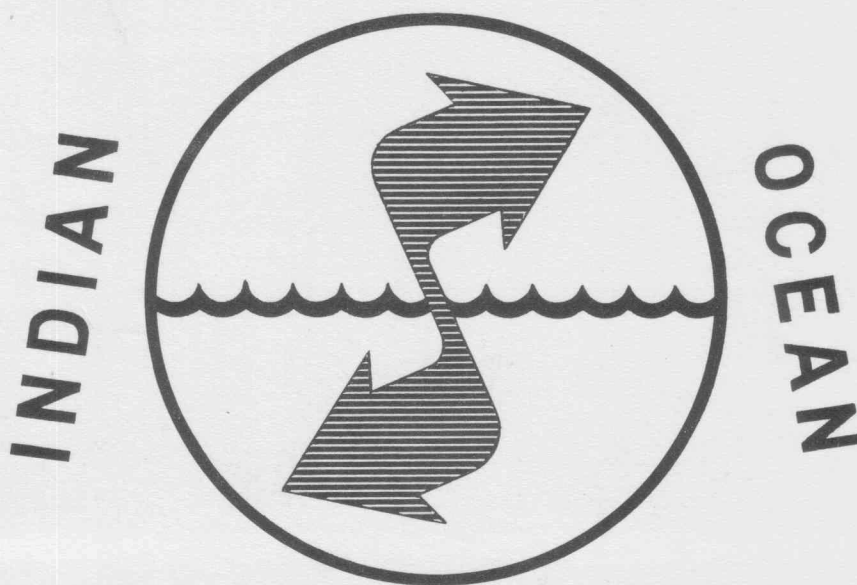


See 61.52

**INTERGOVERNMENTAL
OCEANOGRAPHIC COMMISSION**

INTERNATIONAL



EXPEDITION

INFORMATION PAPER No. 1

FOREWORD

The International Indian Ocean Expedition has been organized by the Scientific Committee on Oceanic Research (SCOR). By action of the Eleventh Session of its General Conference, Unesco became a co-sponsor of the Expedition.

The First Session of the Intergovernmental Oceanographic Commission (Paris, 19 to 27 October, 1962) commended the Expedition to its members for possible participation and instructed its Secretary to assume such coordinating functions with respect to the Expedition as could be worked out in consultation with SCOR and other appropriate bodies.

At its meeting in London, 16 to 18 April 1962, the SCOR Executive Committee decided to transfer to IOC the formal responsibility and authority for coordinating the Indian Ocean work. This transfer was announced to the members of the Commission and other countries participating in the Expedition by the Secretary of IOC's circular letter of 21 June 1962, a copy of which is attached (Annex A).

In order to make generally available information on various aspects of the Expedition, it has been suggested that an information paper be distributed to the various governments, laboratories and ships participating in the Expedition. This is the first of such information papers and will be followed by others when further information is available.

1. Exchange of information and data

1.1 Exchange of reprints

It has been proposed by the Executive Committee of SCOR that five copies of each scientific paper resulting from the Expedition should be sent to the Office of Oceanography, Unesco. Unesco will arrange to have these reproduced by an offset process in 500-600 copies. When a sufficient number of papers has been accumulated, these will be bound as collected reprints of the Expedition. Unesco will distribute copies to national committees, laboratories and institutes concerned with the Expedition. Distribution will not be to individuals except under exceptional circumstances.

In order to expedite this process, it would be helpful if authors would obtain permission for copying from the journal concerned, before submitting reprints to Unesco.

1.2 Exchange of data

At its First Session, the Commission recommended that:

"all oceanographic data taken by ships and recording stations outside territorial waters within the limits of declared national programs be exchanged under the headings listed and by the methods prescribed in the IGY data center manual, commencing from 1 January 1960 ..."

A copy of the IGY list of data to be exchanged is attached (Annex B).

Within this framework, it is proposed that one copy of data resulting from the Expedition be submitted to each World Data Center whenever feasible. Alternatively data should be sent in duplicate to one of the Centers, the letter of transmittal indicating which practice had been followed. The addresses of the Centers are:

World Data Center A, Oceanography
National Oceanographic Data Center
Washington 25, D.C., U.S.A.

World Data Center B, Oceanography
Molodezhnaya 3
Moscow B-296, USSR.

In addition, certain specialized data should be sent to the following addresses:

(a) Mean sea-level observations to the Liverpool Observatory and Tidal Institute, The Observatory, Birkenhead, England, for the Mean Sea Level Committee of the IAPO. It is hoped that a copy of all mean sea-level observations will be sent direct to the LTI for the MSL Committee as well as to one or both WDCs.

(b) Bathymetric data to the International Hydrographic Bureau, Quai des Etats-Unis, Monaco, for the Carte Bathymétrique Internationale des Océans.

At the recommendation of the Commission, a working group on the organization of oceanographic data exchanges will meet at NODC, Washington, from 7 to 10 August 1962. This group may recommend some changes in the procedure for exchanging data for consideration by the Second Session of the Commission, scheduled for 20 to 29 September 1962.

1.3 Exchange of information

It has been the practice of SCOR and of this office to send copies of all pertinent information concerning the Expedition to a primary mailing list, a copy of which is attached (Annex C).

It is proposed that at the conclusion of all cruises, or significant portions thereof, the senior scientist send a preliminary cruise report by the most expeditious means possible, to the Office of Oceanography, Unesco. There it will be duplicated and distributed promptly to the addresses included in the primary mailing list.

If an institution participating in the Expedition has other information to distribute to this list, such as more detailed cruise reports or preliminary data reports, these could be sent directly to the addressees in the primary mailing list or a suitable number of copies could be sent to the Office of Oceanography for distribution. In exceptional cases, arrangements could be made for duplication of these reports by this office.

2. Reference Stations

In order for the data taken by various ships to be comparable, so that the diverse observations can be fitted together in general studies of the Indian Ocean, standardization and intercalibration of methods is necessary. In the fields of nutrient chemistry and measurement of primary productivity, SCOR and Unesco have organized working meetings, at Honolulu in August 1961 and at Perth in August 1962, whereby methods and equipment can be intercompared.

Another approach to this problem is for ships participating in the Expedition to make certain standard observations on reference stations. If one assumes that conditions in deep water (below 1000 meters) are relatively constant, measurements of temperature, salinity, dissolved oxygen, nutrient elements and other properties provide a useful check on the consistency of analyses and the comparability of methods. Of course, the basic assumption is not necessarily correct, and the results of repeated measurements on a station must be examined with care before it can be concluded that differences from measurement to measurement can be attributed solely to methodological differences.

On reference stations, repeated measurements in the surface layer, including measurements of primary production, plant pigments and zooplankton, will provide valuable information on time changes in these characteristics of the station. If there are time changes in deep water, the availability of repeated measurements will be extremely useful in determining the magnitude and character of such changes.

A reference station off western Australia (No.1 below) has been sampled routinely by Australia since 1959. A statement of Australian procedure on reference stations is attached (Annex D) as a guide to observations to be taken.

Below are listed positions for reference stations which have been recommended by various groups concerned with IIOE coordination. Where these stations are essentially the same as those occupied previously by Australia (No.1) or "Discovery II" (stations 11, 13, 14, 15), it is suggested that additional stations be made as close to the original positions as possible. This is also true of station 12, located in the deepest part of its region.

Eastern Indian Ocean

- 1. 32°S, 111°50'E (L)
- 2. 9°S, 105°E (L)
- 3. 15°N, 90°E (W)
- 4. 0°, 90°E (W)
- 5. 0°, 80°E (W)

Western Indian Ocean

- 6. 10°N, 74.5°E (W)
- 7. 20°N, 65°E (W)
- 8. 12°N, 63°E (W)
- 9. 24°N, 60°E (W)
- 10. 0°, 55°E (W)
- 11. 7°N, 52°E (W) (D II No. 1588; 7°08'N; 52°19' E)
- ✓ 12. 13°N, 50°E (W) (13°15'N; 50°15' E)
- ✓ 13. 8°S, 44°E (LM) (D II No. 1581; 7°42'S; 44°14' E)
- ✓ 14. 18°S, 41°E (LM) (D II No. 1575; 18°32'S; 41°35'E)
- 15. 32°S, 35°20'E (LM) (D II No. 1765; 32°00'S; 33°45'E)

L = London Meeting, SCOR Executive (16-18 April 1962)

W = Wormley Meeting, Arabian Sea Coordination (9-11 July 1962)

LM = Laurence Marques Meeting, SW Indian Ocean coordination (30 April to 2 May, 1962)

Note that the station at 5°N, 69°E proposed at the London meeting was not adopted by the Wormley meeting.

3. Indian Ocean Biological Center

The Indian Ocean Biological Center (IOBC) is being established by the Government of India with the cooperation of SCOR and with financial assistance from Unesco. A consultative committee, consisting of Professor Martin W. Johnson (USA), Professor Sigeru Motoda (Japan) and Dr. Michael Vinogradov (USSR) has been appointed by Unesco and will meet in Cochin and New Delhi early next year. It is hoped that a Curator of the international collections will be appointed by Unesco during the next few months.

The purpose and method of operation of the Center are described in the SCOR circular letter of 22 November 1961, a copy of which is attached as Annex E.

It is essential to the success of the Center that all ships participating in the International Indian Ocean Expedition take standard plankton collections, in addition to their regular plankton program, and send the samples to the Center for the determination of displacement volume and for sorting and distribution to specialists in the various zooplankton groups. A description of the net and its use has been prepared by Dr. Ronald I. Currie (National Institute of Oceanography, U.K.) and has been distributed to most of the laboratories concerned. Additional copies can be obtained from Dr. Currie or from this office. The nets are available from the Marine Biological Association, The Aquarium, Citadel Hill, Plymouth, England, or from Rigosha and Co. Ltd., 2 Kajicho 1-chome, Kanda, Chiyoda-ku, Tokyo, Japan.

It should be noted that the Center is also anxious to receive other biological material, including duplicate collections, not required by the original collectors. In addition, arrangements for the sorting of zooplankton samples collected by non-standard means or other biological samples can be made by agreement between participating laboratories and the Center.

Samples should be carefully labelled, packed and shipped to the following address:

Indian Ocean Biological Center, CSIR
University Oceanographic Laboratories
Ernakulam, Cochin, India.

Notification of shipment to the Center should include information on the time, method and place of collection, environmental conditions, etc. Shipment to the Center is at the shipper's expense; subsequent distribution of sorted samples will be at the expense of the Center. Handling of the shipments by customs will be facilitated if they are marked by the stencil of the Expedition symbol recently distributed by Mr. Robert G. Snider (see section 4 of this paper).

4. Symbol and Pennant

In order to permit ready identification of materials and ships associated with the Expedition, SCOR has selected an Expedition symbol (illustrated on the cover of this paper). A brass stencil has been prepared with this symbol, and in limited numbers is available from the office of Mr. Robert G. Snider (IIOE, 30 East 40th Street, New York 16, N.Y.).

The symbol can be used as an identifying mark on shipments of scientific material (equipment, supplies, samples, etc.) between ships, laboratories and other facilities concerned with the Expedition. Presence of the symbol itself will not exempt material from customs examination, but will identify such material so that it can be given special treatment.

It should be noted that the symbol should only be used for scientific material directly associated with carrying out the purposes of the Expedition. Thus it is essential that its use be carefully controlled.

A pennant incorporating the symbol has also been proposed by SCOR for use by ships participating in the Expedition. These pennants are available from the following manufacturer:

Tanaka Senyohin Co. Ltd.,
No.13, 1-chome, Monzennakamachi
Fukagawa, Kotoku, Tokyo, Japan.

We have been furnished the following information about the pennants, which will be made of Nylon:

Medium size (100 cm x 200 cm) at ¥ 2950 (\$82)

Small size (70 cm x 154 cm) at ¥ 1980 (\$55)

Shipping costs are estimated at ¥ 900 (\$2.50) per pennant via airmail, and at ¥ 50 (\$0.14) by surface mail. Time of delivery including transportation is estimated at six weeks by airmail, 3 months by surface mail. Payment by Unesco Book Coupon is acceptable.

5. Special Customs Facilities and Courtesies

5.1 Request for facilities

In connection with Unesco's sponsorship of the Expedition, the Director-General on 19 May 1961 sent a letter to Member States of Unesco concerned with the Expedition in some way, requesting recognition of the international character of the Expedition and the furnishing of assistance and facilities commonly offered to visiting government vessels. Facilities requested include the following:

(a) Exemption from canal and harbour fees for the research ships taking part; port, docking facilities and pilotage at no cost or at the cheapest possible rates;

(b) Tax-exempt fuel for ships engaged in the Expedition;

(c) Special customs facilities for the entry and embarkation of scientific equipment and stores needed for the Expedition (it is important that the packaging of delicate scientific equipment is not disturbed and that water samples are not opened);

(d) Special customs facilities for trans-shipment from ship to home or other laboratories of scientific specimens collected by the Expedition;

(e) Simplification of procedure for obtaining permission for ships to make scientific observations in coastal waters and to enter minor ports when necessary.

A similar request has been sent to certain non-Members of Unesco concerned with the Expedition, including South Africa and Portugal.

5.2 Instructions for ships

In order for ships to take advantage of the facilities offered, it is essential that their participation in the Expedition be made known to the government of the country to be visited. It is suggested that well in advance of arrival in the territorial waters of the country concerned, notification be sent of the vessel's participation in the Expedition, its approximate track and scientific program while in the vicinity of the country being visited, and the schedule of its visits to ports. This notice should come preferably from the government of the laboratory operating the ship, although under some circumstances the institution or laboratory to which the ship pertains, could also originate such notification. Information should be sent to the addresses given in the various letters cited below. The Unesco Office of Oceanography is prepared to assist in this notification when called upon to do so.

5.3 Extracts from letters concerning the granting of facilities

AUSTRALIA. From the Australian Permanent Delegate to Unesco, of 17 October 1961

" COMMONWEALTH OF AUSTRALIA

Department of Customs and Excise

The Comptroller-General states:

"I desire to advise that this Department is prepared to extend every assistance in respect of all Customs aspects

of the expedition's operations in Australia including the transshipment from ships to home laboratories of scientific specimens collected by the expedition.

It is further advised that fuel in ships' tanks on arrival at an Australian port used as ships' stores and fuel shipped in Australia for use as ships' stores is exempt from Customs duty and sales tax.

I should be glad if I could be furnished with a copy of the itinerary of the research ships for the duration of their stay in Australian waters in due course. When this itinerary is received I will give further consideration to the question of calls by these vessels at minor ports."

Taxation Branch, Canberra, A.C.T.

The Commissioner of Taxation states:

"Coal, petrol, fuel oil and kerosene are all unconditionally exempt from sales tax, so that these fuels would be readily obtainable free of any levy administered by this Department."

Department of Territories.

The Secretary states:

"I have to inform you that the Minister for Territories has approved that the Administrations of Christmas Island and the Cocos (Keeling) Islands be asked to render any appropriate assistance to the International Expedition as may come within the resources of their respective Territories.

Any information likely to be of assistance to the Administrations of these Territories in meeting the requirements of the expedition should be furnished as early as possible."

GOVERNMENTS OF THE STATES

New South Wales

The Premier's Office states:

"The Ports and Harbours authority in this State is the Maritime Services Board of New South Wales, Circular Quay,

Sydney, and it will be pleased to exempt vessels carrying the Expedition from Tonnage Rates and Harbour and Light Rates when visiting the Port of Sydney and to charge inward and outward Pilotage at the concession rate of 1½d. per gross ton.

However, the vessels will incur the prescribed charges for the use of telephones and for any fresh water taken on board whilst in the Port.

Operating schedules for the vessels should be sent to the Board."

Queensland

The Premier states:

"While operations are apparently to be confined to the Indian Ocean, I would make the following observations on the items to which special reference was made in the Acting Director-General's letter:-

- (a) Port charges payable to the State comprise pilotage fees and conservancy dues in respect of ships, and, in Brisbane and certain smaller outports, harbour dues on cargo. (At outports under the control of Harbour Boards, harbour dues are payable to the Boards.)

The ships of the Expedition would probably qualify for exemption from the payment of conservancy dues in terms of the Queensland Marine Act.

It is unlikely that any harbour dues would be payable at any port visited by the ships as only ships stores, scientific equipment, etc. are likely to be handled.

In Brisbane practically all wharves are privately-owned or operated and at the major outports are controlled by harbour boards; therefore the payment of charges for the berthing of ships would be made to those particular interests and the question of the remission of any charges including other such miscellaneous charges as the supply of water, power, etc. would be a matter for those interests.

It is presumed that the term "docking facilities" used in the Acting Director-General's letter refers to wharf accommodation and not the use of dry docks for repairs, painting, etc. If the occasion arose for the use of such a dock by a vessel of the Expedition, some charges

at least would have to be recovered.

- (e) If vessels of the Expedition should work off the Queensland coast and call at any port, the State, insofar as it is interested, will provide every facility for ships to make scientific observations in coastal waters and to enter ports when necessary.

I would suggest, that in due course as they become available, operating schedules should be forwarded to the Director, Department of Harbours and Marine, Brisbane".

South Australia

The Premier states:

"Approval has been given for the following arrangements in South Australia:-

Item (a) Exemption from Canal and Harbour Fees, etc.

That vessels of the International Indian Ocean Expedition be granted the same concessions as apply to H.M. Warships and Warships of friendly nations, viz., Exemption from all port charges (including pilotage) except for the supply of fresh water.

Item (e) Permission to make Scientific Observations in Coastal Waters and to enter minor Ports

That free use of minor ports be granted without any prior notice. This refers to ports other than Adelaide, Lincoln, Thevenard, Pirie and Wallaroo.

The operating schedules referred to by the Acting Director-General should be sent to the office of the South Australian Harbours Board, Victoria Square, Adelaide."

Tasmania

The Premier states:

"The Tasmanian Harbour authorities have signified their willingness to grant every assistance and concession possible to any vessel involved in the Expedition should it desire to visit their ports or carry out scientific observations in their coastal waters.

The Secretary of the Tasmanian Harbour Authorities Association (Mr. J. Macquarie) has agreed to act as an Agent for the purpose of receiving the Expedition's operating schedules."

Victoria

The Acting Premier states:

"It is considered unlikely that these ships will visit Victoria, but should they do so, the schedules might be forwarded to the Public Works Department which would arrange any necessary distribution."

Western Australia

The Premier states:

"The Western Australian Government will be pleased to assist in this work of oceanic research.

Ships of the expedition will be granted use of Western Australian ports free of charge, including pilotage and normal service facilities, but charges will be raised for the actual cost of handling stores or equipment. There should be no difficulty in the simplification of procedure for the ships to enter the State's ports.

Operating schedules of the expedition's vessels planning to visit Western Australian ports should be sent to the Under Secretary, Public Works Department, St. George's Place, Perth, who will forward them on to the port authorities concerned".

CEYLON. (a) From the Controller of Economic Division, General Treasury of the Ceylon Government, of 18 December 1961.

"I have the honour to refer to your letter No. NS/9/88 of 19th May 1961, addressed to the Permanent Secretary to the Ministry of External Affairs on the above subject and to inform you that the Ceylon Government has agreed officially to participate in the Oceanographic expedition of the Indian Ocean.

A Committee comprising representatives of the Ceylon Association for the Advancement of Science, representatives of the University of Ceylon, the Port Commissioner, the Director of Fisheries and the Director of Meteorology will

be appointed as the Ceylon agency for this expedition. The Secretary, Ceylon Association for the Advancement of Science will act as Convenor and Organiser of this Committee. He will take action to provide the expedition with special port facilities such as waivers of Port and Entrance Dues to visiting expedition vessels etc., and other hospitality facilities."

(b) From the General Secretary of the Ceylon Association for the Advancement of Science and the Convenor of the Ceylon Committee for the Indian Ocean Expedition, of 2 February 1962.

"Your letter of 28th November 1961 regarding harbour facilities for ships of the above Expedition, addressed to the Director of Fisheries, Ceylon, has been passed on to me as Convenor of the Ceylon Committee for the IOE.

The Committee has directed me to write to the Ministry of Defence and External Affairs for an official statement on this matter and I will write to you as soon as I hear from them. In the meantime may I say that Ceylon will probably gladly grant suitable harbour facilities to the Expedition's ships, since Ceylon herself has agreed to participate officially (though in a small way) in the work of the Expedition."

ETHIOPIA. From Mr. M. Neqneq, Director-General of the Ministry of Education and Fine Arts, of 8 July 1961:

"I am happy to inform you that the Department of Marines of the Imperial Ethiopian Government has sent the necessary instructions to the Massawa Port Office and Assab Port Office instructing them to assist the Expedition in every way and charge only for any new and direct expenditure that the Port may incur.

The Schedules should be sent to the following addresses:

1. Imperial Ethiopian Government
Ministry of National Defence
Department of Marine
P.O. Box 1861
Addis Ababa, Ethiopia.

2. Imperial Ethiopian Government
Ministry of National Defence
Department of Marine
Port Office
P.O. Box 73
Massawa, Ethiopia.

3. Imperial Ethiopian Government
Ministry of National Defence
Department of Marine
Port Office
P.O. Box 58
Assab, Ethiopia. "

INDIA. From Dr. Panikkar, Secretary of Indian National Committee on Oceanic Research, of February 7, 1962.

"I am glad to inform you that the Government of India has agreed to provide duty free diesel oil for visiting ships in connection with the Expedition. But to make this decision effective, it would require for us to inform in advance the movement of the ships visiting our ports and particularly ports of call for fueling. It is presumed that when you issue a general instruction to various countries about the formalities to be observed for visiting ships, you will take note of this instruction.

In the meantime I am hoping that much of the difficulties would be solved by the provision of 'World Bunker Rates'.

We are moving the Ministry of Transport for sanctioning free berth facilities in ports and the port charges levied. In any case this is very small in most places."

(b) From the Secretary of the Indian National Committee on Oceanic Research, of 2 May 1962.

"In continuation of my letter of even No. dated 7th February, 1962, I am glad to inform you that the Government of India has agreed to extend the following facilities to the research ships connected with the International Indian Ocean Expedition:-

(1) On non-consumable scientific equipment and stores, no duty will be levied, provided the Indian National Committee on Oceanic Research guarantees that these equipment are meant for the expedition and that after the expedition these will either be re-exported or transferred to Research Institutions.

When the equipment is not required on board the ships, these should be deposited in bonded warehouse, where such facilities exist.

- (2) On consumable stores also, no duty will be levied on the condition that the balance of the stores left after the expedition should be either re-exported or transferred to an approved institution. Assurances of similar nature referred at (1) above is also required in this case.
- (3) Provisions required on board the ships will also be exempted from duty, provided the duration of the ships stay at any Indian Port is for a short period and the balance of any such provisions is re-exported and a suitable guarantee is furnished in this respect.
- (4) No duty will be levied on the transshipment of scientific specimens from ship to home or other laboratories and that the custom authorities will be instructed to handle the specimens delicately and to confine the inspection where only required and this is within the discretion of the custom authorities.

Our Government has however regretted that it will not be possible to completely waive the examination of the goods imported for the expedition, but instructions will be issued to the custom authorities to restrict the examination of the equipment and stores etc. to the minimum and also to handle the equipment very carefully. We are further pursuing with the Government to liberalise these formalities and as soon as we succeed on this, I will inform you.

The schedule of the ship along with the details of the scientific equipment, stores, provisions etc. required at the ports of call or to be imported for the purpose of this expedition may be circulated sufficiently in advance to the National Committees concerned with copies to the customs Collectors of the ports concerned, so that necessary action to extend the facilities required by the visiting ships may be taken.

As regards the extension of facilities referred at (a) and (e) of Unesco letter No. NS/9/88 dated 16th June, 1961, I will send you the views of the Indian Government in a very short time."

(c) From the Secretary of the Indian National Committee on Oceanic Research to the Secretary of IOC, dated 3 May, 1962.

"In continuation of my letter of even No. dated 2nd May, 1962, I am glad to inform you that the Government of India has agreed to exempt the ships taking part in the expedition from the payment of port dues leviable in the major ports of Calcutta, Madras, Bombay, Cochin, Visakhapatnam and Kandla."

(d) A convenient summary of Indian practice, as well as statements from several state Governments, has been provided by Dr. N.K. Panikkar, Director of the Indian Program (whose address is Council of Scientific and Industrial Research, Rafi Marg, New Delhi 1, India).

INDIA

Facilities requested by Unesco

1. Exemption from Canal and harbour fees for the research ships taking part, port docking facilities and pilotage at no cost or at the cheapest possible rates.
2. Tax exempt fuel for ships engaged in the expedition.
3. Special customs facilities for the entry and embarkation of scientific equipment and stores needed for the expedition (it is important that the packaging of delicate scientific equipment is not disturbed and that water samples are not opened).
4. Special customs facilities for transshipment from ship to home or other laboratories of scientific specimens collected by the Expedition.
5. Simplification of procedure for obtaining permission for ships to make scientific observations in coastal waters and to enter minor ports when necessary.

Facilities granted by Government of India

1. Ships participating in the expedition are exempted from the payment of the following charges at the major ports of Calcutta, Bombay, Madras, Cochin, Kandla and Visakhapatnam. (Ministry of Transport & Communications letter No. 19-PG 155)/61 of 6 June 1962.)

- 1) Port dues;
- 2) Pilotage Fees other than night navigation fees levied at Calcutta;
- 3) Berth hire and shifting charges;
- 4) Mooring and unmooring fees;
- 5) Wharfage charges for receiving on board stores, provisions water, fuel, etc. or any other material;
- 6) Towing charges;
- 7) Dock dues.

Charges for specific services rendered, e.g. supply of fresh water, electricity, loading and unloading of ships' stores, provisions and bunker oil, etc., will, however, be recovered.

2. Visiting ships will be exempted from payment of Central Excise duty on the fuel oil. (Ministry of Finance (Dept. of Revenue) E. No. 9/23/61-(XIII) dated 2.2.1962.)

3. & 4. The Government of India has agreed to extend the following facilities to the research ships connected with the International Indian Ocean Expedition:- (Ministry of Finance (Dept. of Revenues) D. No. 15/14/61-Cus-V dated 27.4.62.)

- (i) On non-consumable scientific equipment and stores, no duty will be levied provided the Indian National Committee on Oceanic Research guarantees that these equipment are meant for the expedition and that after the expedition these will either be re-exported or transferred to Research Institutions. When the equipment is not required on board the ships, these should be deposited in bonded warehouse, where such facilities exist.
- (ii) On consumable stores also, no duty will be levied on the condition that the balance of the stores left after the expedition should be either re-exported or transferred to an approved Institution. Assurance of similar nature referred at (i) above is also required in this case.
- (iii) Provisions required on board the ships will also be exempted from duty, provided the duration of the ship's stay at any Indian port is for a short period and the balance of any such provisions is re-exported and a suitable guarantee is furnished in this respect.

- (iv) No duty will be levied on the transshipment of scientific specimens from ship to home or other laboratories and that the custom authorities will be instructed to handle the specimens delicately and to confine inspection only where required and this is within the discretion of the custom authorities.

It will not be possible to completely waive the examination of the goods imported for the expedition, but instructions will be issued to the custom authorities to restrict the examination of the equipment and stores etc. to the minimum and also to handle the equipment very carefully. A responsible scientist-member of the ship may be present at the time of examination to explain the nature of the equipment and smooth out any difficulty.

5. Still under the consideration of the Government.

Procedure to be followed for getting these facilities

1. The schedule of the ship, along with the facilities and the exemption required should be addressed to the port officers concerned with a copy to the Director of the Indian Ocean Programme.
2. The Finance Ministry (Dept. of Revenues) will have to be informed sufficiently in advance of the probable date(s) from which and also port(s) from where the fuel would be required by the visiting ship in question, so that necessary instructions could be issued to the Collectors of Central/Excise concerned, copies of these requests may be forwarded to the Director of the Indian Programme.
3. The schedule of the ship along with the details of the scientific equipment, stores, provisions, etc. required at the ports of call or to be imported for the purpose of this expedition may be circulated sufficiently in advance to the National Committees concerned with copies to the Collectors of the ports concerned, so that necessary action to extend the facilities required by the visiting ships may be taken.
4. Copies of the schedule of the ship along with the facilities required may also be sent to the Director of the Indian Programme.

In regard to simplification of procedure for obtaining permission for ships to make scientific observations in coastal waters and to enter minor ports when necessary, the replies of the State Governments of Orissa, Mysore, Andhra Pradesh, Gujarat and Kerala is reproduced below. The replies from the Government of Maharashtra and Madras are awaited.

Government of Orissa

Have accepted the suggestion of the Government of India to afford necessary facilities to all vessels of the expedition engaged in research, when they enter minor ports. They have also agreed to exempt the ships from docking dues where they are leviable.

Government of Mysore

They have agreed to extend all cooperation and facilities required when the ships visit ports in their state.

Government of Andhra Pradesh

They have agreed to extend all cooperation and facilities required when the ships visit ports in their State.

Government of Gujarat

They have agreed to extend all cooperation and facilities required when the ships visit ports in their State and also exempt them from docking dues where leviable.

Government of Kerala

They have agreed to extend all cooperation and facilities required when the ships visit ports in their State. But the vessels should comply with the usual entry and clearance formalities when they enter and leave the ports. An order exempting these vessels has also to be issued in exercise of the powers conferred on them by section 34 of the Indian Ports Act, 1908 (Central Act XV of 1908).

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INDONESIA. (a) From the Executive Secretary, Indonesian National Commission for Unesco, of 15 July 1961.

"With reference to your letter dated 19 May 1961, ref. NS/9/88, I have the honour to inform you that a copy of your letter concerning the International Indian Ocean Expedition has been forwarded to the Council for Sciences of Indonesia for further settlement. I am confident that before long I will be in a position to submit to you a more detailed report concerning the facilities to be rendered to the visiting vessels.

As to the operating schedules concerning the research vessels, it would be efficient, if equal sets be forwarded to:

- i. The National Commission
- ii. The Council for Sciences of Indonesia, Medan Merdeka Selatan 11, Djakarta, and
- iii. The Ministry of Agriculture

In this connection I should like to let you know that the Institute of Oceanographic Research is part of the Ministry of Agriculture."

(b) Letter from the same source dated 9 August 1961.

1. In August 1960, His Excellency the First Minister, approved that Indonesia should participate in the said Expedition.
2. In October 1960, the Council for Sciences of Indonesia submitted to His Excellency the First Minister a request to render all the cooperation required, so as to facilitate the vessels during their stay in Indonesia.
3. The Ministry of Sea Communication, in their letter of 31 December, 1960, to the Cabinet of the First Minister, recognized the international character of the Expedition's vessels and consented to render the relevant proper assistance and courtesies in accordance with their status. All the scientific workers aboard the ships will be considered as officers of the ships. In this connection the Ministry suggested Unesco furnish those scientific workers and the crew with a badge as a symbol of their membership of the Expedition. The letter says further that the Ministry of Sea Communication will be pleased to render the following facilities:

- a. exemption from harbour dues, beaconage, pilotage and quayage;
- b. assistance in the carrying out of scientific research in the coastal areas;
- c. assistance to enter minor ports when necessary, after clearing has been obtained from the Navy;
- d. assistance in utilizing the coastal radio stations in receiving and sending out messages from and to the vessels;
- e. assistance in the storing and handling of explosives needed for seismic research. In this respect cooperation of the Navy is considered desirable.
- f. assistance in the handling and the transportation of equipment and in the supply of drinking water;
- g. assistance in all matters related to ebb and flood, floating buoys, etc.

4. The Council for Sciences of Indonesia is being requested to approach the appropriate authorities in order to obtain the special customs facilities as summed up in your letter.

As to the operating schedules of the Expedition, it is suggested to request Unesco to dispatch them also to the Indonesian Navy so as to obtain all the cooperation needed.

I hope to be able to furnish you with further news in the near future."

IRAQ. From the Director-General of Cultural Relations, Department of Cultural Exchange, Ministry of Education, of 16 September 1961.

"I have pleasure in informing you that the research ships of the Expedition shall be exempted from harbour fees and charges."

ITALY. (a) From the Permanent Delegate of Italy to Unesco, of 7 December 1961. (Original French)

"Referring to your letter No. NS/9/88 of 18 May 1961 concerning the International Indian Ocean Expedition, I have the honour to inform you as follows:

1) In the rather unlikely case of ships stopping along the Italian Coast for scientific research, it would be necessary to obtain authorization from the competent Authorities. The Italian Ministry of Foreign Affairs may be approached with a view to accelerating the necessary formalities in this respect.

2) The Italian Ministry of Finance will not fail to examine favourably, should the need arise, the possibility of granting customs facilities in favour of the Expedition in accordance with the interests of the State Treasury. It is useful to specify that the shipment of goods and material aboard Italian or foreign vessels entering national ports en route to Expedition areas is exempt of customs tax. It is for this reason that no expense of this nature could result to the organizers in the accomplishment of these operations. Besides, the embarkation of mineral oils and lubricants for provision aboard is not subject to tax, as these products are exempt of manufacturers' tax.

Any further information which may reach me from the Ministry of Merchant Marine will be communicated to you."

(b) From the Permanent Delegate of Italy to Unesco, of 9 March 1962. (Original French)

"Further to my letter No. 17765 of 7 December 1961, I have the honour to bring to your notice that the Italian Ministry of Merchant Marine has informed us that in the case of the International Indian Ocean Expedition touching Italian ports, it will not fail to grant to it every possible facility."

JAPAN. From the Permanent Delegate of Japan to Unesco,
of 6 October, 1961. (Original French)

"In reply to letter NS/9/88 of 19 May 1961, addressed to our Ministry of Foreign Affairs concerning the treatment and facilities accorded in Japanese ports of vessels participating in the International Indian Ocean Expedition, I would inform you that the Japanese Ministry of Foreign Affairs has discussed this subject with the interested authorities. Bearing in mind the character of this Expedition, it has been decided to grant these vessels the maximum facilities possible for their entry into Japanese ports. The treatment and facilities which will be granted to them are set out in the attached sheet."

Annex (Original French)

a) Ports open to all ships :

Exoneration of tonnage tax and of special tax on tonnage;

Reduction or exoneration of various port rights on condition that the ships undertake no exterior business.

No exoneration on pilotage charges.

Ditto + exoneration of entering fees.

b) Victualling (Tackle, combustibles)

Exoneration of the tax if the tackle and combustibles delivered are consistent with regulations, and recognized as justifiable for the vessel and crew by the customs authorities. In this case no authorization of embarkation delivered by the Ministry of Commerce and Industry is required.

c) Portable apparatus destined for professional use of the crew are exempt from tax.

Unprofessional scientific apparatus would be exempt from tax on condition that they be in bond or travel across Japan under customs. Customs inspection will be facilitated as far as possible, account being taken of the object and character of the research.

d) 1- Scientific specimens to be examined by Japanese governmental or public institutes are exempt of customs dues. (A preliminary authorization from the Minister of Finance is necessary for those specimens to be examined

by educational establishments or private institutes, exemption being made on those concerning public services, educational establishments or institutes belonging to local collectivity). The Minister of Commerce and Industry's authorization is not necessary.

2- Regarding specimens collected in the Indian Ocean or in other seas, which must, until the departure of the vessel, be left temporarily in ad hoc establishments (Institutes, etc.) inside Japan, it is sufficient to obtain the authorization of the warehouse.

3- Exoneration of re-exportation tax for collections provisionally kept in institutes inside Japan, provided re-exportation takes place within one year.

4- Exoneration of customs dues and all other dues for collections sent by ship or plane abroad. However, transshipment formalities must be regularly fulfilled.

e) No authorization is legally required for a research vessel's entry into a Japanese port. However, entry formalities in these ports are the sole responsibility of the Port Captain who has every right to simplify them.

The Japanese authorities can only request the Port Captain to grant every possible facility to research vessels, which they will certainly not fail to do.

NETHERLANDS. From the President, National Committee for SCOR, of 27 June, 1961.

"Please let me know if any of the ships for the Indian Ocean Expedition are planning to visit ports in the Dutch part of New Guinea. In that case I will inform the proper authorities."

MADAGASCAR. From the Minister of Foreign Affairs, of 11 October, 1961. (Original French)

"By your letter dated 19 May 1961, NS/9/88, you informed me on the role of the International Indian Ocean Expedition, organized by SCOR under the patronage of Unesco.

By the same correspondence you requested advise from the Malagasy Republic Government regarding the various facilities which might be granted to this Expedition.

In this connection I have the honour to inform you that the vessels of the Mission will be exempt from the payment of navigation fees if they enter and leave ports in ballast, thus undertaking no commercial operations other than re-supply of stores, fuel, tackle, spare parts, etc.

Fuel and lubricants can be taken from a depot where they are stored in suspension of tax. In order to satisfy the regulations on the control of external commerce and exchange, an export permit delivered by the Service of External Commerce together with a money transfer pledge addressed to the Exchange Office must be presented to the Exchange Service.

Motor launches and boats navigated on rivers and also material thereon, are subject to a transit tax of temporary admission guaranteeing their re-exportation. The Government of the Malagasy Republic has now power to exempt the Mission from this formality. The transit tax is valid for six months on Malagasy Republic territory and may be renewed should the need arise. A blue AT declaration addressed to the Exchange Office should be submitted, duly signed.

Otherwise, scientific material may be transhipped or embarked in the ports without having to be opened for content verification by the Customs Inspectors. This facility will be granted for scientific material;

- belonging to a scientific establishment or to International Indian Ocean Expedition, left in a port under surveillance of the Customs Service with a view to transhipment;
- being the object of an Expedition warrant certifying that it is destined to it and that the opening of the packages may cause deterioration of the apparatus;

Scientific specimens and samples addressed by the Expedition to the Institute of Scientific Research in Madagascar (Tananarive or Nosy-be) may be granted immunity from dues and taxes. No tax will be imposed on specimens sent to a foreign laboratory if the Head of the Expedition submits a warrant certifying the free and official character of the consignment. The Exchange Office should authorise the Customs to consider these samples as being of no commercial value in any case, which will permit the sender to dispense with a transfer pledge. Regarding collections

constituting animals or vegetation collected in Malagasy waters (territorial or fluvial), the ruling of the Madagascar Institute of Scientific Research (M.I.S.R.) must be obtained with a view to their exportation.

All necessary instruction will be given at the opportune moment to the Customs in order to facilitate in every possible way the carrying out of the Expedition's operations, in the framework of the above-mentioned indications.

I should be grateful if you would kindly communicate to me in good time the schedules relating to the various movements of the research vessels calling at Malagasy ports and entering our territorial waters.

In any case the interested departments would like to meet beforehand with the coordinator of the Expedition in order that certain technical questions regarding the operation may be discussed."

MAURITIUS. From the Ministry of Education and Cultural Affairs to the Director-General, Unesco, dated 16 June 1961.

"2. The Government of Mauritius was notified in November last, by the Secretary of State for the Colonies that Mr. R.G. Snider, coordinator of the Expedition, was to visit Mauritius in December to discuss possible ways in which the Government of Mauritius might be able and prepared to help the Expedition. During his visit, Mr. Snider provided us with a copy of the report of his sub-committee (SCOR) on Facilities for Ships, which refers inter alia to the various facilities mentioned in your letter. I enclose copy of a memorandum sent to Mr. Snider setting out this Government's policy concerning the various facilities and concessions which will be made available for ships of the Expedition. Mr. Snider was also informed that vessels participating in the Expedition will be given all the assistance and courtesies which are usually extended to State visiting ships.

3. It has been agreed with Mr. Snider that it would be simpler for him to correspond with one person, rather than a number of Ministries, on the various matters relating to the Expedition. The local correspondent is Mr. G. Bunwaree, Principal Assistant Secretary, Ministry of Industry, Commerce and External Communications. To avoid confusion, it is

suggested that it would be convenient if you would kindly send all correspondence about the Expedition to Mr. Bunwaree to whom I am sending a copy of this letter.

4. It may interest you to know that as suggested by Mr. Snider, a local Committee has been set up to consider problems arising out of the Expedition which may be of particular interest to Mauritius and to advise as to the best way in which Mauritius can contribute to, or participate in, the activities of the Expedition having regard inter alia to the Colony's present financial position and to any assistance likely to be afforded by the Expedition. Any information about the Committee's work will no doubt be supplied by Mr. Bunwaree, on request.

FACILITIES FOR SHIPS

(Reference: Report of Sub-Committee on Facilities for Ships)

(a) Canal and Harbour Dues

No harbour dues, pilotage fees or other charges will be made in respect of research ships.

(b) Tax-exempt fuel for ships

In accordance with Section 111 of the Customs Ordinance 1947, fuel oil taken as ships stores ex any bonded tank is exempt from import or export duty. This Section reads as follows:-

'Where stores are bona fide required for the master, crew or passengers of any aircraft or ship leaving the Colony, they shall, if taken from any Bonded Warehouse, be allowed to be exported free of duty.'

(c) Special customs facilities for the entry and embarkation of scientific equipment and stores

It is assumed that the Expedition will appoint some authority in Mauritius to handle their shipping and freight documentation. The person or firm so appointed will have no difficulty in dealing with normal transhipments. As Customs legislation is specific in matters of this nature, and as documentation is kept to a minimum no special facilities are considered necessary. No transhipment fees are leviable.

- (d) Special Customs facilities for transhipment from ships of scientific specimens.

See under (c) above.

- (e) Simplification of procedure for gaining permission for ships to make scientific observations in coastal waters.

Section 50 of the Customs Ordinance provides as follows:-

'The master of a ship from parts beyond the seas shall not permit his ship to enter any place in the Colony other than a port unless from stress of weather or other reasonable cause.'

For the purposes of the Customs Ordinance, 1947, Port Louis is the only established port but no Customs objection would be raised to the Expedition taking its ships or boats off other parts of the coast for the making of scientific observations provided that stores are not landed on the coast other than at Port Louis without the prior permission of the Comptroller of Customs."

PAKISTAN. (a) From the Chairman, National Committee for SCOR, of 27 June 1961.

"The matter of facilities for ships of the Expedition which may visit Pakistani ports has already been taken up by the National Committee for SCOR in Pakistan on the basis of the Report of the SCOR Helsinki meeting. A few of the required facilities such as storage of explosives which may be required for the participating ships have been arranged. Others including those mentioned in the circular referred to above are being pursued and results will be communicated to you as soon as they are available.

I shall be glad to receive any correspondence on this subject as Chairman of the National Committee for SCOR in Pakistan.

Dr. M.R. Qureshi, Director, Central Fisheries Department, West Wharf Road, Karachi, is the convener of the working group formed by the committee on this subject."

(b) From the Chairman, National Committee for SCOR, of 22 November 1961.

"With reference to your letter No. NS/9/55-88C, dated 15 November 1961, the matter for providing facilities for the visiting ships of the Expedition is still being pursued and further communication will follow. The facilities offered by the Pakistan Navy are given below:-

(a) Free berthing at Naval berths when available.

(b) Relaying of essential messages between ships and shore authorities in Karachi and Chittagong.

(c) Facilities at Karachi for storage of explosives needed for the seismic studies.

(d) The necessary clearance for individual ships to make scientific observations in coastal waters of Pakistan and to enter minor ports of Pakistan may be obtained en bloc by the respective National Committees through the National Committee for SCOR in Pakistan. Individual ship clearance for each visit may be obtained from the Pakistan Navy on each occasion. The cruise programme of the visiting ships should reach the following addresses:-

(i) Commander S.R. Islam P.N.
Director of Hydrography
Chairman, National Committee for SCOR
in Pakistan
Naval Headquarters, Karachi.

(ii) Dr. M.R. Qureshi,
Director of Fisheries
Fish Harbour, West Wharf
Karachi."

(c) Information presented by Pakistan Delegation to Working Group on Coordination of Operating Plans for the North-Western Indian Ocean, at Wormley (UK) on 9 to 11 July 1962 (Cdr. A. Hanif, Naval Adviser to Pakistan High Commissioner, London, and Dr. Riaz Ali Shah, Pakistan Council of Scientific and Industrial Research, Karachi).

i. Port facilities at Karachi: Pilotage, unberthing, shifting, port dues, mooring fees, hire of Port Trust craft, naval berths and Fish Harbor berths will be free. Berthing fees at Karachi Port Trust wharves will be 50% or in special

cases free. Water charges will be 50%. Prior information about the exact date of arrival of the ship is desirable.

ii. Port facilities at Chittagong: Port dues, river dues, pilotage dues will be free. Tug line, fresh water, hiring of moorings, etc., charges will be levied in full.

iii. Explosives: Storage of explosives will be provided at Naval Depots free of cost. Storage at Karachi with Karachi Port Trust will be charged at 50% rates.

iv. Communication: Relaying of essential messages between ship to shore and vice-versa will be arranged free of cost as far as the facilities of the Pakistan Navy permit. Details of requirements of ships are lacking. These will be processed through the Pakistan Telegraph Department as soon as available.

v. Customs facilities: These, e.g., duty free fuel, free passage of IIOE goods, samples, etc., have not been finalised yet. The IOC Bureau will be informed as soon as information is available.

SINGAPORE. From the Ministry of Finance, of 17 July 1961.

"In the last paragraph of your letter you have asked for the name of an agency to which you could send operating schedules. I am to inform you that the same External Assistance Section, Economic Development Division, Ministry of Finance, can receive those schedules.

Regarding the specific facilities listed by you, I am to reply as follows:-

- (a) Such facilities as the Marine Department can offer will be afforded to vessels of the Expedition. It is not likely that any research vessel would use the facilities of the Traffic Department of the Singapore Harbour Board, as any requirements for bunkers, stores, water, etc., may be fulfilled in the Roads. If it is intended to use the Singapore Harbour Board's Dockyards for purposes of repairs on research vessels, normal tariff rates will be charged. If the vessels belong to a Government and do not carry cargo or passengers for freight or fares, they will be statutorily exempted from the payment of dues under our Ports Dues Ordinance and our Light Dues Ordinance; if they do not

belong to a Government, it can be recommended to the proper authorities that they be exempted from such duties;

(b) Ships which call at Singapore to take in dutiable petroleum as bunker fuel do not have to pay duty because such petroleum is regarded as for export and is therefore duty free. There is also no duty on diesel oils at present.

(c) & (d) Customs facilities for the entry and embarkation of scientific equipment and stores needed for the Expedition may be provided and that packaging of delicate scientific equipment need not be opened for Customs examination. It may, however, be necessary to put temporarily into bond any dutiable stores removed ashore from research vessels of the Expedition, until and when these stores are taken out again for use by the Expedition. Dutiable stores on board will be sealed up by Customs. As for Customs facilities for transshipment from ship to home or other laboratories of scientific specimens collected by the Expedition, the procedure as for the transshipment of delicate physical standards proposed to Unesco in 1958 may be adopted with the following modifications:-

(i) The Expedition importing such scientific specimens should give advance notice to Customs of their intended transshipment. Customs will then direct to which station they will be cleared.

(ii) At the Customs station an immediate decision will be taken as to whether or not to inspect the specimens. If it is necessary to do this, Customs will promptly open up the packages for examination. If it is unnecessary, Customs will release them forthwith.

(iii) Specimens cleared by Customs will have their labels certified accordingly.

(iv) There will be no examination of specimens in transit.

(v) The import, export and transshipment of scientific specimens from and to destinations outside Malaya must be covered by a declaration, approved by the Controller and

Registrar of Imports and Exports.

(vi) It will be the policy not to examine imported scientific specimens unless on grounds of suspicion. (Further confirmation as to the position of transshipment of scientific exhibits in the form of animals or plants without examination will be given in due course).

(e) As for the simplification of procedure for obtaining permission for ships to make scientific observations in coastal waters, the departments concerned will offer the best help they can.

I hope this will be of help to your work in coordinating the Expedition and on receipt of the operating schedules, I shall no doubt transmit them to the various departments concerned."

From the Ministry of Finance, of 6 October, 1961.

"I am directed to refer to my letter dated 17 July 1961, and, with reference to sub-para (vi), to confirm that transshipment of plants and fish will be permitted without examination by the Customs.

2. As regards the transshipment of animals, it will be necessary to take appropriate precautionary measures to prevent the introduction into Singapore of exotic diseases of animals. The Veterinary Division of the Ministry of National Development, Singapore, would have to be informed of the type of animals, their country of origin and whether measures are taken to prevent the danger of introduction of infectious diseases of animals at the ports of call.

3. I may also add that up to date, we have received no information about any ships visiting our port in connection with the Expedition."

SOUTH AFRICA. From C.G. Hide, Principal Liaison Officer, Science Cooperation Division, South African Council for Scientific and Industrial Research, of 18 July 1961.

"I refer to the circular memorandum issued by SCOR on the above subject and have pleasure in informing you that this

matter has now been considered by the South African Government Departments concerned, and they have authorized me to issue the following statement to all National Committees participating in the SCOR Indian Ocean Expedition:

"4. (a) All State-owned vessels participating in the Expedition will be exempted from port and light dues, but, if they make use of other unforeseen services, charges therefore will be levied at the rates reflected in the Official Harbour Tariff Book of the Railways and Harbours Administration. Owing to the fact that the nature of such services cannot be predetermined, no indication of costs can be given at this stage.

(b) The South African authorities are prepared to allow vessels engaged in the work of the Expedition to acquire fuel ex non-duty paid stocks.

(c) The requested special facilities for the entry and embarkation of scientific equipment, stores and samples required for the Expedition will, where possible, be granted under Customs supervision.

(d) Where possible, the requested special facilities for transshipment from ships to home laboratories of scientific specimens, collected by the Expedition, will be granted under Customs supervision.

It should also be noted that Customs regulations require the commanding officer of any vessel to report his ship's arrival at or departure from a customs port to the Collector of Customs and Excise. The landing, embarkation or transshipment of equipment of stores should be accompanied by the submission to the customs office of the appropriate forms.

(e) The South African Government is not in a position to grant carte blanche authority in advance for vessels to enter South African coastal waters and harbours, particularly the smaller ports, inasmuch as it will have to be determined in each case whether the required accommodation in ports, or other facilities, are in fact available at all or can be granted at the time required and whether the proposed visit is in other respects convenient to the various authorities concerned. Ad hoc approval will, therefore, have to be obtained in advance of each visit for the entry of all vessels into South African coastal waters and ports and particulars of the vessels concerned, facilities required, date, time, length of sojourn and area of operation will have to be timeously furnished. Consideration of such requests will be facilitated as much as possible.

(f) Arrangements exist at all South African ports for the delivery of mail matter (whether despatched by air or surface mail) intended for crews of ships in port. Adequate facilities are also available for the onward transmission of prepaid mail matter received from crews of ships. The postal authorities will also endeavour to provide such telecommunications facilities as may be required at the prescribed charges. Timeous notice of specific requirements would, however, be required.

(g) The South African Navy is in a position to provide storage facilities for depth charges and explosives. Should it be desired to make use of these facilities, the prior approval of the appropriate South African authorities will have to be obtained.

It should, however, be pointed out that in terms of the regulations applicable to the handling and storage of explosives, vessels carrying explosives may enter South African harbours only for the purpose of taking on stores and under the following conditions:

- (i) the explosives should be stored, to the satisfaction of the port captain in magazines in the bow or stern of the vessels;
- (ii) the holds in which the explosives are stored may not be opened or entered into, excepting for inspection or the measurement of temperatures, in which case only under the supervision of the port captain or another officer appointed by him for this purpose;
- (iii) the vessel should be in readiness to leave the quay at any time under its own power, when considered necessary by the port captain or commanding officer;
- (iv) a fireman with a hydrant or connected hose will be required to keep permanent watch. If the pressure in the water main is not sufficient, he will be required to have a chemical fire extinguisher for immediate use;
- (v) supplies and stores should be embarked with all possible celerity."

UNITED KINGDOM. (a) From the National Commission for
Unesco, Ministry of Education, of 27
September 1961.

"The operating schedules of the research vessels should
be sent to Mr. F.T. Hallett, Office of the Minister for
Science, 2 Richmond Terrace, London, S.W.1.

Action is being taken to provide assistance for the
Expedition as envisaged in your letter under reference,
and will be completed when the operating schedules are
available."

(b) From the National Commission for
Unesco, Ministry of Education, of
3 November 1961.

"I have the honour to refer to your letter of 19th May
concerning the International Indian Ocean Expedition and
to my letter of 27th September on the same subject.

Until the operating schedules for participating ships
are available the grant of specific facilities cannot be
considered in detail, but the Oceanographic Office of
Unesco may be interested to know of the following general
facilities and concessions granted by the appropriate
administering departments in the U.K. which may be of use to
the goods carried by the ships.

Fuel for ships engaged in the Expedition

Hydrocarbon oils shipped as stores from the U.K. would
be eligible for drawback of duty in accordance with the
arrangements set out in the enclosed notice (Notice No.172
issued by the Commissioners of Customs and Excise).

Entry and embarkation of scientific equipment, etc.

The Board of Trade (Tariff Policy Division, Duty Remission
Branch, Horse Guards Avenue, London, S.W.1.) administer
arrangements for certain imported equipment, etc., to be
admitted duty-free. Applications for such admittances should
be made to that branch of the Board of Trade.

In addition to these arrangements the Board of Customs
and Excise would be prepared to advise on facilities under
the trans-shipment regulations for the importation of goods
intended for subsequent re-exportation.

Regarding the handling of delicate equipment, water samples, specimens, etc., collected on the Expedition, the Board of Customs and Excise, although not foregoing their right to examine any goods, would agree to consider special arrangements for the examination of the goods at private premises which need not be at the quay side. These arrangements would depend on the precise nature of the goods and the purpose for which they were imported or exported.

I further have the honour to say that communications have been sent to a number of overseas Commonwealth territories regarding the requests made in your letter of 19th May, but it is assumed that letters similar to that of the 19th May were sent by Unesco to the Governments of the independent Commonwealth countries, and it is assumed that they are replying direct to you.

It is noted that operating schedules will be sent concerning the movements of the research vessels likely to visit Aden or the Protectorate ports. All such schedules should be sent to the Chief Secretary to the Government at the Secretariat, Aden, as his office is coordinating correspondence on this subject affecting a number of Government Departments and the Port Trust."

c) From the National Commission for Unesco,
Ministry of Education, of 8 December 1961.

"I have the honour to refer to your letter of 19th May 1961, concerning the International Indian Ocean Expedition. Your request for facilities for ships involved in the Expedition has been conveyed to a number of non-independent Commonwealth countries bounded by the Indian Ocean. We have so far had the following answers.

The Government of Zanzibar agrees to provide the facilities requested. Operating schedules of vessels planning to visit Zanzibar ports should be sent to:

The Comptroller of Customs
P.O. Box No. 161
Zanzibar

The East Africa High Commission has stated:

"The facilities for which Unesco has asked are generally provided under the East African Customs Management Act, 1952, and the territorial Customs Tariff Ordinances as follows:-

(b) Tax - exempt fuel for ships" - fuel may be shipped as stores for vessels either ex-warehouse or on drawback and is thus exempted from Customs Duty (Section 99 and 121 of the Act).

(c) Special customs facilities for the entry and embarkation of scientific equipment and stores needed for the Expedition" - in addition to duty-free shipment of stores as provided above, item 169 of the Tariff Schedule grants duty-free admission into the territories of scientific apparatus and instruments. An administrative instruction would ensure that any Customs examination would be waived for delicate equipment and samples.

(d) Special Customs facilities for transshipment of scientific specimens" - these can be provided within the framework of the Act, exemption from duty being authorised under section 99.

2. The East African Railways and Harbours Administration has confirmed that if any of the vessels concerned call at main ports the usual charges for port dues, light dues, and accostage, if any, will be waived. With regard to pilotage, when more is known about the ships involved, the Administration will be prepared to consider exemption from compulsory pilotage as "Government ships not engaged on trading voyages", but if this service is actually required, the normal charges will be raised. With regard to Unesco's request (e), the Administration will be prepared to give carte blanche permission to enter any port in respect of all ships of the Expedition; prior advise will, however, have to be given before entry to the major ports of Mobassa, Dar-es-Salaam, Tanga and Lindi/Mtwara.

3. Operating schedules of vessels planning to visit East African ports should be sent to the following addresses:-

- (a) The General Manager
East African Railways and Harbours Administration
P.O. Box 30121, Nairobi, KENYA;
- (b) The Commissioner of Customs and Excise,
P.O. Box 9061, Mobassa, KENYA."

The Government of the Seychelles has also agreed to provide the facilities requested by UNESCO."

d) From the National Commission for Unesco,
Ministry of Education, of 28 December 1961.

"I have the honour to refer to your letter of 19 May 1961 concerning the International Indian Ocean Expedition and to my letter of 8 December.

The Governor of Aden has confirmed that his Government is prepared to assist the expedition as much as possible and has supplied the following answers to the questions set out in paragraph 4 of your letter referred to above:-

- "(a) correspondence is proceeding with the Chairman, Aden Port Trust, on this matter and it is likely that the Trustees will approve terms no less favourable than those enjoyed by H.M. ships which are exempt from port and light dues but pay other charges - namely pilotage, berthing and tug fees. A further communication will be sent on the conclusion of the present correspondence;
- (b) there is no tax on fuel for ships in the harbour but enquiry is being made of the Chairman whether the Aden Port Trust would be prepared to consider the possibility of waiving tolls on any bunkering provided for the Expedition's vessels;
- (c) scientific equipment and stores, other than liquor and cigarettes, are not subject to control by customs when passing through Aden; there should, therefore, be no difficulties in this respect;
- (d) similarly, scientific specimens would not be subject to any customs procedure;
- (e) no difficulties can be foreseen to the operation of any of the Expedition's ships in the coastal waters of the Colony or the Protectorate. The Port Officer would merely require advice from the ship concerned that it was coming inshore along the Colony or Protectorate coastline so that shipping may be warned if that were necessary."

The Governor has added the following comments:-

"The foregoing applies to Aden Colony - other than certain of the comments under sub-paragraph (e). Should the expedition wish to operate in Protectorate waters or to visit the minor ports of the Protectorate then the rulers concerned would have to be warned. The points raised in sub-paragraphs (a) (b) and (c) of paragraph 4 of the Acting Director-General's letter would have to be cleared with the Quaiti Government if the expedition wished to use the port facilities at Mukalla and I should be grateful to know whether the expedition envisages a call there so that that Government can be contacted well in advance.

(e) From the National Commission for Unesco, Ministry of Education, of 23 February 1962.

"I have the honour to refer to my letter of 28 December concerning the International Indian Ocean Expedition.

The following further information has now been received from the Governor of Aden.

(a) The Aden Port Trust have confirmed that arrangements will be made whereby the ships of the International Indian Ocean Expedition will enjoy the same rates as Her Majesty's ships: i.e. they will be exempted from port and light dues but will be required to pay pilotage, berthing and tug fees.

(b) It has been established that no tolls are charged on bunkering supplies so the enquiry on this aspect in your letter of 18th May, 1961, does not apply in Aden Port.

The Governor would be grateful to receive in due course information of the movements of the research vessels of the Expedition involving Aden or Aden Protectorate."

(f) From the National Commission for Unesco, Ministry of Education, of 22 March 1962.

"I have the honour to refer to my letter of 23rd February concerning the International Indian Ocean Expedition.

The Governor of Aden has now informed us that the Trustees of the Port of Aden have agreed that all port charges for vessels of the Expedition will be waived. Paragraph (a) of my letter referred to above is therefore cancelled."

VIET-NAM. From the President, National Commission for
Unesco, Department of National Education,
of 13 July, 1961. (Original French)

"I have the honour to acknowledge receipt of the
above-mentioned letter and to bring to your notice
that the vessels participating in the Oceanographic
Research in the Indian Ocean Region will benefit from
the under-mentioned facilities should they enter our
ports;

- 1) Exoneration of tax on fuel;
- 2) Special Customs facilities for the
admission and embarkation of scientific
material and scientific specimens
collected by the Expedition.

ANNEX A

CIRCULAR LETTER FROM SECRETARY OF THE INTERGOVERNMENTAL
OCEANOGRAPHIC COMMISSION TO MEMBERS OF THE COMMISSION
AND OTHER COUNTRIES PARTICIPATING IN THE INTERNATIONAL
INDIAN OCEAN EXPEDITION

CL/18

21 JUNE 1962

" At its First Session, the Intergovernmental Oceanographic Commission adopted a resolution which commended the International Indian Ocean Expedition to its members for possible participation and instructed the Secretary of the Commission to assume such co-ordinating function as could be worked out in consultation with SCOR and other appropriate bodies.

This matter was discussed at the Fifth Meeting of SCOR in Monaco (30 October to 1 November 1961), the First Meeting of the IOC Bureau and Consultative Committee in Paris (10 to 12 April 1962) and the meeting of the SCOR Executive Committee in London (16 to 18 April 1962). As a result of these discussions it has been decided that formal responsibility and authority for co-ordination of the Expedition will immediately be transferred to the Secretary of the Commission, who in the future will make such contacts as are necessary with governments, international organizations and national scientific bodies concerned with the Expedition.

Mr. Robert Snider, who has been SCOR's co-ordinator of the Expedition, will assist the Secretary in the co-ordinating function until the end of 1962 during a transitional period necessary to ensure that the transfer of responsibility does not adversely affect the carrying out of the Expedition.

I have been instructed by the Bureau to request formal indication from the members of the Commission and other countries of the extent and nature of their participation in the Expedition. In this connection I should appreciate your supplying me at your earliest convenience with fullest possible details of the participation of your country's government agencies, oceanographic institutions and laboratories, including ship tracks and time schedules, details of scientific programmes and names of scientific personnel involved in this work. It is essential that all information and queries concerning the Expedition be transmitted directly to:

The Secretary, Intergovernmental Oceanographic
Commission
UNESCO, Paris, France.

Cables can be addressed to OCEANS UNESCO PARIS.

"

IGY LIST OF DATA TO BE EXCHANGEDProjects

- (a) Shore stations recordings of
 - (i) Sea level
 - (ii) Long period waves
- (b) Afloat
 - (i) Serial station for depth, temperature, salinity and chemical analysis
 - (ii) Colour and transparency
 - (iii) State of sea and swell
 - (iv) Currents
 - (v) Bottom sediments
 - (vi) Bathymetry
 - (vii) Bathythermography
 - (viii) Meteorology and actinometry
 - (ix) Biology

Description and Presentation of Data

- (a) Sea-level records. These will be the mean monthly sea levels computed from hourly observations from a recording gauge or alternatively according to standard observations on a tide staff.
- (b) Long Period Wave Records will be retained at the appropriate Institutions and parts of them made available on request together with relevant details at cost of reproduction. Periods of observations and the range of frequencies covered should be reported for inclusion in WDC indexes.

(c) Serial Station Records

- (i) Depth as accurately as possible using suitable standard depths.
- (ii) Temperature in $^{\circ}\text{C}$ to $\pm 0.01^{\circ}$.
- (iii) Salinity by accurate method to ± 0.02 per mille.
- (iv) Concentrations of O_2 , SiO_4 , PO_4 , NO_2 , NO_3 , H_2S (if present), CO_2 , NH_2 , H_3BO_3 , C_{14} , D_2O , T_2O , and other chemical species, pH, alkalinity and radioactivity. Whenever non-standard methods of analysis are used, specifications are to be given.
- (d) Colour and transparency. Data at selected stations should be included with serial station records.
- (e) State of sea and swell. Visual observations and averaged results of instrumental measurements of height, period and direction of waves, expressed in the customary units. Full details of scales to be furnished with tabulated results.
- (f) Currents. Observational data on currents along sections and at anchor stations, at specified levels, and with information about the method and circumstances of measurement, e.g. ship behaviour, etc.
- (g) Bottom sediments. A field description of each bottom sample in accordance with the specifications in USHO Publication No. 607, p.155.
- (h) Bathymetry
 - (i) The sounding at each station to be included with the data under (c).
 - (ii) For echo soundings the system preferred is an overlay of the ship's track chart showing all navigational fixes on a chart of scale about 1:400,000 (1:250,000 to 1:600,000) showing soundings as closely spaced as they can conveniently be written. If an overlay cannot be furnished, tabulated soundings at an interval of not more than $2\frac{1}{2}$ miles are desired. In either case, full details of the assumed speed of sound, corrections (if any) to sounding for actual speed, and any corrections to frequency standard are to be furnished.

(iii) Original echograms will be handled similarly to long wave records. Para. (b).

(i) Bathythermography. Tabulations of temperatures at standard depths as on Form IBM 8180850, with data on time, date and location.

(j) Meteorology

(i) Tabulated data for standard marine observations of air temperature, ocean surface temperature, absolute or relative humidity, speed and direction of wind, barometric pressure, cloud, visibility and other atmospheric phenomena, and precipitation. If scales used are not explicit c.g.s. units, conversion tables should be furnished.

(ii) Upper air data. Radiosonde observations of temperature, humidity and pressure using WMO format. Speed and direction of wind with a description of method used.

(iii) Actinometry. Daily observations of the total, direct, diffused and reflected radiation carried out during daylight and the results of 24 hr. observations of effective radiation in selected situations.

(k) Biology. Data on quantity and composition of plankton standard layers, if feasible.

Other observations

References should be given for inclusion in WDC Indexes, of any types of data obtained, e.g. submarine geology, submarine geophysics, special echo soundings and marine biological observations.

General

(a) Results should be presented chronologically for each expedition beginning with its first day of work.

(b) Each table heading is to contain the date, time and the name of the observing ship (or station) and be accompanied by a chart showing the positions of ship stations. An indication is to be given of how positions have been fixed e.g. dead reckoning, observation, bearing, etc.

- (c) The time in use is to be stated, e.g. GMT or time zone; and in the case of a serial station the time is that of dropping the messenger for the first cast.
- (d) Data should be presented in final processed form after all instrumental corrections have been made. But in the case of serial stations interpolation to standard depths is to be omitted if this will delay transmission.

Time Schedules and Transmission

Cruise data are to be forwarded as expeditiously as possible and in any case not later than 6 months after completion of the cruise. In the case of Antarctic expeditions and similar long cruises during which analysis may be conducted on board, three months is the desirable interval after the end of the voyage. All other data should be forwarded within one year after collection.

One copy of the data is to be sent to both WDCs whenever feasible. Alternatively data should be sent in duplicate to one of the WDCs. The method used is to be made clear on the Transmittal Note.

Data which are already being sent to certain organizations will continue in accordance with established schedules and in addition to transmission to WDCs, e.g.

- (a) Mean Sea-level observations to the Liverpool Observatory and Tidal Institute, The Observatory, Birkenhead for the Mean Sea Level Committee of the IAPC. It is hoped that a copy of all mean sea-level observations will be sent direct to the LTI for the MSL Committee as well as to one or both WDCs.
- (b) Bathymetric data to the International Hydrographic Bureau, Quai des Etats-Unis, Monaco, for the International Bathymetric Chart of the Oceans.
- (c) North Atlantic Serial Station data to the International Council for the Exploration of the Sea.

ANNEX C

SCOR PRIMARY MAILING LIST

The Convener
National Committee on Oceanic Research
C.S.I.R.O.
P.O. Box 21, Cronulla
Sydney, Australia

The Secretary
Canadian Committee on Oceanography
Fisheries Research Board
Ottawa, Canada

Mr. V. Basnayake
Secretary
Committee for the Indian Ocean
Expedition
Association for Advancement of
Science
University of Ceylon
Colombo 3, Ceylon

The Chairman
National Committee on Oceanic
Research
Farmaceutiske Højskole
Universitetsparken
Copenhagen Ø, Denmark

Colonel S.P. Fearon, Secretary
E.A. Committee for the Indian Ocean
Expedition
Office of the E.A. Common Services
Organization
P.O. Box 30 005
Nairobi, Kenya, East Africa

The Chairman
National Committee on Oceanic
Research
Merentutkimuslaitos
Institute of Marine Research
Helsinki 2, Finland

The Secretary, National Committee
on Oceanic Research
Laboratoire d'Océanographie
physique du Museum
43 rue Cuvier
Paris 5, France

The Secretary
National Committee on Oceanic
Research
34 Neuer Wall
Hamburg 36, Germany

The Secretary
National Committee on Oceanic
Research
Krishi Bhavan
New Delhi, 1, India

The Secretary
National Committee on Oceanographic Research
Division of Scientific Affairs
of Indonesia
Box 250, Council for Sciences
11 Merdeka Selatan
Djakarta, Indonesia

The Chairman
National Committee on Oceanic
Research
P.O. Box 5192
Jerusalem, Israel

The Chairman
National Committee on Oceanic
Research
Science Council of Japan
Ueno Park, Taito-ku
Tokyo, Japan

Mr. J. de B. Baissac
Secretary
Committee for Indian Ocean
Expedition
Mesnil aux Roses
Vacoas, Mauritius

The Secretary
National Committee on Oceanic
Research
Nederlands Instituut voor Onderzoek
der Zee
Buthaven 27
Den Helder, Netherlands

The Chairman
National Committee on Oceanic
Research
Royal Society of New Zealand
Victoria University College
Buildings
Wellington W.I., New Zealand

The Chairman
National Committee on Oceanic
Research
Institutt for Marin Biologi B
Universitetet i Oslo
Blindern, Norway

The Chairman
National Committee on Oceanic
Research
Naval Headquarters
Fowler Lines
Karachi, Pakistan

The Secretary
National Committee on Oceanic
Research
Stacja Morska, PAN,
Sopot, Poland

The Secretary
National Committee on Oceanic
Research
Instituto Hidrografico
Rua do Arsenal-H
Lisboa 2, Portugal

The Secretary
National Committee on Oceanic
Research
Science Cooperation Division CSIR
P.O. Box 395
Pretoria, South Africa

The President
Chinese National Committee on
Oceanic Research
College of Science
National Taiwan University
Taipei, Taiwan

The Secretary
National Committee on Oceanic
Research

Hydrographic Department
Royal Thai Navy
Bangkok, Thailand

The Secretary
National Committee for Oceanic
Research
Royal Society
Burlington House, Piccadilly
London, W.1., U.K.

The Executive Secretary
Committee on Oceanography
National Academy of Sciences
2101 Constitution Avenue N.W.
Washington 25, D.C., U.S.A.

The Secretary
National Committee for Oceanic
Research
26 Maronovsky Pereulok
Room 21
Moscow V-49, USSR.

The Director
UNESCO Office of Oceanography
Place de Fontenoy
Paris 7, France

The Secretary of SCOR
34 Neuer Wall
Hamburg 36, Germany

Mr. Robert G. Snider
International Indian
Ocean Expedition
30 E. 40th Street
New York 16, N.Y., USA.

ANNEX D

AUSTRALIAN PROCEDURE AT REFERENCE STATIONS

Reference Station 1 (32°S., 111°50'E.)

S, T, O ₂ , nitrate and inorganic P	0, 25, 50, 75, 100, 150, 200, 300, 500, 700, 900, 1100, 1300, and 1500 m and then at 500 m intervals to the bottom.
Total P	As above except 25, 75, and 150 m
Primary production using ¹⁴ CO ₂	0, 25, 50, 75, 100, and 150 m
Pigments	As for primary production
Zooplankton	Oblique haul with Clarke-Bumpus sampler: surface - 200 m - surface. Ship speed: 2 to 3 knots. Speed of paying out and recovering wire : 20 m/minute. Duration of tow : 35 minutes.
	When the Indian Ocean Standard net arrives, standard tows will be made with it and the catch will be sent to the Indian Ocean Biological Centre.
Miscellaneous	Depth, air temperature (wet and dry), wind, cloud, visibility, sea, swell, and pressure.

Reference Station 2 (9°S., 105°E)

S, T, O ₂ , nitrate and inorganic P	0, 25, 50, 75, 100, 125, 150, 200, 250, 300, 400, 500, 700, 900, 1100, 1300, and 1500 m, and then at 500 m intervals to the bottom.
Total P	As above except 25, 75, 125, 150, 250, and 400 m.

Primary production, pigments, zooplankton and miscellaneous as at Reference Station 1.

ANNEX E

PROPOSAL FOR THE ESTABLISHMENT OF A BIOLOGICAL CENTRE IN COCHIN IN CONNECTION WITH THE INTERNATIONAL INDIAN OCEAN EXPEDITION

The idea of having a Biological Centre for preliminary study and sorting of the large amount of material that will be brought by the various ships participating in the International Indian Ocean Expedition was first discussed in New York in 1959 during the meeting of SCOR. A more positive proposal that this Centre be in India was made in 1960 by the Indian Ocean Working Group at Copenhagen and at the SCOR meeting in Helsinki. The chief considerations which led to the selection of India for location of the Centre were:-

1. Geographical location of India at whose ports many of the ships participating in the expedition are likely to call;
2. The very considerable interest in biological and taxonomic studies in India at the scientific and university institutions;
3. The availability of a large number of trained biologists who could take up this work;
4. The advantages of a Centre of this type in South Asia which would stimulate marine biological studies in the Asian region.

The principal functions of the Centre would be:-

1. Maintaining a Named Reference Collection of Indian Ocean material;
2. Preparing Named Reference Collections of Indian Ocean material for other laboratories throughout the world;
3. Sorting zooplankton samples taken by the standard method;
4. Examining the sorted standard material or sending it to specialists throughout the world;
5. Sorting other zooplankton samples at the request and expense of participating laboratories;
6. Sorting other biological samples by special arrangement with participating laboratories;
7. Training.

The Indian National Committee on Oceanic Research has welcomed the establishment of such a Centre in India, and after evaluating the existing facilities at various places, recommended that it be located in Cochin. This recommendation was endorsed by the SCOR-UNESCO zooplankton working group which met in Cochin and New Delhi in August 1961. The group included participants nominated by National Committees in Australia, Germany, India, Japan, Pakistan, U.K. and U.S.A. The Director of the Unesco Office of Oceanography attended this meeting and indicated that Unesco is prepared to support the development of this Centre. Representatives of India attended part of this meeting and indicated that India would support the Centre by providing buildings, staff, and running expenses.

The zooplankton working group recommended that the Centre function in the following manner:-

Standard Zooplankton Samples

1. Participating ships would collect zooplankton samples by hauling a standard net vertically from 200 metres depth to the surface at a rate of 1 metre per second. The standard net is similar to the N 100 net, having a diameter of 110 cm at the mouth and a mesh aperture of 0.33 mm.
2. The samples would be preserved and sent to the Centre.
3. The samples would be catalogued and their displacement volume measured. Then they would be sorted into appropriate fractions, the unsorted residue being retained.
4. The displacement volume and, where practicable, the number of organisms in each fraction would be determined.
5. The fractions would then be sent to appropriate specialists for further examination. Some of these specialists will work at the Centre and others at laboratories throughout the world. The latter specialists would be required to return the material to Cochin.
6. Catalogues, station lists, and atlases would be prepared and published at appropriate intervals.
7. A series of Named Reference Collections would be assembled as identified material became available.
8. All specialists would be requested to deposit holotypes in the appropriate Indian national collection and paratypes in the Centre at Cochin and in other national collections.

Special Zooplankton and Other Biological Samples

Zooplankton samples made by non-standard methods, and other biological samples, would be processed in accordance with arrangements between the Centre and the collecting laboratory.

Training

The development of the Indian Ocean Biological Centre will provide a unique opportunity for the training of biologists from India and other countries of the region. The following types of training could be provided:-

1. During the routine sorting of standard samples into fractions, experience will be gained in the recognition and preliminary identification of zooplankton.
2. Under the supervision of the more experienced biologists, opportunities will be available for advanced investigations of systematics, ecology, and zoogeography of certain components of the plankton.
3. Because of the location of the Centre in Kerala State, advantage can be taken of the special courses given by the University's Department of Marine Biology and Fisheries.
4. As the Centre develops it will attract increasing numbers of visiting scientists who will bring with them a knowledge of theory and techniques not otherwise available in the region. These scientists will be encouraged to give seminars, demonstrations, and lectures and to provide specialized guidance in taxonomic and experimental investigations.
5. Various kinds of fellowships will be required to implement the training programme of the Centre -
 - (a) Biologists from other Indian Universities - assistance of the University Grants Commission of India should be sought;
 - (b) Biologists from other countries - assistance of UNESCO, FAO, ICA, Nuffield Foundation, and similar organizations should be sought;
 - (c) Biologists from government agencies in India - where possible this should be done by secondment;
 - (d) Advanced study abroad - an initial period of study and investigation at the Centre will enable Indian biologists to equip themselves for the award of international fellowships. The advanced experience and knowledge gained will allow these biologists to assume senior positions in government and university service upon their return.

ORGANIZATION OF CENTRE

It is proposed that the Biological Centre at Cochin be organized in the following manner:-

1. The Centre would be called the Indian Ocean Biological Centre.
2. Appropriate working space for the staff of the Centre and for storage of the collections would be provided by Kerala University through their new oceanographic laboratory building and other buildings which could be temporarily hired at Ernakulum or Cochin.
3. An adequate staff would be assembled by the Indian Government. The Indian National Committee has recommended the following composition of the staff:-

Scientific Assistants (Class III) - 20

Junior Scientific Officers (Class II) - 5

Senior Scientific Officers (Class I Junior) - 3

Senior Biologist (Class I Senior) - 1

Administrative staff:- 4 stenographers, 1 accounts clerk, 1 library assistant, 2 store clerks, 4 messengers, and 12 laboratory assistants.

It is estimated that the salaries and expenses of this staff would amount to approximately Rs. 10 lakhs for a period of five years. This sum would be provided by the Indian Government.

4. A Curator of the International Collections would be recruited and employed by UNESCO, who would also provide the basic equipment and supplies necessary for the work as well as some funds for the purchase of essential reference publications.
5. Other financial support might be expected from institutions in various countries who would contract for the Centre to do special work on their samples.
6. The Centre would be organized initially on a five year basis, but should be considered as a permanent facility devoted to biological research and to maintenance of the International Collections. UNESCO support would be reduced after an initial period at which time India would assume full responsibility for the project.

As soon as possible, a Curator of the International Collections would be appointed by UNESCO with the advice of SCOR. During the first few years his salary and related expenses would be paid by UNESCO; thereafter India would provide the necessary financial support. The Curator will have the following responsibilities:-

1. To establish methods and techniques to be used in the processing of the international samples;
2. To determine the order in which the international samples will be sorted;
3. To determine which specialists, including Indian scientists and visitors to the Centre, will study the sorted fractions of the international samples;
4. To supervise the preparation and distribution of Named Reference Collections;
5. To supervise the preparation of station lists, atlases, identification sheets, and catalogues of material in the International Collections;
6. To assist in training local staff and visiting investigators, where appropriate.

The requests of specialists desiring to work on various parts of the International Collections would be forwarded to the Curator by National Committees on Oceanic Research in their respective countries. Selection of the specialists for various fractions would be made by the Curator with the advice of a small consultative group to be appointed by UNESCO with the advice of SCOR. It is proposed that this group be three biologists of international renown, who would visit the Centre for several weeks each year to consult with the Curator and staff and to give lectures and seminars. Expenses of this group would be paid by UNESCO.

The Indian staff would be directed by a senior biologist who would have the following responsibilities:-

1. Administration of the Centre, including personnel, accounting and purchasing (Indian funds), shipping, maintenance of facilities, etc.
2. Allocation of staff for the sorting of the international samples.
3. Direction of work on Indian collections and other programmes requested by the government.
4. Training and advancement of the Indian staff.

The Centre would be operated as a specific project of the appropriate agency of the Indian Government. Policy would be determined by an advisory board, organized under the Indian National Committee for Oceanic Research, and composed of representatives of UNESCO, SCOR, and participating Indian agencies.

1. To establish methods and techniques for processing of the international samples;
2. To determine the order in which the international samples will be sorted;
3. To determine which specialists, including Indian scientists and visitors to the Centre, will study the sorted fractions of the international samples;
4. To supervise the preparation and distribution of Named Reference Collections;
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