ICOD'S SCHOLARSHIP PROGRAM FOR IOI TRAINING COURSES

An Evaluation Report

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THE SCHOLARSHIP PROGRAM

The program under review consists of scholarships directed at professional resource managers from developing countries working in fields related to ocean management. The scholarships enable selected officials to attend 5- or 10-week training courses offered on an recurring basis by the International Ocean Institute (IOI).

Since 1986 when the program was initiated, ICOD has awarded 32 individual scholarships to government officials from 19 countries. ICOD scholars have attended:

> IOI's training course in <u>Management and Conservation of Marine Resources in the Exclusive Economic Zone</u> offered every summer in Halifax (Class B);

> Regional training courses (Class C) in <u>Management and Conservation of Marine Resources</u> offered in Tanzania, Malaysia, and Egypt; and

> Regional training courses in <u>Marine Technology and Seabed Mining</u> (Class A) in Colombia and India.

A total of $341,170 has been authorized for the scholarship program since 1986, with approximately $330,000 disbursed.

FINDINGS

Recruitment

Recruitment of ICOD scholars for IOI courses has been generally consistent with ICOD's very broad requirements for scholarship programs. Most of the scholars are mid-level government officials from ICOD's target countries with some prior experience and on-going responsibilities in ocean management. Approximately 68% of the scholars have been selected from the Indian Ocean region, and a majority of scholars are from biology or fisheries-related disciplines.

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Until this year, the selection of scholars has not been strategic nor has there been a consistent attempt to use the scholarship program to reinforce or complement ICOD's regional technical assistance programs.

The recruitment process for ICOD scholars is hindered by delays in IOI notifying ICOD of training opportunities and potential candidates. Other problems include a lack of clear delimitation of responsibilities for promotion of the scholarship program, recruitment and selection; duplication in the use of forms and ensuing confusion; as well as a lack of clear objectives for recruitment.

Nonetheless, overall demand for attending the course continues to exceed capacity for Classes B and C. The IOI courses remain the only known short-term training opportunity focusing on ocean management that is offered on a regular basis to professionals from developing countries.

Curriculum Development, Content, and Delivery

Training courses for Classes A, B, and C tend to remain similar from year to year both in structure and content. This is despite a rapid evolution in the field of integrated ocean management in developing countries. Training objectives for knowledge and skill development are either not specified or poorly formulated.

The approach taken to introduce marine affairs tends to be conventional and "generic". Content and case studies of direct relevance to small island nations are limited, with little time allocated to actual marine resource management problems in tropical developing countries. It is unclear whether the emphasis on offshore technology and deep sea mining, notably in Class A training courses, is appropriate for ICOD's target countries.

Lectures, group discussions, and field trips are the predominant training techniques used in course delivery. Few other interactive techniques or techniques aimed at skill development (e.g., case studies, demonstrations, class assignments) have been used. This is a serious limitation for a ten-week professional training course.

IOI aims for the creation of professional networks in marine affairs in developing countries. In the past, the organization has carried several follow-up activities for its alumni.

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Program Administration

Overall administration of the ICOD scholarship program has been hindered by a lack of a formal agreement specifying, for example, institutional responsibilities and reporting requirements. Streamlined administrative procedures and policies have not been implemented, despite the recurring nature of this program.

Other administrative problems are related to communication difficulties and late notifications, handling of course logistics, information storage, and financial reporting.

RECOMMENDATIONS

Consider recruitment as a strategic decision

ICOD should assume direct responsibility for recruitment of ICOD scholars for IOI training courses, approaching the selection of each candidate as a strategic opportunity. The aim should be to reinforce and complement regional technical assistance programs and projects where there is a need to build awareness among carefully selected government officials of the importance and value of marine affairs. Long-term recruitment objectives for this scholarship program should be specified in the context of an overall human resources development policy for ICOD.

Examine ways to strengthen the curriculum

ICOD should initiate discussions with IOI on ways to strengthen the curriculum for Class B and Class C training courses proposed for future ICOD funding. The emphasis should be on updating and adding course material addressing the specific needs of managers from small island countries.

Other options for strengthening the curriculum include joint reviews of training course outlines, course review workshops with other training partners, peer review of course syllabus, and cost-sharing for curriculum development such as case studies in integrated ocean management in small island nations.

Define objectives and implement activities and services for an alumni network

To maximize the long-term impact of its scholarship program, ICOD should first define specific objectives for its overall alumni program as part of an overall human resources development policy. It should then identify services that could be provided to its alumni and activities that would lead to the establishment of functional networks. Some activities could be undertaken jointly with other training partners such as IOI.

Request a financial audit

ICOD should request that IOI carry out and provide an independent audit of its accounts for past training courses which have received ICOD funding.

Formulate a complete formal agreement

Assuming that agreement can be reached on the above, we recommend that ICOD and IOI develop a formal and detailed agreement for ICOD funding of scholars to attend specified IOI Class B and C courses over the next three years. The agreement must specify institutional responsibilities for recruitment, promotion, curriculum review, formative evaluations, and reporting. The agreement should stipulate that IOI conduct and report on individual course evaluations as well as conduct an auto-evaluation at the end of the three-year agreement period.

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PART ONE: INTRODUCTION

A.   BACKGROUND AND OBJECTIVES

In 1985, the Board of Directors of the International Centre for Ocean Development (ICOD) gave its approval in principle for a formal scholarship program to be administered over a period of five years. The program was to have three main components: an ICOD Fellowship Program (Project #850017); bursaries or scholarships for training courses offered by the International Ocean Institute (IOI) (Project #850018); and scholarships for the World Maritime University (Project #850019).

In all three cases, the academic and training opportunities were to be directed at professionals from developing coastal states seeking financial assistance. The scholarship program was viewed as relating directly to ICOD's overall mandate in that:

> A formal scholarship program was a means of promoting and supporting cooperation between Canada and developing coastal states in the field of ocean resources development;

> The program could support the development of indigenous expertise in coastal states in integrated ocean use management; and

> Through such a program, ICOD could sponsor training programs relating to ocean resource development as well as, to a limited extent, support research in this field.

At the time when it gave its approval, the Board of Directors called for the allocation of four individual scholarships to be awarded annually for ICOD-selected students to attend the IOI summer course. The Board noted that IOI had been offering courses in the management of the Exclusive Economic Zone (EEZ) for several years and that financial support of such courses could provide a useful

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adjunct to ICOD's technical assistance program. Funding levels were to reflect the real costs of attending the courses or approximately $10,000 per scholarship (1985 Project Summary). A total funding level of $208,100 was established for the five-year period of the project.

Since 1985 and as of January 1990, ICOD has funded 32 individual scholarships for government officials from 19 developing countries to attend training courses organized and hosted by IOI in collaboration with others. In addition to providing scholarships for IOI's training course on marine resource management in the Exclusive Economic Zone held every summer in Halifax, ICOD has funded students' participation in regional training courses held in Tanzania, Colombia and Jamaica, Malaysia, Egypt, and India. (Readers are referred to PART TWO of this report for a complete description of the scholarship program).

The purpose of this evaluation is to assess the impact of the IOI Scholarship Project #890304 (a regional training course held in Cairo in 1989) specifically as well as assess previous ICOD-funded IOI courses from an overall perspective pursuant to a request from the Board of Directors. The evaluation, which coincides with the end of a 5-year project cycle, is designed to meet the following objectives:

> Review and evaluate the curriculum and course content to determine if these correspond to the "state-of-the-art" in the field of ocean management;

> Assess the extent to which these programs contribute to meeting ICOD's corporate objectives and complement ICOD programming;

> Review and evaluate the administrative aspects of the program to determine if these are sufficient, appropriate and cost effective; and

> Assess the costs involved and advise if ICOD receives value for money from the IOI courses.

In addition, the consultants were asked to investigate several questions listed in the Terms of Reference (presented in Appendix 1 of this report).

This evaluation is designed to address specific needs and questions that relate to ICOD's strategic planning of its training programs. As such, this evaluation is focused in scope in that it is only examines those participants funded by ICOD and the assessment is made from the perspective of ICOD's corporate objectives. It is clearly not intended to be a comprehensive evaluation of IOI training courses, since

we recognize that IOI must also balance the needs and goals of other sponsoring agencies as well as its own.

This evaluation comes at time when ICOD has just completed a major internal reorganization. An outcome of this reorganization has been the establishment of two geographic divisions (the South Pacific and Caribbean Basin Division; and the West Africa and Indian Ocean Division). A third division, the Inter-regional and Cooperative Activities Division (IRCAD), was created to handle projects that involve more than one region including training programs. IRCAD is in the process of reformulating ICOD's training objectives. In doing so, IRCAD is taking into consideration the rapid evolution in the field of marine affairs occuring in developing countries, a trend confirmed in several recent assessments of marine affairs (West, 1986; West, et al., 1989; CRMP Training Issue Team, 1987; Vallejo, 1987). The evaluation is seen as timely given these circumstances.

B. OVERALL APPROACH

The work undertaken for the evaluation involved data collection, an analysis of the four main components of the scholarship program, and the preparation of findings for consideration by ICOD. The work was initiated in late January, 1990 with completion expected in June, 1990.

The main sources of information for the project were as follows:

Project files dating back to 1985 and maintained at ICOD and IOI offices in Halifax as well as IOI offices in Malta;

Nomination and application forms and other biographical data for all the participants having received scholarships from ICOD to attend an IOI training course;

Course syllabus, teaching materials, and final reports;

Interviews with key ICOD and IOI officers involved in key aspects of the program. Readers are referred to Appendix 2 for a list of persons interviewed in Halifax, Malta, and New York during the course of this evaluation; and

Interviews with selected alumni.

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In order to analyse the data and address the questions of interest to ICOD, a set of evaluation criteria were formulated. These criteria, which are presented in the next section, correspond to widely used standards for professional training programs in natural resource management directed at developing countries (West, et al, 1989; Stanley, 1987; Murrell, 1984). The criteria were adapted to reflect ICOD's own corporate goals.

The evaluation is centered on four main components of the scholarship program:

Recruitment and selection of ICOD scholars;

Course development, content, and delivery;

Alumni follow-up and networking; and

Administration.

These four components represent key decision points from ICOD's perspective. A premise of the evaluation is that all four components are equally important in optimizing ICOD's training investment.

C.   EVALUATION CRITERIA

Technical standards for training professionals in resource management as well as ICOD's corporate goals for training were used to formulate relevant evaluation criteria for the scholarship program. The point of the evaluation was not to rate program content but rather to determine whether ICOD's original goals for participating in the program had been met, whether those goals were still relevant, and to provide an objective assessment of the program's overall impact.

While a Logical Framework Analysis (LFA) was prepared for the scholarships awarded for IOI's training course in Cairo, Egypt (Project #890304), we concluded that a broader set of technical criteria would best serve our purposes. The verifiable indicators provided in the LFA were simply too general to serve as a basis for a technical evaluation.

The criteria used for our analysis of the four main components are as follows:

Recruitment and Selection of ICOD Scholars

Criteria #1: Does the recruitment/nomination/and selection process favour or facilitate participation by ICOD's target clientele in the regions?

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Criteria #2: Has there been an adequate representation of ICOD scholars (e.g., among target countries/regions; among disciplines; are women professionals adequately represented?)

Criteria #3: What is the level of overall professional experience and suitability of the scholars selected?

Course Development, Content and Delivery

Criteria #4: Does the curriculum development process favour the creation of courses that tailored to the needs of professionals from developing coastal states, particularly small island nations?

Criteria #5: Does the curriculum reflect current trends in ocean management in developing and developed countries? (is it current and relevant?)

Criteria #6: Are the known or expressed training needs of client countries adequately addressed?

Criteria #7: Are the training techniques used for course delivery tailored to needs of participants? Are they designed to encourage real knowledge and skill development among professionals in ocean management?

Criteria #8: Is course content complementary to ICOD's stated priorities for technical assistance?

Alumni Follow-up and Networking

Criteria #9: Have the IOI training courses led to the establishment of professional networks in marine affairs in ICOD's regions? Has there been a multipier effect to the initial training investment?

Administration

Criteria #10: Are the administrative procedures for the scholarship program well-established, stream-lined and timely?

Criteria #11: Do the course logistics and travel support services complement and reinforce the quality of the training experience?

Criteria #12: Are provisions taken for information flow, storage, retrieval adequate? Do they allow for effective maangement of the scholarship program?

Criteria #13: Are provisions and procedures taken for the financial management of the program adequate?

D.   LIMITATIONS

In reviewing the results of this evaluation, it is important to understand that the study has several limitations.

When data collection was initiated, it became apparent that some of the archival material could not be located. This is understandable since both IOI and ICOD have undergone several moves and changes in staff during the life of the project. Hence, some of the analyses (e.g., the student profiles) had to be undertaken with only partial data sets.

Time limitations, as always, were a constraint. Additional time would have permitted more thorough searches for missing data and additional interviews with course staff and alumni. The latter was also limited by telecommunication problems in most countries contacted.

An evaluation of the actual impact of training in a specialized field of resource management is difficult under any circumstance. In this case, we note that basic instruments normally consulted during such evaluations were not available. For example, there were no baseline data (e.g., pre-training questionnaires) available to assess prior knowledge or skill levels among the scholars. Post-training evaluations and follow-up questionnaires were available, but not for all IOI courses or for all ICOD scholars.

At a much more fundamental level, few needs assessments have been conducted in the field of ocean management for the regions of concern or the target countries (we know of only one such assessment undertaken in recent years for Sri Lanka). Therefore, it is difficult to establish with certainty whether the curriculum and recruitment strategies correspond to actual human resources development priorities in any given region or country.

Nonetheless, the evaluation did yield reliable findings concerning ICOD's scholarship program as well as insights for future evaluations of ICOD's training programs. These are noted in the last section of the report.

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PART TWO: AN OVERVIEW OF THE PROGRAM

A.   THE INTERNATIONAL OCEAN INSTITUTE (IOI)

The program under review is a scholarship program directed at professional resource managers from developing countries working in fields related to ocean management. The scholarships are awarded to a pre-determined number of individuals to attend selected IOI training courses. The scholarships, which average $10,000 per individual, go toward payment of tuition fees, travel expenses from country of origin, full board accommodation, local transport, allowances, and teaching materials.

The International Ocean Institute (IOI), the organization which organizes and hosts the training courses, is an independent, international non-governmental organization (NGO). Founded in 1972, the organization is governed by a Board of Trustees and a Planning Council. Operations are conducted from offices located in Valletta, Malta and Halifax, Canada.

As stated in its Statute, IOI's mission 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 conservation of the marine environment.

IOI's status as an international NGO as well as its formal relations with other institutions have evolved since its foundation (A. Chircop, pers. comm.). The Institute was initially established with the participation of the University of Malta under Chapter 11 of the University's Statute. However, IOI's status within the University went through several phases during the late 1970's and 1980's. IOI's formal arrangements with the University are currently under review. It is expected that an amended statute relating to IOI will be adopted by the University Council.

IOI also maintains institutional arrangements with the Government of Malta (with which it has a three-year agreement), the Foundation for International Studies and Dalhousie University (Pearson Institute).

B.   THE TRAINING COURSES

Training courses are an important component of IOI's program of activities. In addition to conferences and seminars, IOI offers every year three types of training courses in the management and conservation of marine resources for mid-career civil servants from developing countries. The three types of courses are:

    Class A course on Ocean Mining and Technology is designed to "assist developing countries in assessing the importance of seabed mining in the context of global economics, to keep abreast of technological and organisational developments, to optimise benefits from contract negotiations, and to participate effectively in international undertakings in ocean mining so as to assure their fair share in the common heritage of mankind" (IOI, 1989). Ten Class A courses have been held since 1980.

    Class B course on the Management and Conservation of the Resources of the EEZ provides participants "an overview of the many and varied aspects of EEZ management in order to help them develop a familiarity with the broad range of issues encountered in marine affairs. It attempts to increase awareness of the fact that ocean management adds a new dimension to development strategy: it requires braodly interdisciplinary skills; new institutional and legal infrastructure; and new forms of (...) organisation and cooperation" (IOI, 1989). In addition to the Class B held every summer in Halifax since 1981, such classes have been held in Malta and Beijing.

    Class C in management of the EEZ is designed for and held in different regions, combining the curriculum of Class A and Class B. This course addresses all uses of the ocean, including living and non-living resources, seabed mining, navigation, ports and harbours, scientific research, transfer of technology, environmental policy, and legal and institutional infrastructure. The curriculum is tailored to the needs of the region in which the course is held. Since 1980, 17 Class C courses have been in various regions including the Indian Ocean.

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The duration for Class A training courses is 5 weeks and for Class B, and C training courses is normally ten weeks (A modified 5-week version of Class B has been offered on occasion). The curriculum for the courses follows a standard format (see Appendix 3). The standard course outline remains essentially the same in structure and content from year to year, although some adjustments are made, particularly for Class C courses, to reflect regional issues and the availability of guest lecturers.

C.   AN OVERVIEW OF ICOD'S SCHOLARSHIP PROGRAM

Since 1985 when the program was approved, ICOD has awarded 32 scholarships as follows (Table 1):

> 5 of the scholarships were offered for Class A courses held in Cartagena and Jamaica in 1988 and Madras, India in 1989;

> 15 scholarships were awarded for Class B courses in Halifax;

> 12 scholarships were awarded for Class C training courses in the Indian Ocean region.

There is an internal policy dating back to the initial approval of the program requiring that ICOD only fund attendance to Class B and C training courses.

Total funds authorized since 1986 amount to $341,170 with approximately $330,000 disbursed to date.

ICOD's policy since 1985 has been that the program is essentially a scholarship program. Funding for scholarships would be provided as long the training courses were relevant and professionals from ICOD's target countries were willing to attend the courses (Mr. G. Vernon, pers. comm.). In the early years, the informal short-term training opportunities offered by IOI were thought to be important complements to ICOD's other scholarship programs for formal training in an academic setting.

Some of the basic features of each training courses for which ICOD has awarded scholarships are summarized in Table 1 and in Appendix 4 in an attempt to place the program in its overall context.

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Balanced regional and national representation;

Representative cross-section among ocean management sectors (e.g., transport, fisheries, tourism);

Representative cross-section among disciplines (e.g., biology, economics, law, business);

Funding is secured for attending the course; and

Balanced age distribution.

Special attention is also given to candidates from land-locked or geographically disadvanted states and women (Vanderbilt, 1988). In doing an initial screening of candidates for ICOD scholarship, IOI will take into consideration ICOD's target countries (C. Vanderbilt, pers. comm.).

The standard class size is 25 participants. Thus, ICOD scholars represent ususally less than 20% of the total class.

E.   PROGRAM MANAGEMENT

Having organised and held training courses for over a decade, IOI has follows established procedures for the implementation of its annual training program. An overview of this process helps to place ICOD'S scholarship program in its proper context.

Long-term training goals of the Institute are presented in the 5-year development plan. The plan forecasts the number of Class A, B, and C training courses to be offered annually.

IOI receives approval in principle from Planning Committee for its annual program. It may already have received a request from a developing country to host a Class C training course. Course directors are also selected or approved at that time.

Announcements of the courses to be offered in any one year and the request for nominations are made annually through the ministries of foreign affairs of developing countries. The poster announcements are also sent to IOI's general mailing list which includes previous nominating agencies,

TABLE 1: OVERVIEW OF ICOD'S SCHOLARSHIP PROGRAM

FOR IOI TRAINING COURSES

PROJECT#	COURSE LOCATION	YEAR(S)	CLASS TYPE	# OF SCH.	STUDENTS	FUNDS AUTHORIZED
850018	Halifax	1986	B	4	I. Bodian T. Phillips N. Idechong J. Ochieng	$40,000
		1987	B	4	T. Sioneholo A. Vazquez M. Nassor D. Naidoo	$40,000
		1988	B	4	T. Ajayi F. Labrosse J. Jeffers F. Mate	$42,000
		1989	B	4	L. Brewster E. Lyimo C. Brown	$42,000
860081	Tanzania	1987	C	4	H. Fulu C. Tenga H. Jayatilaka H. Hared	$50,000
870172	Cartagena	1988	A	2	S. Daoudou D. Jayawardena	$16,170
880218	Malaysia	1988	C	4	E. Rasoaromanana P. de Alwis M. Hashim M. Hassan	$50,000
880260	Madras	1989	A	3	L. Kallee M. Hashim S. Kombo	$13,000
890304	Cairo	1989	C	4	T. Mwangi A. Ilangakoon S. Soondron B. Ngatunga	$48,000

D.   RECRUITMENT AND ADMISSIONS

The target audience for the three types of training courses
is:

Mid-career civil servants from all government branches
of developing countries or working in a scientific
institution involved in one way or another in marine
affairs.

General admission requirements for IOI training courses are
as follows (Vanderbilt, 1988) :

Participants should have a B.A. or equivalent.

Participants should be mid-career civil servants or
working in a scientific institution involved in ocean
management.

Participants must have a good working knowledge of
English.

Participants must be nominated and endorsed by an
appropriate government ministry or department, or by a
national or regional organisation.

Participants should be preferably between 25 and 40 (or
45) years of age.

IOI requires that all nominations come from national or
regional bodies involved in ocean affairs or government
ministries or departments involved in ocean-related sectors.
These can be the ministries of foreign affairs, justice,
fisheries, energy and mines, environment, economic planning,
ports and harbours, transportation and shipping, trade, or
others (Vanderbilt, 1988). Nominations must be made on
official IOI application forms where the nominating agency
must indicate how it expects the candidate to utilize his or
her training upon completion.   This form also requests
information on the academic and professionnal background of
the candidate, reasons for wishing to attend the course, and
medical clearance.

ICOD also requires that candidates be nominated by a
government   agency   or   regional   intergovernmental
organization.

In screening applications and selecting participants for the
training courses, IOI's Assistant Directors will also take
into consideration the following factors (C. Vanderbilt,
pers. comm.):

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any other government department, national or regional organisations which have requested information and to all alumni of the programme. In the case of regional courses (Class A and Class C training courses), a second call for nominations is made to those countries in the applicable region.

IOI staff in Malta and Halifax share the responsibility of organising and hosting the training courses. As a general rule, the Halifax office is responsible for Class B courses held in Halifax as well as Class A and C courses offered in the Caribbean. The Malta office is responsible for the other training courses, such as the Class C course in the Indian Ocean.

Approximately six months prior to a regional class, the Assistant Course Director will travel to a host country to develop an agreement for services and facilities for a Class C or Class A regional training course. The agreement is generally negotiated in one week and may involve the host country providing (for example) access to a training facility, local transportation for field trips, secretarial support, other office equipment, assistance in receiving students, and other services. This is ususally offered in exchange for an agreed number of trainees from the hosting country.

The recruitment of lecturers also begins approximately four to six months prior to the course. Over the years and as the programme has matured, a core group of lecturers has been established, many with direct experience in the negotiations leading to UNCLOS. All the lecturers participate in the training course on a volunteer basis, being reimbursed only for their travel and living expenses while with the course.

A standard syllabus is used for all classes. The Chairman of the Planning Council and the Course Director will make adjustments to the standard syllabus from year to year to reflect regional differences (in the case of regional courses) or to update the material (in the case of Class B).

The screening and final selection of participants takes place two to three months prior to the course. At that time, the Assistant Course Director will also select candidates for the scholarships available for a given course and forward the names of the candidates to the sponsoring agency. In recent years, some sponsoring agencies such as the Commonwealth Secretariat have chosen to recruit scholars directly.

Under ideal conditions, students are notified that they have been selected for attendance at the course at least two months prior. Instructions are also provided for how to prepare for the course, visas, materials to bring, and so on. Experience has shown that there can be significant problems in communications at this stage of the program, including delays in being able to contact selected participants.

ICOD usually transfers funds at the time when it approves nominated candidates for its scholarships.

Tickets for participants receiving scholarships are bought by IOI and wired to each individual. Visas are obtained with the help of a host country.

The Assistant Course Director will arrive on location a week prior to the course's first day to make final arrangements with the host country. Both the Course Director and the Assistant Course Director are on location for the duration of the training course. Lecturers are usually expected to stay between 2-4 days.

In the past, the final course report was prepared by each Course Director and submitted to ICOD and other sponsoring organisations a few months following completion of the course.

A.   THE RECRUITMENT OF ICOD SCHOLARS

The findings of this section are based on an analysis of the students profiles presented in Appendix 8, a review of available nominations forms, and information obtained during various interviews.

CRITERIA #1: Does the recruitment/nomination/and selection process favour ICOD's target clientele in the regions?

Promotion of the IOI training courses and ICOD's scholarship program represents the first step towards ensuring the long-term impact of the training investment.

As described in the previous section, IOI promotes its courses through mailings of its annual poster and application forms to Ministries of Foreign Affairs, former nominating agencies, and its alumni as well as through direct contacts with IOI alumni (e.g. at IOMAC meetings). Since all past nominating agencies have some involvement in ocean management, promotion of the training courses in countries that have already nominated candidates is relatively effective for IOI's purposes. ICOD also mails the IOI poster and its application form to its general mailing list every year.

The approach to promoting ICOD's scholarship program for IOI training courses has been diffuse and undertaken primarily through general mailing lists (for the Class B held in Halifax). ICOD has not been directly involved in promotion of other classes (either Class A or C). ICOD's regional divisions are not canvassed on a regular basis for ocean management departments which should be made aware of the training opportunity. There is some question as to whether the annual IOI poster and the ICOD application form are adequate promotional tools for the scholarship program.

The recruitment process creates confusion among nominators and applicants. In particular, there is confusion concerning the sharing of responsibilities between IOI (Malta and Halifax) and ICOD for reviewing nominations and applications, selecting scholars, and notifying scholars. This is in part due to the duplicate use of forms (for example, the two nominating forms) as well as the lack of detailed information in the promotional material. This apparent confusion was confirmed in some of the correspondence received by ICOD from nominating agencies inquiring about the status of an award (in one instance ICOD had not yet been notified of the training course).

IOI's nomination/application form used in recruitment is well designed and generally seems to be completed with ease by nominators and applicants. More questions concerning an applicant's current knowledge, knowledge and skill development expectations and current ocean management issues of particular concern to his department could be added to the form.

The selection process generally takes into account ICOD's target countries. In making a preliminary screening of possible ICOD scholars, IOI's Assistant Directors will consider ICOD's list of target countries in the regions. However, and this is discussed later under Criteria #2, consideration of country of origin does not ensure a functional linkage between the scholarship program and ICOD's technical assistance program in that target country.

Until this year, ICOD's participation in the selection process has been marginal. IOI would recommend to ICOD four or more candidates for the Class B (Halifax) and ICOD staff would approve the candidatures following a review of the nomination/application forms. This year, the forms of candidates wanting an ICOD scholarship were all sent to ICOD and ICOD staff made both the initial screening of candidates as well as the final selection (O'Brien, pers. comm.) This approach made it possible to consult regional division staff prior to final selection.

The effectiveness of the selection process has been hindered by delays. This applies mainly to Classes A and C where ICOD was often notified of candidates only a few weeks prior to the course. Such delays have made it difficult for ICOD to have any meaningful input in the selection (i.e., to verify nominations) or for IRCAD staff to consult regional division staff about priorities.

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CRITERIA #2: Has there been an adequate representation of
ICOD scholars (e.q., among target countries/regions; among
disciplines; are women professionals adequately
represented?)

The regional distribution of ICOD scholars has been as
follows:

TABLE 2: REGIONAL DISTRIBUTION OF ICOD SCHOLARS

REGION	COUNTRIES	# OF SCHOLARS	% TOTAL
Caribbean	4	4	13%
South Pacific	4	4	13%
Indian Ocean	9	22	68%
West Africa	2	2	6%

ICOD has awarded scholarships to 19 different countries in
the four target regions. Of the 32 scholarships awarded
since 1985, only three were awarded to non-target countries
(or secondary focus countries) (see Table 4). Therefore,
there is a good overlap between country of origin of the
scholars and ICOD's target countries.

Yet the overlap is not necessarily a functional one. As
part of the evaluation, we attempted to verify both the
institutional and sectoral overlap between former scholars
and ICOD's past or current projects (using the project list
as of April 1989). The results of our analysis are shown in
Table 4.

TABLE 4:   RELATIONSHIP BETWEEN ICOD'S IOI SCHOLARSHIPS AND
           AND ITS TECHNICAL ASSISTANCE PROGRAM

REGION	# OF SCHOLARS	COUNTRIES	TARGET COUNTRY?	ICOD PROJECT?	SECTOR OVERLAP?
South Pacific	4	Palau	*	Regional	No
		Niue	Yes	Regional	No
		Fiji	Yes	Yes	Yes
		Cook Is.	Yes	Yes	No
Caribbean	4	Monserrat	Sec.	Regional	No
		Guyana	Yes	Regional	No
		Costa Rica	Yes	Yes	No
		Barbados	Yes	Yes	Yes
West Africa	2	Senegal	?	No	No
		Nigeria	Sec.	No	No
Indian Ocean	22	Mauritius	Yes	Yes	Yes
		Kenya	Yes	No	No
		Seychelles	Yes	Yes	Yes
		Tanzania	Yes	No	No
		Maldives	Yes	Yes	Yes
		Djibouti	Yes	No	No
		Sri Lanka	Yes	Yes	Yes
		Comoros	Yes	Yes	Yes
		Madagascar	Yes	Yes	Yes

* Eligible for regionally administered projects only.

The available data indicate that there is significant overlap between the scholars that have been recruited to date in the Indian Ocean region and ICOD's technical assistance program in that region (particularly in countries such as Mauritius, the Maldives, and Sri Lanka). This is partly a result of the greater number of scholars selected from those countries. In Sri Lanka, for example, scholarships have been awarded to officials of government agencies with which ICOD was also cooperating on technical assistance projects.

There is limited sectoral or institutional overlap in the South Pacific and the Caribbean and no overlap in West Africa. This could be due in part to a lack of information exchange between ICOD and IOI about key departments or sectors in target countries for technical assistance programs. Note however that none of the agreements for the program stipulate that there should be a link with on-going technical assistance programs.

Changes and adjustments in technical assistance priorities in target regions are expected as a result of ICOD's 1989 reorganisation. It would be important to take these new priorities into consideration for the recruitment of future scholars for any professional training course including the IOI program. As a general rule, the aim should be to have at least some institutional and sectoral overlap between scholars and ICOD's on-going or past projects.

Five (4?) of the 32 scholars were women, a finding which reflects the fact that professional women are still not prominent in sectors and disciplines that relate to ocean management. (We cannot ascertain the attendance of one of the women which was awarded a scholarship for the Class C training course in Malaysia). This corresponds to the proportion of women attending all IOI courses (which is approximately 14%) (Vanderbilt, 1988). The nomination process used as well as the format of the training course may work against the selection of women for the scholarship program. It is unclear whether predominantly male nominators would consider female candidates for nomination. The 10-week duration of the course may also be a more severe constraint for women in the target age group.

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ICOD scholarships for IOI training courses have been awarded
to a wide cross-section of disciplines and ocean management
sectors as shown below:

TABLE 3: DISTRIBUTION OF ICOD SCHOLARS BY DISCIPLINE

DISCIPLINES	# SCHOLARS	SECTORS	# SCHOLARS
Engineering/Earth Sciences	6	Fisheries management	14
Biology	20	Shipping/Ports	3
Business/ Administration	1	Non-living resources/mining	3
Law	4	Inter. law	4
Social Sciences	1	Environment	6

Professionals from the biological and fisheries-related
disciplines have dominated the selection of scholars (these
disciplines also represent the majority of participants at
the IOI courses overall).

Since needs assessments for the marine affairs sector have
not been conducted for most countries, it is not possible
to establish whether past recruitment for the scholarship
program has met human resources development priorities in
ICOD's target regions. It would be advisable to address
this question in designing future needs assessment studies.

CRITERIA #3: What is the level of overall professional
experience and suitability of the scholars selected?

IOI aims the program at mid-level career professionals
directly involved in ocean management. ICOD is also
interested in offering this training opportunity to
individuals who are established in the field of marine
resource management and are likely to remain in some
management capacity in that field when they return to their
country.

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As can be expected in any training program directed at developing countries, there is considerable variation in the professional and academic qualifications of ICOD scholars. Most scholars have at least an undergraduate degree or a degree from a technical college and about 30% also have a graduate degree (either a Master's or a Ph.D.).

On average, most of the scholars have at least five years professional experience. Six of the 32 scholars have less than five years experience, with at least three of the scholars having very limited experience. The range in years of experience is to be expected in small island countries where marine resource management agencies tend to be newly established organisations which often have to recruit recent graduates.

Perhaps more relevant for this evaluation is whether the scholars were recruited from Departments that are lead ocean management agencies in their countries. This is a partial indication of whether the scholars are likely to be able to apply their multi-disciplinary training in their future employment. Based on the available data (which are not complete) most of the awards in the Indian Ocean region have been to government departments, research institutes or other organisations with some responsibility in ocean management. For example, candidates from Sri Lanka have come from the National Aquatic Resources Agency (NARA), a lead agency in that country. Relevance is difficult to ascertain for the other regions due to the small number of awards. This is a question which should be raised with regional division staff and representatives of regional organisations.

In summary, we find that recruitment policies and procedures have been adequate in that the scholars generally correspond to ICOD's target audience for informal training. However, the overall recruitment process is not as effective as it could be owing to a lack of clear delimitation of responsibilities and a lack of direct linkages with ICOD's technical assistance programs in its target regions.

With reference to the question of promotion and recruitment, it is important to note that demand for the training courses, particularly for Class B in Halifax, continues to exceed capacity. This is not surprising given that the course is currently the only short-term training opportunity in marine affairs offered on an annual basis (that is not focused strictly on fisheries).

B.   TRAINING COURSE DEVELOPMENT, CONTENT, AND DELIVERY

Our assessment of the curriculum of the IOI training courses is based on an analysis of the syllabus of all courses for which ICOD has awarded scholarships. However our findings pertain specifically to the curriculum developed for the Class C course held in Cairo in 1989, as stipulated by the Terms of Reference.

CRITERIA #4: Does the curriculum development process favour the creation of courses that are tailored to the needs of professionals from developing countries?

As noted in the previous section, the syllabus for an IOI training course is derived from a standard curriculum or course format. There are standard formats for Class A, B and C courses (see Appendix 3). The formats were developed in consultation with members of the international ocean management community in the early 1980's. The most recent revisions to the Class A and B syllabus were made over an 18-month period in 1985 and 1986. At that time, a three-day seminar was organized and held jointly with the United Nations University and attended by representatives of several UN agencies. The purpose of the seminar was to evaluate the IOI courses and to generate discussion and suggestions for improvement of the curriculum (Vanderbilt, 1988).

In general, the dominant themes selected for the 5-week Class A course and the 10-week B and C courses have remained the same since 1986. The overall framework selected for both Class B and C progresses from the general to the more specific, introducing the following themes:

Oceanography

Living resources management (Fisheries, Aquaculture)

Non-Living resources management (deep sea mining)

Shipping and ports

Environment

UNCLOS

International organisations

On all ten-week courses, the initial two weeks are devoted to introducing the non-scientist to oceanographic processes

and initiating the scientist to the provisions of the law of the sea. "This is in the belief that a basic understanding of oceanography is an essential foundation for resource exploration and management. Similarly, the law of the sea serves as a framework within which marine activities take place" (Vanderbilt, 1988).

The next five weeks are devoted to the various sectors of ocean development and management including living resources, non-living resources, shipping and ports, tourism and other sectors. The next two weeks then focus on management tools and options. In most courses, this has consisted of a review of selected regional, international and national organisations active in marine-related subject areas. The final portion of the course is devoted to contract negotiation using simulations. The courses usually conclude with the participants having to present group final reports designed to reflect the understanding gained during the previous nine weeks.

The courses offered annually vary little from this standard format. Other than the course syllabus, a formal training design is not developed in preparation for each course. Hence, training objectives with respect to knowledge and skill development are not specified for each week or unit (as is normally the case with professional training courses).

Minor adjustments are made to course outlines either by the Course Director or the IOI Chairman of the Planning Council. In the case of Class B courses for example, adjustments are made in the syllabus to reflect the availability of invited lecturers and scheduling of field trips in the Halifax area. Similarly, adjustments are made to the Class C courses depending on location and to allow for the participation of national and regional guest lecturers.

Over the years, IOI has relied on a core group of lecturers familiar with the curriculum and course format. As the program matured, the number of lecturers used has been reduced to about half that used on the first courses (Vanderbilt, 1988).

Past Course Directors, who hold the primary responsibility for curriculum development, have included:

    Dr. S.P. Jagota, former Additional Secretary to the
    Ministry of External Affairs of India and leader of the
    Indian Delegation to UNCLOS III (Class B 1986, 1987,
    1988, 1989);

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Dr. K. Saigal, Sagar Laxmi Consultants, New Delhi (Class C Malaysia, Cairo; Class A Cartagena and Madras); and

Prof. Costa Mahalu, Dean of the Faculty of Law of the University of Dar es Salaam (Class C Tanzania).

In some instances, the Course Director has chosen to circulate the draft syllabus to invited lecturers for comments and revisions. In general however, the draft syllabus is not circulated for extensive peer review. ICOD staff have not commented or reviewed draft syllabus in any systematic manner. It is not known whether other sponsiring agencies are invited to comment on the draft syllabus.

· Systematic needs assessments in target developing countries have not been conducted for marine affairs either by IOI or other international organizations. Such information is not considered readily available. However, IOI has received some feedback on training needs and its curriculum through its alumni, the annual Pacem in Maribus conferences, IOMAC meetings and its international network.

CRITERIA #5: Does the curriculum reflect current trends in ocean management in developing and developed countries? (is it current and relevant?)

This is a difficult criterion to address, mainly because the field of marine resource management is so broad. Experience specific to developing countries is evolving rapidly but it is still largely undocumented (West, et al 1988; West, 1986; Lemay and Bacle, 1988).

Referring specifically to the Cairo course, the approach taken to introduce marine affairs is conventional (see Appendix 6). Overviews of the various sectors are presented during lectures are presented over the course of eight weeks, leaving the integrating themes (such as the simulation exercise) for the last two weeks. It is unclear whether the amount of time allocated to offshore technology and deep sea mining is appropriate for small island nations. Themes not emphasized, not well developed, or not given sufficient attention are:

Traditional customary use of marine resources;

Food and energy self-sufficiency for small island nations;

Tropical coastal and marine ecology;

National marine resource management legislation;

Coastal community planning and the integration of local needs in marine resource management;

Integrated coastal and marine resource management in a tropical setting.

A review of the reading material provided to participants for the Cairo reveals several omissions of published literature that is specific to coastal developing countries. Also notably absent is any treatment of the ocean management issues raised by the Brundtland Commission Report.

Some of the themes introduced in the standard curriculum (e.g., in Cairo, Malaysia, Madras) appear outdated such the notion of the New Industrial Revolution.

Once again, all recent evaluations of marine affairs program targeted at developing countries have found that the subject area (theory and practice) is evolving rapidly. Much of the experience from developing countries is still undocumented. Results from on-going pilot programs in marine and coastal resource management indicate that approaches developed in North America and Europe may not be transferable to small island nations. Under these circumstances, it would seem that a flexible approach to the curriculum would be more effective than the use of a standard syllabus.

Participants are not given an opportunity to test or question theories or apply existing frameworks to actual marine resource management issues. The simulation exercise carried during Week 9 is based on a hypothetical case rather than a current ocean management issue.

The Class B held in Halifax is somewhat more successful in dealing with current issues in ocean management. The curriculum is more balanced in its presentation of the sectors and there is generally less emphasis on deep sea mining and offshore technology. Themes such as boundary delimitations, information management, and marine pollution have been incorporated to a greater extent. However, some important themes (from the perspective of ICOD's target regions) are still overlooked or not treated adequately (e.g., marine tourism, coastal zone management, artisanal fisheries, tropical marine ecology).

The relevance of Class A as appropriate curriculum for an ICOD scholarship program is doubtful.

CRITERIA #6: Are the known or expressed training needs
of client countries adequately addressed?

This question is difficult to answer without the benefit of
a systematic needs assessment for ICOD's target regions. In
general however, we can address relevance by examining the
amount of material offered in the course that pertains to
developing countries (and specifically small island
countries). We have also compared topics covered against
the needs and expectations of students (as stated on their
application forms).

A limited number of current case studies from developing
countries have been used in the training courses. In the
Cairo course, the time alloted to LDC case studies was
minimal compared to the time alloted to generic or region-
wide issues. The two national case studies used during the
10-week period were the Seychelles and Sri Lanka. Two
regional case studies (the Indian Ocean and the
Mediterranean) were also used. These case studies consisted
mainly of descriptive overviews rather than training case
studies where participants are asked to explore and analyse
an actual marine resource management problem. Results of
on-going pilot programs in integrated marine resource
management have not been incorporated in the curriculum.

Nowhere is the generic aspect of the curriculum more evident
than in the questions that were assigned to the participants
of the Cairo course at the end of each week (see Appendix
5). For example, students were asked to discuss the
following questions in groups, prepare written answers and
present their results to the entire class:

> "Oceanography is now increasingly coming to be known as
> a Marine Science. Why? What differences does the change
> in terminology make? What factors in the new "Sciences"
> are significant to developing countries for managing
> and exploiting their offshore areas?
>
> Why is man increasingly turning to the oceans? How has
> this affected his view of the oceans and which sciences
> and disciplines have been affected by man's increased
> knowledge of oceanic processes?

Participants were also asked to prepare summaries of the
lectures and discussion week by week "as a method of recall
and learning" (Cairo course report). Many of these
assignments seem more appropriate for a formal academic
setting than a professional training program aimed at
practioners.

The same observation applies to the reading material made
available to students. Most of the articles are too generic
and usually international in scope. The suggested readings
for ocean technology and LOS tend to outnumber all other
aspects of marine affairs, including key aspects such as
economics. Many of the articles or reports dealing with
other aspects such as marine ecology, fisheries, marine
environmental management are either outdated, of limited
training value, and of limited relevance to developing
countries, particularly small island nations.

These observations also apply to the Class B held in
Halifax, although to a lesser extent. The only case studies
used (in 1989) during the 10-week period were Cameroon's
ocean policy, tourism planning in the Caribbean, and
Atlantic Canada's fisheries management experience. In
general, the content tends to be "generic" with only a
limited attempt to examine how economic and social context
of a small developing coastal state affects ocean resource
management. However, the reading list for the Class B in
Halifax was just recently updated.

Some discrepancies also exist between the expectations and
needs of students (as expressed in their application forms)
and course content.

CRITERIA #7: Are the training techniques used for course
delivery tailored to student needs? Are they designed to
encourage real knowledge and skill development among
practicing managers?

Most professional training courses in resource management
aim toward a balance between knowledge development, skill
development, and attitudinal change (i.e. awareness
building). This balance is thought to be critical in
rapidly evolving fields such as ocean and coastal resource
management (West, et al 1988) where managers must not only
have a broad multi-disciplinary knowledge base but also be
skilled in problem analysis, strategic planning,
negotiation, and communication.

Mid-career professionals who take a leave of absence for
training usually have very high expectations both in terms
of knowledge and skill development. Most want a practical
curriculum, one where the information gained and the skills
acquired can be directly applied to their jobs. This was
certainly confirmed in the nomination and application forms
of all ICOD scholars.

To achieve this balance between knowledge and skill development, professional trainers use a combination of training techniques including:

Case studies

Role playing and simulations

Workshops and field assignments with projects or products;

Class "hands-on" demonstrations;

Aligned project work with training as consulting;

Group goal setting and planning.

Trainers often specify their objectives with respect to both knowledge and skill development as well as attitudinal change in their training design. As much as possible, these objectives must be measurable or verifiable. An effective combination of techniques is then selected on the basis of those specific training goals.

As mentioned earlier, IOI's stated training goals for the Class C are general (and they are identical for all Class C courses). The stated goals are:

"(a) to sensitize the participants to the multi-disciplinary aspects (Marine Science and Technology, Law, Economics. Management, Negotiating Skills and Diplomacy) of the major uses and resources of the ocean in an interactive matrix arising out of a systems approach to management;

(b) to assist participants in harmonising the legal regimes and national policies with the requirements of ocean space so as to optimise the benefits flowing therefrom within the constraints of conserving marine resources and the marine ecosystem.

The programme therefore represents a blending of policy-making and implementation managerial concerns, with emphasis being laid on the ecological, socio-economic, legal and technological environment in which marine resources policy has to function."
(excerpt from the Cairo course report, IOI 1989).

The goals stated for the Class B training course held in Halifax in 1989 were identical to the above. As stated, these goals are difficult to verify.

A brief overview of the curriculum for the Class C held in Cairo and Class B held in Halifax in 1989 confirms that the IOI programs tend to be knowledge-based (Table 5). In both instances, as with all the other courses, the most frequently used training techniques were lectures and group discussions. Resource staff were almost always used as guest lecturers (except for the staff coordinating the simulation exercises). This may be in part due to difficulties in recruiting specialists in ocean management that are are also skilled trainers.

The following is the relative amount of time alloted to lectures, group discussions, field trips and other traning techniques for the Cairo course:

TRAINING TECHNIQUE	% TIME (CAIRO)
Lectures	46 %
Group discussions	13 %
Field trips	20 %
Part.presentations	5 %
Case studies	4 %
Simulations	7 %
Demonstrations	1 %
Class demonstrations	1 %

In general, the average time allocated to individual lectures was too long (about 2.5 hours, with some lectures running as long as 4 hours) particularly for classrooms where at least some of the participants had English as a second language. (The accepted standard for a lecture session is 30 minutes in a training setting, even 20 minutes for adult learners).

Participants were occasionally given an opportunity to practice analytical skills but the techniques were not always effective. During the Cairo course, for example, participants were asked "as a group to prepare summaries of the lectures and discussions week by week. This was meant to assist as a method of recall and learning." (Cairo Course report). While this approach might be of some value in developing synthesis skills, it is tedious if used repeatedly during the 10-week course.

Another technique used was the question-answer assignment also given at the end of every week "so that both breath of vision and in-depth analytical skills were developed." (Cairo Course report). The same technique was used during the course held in Malaysia. Once again, we have to question the training value of using the same technique over a 10-week period.

The individual country reports are probably more effective as a training technique. In this assignment (which is used in both Class B and C), each participant is requested to prepare an overview of marine legislation in his (her) country; institutional infrastructure; resource base; regional cooperation mechanisms; and contribution of the marine sector to the GNP. During the Cairo course, all country reports were presented during the last week of the course. As a general rule, it would be more effective to schedule participant presentations over the course of several weeks. The same approach was used in Halifax (where the participant presentations were all scheduled during Week 9) and in Malaysia.

As mentioned earlier, case studies were used to a very limited extent during both the Cairo and the Halifax courses. The case studies tend to be presented as lectures and are not necessarily used for problem-analysis. This is unfortunate as case studies tend to be one of the most effective training techniques for skill development. They are also an effective way of incorporating current issues of direct relevance to professionals from developing countries.

All courses (Class B and C) have one or two simulation exercises and role playing incorporated into the curriculum. Two separate simulations were scheduled during the Cairo course. The first exercise (coordinated by Dr. J.P. Levy) involves the preparation of an integrated ocean management policy for the imaginary island state of Param. The simulation lasts three days. Its objective is to create an understanding of the necessary linkages among various developmental activities and the need to consider sectoral activities in the marine environment within an integrated context. Participants are assigned to various Ministries (Fisheries, Offshore Oil and Gas, Tourism, Transport) and must develop a national development programme for the island state. Based on the comments of the participants and their report of the results, this exercise is very effective.

In the second simulation exercise, participants are divided into groups and are asked to negotiate agreements for the exploitation of the EEZ of the hypothetical island state of Atlantis.

In summary, the IOI training courses tend to emphasize knowledge gain, using an approach found mainly in academic settings. A limited range of training techniques are used over the 10-week period with passive training modes (lectures) used most frequently. Some exercises such as the simulations are effective, but these represent less than 10% of the training time. The simulations do encourage the development of analytical and negotiation skills. Overall, the training courses allocate too little time to the devlopment of these and other management skills such as policy formulation; decision-making; public outreach and participation techniques; communication; and fund raising.

CRITERIA #8: Is course content complementary to ICOD's stated priorities for technical assistance?

In the absence of a human resources development policy at ICOD, it is difficult to establish the extent to which the curriculum of the IOI courses corresponds with ICOD priorities.

Overall, the multi-disciplinary character of the curriculum corresponds with ICOD's general themes. The only real discrepancy is the focus on deep sea mining and ocean technology observed particularly in the Class A training courses (but also apparent in the Class B and C courses).

C.   ALUMNI FOLLOW-UP AND NETWORKING

CRITERIA #9: What has been the scope and impact of follow-up and post-training activities?

Both IOI and ICOD aim for the development of professional networks related to ocean management in developing countries. The IOI training courses and ICOD's scholarship program are designed to encourage such networks.

One reason for follow-up with the alumni is to attempt to establish the long-term impact of the training experience for individual participants. At the end of a training course, professional training organisations will often ask trainees to complete a self-assessment of their knowledge and skills gained during the course. The results of post-training questionnaires are then compared to pre-training questionnaires to gauge knowledge and skill development. Follow-up surveys are also carried out 4 to 6 months after the course to determine how much of the knowledge and skills acquired by the participants was applied in their work.

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IOI does circulate a questionnaire at the end its training courses. Participants are asked to assess the academic content and management of the course. The questions on content and quality of the training are too general to serve in a formative evaluation (i.e., to measure whether knowledge and skill development objectives were met). Most of the questions deal with the logistical aspects of the course such as the length of the course, timing, accommodation, and alumni activities. The results of the questionnaire are used primarily to refine arrangements for future courses. There is no attempt to conduct formative evaluations.

It is difficult to assess the long-term impact of IOI training courses for individual professional development without the benefit of formative evaluations. The fact that some alumni having taken one type of course (e.g., Class C) have chosen to register for other courses (e.g. Class B) is at least an indication that they were satisfied with the initial training experience.

In addition, some government agencies (mainly in Tanzania, Sri Lanka) have nominated and sent many of their employees to an IOI training course and continue to do so.

Another indication of the long-term impact of the initial training experience is the development of functional professional networks. Two IOI alumni associations have been established at the initiative of the participants themselves in India and Ghana.

IOI undertakes a number of post-training activities for its alumni. For example, some of the alumni may receive the IOI newsletter (<u>Across the Oceans</u>) and a listing of current holdings received at the IOI reference library in Malta. The newsletter includes reports and information submitted by the alumni about their own work or relevant activities in the countries or region. Other IOI alumni activities have included refresher courses in the South Pacific region.

IOI is developing a data base on its alumni. The data base is used to promote the training courses and distribute information to the alumni. ICOD also maintains a data base on individuals having received scholarships in the past.

training courses. This appears to be partly due to the late confirmation of the location and dates for these courses, which in several instances came only a few weeks prior to the course.

A review of the events leading to the award of scholarships for the courses held in Cairo, Cartagena, and Madras illustrates the types of delays that have occurred in the past (see Table 6). Note that the delays are partly related to problems in communication and tardy receipt of nomination documents from government agencies nominating scholars.

TIME TABLE FOR IOI TRAINING COURSES

1988 COURSE IN MALAYSIA

9 August 1988	ICOD receives a direct inquiry from the Government of the Maldives concerning the IOI training course.
	ICOD had not received a formal proposal regarding this course.
12 August 1988	ICOD receives IOI proposal for course.
31 August 1988	Project summary is approved (nominees are not known).
12 Sept. 1988	ICOD receives second inquiry from the Maldives re: scholarship.
29 Sept. 1988	ICOD transfers funds to Malta.
10 Oct. 1988	IOI/IOMAC Training course in Malaysia begins.

TIME ELAPSED BETWEEN INITIAL NOTICE AND COURSE = 8 WEEKS

D.   ADMINISTRATION

ICOD's formal scholarship program dates back to 1985, at a
time when the organization was still in the process of
developing of its internal procedures for project
management.   Many of the administrative tools used today
were not in place at the time of the project.   In addition,
project approval documents were, by necessity, broad and
flexible.   These factors should be taken into consideration
when reviewing the findings reported below.

The basic administrative tools used for the scholarship
program are:

   Project summaries (one for each project)

   IOI annual letter proposal (primarily for Class A and C
   training courses)

   IOI annual recommendations for ICOD scholarships

   Course reports

   IOI Invoices

The project summary for the original IOI scholarship project
(Project #850018) was very general.   There was no mention of
responsibilities, no expected outputs, no description of
reporting requirements nor a budget breakdown.   This general
project summary which dates back to late 1985 has served as
the "umbrella agreement" for all scholarships awarded for
Class B training courses in Halifax.

In time, project summaries for the other training courses
were more detailed and usually included a budget breakdown
but no description of responsibilities or reporting
requirements.   For the 1989 Class C training course in
Cairo, both a project summary and an LFA were developed.
However, there is still no formal agreement document such as
a Memorandum of Understanding signed by both organisations
and outlining how responsibilities are to be shared between
IOI and ICOD.   The scholarship funds are essentially
administered as a grant.

CRITERIA #10: Are the administrative procedures for the
scholarship program well-established, stream-lined and
timely?

There have been several problems with delays in
communication between IOI and ICOD, particularly in the
administration of scholarships for Class A and Class C

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1988 COURSE IN COLOMBIA

8 February 1988	IOI submits proposal to ICOD Verbal approval for project.
11 February 1988	ICOD notifies two candidates that they have been selected for an award
18 February 1988	Project summary is approved
22 February 1988	IOI training course begins

TIME ELAPSED BETWEEN INITIAL NOTICE AND COURSE = 2 WEEKS

TIME TABLE FOR CAIRO

13 August	IOI submits proposal
22 Sept. 1989	ICOD approves proposal in principle
13 October	Project summary is approved
15 October	IOI/IOMAC Training course begins
25 October	ICOD transfers funds

TIME ELAPSED BETWEEN INITIAL NOTICE AND COURSE = 8 WEEKS

The delays in receiving notifications from IOI have had signigicant implications in terms of ICOD's involvement in the review of nominations and the selection of scholars. As illustrated in Table 6, ICOD received recommendations for scholarships from IOI often just a few weeks prior to the course.

Class B courses have been generally been administered in a more timely manner.

The lack of a formal agreement specifying responsibilities has led to confusion and inconsistencies in administrative procedures for the selection of scholars and reporting requirements.

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CRITERIA #11: Do the course logistics and travel support services complement and reinforce the quality of the training experience?

Problems have been reported with the following aspects of travel arrangements and logistics:

Late notification of acceptance (e.g., Halifax, 1987)

Late notification and confusion concerning arrangements for being met upon arrival.

Problems in processing entry visas (Cartegena and Halifax, 1987).

Confusion about IOI policies concerning out-of-pocket allowances.

In the most serious incident, two ICOD scholars were deported from Colombia because of entry visa problems. Several participants brought up the problem of late notification of the award of the scholarship which then caused problems for obtaining required entry visas prior to the course. Other problems have been the inadequacy of the pocket allowance, and reception upon arrival.

In recent years, IOI has revised and expanded its information concerning adiministrative policies to minimize confusion and misinterpretations.

CRITERIA #12: Are adequate measures taken for information flow, storage, retrieval and administrative reporting? Do these measures allow for effective management of the scholarship program?

There are serious problems in information storage and flow for administrative purposes. The problems in information storage make it difficult to monitor the scholarship program and eventually tend to hinder the effectiveness of the program.

During the course of conducting this evaluation, we found that basic information concerning either the students or project administration was difficult to retrieve. For example, there was no convenient way to confirm whether selected candidated actually participated in training courses unless a staff person at ICOD happened to cross reference the list of participants in the course report with the list of selected candidates.

IOI has re-organized files for Class B training courses and the filing system is simple and effective. ICOD and IOI should agree on how and where key data sets are maintained for each course as well as for each scholar. In particular, every student file should contain the IOI nomination/application form, a resume, and current address. Country reports should be maintained at IOI.

CRITERIA #13: Are adequate provisions and procedures taken for the financial management of the scholarship program? Have funds been used effectively?

Financial files are also scattered. Financial reporting is not stipulated in the original agreement and such reports have not been submitted as a standard practice. Hence it is virtually impossible to assess cost effectiveness other than compare funds authorized and disbursed.

A cumulative total of $341,170 has been authorized for the scholarship program since 1986, with approximately $330,00 disbursed to date. The breakdown of authorized and disbursed funds (where available) is shown in Table 7:

TABLE 7: SUMMARY OF FINANCIAL DATA

Project #	Location	Date	Authorized	Disbursed
850018	Halifax	1986	$40,000	$37,174
		1987	$40,000	$40,500
		1988	$42,000	$43,439
		1989	$42,000	n.d.
860081	Tanzania	1987	$50,000	$49,932
870172	Colombia	1988	$16,170	$16,170
880218	Malaysia	1988	$50,000	$40,000
880260	Madras	1989	$13,000	$12,000
890304	Cairo	1989	$48,000	n.d.

There may be some discrepancies between the amounts disbursed and the number of scholars that actually attended the training course in Malaysia however this is difficult to confirm without full financial reports.

According to the approved project summaries for this program, the funds awarded for the scholarship are supposed to go towards real costs for attending the training course. These costs are estimated to be as follows (Vanderbilt, 1988):

Air travel:	$2000
Other direct expenses:	$3500
Program costs:	$4500
	$10,000

ICOD requested and received a financial report for the course offered in Colombia in 1988 and the course offered in Cairo in 1989. Another financial report was available for the 1987 Halifax course.

Major program costs (i.e., costs not associated with direct student expenses) include the following:

Salaries for course directors

Salaries for IOI staff

Travel and living expenses for lectuers

Communications

Field trips.

PART FOUR: CONCLUSIONS AND RECOMMENDATIONS

A.   SUMMARY FINDINGS

Recruitment

Recruitment of ICOD scholars for IOI courses has been generally consistent with ICOD's very broad requirements for scholarship programs.   Most of the scholars are mid-level government officials from ICOD's target countries with some prior experience and on-going responsibilities in ocean management.   Approximately 68% of the scholars have been selected from the Indian Ocean region, and a majority of scholars are from biology or fisheries-related disciplines.

Until this year, the selection of scholars has not been strategic nor has there been a consistent attempt to use the scholarship program to reinforce or complement ICOD's regional technical assistance programs.

The recruitment process for ICOD scholars is hindered by delays in IOI notifying ICOD of training opportunities and potential candidates.   Other problems include a lack of clear delimitation of responsibilities for promotion of the scholarship program, recruitment and selection, duplication in the use of forms and ensuing confusion, as well as a lack of clear corporate objectives for recruitment.

Nonetheless, overall demand for attending the course continues to exceed capacity for Classes B and C.   The IOI courses remain the only known short-term training opportunity focusing on ocean management that is offered on a recurring basis to professionals from developing countries.

Curriculum Development, Content, and Delivery

To date, IOI's curriculum development process has not provided for input or feedback by ICOD.   Training courses for Classes A, B, and C tend to remain similar from year to

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year both in structure and content. This is despite a rapid evolution in the field of integrated ocean management in developing countries. Training objectives for knowledge and skill development are either not specified or poorly formulated.

Overall training course content for Classes B and C is multi-disciplinary and generally consistent with stated course objectives. The relevance of Class A as appropriate curriculum for an ICOD scholarship program is doubtful and inconsistent with current ICOD corporate policy.

The approach taken to introduce marine affairs tends to be conventional and "generic". Content and examples of direct relevance to small island nations are limited, with little time allocated to actual marine resource management problems in tropical developing countries. It is unclear whether the emphasis on offshore technology and deep sea mining is appropriate for ICOD's target countries.

Lectures, group discussions, and field trips are the predominant training techniques used in course delivery. Simulations used to date have involved hypothetical cases. Few other interactive techniques or techniques aimed at skill development (e.g., case studies, demonstrations, class assignments) have been used. This is a serious limitation for a ten-week professional training course.

IOI does aim for the development of professional networks in marine affairs in developing countries. It maintains an alumni data base. In the past, the organization has carried several follow-up activities for its alumni. However, ICOD has yet to use its roster of scholars as a professional network. It is doubtful whether it could do so without stronger links to its technical assistance program and in the absence of an overall human resources development policy.

Program Administration

Overall administration of the ICOD scholarship program has been hindered by a lack of a formal agreement specifying, for example, institutional responsibilities and reporting requirements. Streamlined administrative procedures and policies (for example for the submission of proposals for Class C) have not been implemented, despite the recurring nature of this program. Other administrative problems are related to communication difficulties and late notifications, handling of course logistics, information storage, and financial reporting.

RECOMMENDATIONS

Consider recruitment as a strategic decision

ICOD should assume direct responsibility for recruitment of
ICOD scholars for IOI training courses, approaching the
selection of each candidate as a strategic opportunity. The
emphasis should be on highly relevant candidates that can
eventually become ICOD allies in a target country. The aim
should be to reinforce and complement regional technical
assistance programs and projects where there is a need to
build awareness among carefully selected government
officials of the importance and value of marine affairs.
Long-term recruitment objectives for this scholarship
program should be specified in the context of an overall
human resources development policy for ICOD.

Several immediate actions could be undertaken to increase
the effectiveness of promotion and recruitment:

    Preparation of high-quality promotional material for
    this and other ICOD scholarship programs.

    More targeted distribution of promotional materials to
    key departments active in other ICOD programs;

    Concerted effort to inform regional divisions about the
    value, ideal clientele, and potential impact of IOI
    training so that they can anticipate potential
    candidates during the design of technical assistance
    projects.

    Formulate guidelines or specific criteria for final
    selection of ICOD scholars. The criteria should based
    on regional and bilateral discussions of human
    resources development needs by sector).

Examine ways to strengthen the curriculum

ICOD should initiate discussions with IOI on ways to
strengthen the curriculum for Class B and Class C training
courses proposed for future ICOD funding. The emphasis
should be on updating and adding course material addressing
the specific needs of managers from small island countries.
This could be done in a modular form that could be added to
the Class B and selected Class C training courses.

Other options for strenthening the curriculum include joint
reviews of training course outlines, course review workshops
with ICOD and other training partners such as Dalhousie
University and the World Maritime University, peer review of

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course syllabus, and cost-sharing or core funding for curriculum development such as case studies in integrated ocean management in small island nations.

Define objectives and implement activities and services for an alumni network

Much like ICOD must view the selection of scholars as a strategic decision, the agency must also work with its alumni as allies for building professional networks in ocean management in target countries. The establishment of functional networks at a regional or national scale are an important long-term benefit of the initial training investment.

To maximize the long-term impact of its schoalrship program, ICOD should first define specific objectives for its overall alumni program as part of an overall human resources development policy. Such objectives could include for example information dissemination, training needs assessment, identifying project opportunities, and interagency coordination. It should then identify services that could be provided to its alumni and activities that would lead to the establishment of functional networks. Some activities could be undertaken jointly with other training partners such as IOI.

Request a financial audit

ICOD should request that IOI carry out and provide an independent audit of its accounts for past training courses which have received ICOD funding.

Formulate a complete formal agreement

Assuming that agreement can be reached on the above, we recommend that ICOD and IOI develop a formal and detailed agreement for ICOD funding of scholars to attend specified IOI Class B and C courses over the next three years. The agreement must specify institutional responsibilities for recruitment, promotion, curriculum review, formative evaluations, and reporting. The agreement should stipulate that IOI conduct and report on individual course evaluations as well as conduct an auto-evaluation at the end of the three-year agreement period.

APPENDIX 1

STATEMENT OF WORK AND SERVICES

1.0   Under the general direction of the ICOD Acting Chief,
        Interregional and Cooperative Activities Division,
        the Consultant shall assess the impact of the
        International Ocean Institute scholarship Project
        #890304 specifically and shall also assess previous
        ICOD-funded IOI courses from a general overall
        perspective.

2.0   Specifically, and without limiting the generality of
        the foregoing, the Consultant shall:

        1.   The Consultant will also review and evaluate the
              curricula and administrative aspects of the
              programs, in order to determine the extent to
              which:

              a)   IOI's curriculum and course content
                    correspond to the "state of the
                    art" knowledge in the field of
                    ocean management;

              b)   the administrative and travel support offered
                    by IOI to its students is sufficient and
                    appropriate;

              c)   the administrative and course delivery
                    procedures applied to IOI are efficient and
                    cost effective;

              d)   the IOI procedures ensure proper follow-up
                    with students upon completion of their
                    studies and whether these are appropriate and
                    conducive to promoting future linkages
                    between ICOD and its former students, and
                    between the students themselves (networking,
                    regional cooperation, etc); and

              e)   assess the costs involved and advise if ICOD
                    receives value for money from the IOI
                    courses.

2. Assess the suitability of these programs to fulfilling the training needs of ICOD's client countries; review the effectiveness and efficacy of the nomination and recruitment procedures- i.e. how scholars are recruited and who is recruited.

3. Assess whether these programs address needs already covered by training programs of other Canadian and foreign donor agencies; do the programs meet their objectives.

4. Assess the extent to which these programs contribute to meeting ICOD's corporate objectives and complement ICOD programming.

5. Assess the extent to which these programs have an impact on the participants in terms of knowledge gain, skill development, attitudinal change.

6. Review the files, existing data and reports on these programs and collect any additional data deemed necessary from students, academic institutions, recipient governments, ICOD's managers, other Canadian and foreign donor agencies. Prepare a profile of candidates funded by ICOD.

7. Will identify any constraints in the training delivery process and curriculum of the training courses and will recommend appropriate action for any future ICOD-funded courses.

8. Upon confirmation with Program Officer, the Consultant will stop over (en route to and from Guinee Bissau on other ICOD-related business) in Malta for 3 days to meet with IOI headquarters staff.

9. Undertake such other ancillary duties as may be required.

3.0 The Consultant shall submit the following reports to ICOD:

1. Not later than 60 days after signing the Consulting Contract, a preliminary report of the project activities.

2. Within 15 days of receipt of preliminary report, a written final report.

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APPENDIX 2

The criteria used for our analysis of the four main components are listed below. The questions that follow eacn criterion are meant to clarify what is being addressed and why.

Recruitment and Selection of ICOD Scholars

Criteria #1: Does the recruitment/nomination/and selection
            process favour or facilitate participation
            by ICOD's target clientele in the regions?

How is the annual program of IOI training courses promoted?

Who has nominated candidates for the IOI courses in the past? Nominations have come from which countries? From which organizations?

What is the standard process for identifying and selecting ICOD scholars?

How is ICOD involved in the identification and selection process?

Criteria #2: Has there been an adequate representation of
            ICOD scholars (e.g., among target countries/
            regions; among disciplines; are women
            professionals adequately represented?)

What has been the relative representation of ICOD target countries among scholars selected?

What has been the relationship between ICOD's technical assistance programs or its stated priorities and the national representation of scholars? Are the scholarships complementary to ICOD's programmatic priorities?

What has been the relative representation of various disciplines and women among the scholars?

Criteria #3: What is the level of overall professional
            experience and suitability of the scholars
            selected?

Position and responsibilities?

Stated reasons for applying to the course?

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Course Development, Content and Delivery

Criteria #4: Does the curriculum development process favour
the creation of courses that tailored to the
needs of professionals from developing
countries?

Who is responsible for curriculum development? Who
contributes to academic programming?

How are the specific needs of developing countries assessed?

How is ICOD and other funding agencies involved in
curriculum development?

Criteria #5: Does the curriculum reflect current trends
in ocean management in developing and
developed countries? (is it current and
relevant?)

What are the disciplines and current ocean management issues
covered in the curriculum?

What are some of the important theories and conceptual
frameworks introduced in the curricula? How do they relate
to current practice (e.g., on-going pilot projects) in
integrated ocean management in developing countries and
developed countries?

Are participants given an opportunity to test or question
theories or apply frameworks to actual marine resource
management issues?

How has the curriculum evolved over the years and why?

Criteria #6: Are the known or expressed training needs
of client countries adequately addressed?

How much developing country content used?

What are the cases used as examples?

Is there any attempt to compare or analyse differences in
developed and developing country context for ocean
management?

Criteria #7: Are the training techniques used for
course delivery tailored to student needs?
Are they designed to encourage real knowledge
and skill development among practicing
managers?

What is the balance between knowledge and skill development?

Does the program introduce participants to practical
techniques and approaches, making them aware of the
limitations of current practice in ocean management?

Are participants given an opportunity to practice analytical
techniques?

Do the courses encourage the development of "management"
skills such as the ability to identify and analyse the
relevant dimensions of an marine resource management problem
(problem analysis); policy formulation; negotiation,
decision-making; public outreach and participation
techniques; communication; and fund raising.

Criteria #8: Is course content complementary to ICOD's
stated priorities for technical assistance?

Sensitization of ocean resource managers to the multi-
disciplinarity of decision-making in sea use planning, Law
of the Sea and ocean management (as stated in LFA and to be
verified with G. Vernon, G. Comber and C. Amaratunga.)

Alumni Follow-up and Networking

Criteria #9: What has been the impact of follow-up and
post-training activities?

Has there been any attempt to carry out formative
evaluations (formal or informal) among the alumni? If so,
what are the indications of the formative impact of the
training?

Has there been a multipier effect to the initial training
investment?

Have the alumni expressed any specific needs for post-
training services?

What are the on-going alumni network activities? Is this a
functional network? Where have there been functional
linkages?

Administration

Criteria #10: Timeliness of the process

Criteria #11: Course logistics and travel support services

Criteria #12: Information flow, storage, retrieval

Criteria #13: Cost effectiveness, financial management

APPENDIX 3: SYLLABUS FOR CLASS A, B, AND C TRAINING COURSES

CLASS A - MADRAS, 1989

Week 1:   Changing International Order, Emerging
            Technologies, New Industrial Revolution

Week 2:   Law of the Sea Convention, Economics and
            Technology of Seabed Mining

Week 3:   Regional, Economic and Technological Perspectives

Week 4:   Management and Financial Strategies

Week 5:   Field Trips and Closing Ceremony

CLASS B - 1989

Week 1:   The Sea Around Us: An Introduction to Oceanography

Week 2:   The United Nations Convention on the Law of the
            Sea

Week 3:   National Experiences in Ocean Management: Case
            Studies

Weeks 4:   Regional Programmes: The Role of the "Competent
            International Organizations"

Week 5:   Resource Management: Fisheries

Week 6:   Resource Management: Fisheries

Week 7:   Resource Management: Oil and Gas

Week 8:   Offshore Minerals - Shipping and Navigation

Week 9:   Offshore Labour, Health and Safety - Simulation
            Exercise

Week 10:   Reports by Participants. Evaluation.

CLASS C: CAIRO 1989

Week 1:   Introduction to the Programme, Introduction to
            Oceanography

Week 2:   Oceanography

Week 3:   International Law of the Sea

Week 4:   Management of Living Resources

Week 5:   Environment; Country Reports

Week 6:   Management of Non-Living Resources

Week 7:   Shipping and Ports; Environment; Tourism

Week 8:   Integrated Management Systems

Week 9:   National Case Studies; Simulation Exercise

Week 10:   Presentation of Final Reports; Conclusion

PROJECT NUMBER	DATES	CLASS TYPE	LOCATION	COURSE DIRECTOR	COLLABORATING INSTITUTION	TRAINING FACILITY	NUMBER OF PARTICIPANTS	NUMBER OF COUNTRIES	NUMBER OF ICOD SCHOLARS	OTHER SPONSORING ORGANIZATIONS
850018	June-Aug 1986	B	Halifax CANADA	Dr. J.P. JAGOTA	Pearson Institute Cente for Foreign Policy Studies	Dalhousie University	24	21	4	CIDA/IRDC/COMSEC/UNU/UNEP/NORAD
"	June-Aug 1987	B	"	"	"	"	27	21	4	CIDA/EMDI/COMSEC/UNEP/NORAD
"	June-Aug 1988	B	"	"	"	"	?	?	4	?
"	June-Aug 1989	B	"	"	"	"	25	20	3	UNEP/MAP/ICOD/COMSEC/FAO
860081	Feb-Apr. 1987	C	Arusha TANZANIA	Prof. Costa MAHALU	Ministry of Foreign Affairs	Equator Hotel	21	15	4	to be confirmed
870172	Feb-March 1988	A	Cartagena, Columbia & Kingston-Jamaica	Dr. K SAIGAL	Centro de Investigaciones Oceanograficas e Hidrograficas	CIOH	8	5	2	UNDP
880218	Oct-Dec 1988	C	Kuala-Lumpur MALAYSIA	"	IOMAC National Institute of Public Admin.	Federal Hotel	22	12	4	IOMAC/Durch Govt/CIDA/COMSEC
880260	Jan-Feb 1989	A	Madras INDIA	"	Dept. of Ocean Development/ India Institute of Technology	Indian Inst. of Tech. (ITT) Ocean Eng. Centre	16	9	3	UNDP
890304	Oct-Dec 1989	C	Cairo EGYPT	"	Government of Egypt	Govt. of Egypt Training Centre at Sakkara	19	10		UNDP/UNCTAD

Table 3. IOI Training Courses 1986-1989.

APPENDIX 5: EXAMPLES OF STUDENT ASSIGNMENTS

QUESTIONS ASSIGNED TO PARTICIPANTS

OF THE IOI/IOMAC TRAINING COURSE

1. The international scene is undergoing rapid changes. What in your opinion are the forces underlying such changes and what opportunities or threats do these forces represent for developing countries?

2. Which are the main elements subsumed under the rubric of the New Industrial Revolution (NIR)? What other ways are there for perceiving the new emerging world scene? In your view which are the critical components?

APPENDIX 6: OVERVIEW OF THE CURRICULUM

WEEK	DOMINANT THEMES	TRAINING INPUTS (Lectures)	TRAINING TECHNIQUES USED	NATIONAL CASE STUDIES USED
WEEK 1	Introduction Historical back. New Ind. Review Oceanography	Dr. K. Saigal (Director) Dr. Ali Beltagy Institute of Oceanography Alexandria	Lectures Group Discussions	NONE
WEEK 2	Oceanograhy Survey Methods Remote Sensing Science/Tech.	Dr. Ali Beltagy Dr. S.H.S. El-Din Dr. A.A. Aleem Mr. Ahmed Ayoub Mr. H.M. Hassan	Lectures Group Discussions	NONE
WEEK 3	UNCLOS Safety	E.M. Borgese Dr. Saigal Mr. Busha	Lectures Group Discussions	NONE
WEEK 4	Management of Living Resources - Fisheries Bio. - Aquaculture - Fisheries Eco. - Surveillance	I. Bebers El. Zarka M. Fouda A.El-Sayes M. Zeki A. Barrania D. Evans	Lectures Group Discussions	NONE
WEEK 5	Marine Environ. Marine Pollution Country Reports	Prof. Mohammed Roushdy	Lectures Country Presentations By Participants Field Trip to Sinai + Red Sea	NONE
WEEK 6	Management of Non-Living Resources - Geology of Oceans - Geophysical Survey Methods - Deep Sea Mining - Metal Market	Dr. M. El-Sayed Dr. Morad Awad Dr. Fouad Azim Dr. K. Saigal Dr. R. Meagher	Lectures Group Discussions	NONE
WEEK 7	Offshore Oil Dev. Shipping/Port Management Environment	Dr. M. Roushdy Dr. A. Behnam (UNCTAD) Mr. M.A. Tawfik Dr. Viktor Sebek Mr. Ahmad Bassit	Lectures Group Discussions Visit to Suez - Ismalea Case Study (hypothetical)	NONE
WEEK 8	Integrated Mgt. Systems - CZ Mgt. - Marine Tech. - Training - Integrated Policy Dev. - Financial Planning	Dr. K. Saigal Mr. E.-Nockrashy Dr. J.P. Levy UN OA/LOS Dr. H. Jayewardene IOMAC Mr. J. de Lestang	Lectures Group Discussions Case Studies (National) Simulation Exercises (Development of an integrated marine policy - Hypothetical PARAM ISLAND STATE	SRI LANKA SEYCHELLES
WEEK 9	Regional Experience Simulation Exercise (3 days)	E.M. Borgese Mr. M. Aboul-Eneen Mr. M. Staley	Lectures Case Studies (Regional) Simulation Exercise (Negociation of International Aggreement) Field Visit (Luxor, Aswan)	MEDITERRANEAN INDIAN OCEAN
WEEK 10	Presentation of Field Report	-	Group Work	NONE

Overview of the curriculum for the IOI/IOMAC course (Cairo, 1989).

STUDENT PROFILES

PROJECT NUMBER	COURSE LOCATION	YEAR	CLASS TYPE	ICOD/IOI SCHOLAR	AGE (1)	M/F	COUNTRY OF ORIGIN	ACADEMIC BACKGROUND	POSITION(1)	YEARS (2)	PROFESSIONAL RESPONSIBILITIES	EMPLOYER
850018	HALIFAX	1986	B	Idrissa BODIAN	35	M	SENEGAL	B.Sc. Eng.	Chief, Petroleum Exploration Section	4	Inspect oil prospecting activities (licensing + prospecting + production)	Direction des mines et de la geologie
"	"	"	"	Noah IDECHONG		M	PALAU	B.S. (Bus. Amin.)	Resource Mgt. Officer	8	Develop prog. for management & conservation of marine resour.	Marine Resource Division Govt. of Palau
"	"	"	"	Job OCHIENG		M	KENYA	M.Sc. Zoology	Senior Research Officer (Head of laboratory)	7	Implementation of research and management policies for inland waters. Research ecology.	Kenya Marine Fisheries Research Institute
"	"	"	"	Terrence PHILLIPS	35	M	GUYANA	B.Sc. Biology	Senior Fisheries Officer/Deputy Head of Dept.	10	Responsible to manage, regulate & promote exploitation of fisheries resources	Ministry of Agriculture
"	"	1987	"	Devendra NAIDOO	37	M	MAURITIUS	M.Sc. (Fish Processing Engineer	Technical Officer	8	In charge of fish toxicity & quality control projects	Ministry of Agriculture, Fisheries & Nat. Res.
"	"	"	"	Makame S. NASSOR	38	M	TANZANIA	Diploma (?)	Chief Fisheries Officer	10	Fisheries mgt. & administration to prepare plan & policy of the fisheries sector	Fisheries Department, Ministry of Marine, Tourism & Forestry
"	"	"	"	Togia L. SIONEHOLO	27	M	NIUE	B.A. (Hist., Politics+Adm)	Legal Clerk (Legislative Assembly)	2	Assist with international legal issues (including 200 mile EEZ)	Administrative Dept. Govt. of Niue
"	"	"	"	Ana Victoria VAZQUEZ	25	F	COSTA RICA	B.A. Biology	Research Asst.	4	Research assistant in projects dealing with marine resource management	University of Costa Rica (CIMAR)
"	"	1988	"	Thomas O. AJAYI	43	M	NIGERIA	Ph.D. Zoology M.Phil. in Hydrobiology	Chief Research Officer/Head of Mar.Fish.Res.Div.	9	Formulation of national policy for mgt. of fisheries resource Implementation research prog.	National Oceanography Research Institute Govt. of Nigeria
"	"	"	"	John JEFFERS	30	M	MONTSERRAT		Fisheries Assnt.		Management of Fisheries Unit. Supervise training. Advise on implementation activities.	Ministry of Agriculture
"	"	"	"	Felix LABROSSE	48	M	SEYCHELLES	Diploma (English)	Chief Inspection Officer	3	Issue licenses, monitor & control the foreign fishing fleet	Seychelles Fishing Authority
"	"	"	"	Filimone D. MATE	38	M	FIJI	Secondary Edu.	Fisheries Officer	14	Advise & coordinate fisheries matters. Identify training needs.	Figi Military Forces (Auxiliary Unit)

(1) During courses
(2) Years of professional experience

STUDENT PROFILES

PROJECT NUMBER	COURSE LOCATION	YEAR	CLASS TYPE	ICOD/IOI SCHOLAR	AGE (1)	M/F	COUNTRY OF ORIGIN	ACADEMIC BACKGROUND	POSITION(1)	YEARS (2)	PROFESSIONAL RESPONSIBILITIES	EMPLOYER
850018	HALIFAX	1989	B	Leo Fozlo BREWSTER	26	M	BARBADOS	M.Sc. Fisheries Bio.	Marine Biologist	1	In charge of the unit's coastal water quality monitoring program	Ministry of Employment, Labour Relations and Community Development
"	"	"	"	Colin Ian BROWN	36	M	COOK ISLANDS	M.A. Social Studies	Director of Fisheries Mgt.	8	Implementation of Fisheries Development Programmes	Ministry of Marine Res.
"	"	"	"	Eronica LYIMO	43	F	TANZANIA	B.Sc. Zoology	Senior Fisheries Officer	12	In charge of fisheries statistical data	Fisheries Division Ministry of Lands, Nat. Resources & Tourism
860081	TANZANIA	1987	C	Hussein A. FULU		M	MALDIVES					Ministry of Defense and National Security
"	"	"	"	Hassan A. HARED		M	DJIBOUTI	M.A. Law	Senior Govt. Official	2 mon.	Maritime Law	Service des Affaires Maritimes
"	"	"	"	Hemasiri JAYATILAKA		M	SRI LANKA	Certificate in Surveying and Remote Sensing	Head, National Remote Sensing Unit	20	Applications of Remote Sensing techniques in various fields (including oceanography)	Surveyor General's Office
"	"	"	"	Cuthbert TENGA		M	TANZANIA		Assistant Corporation Councel		International Law	Tanzania Legal Corporation
870172	CARTAGENA	1988	A	Saidi DAOUDOU		M	COMOROS ISLANDS	M.Sc. Marine Science	Head of Dept. of Public Admin.	6	Administration of Maritime Safety	Ministry of Transport and Tourism
"	"	"	"	Dulip D. JAYAWARDENE		M	SRI LANKA	M.Sc.	Senior Research Officer	10	Assessment of placer deposits Assessment of carbonate sands & offshore construction mat.	National Aquatic Resources Agency (NARA)
880218	MALAYSIA	1988	C	Padmini de ALWIS	39	F	SRI LANKA	Ph.D.	Scientific Officer	8	Conduct & coordinate research and pollution control activities	National Aquatic Resources Agency (NARA)
"	"	"	"	Mohamed HASHIM (*)	22	M	MALDIVES	G.C.E. A-level	2nd Engineer	1	2nd engineer in coast guard vessel (surveillance)	Ministry of Defense and National Security
"	"	"	"	Makame Mussa HASSAN		M	TANZANIA		Senior Fisheries Officer		Fisheries Management	Regional Commissioner's Officer

(1) During courses
(2) Years of professional experience

STUDENT PROFILES

PROJECT NUMBER	COURSE LOCATION	YEAR	CLASS TYPE	ICOD/IOI SCHOLAR	AGE (1)	M/F	COUNTRY OF ORIGIN	ACADEMIC BACKGROUND	POSITION(1)	YEARS (2)	PROFESSIONAL RESPONSIBILITIES	EMPLOYER
880218	MALAYSIA	1988	C	E. (*) RASOARIMANANA		F	MADAGASCAR					
880260	MADRAS	1989	A	Mohamed HASHIM	23	M	MALDIVES	G.C.E. A-Level	2nd Engineer	2	2nd Engineer in coast guard vessel (surveillance)	Ministry of Defense and National Security
"	"	"	"	Lphosun KALLEE	36	M	MAURITIUS	M.Sc. (Ichthyology & Fish culture)	Technical Officer	11	Implementation of Ministry's marine Research Program	Fisheries Research Center Ministry of Agriculture & Fisheries & Nat. Res.
"	"	"	"	Said Salim KOMBO	34	M	TANZANIA	Cert. of Law Diploma of Fisheries	General Manager of a fishing company	7	Management and Administrative Duties	Parastatal Ministry of Agriculture, Livestock & nat. Res.
890304	CAIRO	1989	C	Anoukchika ILANGAKOON		F	SRI LANKA		Research Officer Marine Mammal Programme		Marine Mammal Protection	National Aquatic Resources Agency (NARA)
"	"	"	"	Thuita MWANGI		M	KENYA		Legal Officer		International law	Ministry of Foreign Affairs
"	"	"	"	Benjamin NGATUNGA		M	TANZANIA	M.Sc. Fisheries	Fisheries Research Officer	11	Plan for research projects Data collection & analysis	Tanzania Fisheries Research Institute
"	"	"	"	Sreenivasan SOONDRON		M	MAURITIUS		Scientific Officer		Fisheries management	Marine Fisheries Div. Ministry of Agriculture and Fisheries

(1) During courses
(2) Years of professional experience

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