, shadow prices.
- Session III & IV: Workshop III: management of science and technology with reference to the coastal zone.

WEEK 3: MANAGEMENT OF COASTAL ZONE RESOURCES-LIVINGMonday.

- Session I: Management and conservation of living resources: fisheries biology and population dynamics.
- Session II: Stock assessment techniques: traditional methods, computer models.
- Session III: Management strategies; restricted entrance; mesh size control; restricted areas and seasons.
- Session IV: Effectiveness and deficiencies of existing management systems; participation of fishing communities. Traditional forms of management and conservation.

Tuesday.

- Session I & II: Fisheries technology: detection; capture technology; post harvest; processing; waste recycling; marketing.
- Session III: Effect and impact of flora on the coastal ecosystem. Role of mangroves and other coastal plants.
- Session IV: Case study: management of coral reefs and/or mangroves (coral reefs on the East African Coast).

Wednesday.

- Session I: The fishing industry: employment and output of the fishing industry; management of the fish population; species composition; fisherman's cooperatives and unions; conservation.
- Session II: Fisheries economics: integration into development strategy; contribution to GNP.
- Session III & IV: Workshop IV: management of living resources: biological, technological, economic considerations.

Thursday.

- Session I: Aquaculture and mariculture: Post-World War II developments; FAO Kyoto Conference.
- Session II: Aquatic plants; fish, mollusc and crustacean farming; sea ranching; genetic engineering of aquatic plants and of fish.

Session III: Aquaculture development through remote sensing techniques and satellite imageries.

Session IV: Monitoring and surveillance in the EEZ. Foreign fishing fleets and their impacts: economic, ecological, political. Access and joint venture agreements.

Friday.

Session I & II: Workshop on Coastal Zone Resources. Presentation of three papers and discussion.

Session III & IV: Field trip to the Senegal Ocean Institute.

WEEK 4: MANAGEMENT OF COASTAL ZONE RESOURCES- NONLIVINGMonday.

- Session I: The farming of fin fish: cage culture, sea ranching; fish behaviour conditioning; genetic engineering of fish; implications for the future.
- Session II: Artisanal fisheries and the impact of technological developments. Indigenous systems environmental viability, women in traditional artisanal fisheries.
- Session III & IV: Establishing legal regimes for management of resources: environmental impact legislation, legislation to regulate activities in the coastal zone and the EEZ.

Tuesday.

- Session I & II: Mining: resource exploitation and sustainable development; oil and gas; gravel, sand and near shore minerals; minerals of the deepsea bed.
- Session III & IV: Mining (cont): mining technology; environmental implications of sea-mining; toxicity, coastal erosion and other hazards associated with mining.

Wednesday.

- Session I & II: Offshore oil and gas: prospecting methods, drilling techniques, exploitation methods.
- Session III & IV: Workshop V: Management of marine resources: legal considerations.

Thursday.

- Session I & II: Principles of management and planning: management strategies; integrated coastal management: the need, techniques, economics.
- Session III & IV: Financial planning; project preparation; institutional and human resource requirements for coastal management.

Friday.

All Day: Field visits: a tourist complex, a port, an industry on the sea.

WEEK 5: COASTAL ZONE ACTIVITIES AND ECONOMICSMonday.

- Session I: Criteria for measuring economic development: Gross Domestic Product and Gross National Product; deficiencies of GNP; use of social indicators; vulnerability indicators.
- Session II: The Human Development Index: the sub-indices of the HDI; education; health; income distribution; HDI scores for typical African economies.
- Session III: Characteristics of African economies: desertification, food shortages, protein deficiencies.
- Session IV: Ocean resources in Africa; the importance of ocean resources in African development strategy.

Tuesday.

- Session I & II: Integration of coastal zone management as an integral part of African economic development.
- Session III: Shipping developments: technological developments; globalised door to door transport; containerization and multimodal transport; tanker traffic and safety regulations; free-ports, shiprepair and shipbuilding industries.
- Session IV: Sea ports: main ports and feeder lines; regional cooperation; management of sea ports; port regulation; port dues and revenues; traffic control; and land-sea interface.

Wednesday.

- Session I: Desalination technologies to meet fresh water demands.
- Session II: Energy from the sea: OTEC, wave, tidal.
- Session III & IV: Workshop VI: management of ocean resources - links with the overall economic planning.

Thursday.

- Session I & II: Technological developments: the electronics and communications revolutions, remote sensing, their impacts on CZM.

Session III &
IV: Coastal engineering: harbour and port design, preventing coastal erosion and flooding from the sea, ensuring unpolluted water for brackish water aquaculture, outfalls from thermal power plants, waste water discharge etc.

Friday.

Session I &
II: Coastal engineering (contd.)

Session III &
IV: Workshop VII: the engineering dimension in managing ocean resources - managerial, economic and technological considerations.

WEEK 6: POLICY MAKING AND PROJECT FORMULATION

Monday.

Session I: Policy analysis: the multivariate nature of the oceans, the need for multi-level analysis and planning, coordination at both horizontal and vertical levels, need for interagency harmonization.

Session II: Foreign internal policy; national, state and local policy; need of integration.

Session III & IV: Integrated policy-making: its parameters; problems of harmonising different policies, tools and methods of arriving at a correct policy-mix.

Tuesday.

All Day: Simulation exercise in making policy for a typical African country.

Wednesday.

All Day: Simulation exercise (contd.)

Thursday.

All Day: Coastal zone management in the Seychelles / Mauritius / Kenya or any other country as a case study. Human impact on the ecosystem with special reference to the coastal zone; land-use competition in the coastal zone; planning and environmental management - a historical review; recent developments - integrated planning for sustainable development.

Friday.

All Day: Coastal zone management (contd.)

WEEK 7: RISK MANAGEMENTMonday.

Session I & II: Environmental risk management: need, types, techniques. Components of risk management strategy: risk identification, estimation, evaluation; risk profiles and contingency plans; economic considerations (cost-benefit and risk-benefit analyses). Regional, national and local responses.

Session III & IV: Case studies and discussion.

Tuesday.

Session I: Natural hazards: floods, tsunamis, storm surges, hurricanes, tornadoes, seismic activities, soil and shoreline erosion.

Session II: Interaction between natural and man-made hazards. Environmental Impact Assessments. Concepts and the management of such hazards.

Session III: The Intergovernmental Panel on Climate Change; Scientific findings, model predictions and uncertainties.

Session IV: Sea level rise and coastal zone management: multiple vulnerability and sensitivity profiles.

Wednesday.

Session I & II: Review of major contamination risks, including major spills and chronic pollution. Environmental impact of marine contaminants. Contingency planning and management of resources.

Session III & IV: Workshop VIII: methods of tackling and minimising risks.

Thursday.

Session I: Emerging technologies development and management: risks and uncertainties.

Session II: Methods of tackling uncertainty and risks

Session III: Project Management: preparation and management in conditions of uncertainty and methods of minimising risk.

Session IV: Financial management and capital budgeting for risks and uncertain projects.

Friday.

All Day: Designing a Coastal Resources Management Programme for selected Participant countries
- issue definition and analysis

WEEK 8: PRACTICAL EXERCISE

Monday.

Designing a Coastal Resources Management Programme for selected participant countries.

Session I & II:- issue definition and analysis

Session III: - setting objectives

Session IV: - preparing a policy paper

Tuesday.

All Day: Designing a Coastal Resources Management Programme (contd.)

- selecting resource management strategies
- designing methods of getting public input and support

Wednesday.

All Day: Designing a Coastal Resources Management Programme (contd.)

- designing an organisational strategy for implementing work plan
- preparing projects in the fields of:
 - . fisheries
 - . tourism
 - . transport etc.

Thursday.

All Day: Designing a Coastal Resources Management Programme (contd.)

- writing workplan (s)
- general seminar with faculty to critically examine workplan and policies

Friday.

Closing Ceremony.

TRAINING COURSE ON
COASTAL ZONE MANAGEMENT AS A SUSTAINABLE PROCESS
TO BE HELD AT IIT, MADRAS, INDIA
11TH OCTOBER - 17TH DECEMBER 1993

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Theme 1: CHANGING INTERNATIONAL ORDER AND CONTEMPORARY
CONCEPT OF DEVELOPMENT

UNITS

- 1 Opening Ceremony
- 2 Introduction to the course, its nature, training methodology, expected outputs, administrative arrangements.

Prof. V.S. Raju & Dr. SP. Subramanian
- 3 Changing international order, new focus perceptions and expectations of the international community; New International Economic Order.

Dr. S.P. Jagota
- 4,5 Impact of the New Industrial Revolution on industrial structures, management systems, institutions. The changing management scene - information networks - importance of interfaces - importance of Research & Development.

Dr. L.S. Ganesh
- 6-9 Contemporary concept of Development. The U.N. Conference on Environment and Development. United Nations as International cooperation. The Rio Declaration. The Commission on Sustainable Development and supporting measures. The Indian Ocean (I.O) in the global context, strategic importance of the Indian Ocean. IOMAC: Historical overview; present plan of action; future prospects.

Dr. S.P. Jagota
- 10,11 Workshop I, Group discussions, Implications of the New Industrial Revolution and the New International Economic Order for developing countries, with special reference to the Indian Ocean.
- 12,13,14 The Common Heritage of Mankind concept. Legal, economic, and environmental implications. Development of marine scientific research capabilities. Transfer of technology and their linkages with UNCED

Prof. Elizabeth Mann Borgese
- 15,16 Group discussion - Workshop I continued

Theme 2: THE LAW OF THE SEA CONVENTION, INTERNATIONAL ORGANISATIONS, THE ANTARCTIC TREATY SYSTEM AND OCEANS AS ZONES OF PEACE

UNITS

17-19 UNCLOS III and the 1982 United Nations Convention on the Law of the Sea. Territorial Sea; Contiguous Zone; EEZ; Continental Shelf; Archipelagic Waters; Islands; the U.N. Conference on the development of small islands, 1994. International Ocean Space; the High Seas; the U.N. Conference on Straddling Stocks on the High Seas; Coastal and Ocean Management; principles of cooperation established by the convention - regional Centres for Science and technology. The International Sea-bed Area. The International Seabed Authority. Structure and Functions. Provisions concerning Technology Transfer. Benefits to developing countries; Principles, procedures and organs of dispute settlement. Joint Development Zones. The Preparatory Commission; Structure and Mandate. The Final Reports of the 4 Special Commissions. The Pioneer Regime UNCED and prospects for pioneer nations.

Dr. S. P. Jagota

20,21 Legislation, Regulation of the coastal zone and Escap guidelines with reference to India.

Mr. J.V. R. Prasada Rao

22 Workshop II: The Law of the Sea Convention and its links with UNCED, the Restructuring of the United Nations, NIR and NIEO.

23,24 The Antarctic Treaty System. Cooperation on scientific research. The Conservation of living resources. International organisations in marine science and technology. IOC/UNESCO; UNIDO; FAO; UNEP.

Dr. S. P. Jagota

Theme 3: MAN AND THE OCEANS: OCEANOGRAPHY: THE SEA-AIR
INTERFACE WITH EMPHASIS ON COASTAL ZONE

UNITS

- 25,26 Oceanography: an overview. The impact of advancing technology. Physical oceanography. The physical and dynamic elements of the oceans.
Prof. N.V. C. Swamy
- 27,28,29 Phenomena of Coastal Erosion; Shallow water effects, wave induced nearshore currents responsible for Sediment transport. Sediment transport and their assessment.
Dr. V. Sundar
- 30,31,32 Accretion and measures to counteract coastal erosion and the effect of its construction on adjacent shoreline.
Dr. J. S. Mani
- 33 The ocean-air interface. Meteorology and its importance for the countries of the Indian Ocean.
Prof. N.V. C. Swamy
- 34 Plate Tectonics and continental drift. Implications for metallogenesis and mineral exploration and exploitation.
Dr. S. P. Subramanian
- 35 Recovery of elements from sea water-salt pan development and their impact on coastal aquifers.
- 36,37,38 Chemistry of sea-water - water resource management in the coastal zone. Chemistry of pollution - measurement, control and reduction of pollutants in the oceans.
Waste water management with emphasis on coastal zone.
Dr. D.V.S. Murthy
- 39,40 Marine geology and geochemistry. Physical and geological oceanography of the Indian Ocean.
Dr. S.P. Subramanian
- 41 Research vessels and their capabilities - cruise planning, acquisition and maintenance.
Dr. D. Srinivasan

- 42 marine instrumentation and data collection for various ocean parameters such as waves, currents and tides.
- 43,44 Sea level fluctuations and coastal inundation. Storm surges and their effects on coast line and climate.
Dr. R. Mahadevan
- 45,46 Effects of storms, cyclones and such disasters - causes and mitigation - protection of coasts.
Dr. A. Meher Prasad
- 47 Effluent disposal pipelines, buoys and mooring systems.
Dr. R. Sundaravadivelu
- 48,49 Group discussions. Workshop III continued.

Theme 4: THE MANAGEMENT OF LIVING RESOURCES -
AQUACULTURE, MARICULTURE AND COASTAL ECO SYSTEM

UNITS

50,51 Biological aspects of the Indian Ocean - A comparative Analysis.
Fisheries biology; population dynamics: age, growth, mortality, recruitment.

Dr. A. V. Raman

52,53,54 Stock assessment methods and models.
55 Management strategies; licensing mesh size control; effectiveness and deficiencies of existing management systems; participation of fishing communities. Traditional forms of management and conservation.
Fisheries technology; detection; aggregation; capture technology; post-harvest conservation; processing; waste-recycling; transportation; Marketing and distribution.

Dr. D. Sudarsan, FSI

56,57 The management of mangrove swamps, coral reefs and other coastal plants. Effect and impact of flora on the coastal ecosystem.

Dr. C. Kalavathi

58 Fisheries economics, integration into development strategy; contribution to GNP.

Madras University

59,60 Group discussion. Workshop IV. Fisheries Management.

61,62 Post-World War II development; the FAO Kioto Conference on World Aquaculture, and subsequent development.
Coastal biomass resources development and utilisation.
Aquatic plants; farming for industrial and pharmaceutical purposes; genetic engineering of aquatic plants.
Economic potential for developing countries. Rights and responsibilities.

Dr. M.S. Swaminathan Research Foundation

63,64 Application of satellite remote sensing for identifying and forecasting potential fishing zones.

Dr. Narendhranath

- 65,66 Fisheries ports, development and management.
Dr. B.N. Krishnamurthy
- 67,68,69 The farming of molluscs and crustaceans, Case Studies.
The farming of fin fish: Cage cultures; sea ranching; fish behaviour conditioning; implications for the future. Genetic engineering of fish.
Environmental impact of aquaculture and mariculture.
Dr. Devarajan
- 70,71 Aquaculture for domestic consumption and export; International sea-food trade.
- 72,73 Group discussions. Workshop IV continued.

Theme 5: MANAGEMENT OF NONLIVING RESOURCES

UNITS

- 74 Overview of the nonliving resources of the Indian Ocean. Oil and gas. Near-shore minerals. The minerals of the deep seabed: Manganese nodules, cobalt crusts; polymetallic sulphides.
Dr. S.P. Subramanian
- 75 The energy potential of the Indian Ocean: Wave Tidal energy.
Prof. V.S. Raju
- 76 Ocean Thermal Energy Conversion - Technology and state of art.
Prof. M. Ravindran
- 77,78 Offshore structures; Exploitation of hydrocarbons for past, present, and future trends. Submersibles for prospecting.
Prof. C. Ganapathy
- 79 polymetallic nodules in the Indian Ocean: India as Pioneer Investor.
Dr. S.P. Subramanian
- 80,81 The Indian programme of nodule mining. The Interests of other Indian-Ocean States and state of art of ocean mining. Deep-sea mining technology. The different subsystems. The first generation nodule collection systems.
Prof. M. Ravindran
- 82,83 Group discussion on non-living resources.

Theme 6: SHIPPING, MANAGEMENT OF PORTS AND HARBOURS;
TOURISM

UNITS

- 84,85,86 Post World-War II developments in shipping. Containerization Unitization. Multi-modal transport. Globalizing door-to-door transport. Future trends. Introduction to Port management. Impact of new technologies. Information and communication. Vessel traffic control. Protection of the Environment.
- Mr. C. Venkatachalam
- 87,88 Port development and conservation of coastal equilibrium - Effects and impacts of dredging.
- Mr. V. Meenakshisundram
- 89 Berthing structures, sea water intake structures.
- Dr. R. Sundaravadivelu
- 90 Marine Structures - types, design and construction - functions and utility.
- Prof. M. R. Pranesh
- 91,92 Coastal Zone Utilization; Proper use of the coastline with developmental activities, prevention of misuse. National Environmental Engineering Research Institute, Madras Regional Centre
- 93,94 Development of Coastal Tourist Reports - Hinterland development, Case Studies. Tourism in the Indian Ocean region. The economics of marine parks. A regional tourist tax as a prototype for international ocean development taxation.
- ITDC/TTDC
- 95,96 Group discussion: Interaction between ocean uses: positive and negative.
- 97,98 Integrated coastal management in the broader context of national resource management on the one hand and regional cooperation on the other. Ocean management within the commission on Sustainable Development.
- Mr. J.V.R. Prasada Rao

99-104 Case studies on

(i) ocean developmental activities, profile of India.

Mr. J.V.R. Prasada Rao

(ii) Management of nodule programme in the Indian Ocean.

(iii) Tidal power plant, Gulf of Kutch.

Prof. M. Ravindran

(iv) Wave Energy Project, Trivandrum.

Prof. V.S. Raju

(v) Offshore oil and gas, East Coast of India, Godavari Basin.

Theme 7: INTEGRATED COASTAL MANAGEMENT: THE ECONOMICS OF
SUSTAINABLE DEVELOPMENT

UNITS

- 105 Standard and indicators of development.
Dr. Malathy
- 106,107 The sea-food Industries and Prawn Culture.
Dr. P.V.S.N. Raju
- 108 The Pharmaceutical industry.
- 109 Salt based industry.
- 110 Cold-water technologies and multi-purpose integrated
installations.
- 111 The transport industries.
- 112,113 Group discussion. Workshop VI, on the economics of
sustainable development.
- 114,115 Report preparation by participants.
- 116,117 Group discussions - Report writing.

Theme 8: MANAGEMENT CONCEPTS AND PRINCIPLES

UNITS

- 118 Introduction to Management - Planning, Organisation, Staffing, Leading and Controlling.
Dr. M.D.P. Rao
- 119 Project Management - Identification, Evaluation, Selection and Implementation of Projects.
Dr. L.S. Ganesh
- 120,121 Financial Analysis; Planning and Investment decisions - Financial statements, ratios, CVP analysis, Funds generation and flow, DCF techniques, Cost-benefit analysis.
Dr. L.V.L.N. Sharma
- 122,123 Marketing Management and Research - The marketing
124 function - Identifying markets - Products, pricing, promotion and distribution - Strategic issues.
Dr. S. Jayachandran
- 125,126 Management of change - Nature of change - Managerial response - forces of change - Planning for change - Implementing change.
Dr. T.J. Kamalanathan
- 127,128 Human Resource Management and Group Dynamics - Personality, Motivation, Groups dynamics, Communication, Conflicts and Stress, Leadership, Decision-making, Training, Performance Appraisal, Organisational Development.
Dr. R.N. Anantharaman
- 129,130 System Dynamics and simulation - Systems concepts - Modelling and analysis - Structure and behaviour - Random variates - Experimentation with models.
Dr. C. Rajendran/Dr. L.S. Ganesh
- 131,132 Communication in multiculture and inter-disciplinary groups.
Mr. S.C. Chaudhuri

Theme 9: AGENDA 21, CHAPTER 17; IMPLEMENTATION BY INDIAN
OCEAN STATES

UNITS

- 133 Overview of Agenda 21. Linkages between Chapter 17
and other Chapters.
- 134, 135 Programmes 1-7
136
- 137,138 Group discussion, Workshop VII, Implementation of
Agenda 21, Conclusions and recommendations on Agenda
21, Chapter 17.
- 139 Briefing for simulation exercise
- 140-143 Report Writing.

Annex 4

AWARD CITATIONS

THE INTERNATIONAL SAINT FRANCIS PRIZE
FOR
THE ENVIRONMENT

Citation

Professor Elisabeth Mann Borgese is a pioneer in the study of sustainable development of marine resources. She was the organizer of the International Conference on the Law of the Seas in Malta in 1970 ("Pacem in Maribus"), which became a lasting institution. It was followed by twenty other conferences all over the world. In her numerous books and articles, she has developed fundamental ideas concerning the status of the seas as patrimony of humankind with an exclusive peaceful purpose.

THE INTERNATIONAL SASAKAWA ENVIRONMENT PRIZE
FOR 1987

Citation

The International Sasakawa Environment Prize for 1987 is
hereby awarded to

Elisabeth Mann Borgese.

In recognition of her most outstanding contribution in
the Field of the Environment.

5 June 1987

(signed)
Javier Perez de Cuellar
Secretary-General

Annex 7

AUDITED ACCOUNTS

INTERNATIONAL MONETARY FUND
REGIONAL OFFICE FOR AFRICA
1000 LENOX AVENUE
NINETEENTH FLOOR
WASHINGTON, D.C. 20004

CONTENTS

Auditors' Report

Income and expenditure account

Statement of affairs

Cash flow statement

INTERNATIONAL OCEAN INSTITUTE

REPORT AND ACCOUNTS

31st DECEMBER, 1992

Income received

Expenditure on research and other activities

Assets and liabilities

Administrative and other costs

INTERNATIONAL OCEAN INSTITUTE

CONTENTS

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Auditors' report	1
Income and expenditure account	2
Statement of affairs	3
Cash flow statement	4
Notes to the accounts	5
	Schedule
Grants received	I
Training programmes and workshops	II
Pacem in Maribus conference	III
Administrative and other costs	IV

**AUDITORS' REPORT TO THE MEMBERS OF
INTERNATIONAL OCEAN INSTITUTE**

We have audited the accounts on pages 3 to 7 in accordance with International Standards on Auditing.

We have obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purposes of our audit. Proper books of account have been kept so far as appears from our examination thereof and the accounts are in agreement therewith.

Certain funds belonging to the Institute which are administered on its behalf outside Malta are not included in these accounts.

Subject to the adjustments that would be required to incorporate such funds, in our opinion and to the best of our knowledge and according to the explanations given to us, the accounts give a true and fair view of the state of affairs of the Institute at 31st December, 1992 and of its deficit and cash flows for the year then ended.

MANDUCA, MERCIECA & CO.

Signed.

Certified Public Accountants
and Auditors

21, Archbishop Street,
Valletta,
Malta.

12th May, 1993

INTERNATIONAL OCEAN INSTITUTE

INCOME AND EXPENDITURE ACCOUNT - YEAR ENDED 31st DECEMBER, 1992

	1992		1991	
	Lm	US\$	Lm	US\$
INCOME				
Grants received	292,631	782,056	133,372	435,086
Interest received	624	1,668	361	1,178
Other income	24,763	66,179	5,485	17,893
Creditor balance written off	-	-	1,530	4,991
	-----	-----	-----	-----
	318,018	849,903	140,748	459,148
	-----	-----	-----	-----
EXPENDITURE				
Training programmes and workshops	46,993	125,589	82,176	268,074
Deficit on PIM XX	55,675	148,792	-	-
Local salaries	12,858	34,363	9,239	30,138
Administrative costs	325,180	869,043	51,900	169,308
	-----	-----	-----	-----
	440,706	1,177,787	143,315	467,520
	-----	-----	-----	-----
DEFICIT FOR THE YEAR	(122,688)	(327,884)	(2,567)	(8,372)
	=====	=====	=====	=====
ACCUMULATED FUND DEFICIENCY				
At beginning of the year				
As previously stated	(10,541)	(34,385)	(7,974)	(26,521)
Unrealised difference on exchange	-	6,215	-	508
	-----	-----	-----	-----
As restated	(10,541)	(28,170)	(7,974)	(26,013)
Deficit for the year	(122,688)	(327,884)	(2,567)	(8,372)
	-----	-----	-----	-----
At end of the year	(133,229)	(356,054)	(10,541)	(34,385)
	=====	=====	=====	=====

INTERNATIONAL OCEAN INSTITUTE

STATEMENT OF AFFAIRS - 31st DECEMBER, 1992

	Note	1992		1991	
		Lm	US\$	Lm	US\$
FIXED ASSETS					
Tangible assets	(3)	5,891	15,744	5,124	16,717
CURRENT ASSETS					
Stock of publications		269	719	269	878
Debtors		30,380	81,191	-	-
Cash and bank balances		4,669	12,478	4,031	13,150
		<u>35,318</u>	<u>94,388</u>	<u>4,300</u>	<u>14,028</u>
CREDITORS: FALLING DUE WITHIN ONE YEAR					
Short-term loan		48,176	128,750	-	-
Creditors and accruals		126,262	337,436	19,965	65,130
		<u>174,438</u>	<u>466,186</u>	<u>19,965</u>	<u>65,130</u>
NET CURRENT LIABILITIES		<u>(139,120)</u>	<u>(371,798)</u>	<u>(15,665)</u>	<u>(51,102)</u>
NET LIABILITIES		<u>(133,229)</u>	<u>(356,054)</u>	<u>(10,541)</u>	<u>(34,385)</u>
Represented by:					
DEFICIT ON ACCUMULATED FUND		<u>(133,229)</u>	<u>(356,054)</u>	<u>(10,541)</u>	<u>(34,385)</u>


Executive Director

INTERNATIONAL OCEAN INSTITUTE

CASH FLOW STATEMENT - YEAR ENDED 31st DECEMBER, 1992

	Note	1992		1991	
		Lm	Lm	Lm	Lm
Net cash outflow from operating activities	(4a)		(43,654)		(304)
Returns on investments and servicing of finance:					
Interest received		624		361	
Interest paid		(1,710)		-	
		-----		---	
Net cash inflow/(outflow) from returns on investments and servicing of finance			(1,086)		361
Investing activities:					
Net payments to acquire tangible fixed assets		(2,798)		(1,886)	
Short-term loan		48,176		-	
		-----		-----	
Net inflow/(outflow) from investing activities			45,387		(1,886)
Increase/(decrease) in cash and cash equivalents			----- 638 =====		----- (1,829) =====

NOTES TO THE ACCOUNTS - 31st DECEMBER 1992

1. FUNDAMENTAL ACCOUNTING CONCEPT

The accounts have been drawn up on a going concern basis on the assumption that sufficient funds will continue to be made available to enable the Institute to meet its financial commitments as and when they fall due.

2. PRINCIPAL ACCOUNTING POLICIES

(a) Accounting convention

The accounts have been drawn up under the historical cost convention.

(b) Foreign exchange translation

The Institute's books of account are maintained in Maltese liri which have been translated to U.S. Dollars in these accounts at the year end exchange rate of Lm1 = U.S. \$2.6725 (1991 - Lm1 = U.S.\$3.2622).

As a result, the figures in U.S. Dollars may not necessarily reflect the amounts actually received or paid in U.S. Dollars during the year under review.

(c) Depreciation of tangible fixed assets

Provision for depreciation of the Institute's tangible fixed assets is calculated to write off the cost of the assets over their estimated useful lives in equal annual instalments of 10%.

(d) Taxation

The Institute has been granted tax exempt status by the Government of Malta.

INTERNATIONAL OCEAN INSTITUTE

6

NOTES TO THE ACCOUNTS - 31st DECEMBER 1992 (CONTINUED)

3. TANGIBLE FIXED ASSETS

	At <u>1.1.92</u>	<u>Additions</u>	<u>Disposals</u>	At <u>31.12.92</u>
COST				
Word processor	2,444	-	-	2,444
Office equipment	6,378	3,398	(2,290)	7,486
	-----	-----	-----	-----
	8,822	3,398	(2,290)	9,930
	-----	-----	-----	-----
DEPRECIATION				
Word processor	1,956	244	-	2,200
Office equipment	1,742	749	(652)	1,839
	-----	---	---	-----
	3,698	993	(652)	4,039
	-----	---	---	-----
NET BOOK VALUE	Lm5,124			Lm5,891
	=====			=====
US\$ EQUIVALENT	US\$16,717			US\$15,744
	=====			=====

4. CASH FLOW STATEMENT

(a) Net cash outflow from operating activities

	<u>1992</u>	<u>1991</u>
Deficit for the year	(122,688)	(2,567)
Non-operating income/(expenditure):		
Bank interest received	(624)	(361)
Bank interest paid	1,710	-
	-----	-----
Operating deficit	(121,602)	(2,928)
Items not resulting in cash flows:		
Depreciation	993	882
Loss on disposal of fixed assets	1,038	-
(Increase)/decrease in debtors	(30,380)	2,790
Increase/(decrease) in creditors	106,297	(1,048)
	-----	-----
Net cash outflow from operating activities	Lm(43,654)	Lm(304)
	=====	=====

INTERNATIONAL OCEAN INSTITUTE

NOTES TO THE ACCOUNTS - 31st DECEMBER 1992 (CONTINUED)

4. CASH FLOW STATEMENT (Continued)

(b) Cash and cash equivalents

Cash and cash equivalents comprise cash in hand and deposit repayable on demand. A cash flow is an increase or decrease in a amount of cash or cash equivalent resulting from a transaction. The net cash inflow of Lm638 (1991-outflow of Lm1,829) is reflected in the balance sheet as follows:

	<u>1992</u>	<u>1991</u>	<u>1990</u>	Change in year <u>1992/91</u>	Change in year <u>1991/90</u>
Cash at bank and in hand	4,669	4,031	5,860	638	(1,829)
	-----	-----	-----	-----	-----
Cash and cash equivalents				Lm638	Lm(1,829)
				=====	=====

* * * * *

SCHEDULE I

INTERNATIONAL OCEAN INSTITUTE

GRANTS RECEIVED - YEAR ENDED 31st DECEMBER, 1992

	Lm	US\$
CIDA Programme Support	140,177	374,623
Commonwealth Secretariat	53,124	141,973
Government of Netherlands	32,160	85,948
UNDP Organisation Development	9,570	25,576
Others	57,600	153,936
	-----	-----
	292,631	782,056
	=====	=====

INTERNATIONAL OCEAN INSTITUTE

SCHEDULE II

TRAINING PROGRAMMES AND WORKSHOPS - YEAR ENDED 31st DECEMBER, 1992

	Lm	US\$
Malta Exclusive Economic Zone		
Accommodation	4,289	11,462
Excursions	104	278
Hire of equipment	1,493	3,990
Preparatory and other costs	1,555	4,156
Subsistence	12,371	33,062
Telecommunications	744	1,988
Travel	15,847	42,351
Tuition fees and honoraria	9,639	25,760
	-----	-----
	46,042	123,047
	-----	-----
Class "C" - Morocco (Abortive)		
Accommodation	171	457
Other costs	78	209
Telecommunications	207	553
Travel	495	1,323
	---	-----
	951	2,542
	---	-----
	46,993	125,589
	=====	=====

SCHEDULE III

INTERNATIONAL OCEAN INSTITUTE

PACEM IN MARIBUS CONFERENCE XX - YEAR ENDED 31st DECEMBER, 1992

	Lm	US\$
INCOME		
Grants received	34,492	92,180
	<u>-----</u>	<u>-----</u>
EXPENDITURE		
Accommodation	9,909	26,482
Conference and refurbishing fees	5,000	13,363
Hire of equipment	4,166	11,133
Public relations	2,790	7,456
Staff and other costs	4,023	10,751
Stationery and printing	2,657	7,101
Subsistence and functions	6,606	17,655
Telecommunications	2,405	6,427
Transport	3,484	9,311
Travel	49,127	131,293
	<u>-----</u>	<u>-----</u>
	90,167	240,972
	<u>-----</u>	<u>-----</u>
DEFICIT	(55,675)	(148,792)
	<u>=====</u>	<u>=====</u>

INTERNATIONAL OCEAN INSTITUTE

SCHEDULE IV

ADMINISTRATIVE AND OTHER COSTS - YEAR ENDED 31st DECEMBER, 1992

	Lm	US\$
Administrative services	4,250	11,358
Audit and accountancy fees	640	1,710
Bank charges and interest	2,885	7,709
Cleaning and sanitation	67	180
Depreciation	993	2,654
Difference on exchange	97	260
Executive management fees	52,638	140,675
Executive salary	16,701	44,633
General and fund-raising consulting services	29,935	80,000
General expenses	167	448
Loss on disposal of office equipment	1,038	2,774
Office maintenance	2,463	6,581
Office supplies	99	265
Other consultancy fees	9,928	26,534
Overseas travel and other expenses	36,138	96,578
Project management services	29,935	80,000
Quarterly newsletter	1,502	4,014
Public relations	200	533
Rent	920	2,459
Staff welfare	45	120
Stationery and printing	10,655	28,476
Subscriptions and publications	2,026	5,415
Telecommunications	4,783	12,783
Transport	881	2,354
Water and electricity	237	634
	-----	-----
	209,223	559,147
Costs relating to Halifax operations	115,957	309,896
	-----	-----
	325,180	869,043
	=====	=====

Note: Included with executive management fees is an amount of Lm15,220 (US\$ 40,676) relating to prior years.

Annex 8

BUDGET FOR 1993

BUDGET FOR YEAR 1993

AS

APPROVED BY THE BOARD

JULY 1993

INTERNATIONAL OCEAN INSTITUTE

Page 1

INCOME AND EXPENDITURE BUDGET FOR 1993

<u>INCOME</u>		US \$
Grants and other income (schedule A)		2,303,607
Interest received		1,000

		2,304,607

<u>ORDINARY EXPENDITURE</u>	Note 1	
1. Establishment - personnel		365,498
2. Establishment - material		188,259
3. Publications		49,248
4. Research		83,500
5. Training programmes		614,724
6. Conferences, Seminars, Meetings		676,000
7. External Services		46,700

		2,023,949

<u>CAPITAL EXPENDITURE</u>		
8. Purchase of equipment	}	133,324
Purchase of furniture	}	

		133,324

TOTAL EXPENDITURE		2,157,273

ANTICIPATED EXCESS OF INCOME OVER EXPENDITURE		147,334
DEFICIT END OF 1992		356,054

DEFICIT END OF 1993		208,720

Note 1. Separate Expenditure Budgets for IOI Headquarters and for all the Operational Centres are attached as schedules B to H as follows:

Schedule	B	-	IOI Headquarters (Malta)
	C	-	IOI Halifax
	D	-	IOI Malta
	E	-	IOI Colombia
	F	-	IOI India
	G	-	IOI Fiji
	H	-	IOI Senegal

INCOME AND EXPENDITURE BUDGET FOR 1993

SCHEDULE A - Grants and other income

	US \$
Collaborating Institutions (in kind)	102,975
Commonwealth Secretariat	181,272
UNDP (GEF)	59,000
UNDP (GEF)	416,000
UNDP (GEF) Equipment	120,000
PIM XXI Asian Development Bank	200,000
PIM XXI Japan local Committee	400,000
SASAKAWA Foundation	150,000
Donation Anita COADY	10,000
Donation E. MANN BORGESE	1,500
Rockerfeller Foundation	10,000
CIDA	260,000
Anonymous Swiss donor	160,000
UN University	5,000
Malta Government	5,580
NTOM	180
University of Malta	800
Dutch Government	121,300
African Development Bank	100,000

TOTAL	2,303,607

CA \$ = 0.8 US \$

INCOME AND EXPENDITURE BUDGET FOR 1993

 SCHEDULE B - Expenditure IOI Headquarters

EXPENDITURE

		LM	US\$
1.	Establishment (Personnel)		
	1.1 Salaries	35,000	105,000
	1.2 Allowances	6,500	19,500
	1.3 Travel and transport	10,000	30,000
	1.4 Accommodation/DSA	6,500	19,500
	1.5 Human Resources Development	2,000	6,000
	1.6 Miscellaneous	3,500	10,500
		-----	-----
		63,500	190,500
2.	Establishment (Material)		
	2.1 Rent (1)	2,000	6,000
	2.2 Electricity and Water (1)	700	2,100
	2.3 Telephone, telefax, telex	5,000	15,000
	2.4 Financial charges	2,700	8,000
	2.5 Repairs and maintenance-premises	2,500	7,500
	2.6 Repairs and maintenance-equipment	800	2,400
	2.7 Stationery and postage	10,000	30,000
	2.8 Miscellaneous	8,300	25,000
		-----	-----
		32,000	96,000
3.	Publications		
	3.1 Editorial fees (2)	4,500	13,500
	3.2 Publishing and Printing Charges	-	-
	3.3 Miscellaneous	-	-
4.	Research	-	-
5.	Training Programmes Co-ordination	4,000	12,000
6.	Conferences, Seminars, Meetings		
	6A PIM XXI	200,000	600,000
	6B Mtgs of IOI Dir/V Chanc (3)	15,300	46,000
	6C Mtgs of Board Members (3)	6,700	20,000
	6D Mtg of Planning Council (3)	3,300	10,000
		-----	-----
		224,300	676,000
7.	External Services		
	7A Audit and Accountancy fees	900	2,700
	7B Legal fees	3,000	9,000
	7C Course evaluation (UNDP doc)	8,400	25,000
	7D Library Networking (Consultant)	3,500	10,000
		-----	-----
		15,800	46,700

8.	Capital Expenditure		
	8.1 E-Mail Modem	1,000	3,000
	8.2 Lap-top + printer	1,500	4,500
		<u>-----</u>	<u>-----</u>
	TOTAL	346,300	1,042,200
		<u>-----</u>	<u>-----</u>

Notes

1. Premises, electricity and water provided by University in kind and also included in income (LM 2000)
2. Quarterly Newsletter and Alumni Directory

INCOME AND EXPENDITURE BUDGET FOR 1993

SCHEDULE C - Expenditure IOI Halifax

EXPENDITURE

		CD\$	US\$
1.	Establishment (Personnel)		
	1.1 Salaries	102,000	
	1.2 Allowances	5,200	
	1.3 Travel and transport	15,700	
	1.4 Accommodation/DSA	9,400	
	1.5 Human Resources Development	2,000	
	1.6 Miscellaneous		
		-----	-----
		134,300	105,748
2.	Establishment (Material)		
	2.1 Rent in kind	6,000	
	2.2 Electricity and Water in kind	3,000	
	2.3 Telephone, telefax, telex	13,590	
	2.4 Financial charges		
	2.5 Repairs and maintenance-premises		
	2.6 Repairs and maintenance-equipment		
	2.7 Stationery and postage		
	2.8 Miscellaneous	36,000	
		-----	-----
	Note 1	58,590	46,134
3.	Publications		
	3.1 Editorial fees (Ocean Year Book)	20,000	
	3.2 Publishing and Printing Charges		
	3.3 Miscellaneous		
		-----	-----
		20,000	15,748
5.	Training Programmes		
	5B Halifax training prog. B93 Note 2	216,500	170,472
	5C China training programme	95,250	75,000
		-----	-----
		311,750	245,472
8.	Capital Expenditure	Note 2	
		7,396	5,824
		-----	-----
	TOTAL	532,036	418,926
		-----	-----

NOTES

(Rate used US\$ = CAD 1.27)

1. includes CAD 20,000 (US\$ 15,748) debt repayment
2. vide full details on Annexes 1 and 2 attached

INCOME AND EXPENDITURE BUDGET FOR 1993

IOI HALIFAX - Annex 1 to Schedule C

5B	HALIFAX Training Programme 1993		
5B.1	Preparation		
5B.1.1.	Travel		
5B.1.2.	Communications	650	
5B.1.3.	Accomodation/DSA		
5B.1.4.	Printing of brochure	3,275	
5B.1.5.	Miscellaneous	6,075	
		-----	-----
		10,000	7,874
5B.2	Participants expenses		
5B.2.1.	Travel	53,200	
5B.2.2.	Communications		
5B.2.3.	Accomodation/DSA	66,000	
5B.2.4.	Reading materials	4,050	
5B.2.5.	Miscellaneous	7,005	
		-----	-----
		129,255	101,776
5B.3	Faculty expenses		
5B.3.1.	Travel	21,000	
5B.3.2.	Accomodation/DSA	3,475	
5B.3.3.	Honorarium/fees etc.	2,250	
5B.3.4.	Miscellaneous	2,000	
		-----	-----
		28,725	22,618
5B.4	Other expenses		
5B.4.1.	Honorarium Dir/Staff	35,000	
5B.4.2.	Travel Dir/Staff	2,000	
5B.4.3.	Accomodation/DSA	6,550	
5B.4.4.	Equipment expenses	475	
5B.4.5.	Communications	200	
5B.4.6.	Opening/Closing Ceremonies	2,000	
5B.4.7.	Miscellaneous	1,295	
		-----	-----
		48,520	38,205
		-----	-----
	TOTAL	216,500	170,472
		-----	-----

INCOME AND EXPENDITURE BUDGET FOR 1993

IOI HALIFAX - Annex 2 to Schedule C
-----8. Capital Expenditure budget for
1993 - IOI HALIFAX

	CAD	US \$
Lap top - MJW	2,447	
Computer	1,699	
Computer chair	150	
Answering machine - office	150	
Answering machine - EMB	150	
Fax - EMB	1,300	
Laser printer - EMB	1,500	
	-----	-----
	7,396	5,824
	-----	-----

INCOME AND EXPENDITURE BUDGET FOR 1993

 SCHEDULE D - Expenditure IOI Malta
 (for 6 months - July to December 1993)

EXPENDITURE

1.	Establishment (Personnel)		LM	US\$
1.1	Salaries	(in kind)	3,330	10,000
2.	Establishment - Material			
2.1	Rent	(in kind)	500	1,500
2.2	Electricity and water	(in kind)	170	500
3.	Training Programmes			
3A	Coastal Zone Management	(1)	60,424	181,272
		TOTAL	<u>64,424</u>	<u>193,272</u>

 Note 1. vide full details on Annex 1

INCOME AND EXPENDITURE BUDGET FOR 1993

 IOI MALTA - Annex 1 to Schedule D

5A Coastal Zone Management (MALTA)	LM	US\$
5A.1 Preparation		
5A.1.1. Travel	1,300	
5A.1.2. Communications	500	
5A.1.3. Accomodation/DSA	300	
5A.1.4. Printing of brochure	950	
5A.1.5. Miscellaneous	500	
	-----	-----
	3,550	10,650
5A.2 Participants expenses		
5A.2.1. Travel	20,000	
5A.2.2. Communications		
5A.2.3. Accomodation/DSA	10,080	
5A.2.4. Reading materials	3,350	
5A.2.5. Miscellaneous	400	
	-----	-----
	33,430	100,290
5A.3 Faculty expenses		
5A.3.1. Travel	4,000	
5A.3.2. Accomodation/DSA	1,200	
5A.3.3. Honorarium/fees etc.	800	
5A.3.4. Miscellaneous	400	
	-----	-----
	6,400	19,200
5A.4 Other expenses		
5A.4.1. Honorarium Dir/Staff	1,400	
5A.4.2. Travel Dir/Staff		
5A.4.3. Accomodation/DSA		
5A.4.4. Equipment expenses	900	
5A.4.5. Communications	600	
5A.4.6. Opening/Closing Ceremonies	400	
5A.4.7. Miscellaneous	800	
	-----	-----
	4,100	12,300
5A.5 Contingencies and overheads		
5A.5.1. Contingencies	4,000	
5A.5.2. Overheads	9,000	
	-----	-----
	13,000	39,000
	-----	-----
TOTAL	60,424	181,272
	-----	-----

INCOME AND EXPENDITURE BUDGET FOR 1993

 SCHEDULE E - Expenditure IOI Colombia
 (for 6 months - July to December 1993)

EXPENDITURE

1.	Establishment (Personnel)		US\$
	1.1 Salaries	(in kind)	19,500
	1.2 Travel		2,500
2.	Establishment - Material	(in kind)	9,500
3.	Publications		5,000
4.	Research		12,500
5.	Training Programmes		50,000
		Subtotal	<u>99,000</u>
CAPITAL EXPENDITURE			
8.	Equipment and Furniture		<u>30,000</u>
		TOTAL	<u>129,000</u>

INCOME AND EXPENDITURE BUDGET FOR 1993

 SCHEDULE F - Expenditure IOI India
 (for 6 months - July to December 1993)

EXPENDITURE

1.	Establishment (Personnel)		US\$
	1.1 Salaries	(in kind)	9,000
	1.2 Travel		2,000
2.	Establishment - Material	(in kind)	9,000
3.	Publications		5,000
4.	Research		16,000
5.	Training Programmes		76,000
		Subtotal	117,000

CAPITAL EXPENDITURE

8.	Equipment and Furniture		30,000
		TOTAL	147,000

INCOME AND EXPENDITURE BUDGET FOR 1993

SCHEDULE G - Expenditure IOI South Pacific
(for 6 months - July to December 1993)

EXPENDITURE

1.	Establishment (Personnel)		US\$
	1.1 Salaries	(in kind)	19,000
	1.2 Travel		2,500
2.	Establishment - Material	(in kind)	9,125
3.	Publications		5,000
4.	Research		15,000
5.	Training Programmes		50,000
		Subtotal	<u>100,625</u>

CAPITAL EXPENDITURE

8.	Equipment and Furniture		<u>30,000</u>
		TOTAL	<u>130,625</u>

INCOME AND EXPENDITURE BUDGET FOR 1993

SCHEDULE G - Expenditure IOI Senegal
(for 6 months - July to December 1993)

EXPENDITURE

1.	Establishment (Personnel)		US\$
	1.1 Salaries	(in kind)	9,250
	1.2 Travel		2,500
2.	Establishment - Material	(in kind)	9,250
3.	Publications		5,000
4.	Research		40,000
5.	Training Programmes		-
		Subtotal	66,250

CAPITAL EXPENDITURE

8.	Equipment and Furniture		30,000
		TOTAL	96,250