

**THE WORLD BANK GROUP ARCHIVES**

**PUBLIC DISCLOSURE AUTHORIZED**

**Folder Title:** Operational Sectors - S - Environment and Health - Volume 3

**Folder ID:** 30048909

**Series:** Operations Policy and procedures

**Dates:** 07/05/1978 - 01/31/1979

**Fonds:** Central Files

**ISAD Reference Code:** WB IBRD/IDA ADMCF-04

**Digitized:** 04/28/2022

To cite materials from this archival folder, please follow the following format:  
[Descriptive name of item], [Folder Title], Folder ID [Folder ID], ISAD(G) Reference Code [Reference Code], [Each Level Label as applicable], World Bank Group Archives, Washington, D.C., United States.

The records in this folder were created or received by The World Bank in the course of its business.

The records that were created by the staff of The World Bank are subject to the Bank's copyright.

Please refer to <http://www.worldbank.org/terms-of-use-earchives> for full copyright terms of use and disclaimers.



THE WORLD BANK

Washington, D.C.

© International Bank for Reconstruction and Development / International Development Association or

The World Bank

1818 H Street NW

Washington DC 20433

Telephone: 202-473-1000

Internet: [www.worldbank.org](http://www.worldbank.org)

**PUBLIC DISCLOSURE AUTHORIZED**

S - ENVIRONMENT & HEALTH - III

RETURN TO  
ARCHIVES/RECORDS CENTER  
ROOM HB1-001

BOX NR-49

LOCATION \_\_\_\_\_

NUS LOCATION 184-2-6

2.22.80

The World Bank Group  
**Archives**



30048909

A1994-071 Other #: 12 Box # 210852B

Operational Sectors - S - Environment and Health - Volume 3

**DECLASSIFIED  
WITH RESTRICTIONS  
WBG Archives**

CLOSE - OUT SHEET

This file is closed as of Jan 31, 1979.

For further correspondence, please see Vol IV.

RECORDS MANAGEMENT SECTION

S-Environment

W.C.



UNITED NATIONS ENVIRONMENT PROGRAMME  
PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT



CABLE ADDRESS  
ADRESSE TELEGRAPHIQUE  
UNATIONS NEWYORK

POSTAL ADDRESS  
ADRESSE POSTALE  
P.O. BOX 20.  
GRAND CENTRAL STATION.  
NEW YORK, N.Y. 10017

REFERENCE:

31 January 1979

Dear Jean:

I was delighted to meet with you. I will certainly make sure that we keep in regular contact with your office.

Please let me know when you plan to be in Washington again (I understand that you are preparing to leave for India).

Let me ask you if we could have a long conversation together in which we could go through the details of our activities for which we did not have the time before.

Please give my warmest regards to Jim. I am indeed grateful for his recommendation to meet with you.

Sincerely,

*Martha V.*  
Martha Ventilla  
Industry Liaison Officer

Mr. Jean Tixhon  
The World Bank  
1818 H Street; N.W.  
Washington, D.C. 20433

*I just received your note.  
To give you enough warning how about a Thursday  
Mid March?  
.... Is the enclosed of any use to you - they are good people  
with long experience in LDC's - especially Brasil. Let me  
have your reaction - &*

RECEIVED



PROGRESSIVE FISH FARMING PROJECT  
EARTH AND LIFE SUPPORT PROGRAM



UNITED NATIONS  
DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS  
WORLD FOOD PROGRAMME  
1979

UNITED NATIONS  
DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS  
WORLD FOOD PROGRAMME  
1979

12 January 1979

12 JAN 1979

Dear Sirs:

I was delighted to receive your letter of 11 January 1979 and was glad to hear in regular contact with you of late.

Please let me know when you plan to be in Washington again (I am sure that you are returning to leave for India).

Let me ask you if we could have a brief conversation sometime in which we could go through the details of our activities for which we did not have the time before.

Please give my warmest regards to Mrs. I am looking forward for his recommendation to meet with you.

Sincerely,

James VanAllen  
Director, Mission Office

Mr. Jean Dixon  
The World Bank  
1818 H Street, N.W.  
Washington, D.C. 20540

RECEIVED  
1979 FEB -7 AM 12:18  
INCOMING MAIL UNIT

**Environmental Manpower Training Systems  
Parsons Brinckerhoff/American Ecology Services, Inc.**

The realization of the need for more effective environmental manpower training has become increasingly apparent in the developing countries throughout the world. As these countries have begun to industrialize to gain a larger share of the world market, the necessity of training personnel quickly, economically and efficiently has shown itself to be of dire importance. Industrial plants must be run efficiently, environmental laws promulgated and the environment monitored. Too often, plants have been shut down or are operating on a scale far below their designed objectives. Furthermore, in many cases, environmental regulations have not provided effective means for monitoring air, water and solid waste pollution. And where there have been regulations, there have not been properly trained technicians to monitor the environment.

The World Bank for one will be placing an increasing emphasis on making effective environmental manpower training an integral and meaningful part of the loans they will be placing with foreign countries. Usually, a training program has been included but almost always as a throw-in to the overall project. In most cases, once the installation has been put in place, the manpower training segment has been passed over. Sometimes a one or two instruction sheet has been left behind to serve as the instructional program.

The team of Parsons Brinckerhoff and American Ecology provides a proven environmental manpower training program to meet the training needs of trainers, managers and technicians in the field. These services are especially useful in developing countries where local personnel must be

trained efficiently, quickly and economically to monitor and protect the environment and to operate new plant installations. Parsons' contribution to the environmental manpower training team is its engineering and environmental management background as well as its international familiarity with foreign cultures. The American Ecology staff, on the other hand, has had extensive experience in developing and directing successful environmental training programs. Through its critical path approach, skills can be learned faster, more efficiently and more economically. The behavioral format is used as the foundation for constructing a total learning system, including clearly defined instructional objectives, instructional guides and learning modules (many consisting of audio visual modules). Of equal importance is that the system provides the tools to release the teacher from his role of lecturer and laboratory instructor to become a manager and a facilitator of learning.

A summary of the services provided is as follows:

#### ENVIRONMENTAL TRAINING SYSTEMS

##### 1. Educational Systems Development

Manpower training, development and design includes:

- .Design, development and operation of training programs
- .Special tasks
- .Recruitment
- .Co-op-education internships
- .Placement-job achievement
- .Degree programs
- .Continuing education

##### 2. Design and development of audio-visual media to supplement training programs

##### 3. Delivery systems

##### 4. Program planning and design

##### 5. Curriculum development

##### 6. Presentation and operation of training programs

The Parsons-American Ecology team would like to offer its services to UNEP and its clients in the following areas of environmental manpower training for trainers, managers and technicians:

- 1) Operation of installations
- 2) Monitoring of environment
- 3) Promulgation of environmental regulations

This instruction could be in the form of on site training or in seminars or workshops.

Training programs are individually tailored to meet the local technology needs and to include the cultural and practical aspects such as the level of existing technologies in that country.



S Environment

UNIVERSITY OF OXFORD

DEPARTMENT OF ETHNOLOGY AND PREHISTORY

Tel. (0865) 54979



PARKS ROAD  
OXFORD  
OX1 3PP

Dr R. Goodland,  
1010 The World Bank  
1818 H Street N W  
Washington DC  
20433 U.S.A.

31 January, 1979

Dear Dr. Goodland

We have so many friends and acquaintances in common that perhaps it is not necessary to introduce myself, but only to say that it was Howard Irwin of the New York Botanical Gardens who last suggested that I should write to you and Dr. Rosemary McConnell who has given me your address.

As perhaps you already know, I am trying to help the Akawaio Indians of the Upper Mazaruni river, Guyana to keep their traditional homelands. I worked with them as an anthropologist for nearly two years and they became my friends and adopted family. The enclosed booklet is a publication of "Survival International" which outlines our case against the proposed Upper Mazaruni Hydro-project and it gives several Akawaio protests against the project and its consequences as well as much of the information we have been able to glean.

Our case against this project may, I suppose, be summarized under the following heads:

- (1) An act of ethnocide against the indigenous inhabitants, the Akawaio.
- (2) It would fundamentally change the ecology of that region, and probably surrounding areas of countryside. Since no-one seems willing or able to state authoritatively what exactly the overall consequences will be, but only to hazard guesses, then it is most likely that such consequences would be largely uncontrolled and in large part detrimental to the ecosystem of a most beautiful and interesting region. One might underline that this is the headwaters of three major river systems, the Essequibo in particular and only slightly removed, the Amazon via Ireng head and the Orinoco, via the Caroni.
- (3) The area is subject to International Treaty (the Treaty of Port of Spain) and is claimed by Venezuela with Brazil having a latent interest in the southern region. Nevertheless Guyana is apparently making a unilateral decision to implement a project of enormous size and widespread consequences. In particular, it might be noted that the waters of the proposed lake

might be noted that the waters of the proposed lake  
size and widespread consequences. In Brazil, it  
unilateral decision to implement a project of enormous  
region. Nevertheless, Guyana is apprehensively making a  
with Brazil making a latent interest in the southern  
Treaty of Both of Spain, and is claimed by Venezuela  
(3) The area is subject to International Treaty (the

It is noted that the Orinoco, via the Upper Amazon  
Brazilian and only slightly removed, the Amazon via  
of three major river systems, the Essequibo in  
region. It might underline that this is the headwaters  
to the ecosystem of a most beautiful and interesting  
be largely uncontrolled and in large part dependent  
then it is most likely that such consequences would  
consequences will be, not only to natural resources,  
to state authorities, what exactly the overall  
countrywide. Since no-one seems willing or able  
that region, and probably surrounding areas of  
(5) It would fundamentally change the ecology of

impairments, the Akawaio.

(1) An act of ethnocide against the indigenous

summarized under the following heads:

Our case against this project may, I suppose, be

have been able to give.

and its consequences as well as much of the information we  
and it gives several Akawaio protests against the project  
case against the proposed Upper Mazaruni Hydro-project  
burial of "Survival International" which outlines our  
friends and adopted family. The enclosed booklet is a  
anthropologist for nearly two years and they became my  
their traditional homelands. I worked with them as an  
Akawaio Indians of the Upper Mazaruni river, Guyana to keep  
as perhaps you already know, I am trying to help the

Dr. Rosemary McConnell who has given me your address.  
Gardens who last suggested that I should write to you and  
only to say that it was Howard Imlay of the New York Botanical  
that perhaps it is not necessary to introduce myself, but  
We have so many friends and acquaintances in common

Dear Dr. Goodland

50433 N.S.V.  
Washington DC  
1818 H Street N.W.  
1010 The World Bank  
Dr. B. Goodland

31 January, 1979



OXI 399  
OXFORD  
BARKS ROAD

141 (0882) 24633

would arrive ultimately on the frontiers of Brazil and Venezuela as these are at present delineated and would flood out some 5,000 people over whom they might claim jurisdiction.

(4) The project is extravagant and unnecessary, given the present population of Guyana (800,000) and their capabilities for running such a complex, with its attendant industries. Power required by Guyana in the future could, we maintain, be acquired via a series of small projects; a gradual, pragmatic growth on the "small is beautiful" principle, is much more likely to be successful. I understand that the dam has a projected life of about 40 years; to ruin the ecology, spoil the society and culture of the Indian inhabitants and to underuse the energy supply would be in my opinion an act of wicked profligacy. If, in time to come, such a quantity of power is desperately required and there is no other source, then is the time to decide whether the needs of vast numbers of people must overrule the just claims of the inhabitants of a potential area for development. Meanwhile there is always the chance that alternative sources of energy may be found and the land remain for use for mixed farming, yielding the market crops which the Akawaio have already been providing and which the world's increasing population will require.

Finally, I should point out that a compromise appears to me to be impossible. Either the Akawaio are flooded out with all the consequences which this implies - or they are not. I am sure that any project would ultimately entail the maximum of inundation.

I would be very grateful if you could personally take up the Akawaio cause, at least to the degree of placing the enclosed document before the relevant body of the World Bank, or informing me to whom I should send copies. If you have any advice as to how I may proceed to put the Akawaio case forward effectively, then I should be most grateful to receive it. I am willing to come to Washington personally if this would help.

Please forgive me for troubling you about this. Your work, knowledge and connections with the area in question, make it inevitable!

Finally, please convey my best wishes to your father and mother when there is an opportunity; I have had no news for some time and hope they are well.

Yours sincerely,

*Audrey Colson*

Dr. Audrey Butt Colson

NRIC

S - Environment

Dr. James A. Lee, OEHA

January 30, 1979

J. Tixhon, OEHA

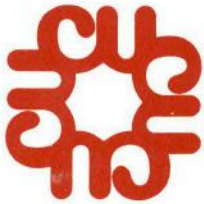
INDUSTRIAL POLLUTION CONTROL

1. R. Overby and I went to the meeting convened by Mr. G. Renger on Industrial Pollution Control in Central and Latin America. This meeting took place on Friday, January 28 and was presided by Mr. Glaessner.
2. The Latin American Region has now 4 industrial pollution control projects in Sao Paulo, Rio, Mexico City and the Caribbean Devt. Bank project. Other similar projects may appear in the near future, among them Bogota and Medellin in Colombia.
3. In the other regions we have to deal with Ankara.
4. As far as water pollution is concerned, it seemed that the Water Division of EWT wants to deal with the problems with the help of consultants.
5. I think the approach of EWT is wrong because their water division would be at the same time in charge of water projects and controlling their own work.
6. On the other hand the guidelines of January 6, 1971, from Mr. Chadenet to you, are clear: we should be reviewing every project for environmental consequences and should be advising the project departments. I did not raise any objection during the meeting as I wanted you first to be aware of EWT's position.
7. More generally for technical assistance in air pollution alone, the project department feels they need 33 weeks in FY80 and 34 weeks in FY81 for Sao Paulo. (see annex). This can be OEHA time or consultant time. The same amount of time would be necessary for Mexico and the Caribbean project. The region would much prefer to use Bank staff in order to build "in house" expertise for these projects which are going to multiply.
8. The problem with these clean up projects is that each factory or industry will have its own pollutants and its own clean up problems. There will thus be an important amount of sub-projects. Based on my previous experience 1 day per sub-project would be sufficient (dealing with water, air, and solid wastes). If there are 20 sub-projects in both Rio and Sao Paulo, this means 40 days (8 weeks) in FY80 and the same in FY81, plus two weeks each year for a trip to Brazil. Thus a total of 10 weeks instead of 33 or 34. The same calculation for Mexico and the Caribbean project would make the total 20 weeks. Ankara would probably take another 8 weeks.
9. In conclusion one man should be sufficient to deal with all 4 projects (water, air, solid wastes) and still have time available for other work.

Attachment

cc: Mr. R. Overby

JTixhon/md



**Clark University** WORCESTER, MASSACHUSETTS 01610

INTERNATIONAL DEVELOPMENT AND SOCIAL CHANGE

CABLE ADDRESS: CINDASC

PHONE: (617) 793-7201

January 30, 1979

Dr. James Lee  
World Bank  
1818 H Street, N.W.  
Washington, D.C. 20433

Dear Dr. Lee:

This letter is a formal invitation for you or someone in your organization to join with a working conference in Dakar, Senegal, from 19-21 March, 1979. The purpose of the conference is to plan the detailed activities for environmental training seminars in a number of African countries. The attached brochure and project description includes goals of the project as a whole as well as the specific African countries involved. The conference is supported by funds from the United States Agency for International Development (US-AID) for participation by the individual African countries. Regrettably, we do not have travel money for representatives from international organizations. However, we hope that the meeting will be of such high priority for your own work that it would be possible for your travel expenses to be covered by your own organizational travel.

The project is administered jointly by a group of United States universities: the University of North Carolina, Clark University, and the Southeast Consortium for International Development (SECID). In Dakar, local arrangements and joint sponsorship will be handled by the Environmental Training Program (ENDA).

The purpose of the Dakar Workshop is to design a five-year training program for environmental training activities. The Dakar Workshop will bring together representatives from interested African countries, international organizations, US-AID, and United States institutions. The specific goals of the Dakar meeting will be:

- (1) To review reports from the January site visits and the draft plan of action which will have been distributed;

ack. Feb. 21/79

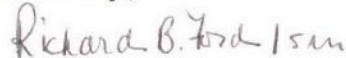
RECEIVED  
1919 FEB -6 PM 3 54  
INCOMING MAIL UNIT

- (2) To coordinate possible training activities with on-going and proposed training plans of various regional and international organizations;
- (3) To establish clearly agreed upon priorities in terms of training topics, length of training, locations, and potential staff;
- (4) To identify additional resources required to accomplish the needed training;
- (5) To consider collaborative relationships with regional and international activities;
- (6) To agree upon principles and a schedule for a three to five year environmental training project, to be submitted to US/AID.

We hope very much you will be able to join with the Dakar meeting. The need for greater attention to environmental concerns in development has become clear in recent years. We look forward to collaborative work which will enhance skills of environmental analysis and evaluation in development activity.

For additional information about the Dakar Workshop, contact either me or Dr. Liberty Mhlanga, ENDA, B.P. 3370, Dakar, Senegal.

Sincerely,



Richard B. Ford  
Associate Professor of History  
Co-Director, International  
Development Program

RBF/srm  
Enclosure

cc: Hernan Reitze

Dictated by R.B. Ford, but mailed in his absence.

# AFRICAN ENVIRONMENTAL TRAINING

A Collaborative Project  
Sponsored By

Clark University  
The South-East Consortium For International Development  
The University of North Carolina

October, 1978

Clark University, The South-East Consortium For International Development, and The University of North Carolina have contracted with US-AID to design a series of environmental training programs in collaboration with local institutions in a number of eastern, western, and southern African nations. The project has five objectives:

- 1) to identify and join with key African national and regional institutions to design a training program(s) which will increase environmental skills of Africans;
- 2) to focus particular attention on issues of:
  - a) resource assessment, planning, and management for preserving environmental quality and maintaining the productivity of the resource base;
  - b) environmental technology, including environmental health;
  - c) agriculture; and
  - d) insitutional development, including economic and socio-cultural factors in environmental management;
- 3) to meet with international agencies already providing environmental training activities in Africa;
- 4) to review the several plans and approaches for environmental training with representatives of each participating African nation at a Spring working conference, possibly to be held in Dakar;



- 5) to organize a structure for a five year program(s) which will increase competency in the areas of environmental health, pests, animal diseases, desertification, deforestation, pollution (especially water), soil fragility and erosion, the socio-cultural setting, urban growth and endangered species.

"a compost approach"

The current schedule for work includes:

- October 23: a planning meeting to be held at Chapel Hill, to bring together members of the three cooperating institutions as well as representatives from various national and international agencies already working in the area of environmental training in Africa;
- December 1978, and January 1979: Three site visit teams to hold discussions with institutions in the several African countries which have already indicated interest. These countries include Sudan, Kenya, Tanzania, Lesotho, Malawi, Mauritania, Upper Volta, Senegal, Mali, Zaire, Ivory Coast, Cameroun, and Ethiopia. Others may be added to the list as the project develops;
- February: prepare reports from the field visits; draft a working copy of recommendations for activities which will be incorporated into a final report;
- March: conduct a workshop, possibly in Dakar, which will bring together representatives from the several participating African countries and the U. S. institutions. Purpose of the meeting will be to review the draft recommendations from the site visits and prepare a precise plan of action and recommendations for the intended five year training period;
- April: prepare a report to be submitted to AID on 30 April 1979.

Examples of training activities which may develop from the program are listed below. This list does not exclude possibilities which may develop during the training program. They are offered here only as examples:

In Dakar  
19-21 March

- 1) In Africa, on a national or regional basis including several nations, two to five-day seminars for policy-makers on specific or general environmental issues.
- 2) In the U.S., two to six-week programs with emphasis on technical education for principals from Africa, generally to be conducted on or near the campus of one of the contractor institutions. Such programs would be particularly useful for training trainers.
- 3) Academic study, possibly leading to graduate degrees, at U. S. or other educational institutions for faculty members, government officials, or others who will be seen as taking leading roles in environmental management.
- 4) Guidance for the placement of Africans in institutions anywhere in the U.S. or abroad appropriate to their needs, along with surveillance of their progress. When they can be organized in significant numbers, seminars with these participants before and after their academic experience are valuable.
- 5) Development of universities that might, in time, serve as resources in Africa in the field of environmental management. Initially, it would be expected that at least one Francophone and one Anglophone university with potential for academic leadership would be identified and the training program would seek to strengthen these institutions.

While the contracting institutions have experience with the approaches listed above, two other approaches that might be actively investigated are:

- 6) Two to six-week collaborative programs on a regional basis, in Africa, with the cooperation of Pan-African organizations such as PAID or ENDA. While we have no experience in conducting extended courses in Africa, because the costs in faculty time and travel are high, it would be feasible to organize such courses if the resources in Africa could be effectively utilized.
- 7) Two-way faculty interchanges, with faculty from the contractor institutions visiting for one or more years in one of the African universities while an African professor spends an equivalent amount of time at the contractor's institution.

In addition to these approaches to training, efforts would be made to identify insitutions in Africa that can develop educational materials that would be appropriate for use over all of Africa.

Local contacts have been initiated in Africa with the United Nations Environmental Program (UNEP/Nairobi) and the Environmental Training Program (ENDA/Dakar). In the United States, organizational details are being coordinated by the following individuals:

Dr. Daniel A. Okun  
Department of Environmental Sciences and Engineering  
School of Public Health 201-H  
University of North Carolina  
Chapel Hill, North Carolina 27514 (919/966-1023)

Dr. Edward Vickery  
Executive Director, SECID  
400 Eastowne Drive, Suite 207  
Chapel Hill, North Carolina 27514 (919/493-4551)

Dr. Leonard Berry  
Professor of Geography  
International Development Program  
Clark University  
Worcester, Massachusetts 01610 (617/793-7325)

Dr. Gus Ridgel  
Chairman, Department of Business and Economics  
Kentucky State University  
Frankfort, Kentucky (502/564-5708)



UNITED NATIONS ENVIRONMENT PROGRAMME  
PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT



CABLE ADDRESS  
ADRESSE TELEGRAPHIQUE

UNATIONS NEWYORK

POSTAL ADDRESS  
ADRESSE POSTALE

P.O. BOX 20.  
GRAND CENTRAL STATION.  
NEW YORK, N.Y. 10017

REFERENCE:

30 January 1979

Dear Mr. Reitze:

A brief note to tell you how much we enjoyed speaking to you over lunch.

I will be in Washington in the near future and when Mr. Tixhon is back from India I would like to visit you again and speak with both of you. In the meantime, if there is any information you could share with me and if it would be possible for you to send me a copy of your guidelines in English, I would appreciate it.

Sincerely yours,

Martha Ventilla  
Industry Liaison Officer

Mr. Hernán Reitze  
Office of Environmental and Health Affairs  
The World Bank  
1818 H Street; N. W.  
Washington, D.C. 20433

*P.S. I am looking for a W. Bank publication on "Development patterns" - Could you possibly help me?*

*P.P.S. I plan to visit you sometime mid March, if it is convenient?*

*866 VM Plaza  
NM 10017  
Rm. 3634  
RECEIVED  
DATE - 1 MAR 1979*



PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT  
UNITED NATIONS ENVIRONMENTAL PROGRAMME



30 January 1979

Dear Mr. Reiter:

A brief note to tell you how much we enjoyed speaking to you over lunch.

I will be in Washington in the near future and when Mr. Dixon is back from India I would like to visit you again and speak with both of you. In the meantime, if there is any information you could share with me and if it would be possible for you to send me a copy of your guidelines in English, I would appreciate it.

Sincerely yours,

Martha Ventilla  
Industry Affairs Section

Mr. Norman Reiter  
Office of Environmental and Health Affairs  
The World Bank  
John H. Garret, R. W.  
Washington, D.C. 20543

RECEIVED  
1979 FEB -7 AM 12: 18  
INCOMING MAIL UNIT

Mr. W. Clark, VPE (through Dr. J. A. Lee)

January 29, 1979

J. Tixhon, Office of Environmental and Health Affairs

WASHINGTON, D. C. - ICIE Meeting on Toxic Substances

1. I attended the January 25, 1979 meeting, set up by the International Center for Industry and Environment, dealing with toxic substances.
2. The following international agencies were represented: UNEP, UNEP/IRPTC, WHO, OECD, as well as 3 US agencies, EPA, Department of State, and Department of Commerce.
3. Delegates from 13 multinational companies (United States and Europe) and 8 delegates from international or national industry associations were also present. (see list in annex)
4. The main concern of industry was the confidentiality of the information given to regulatory agencies, while the US EPA was mainly interested with "harmonization of regulations and standards". EPA has to do a difficult balancing act between the mission given to it by Congress and the awareness that too stringent regulations may put the US industry at a disadvantage on the world markets.
5. The Bank's only interest is in toxic materials already known and used in LDC's, like lead, asbestos, arsenic and pesticides. For all those products, the Bank can implement its own guidelines or WHO recommendations.
6. Problems however, can arise in LDC's where use and nonuse have both adverse effects. Use of DDT for instance can lead to possible carcinogenic effects. Nonuse can make malaria control more expensive.

Attachment

JTixhon/md

I.C.I.E. MEETING

January 25, 1979

Guest List (Provisional)

Guest Speaker:	Dr. Marilyn Bracken Deputy Assistant Administrator Office of Toxic Substances Environmental Protection Agency
U. N. E. P.:	Mr. D. Larré Director Industry and Environment Office Paris
	Ms. M. Ventilla Industry Liaison Officer for North America, New York
UNEP/IRPTC:	Dr. H. Christensen Information Processing, IRPTC
W. H. O.:	Professor Norton Nelson Institute for Environmental Medicine New York University Medical Center
O. E. C. D.:	Mr. P. Crawford Head, Chemicals Division
C. E. C.:	Mr. M. Goppel
World Bank:	Mr. J. Tixhon
Dept. of Commerce of the U.S.A.:	Dr. S. Galler Ms. J. Lewis
Dept. of State of the U.S.A.:	Mr. J. Blanchard Dr. A. Haines
E. P. A.	Mr. L. Miller



ICIE MEETING : JANUARY 1979 : WASHINGTON

INTERNATIONAL PROGRAMMES RELATING TO CONTROL OF CHEMICALS

PROVISIONAL LIST OF INDUSTRY PARTICIPANTS : 25 th January 1979

X	E.R. Bingham	Amax Environmental Services Inc.
X	R.L. Bohon,	Environmental Engineering & Pollution Control, 3 M Co.
	J.A. Bruck	Procter & Gamble Ivorydale Technical Center
	C.R. Calkins,	Vice-President, Environment, American Paper Institute
	C.A. Cochrane	Chief Executive, ICIE
	F. Cusell	Unilever ; Chairman UNICE Environment Committee
	G.S. Dominguez	Ciba-Geigy Corporation
	C.T. Douwes	Safety and Environmental Conservation, Shell International Research
	J.W. Featherstone	International Petroleum Industry-Environmental Conservation Association.
X	J.W. Haun	General Mills Inc., Chairman, BIAC Environment Committee, Chairman, ICIE, CHAIRMAN OF THE MEETING
	G.D. Knight	Resources & Environmental Quality, Chamber of Commerce of the U.S.A.
X	J.T. Ling	Vice-President, Environmental Engineering & Pollution Control, 3 M Co.
	D.R. Lynam	Environmental Health, International Lead/Zinc Research Organization
	D.D. McCollister,	Dow Chemical Co.; N.A.C.A.; representing G.I.F.A.P., Brussels
X	F.T. Ostrander	Amax Inc.
	J.L. Parsons	E.I. Du Pont de Nemours & Co.
	D. Poller	Environmental Health, Exxon Chemical Co.
	T.F. Risselada	Safety and Environmental Conservation, Shell International Research
	J.K. Robinson	Manager, Resources & Environmental Quality, Chamber of Commerce of the U.S.A.
	M.M. Teitze	I.C.I.
	J.G. Tritzsch	Environmental Division, Manufacturing Chemists Association
	J. Whitman	ERT International Inc.
	R.D. Robertson	Philip Morris U.S.A.
	R.P. Nalesnik	N.A.M.
	D.W. Cannon	N.A.M.

19 Jan. 1979



S - Environment  
January 29, 1979

Dr. Melvin W. First  
Professor of Environmental  
Health Engineering  
Harvard University  
Department of Environmental Health Sciences  
665 Huntington Avenue  
Boston, Massachusetts 02115

Dear Dr. First:

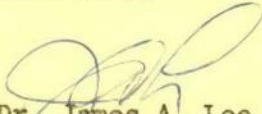
In reply to your letter suggesting Bank sponsorship of a visit by United States environmental health specialists to the People's Republic of China, I would like to provide some clarifying information about Bank policy and operations.

In accordance with the Articles of Agreement, which represent the treaty and charter by which it was established, the Bank may finance activities only within its 133 member countries. The People's Republic of China is not presently a member country. Also, as an international organization, the Bank may not fund the representational activities of any national group.

The Bank's lending operations and program activities are focused primarily upon specific development projects in the member countries and upon the particular sectoral and economic studies necessary to support the preparation and implementation of these projects. There is no mechanism within the Bank's operational structure, at the moment, which would accommodate financing or sponsorship of information exchange visits.

I regret that the Bank is unable to provide you with assistance in organizing such a visit.

Sincerely,

  
Dr. James A. Lee  
Director  
Office of Environmental and  
Health Affairs

FCrandall:on

OFFICIAL FILE COPY

## OFFICE MEMORANDUM

*gr Lee*  
S. Environment

TO: Mr. R.J. Goodland (PAS)

FROM: F.L. Hotes (Irrigation Adviser, AGRDR/CPS)

SUBJECT: Aquatic Weeds

DATE: January 25, 1979

1. For some time we have been dissatisfied with the state of knowledge on the control of aquatic weeds in water resource and irrigation projects, especially the dissemination of that knowledge in useable form to project managers. Your most recent memorandum on subject matter, dated January 18, 1979, indicates to me that we should get together to coordinate Bank efforts and thoughts on the aquatic weed control problem.
2. Over the past three years we have reviewed several good references and seminar reports on this matter and have accumulated some useful background material. We also have talked to some knowledgeable experts. There seems to be no overall easy solutions. Some weeds can be controlled easily with chemicals, but the same solution elsewhere may not be economical, permissible or effective. One of the more promising, but more complex, approaches involves biological control by proper mixes of fish. Mr. Lucian Sprague, Fisheries Specialist (AGR), has reviewed some of the current literature on this. Fishery experts and aquatic biologists must work together in developing solutions for specific cases, and such solutions can be attained only over a period of years accompanied by continuous monitoring, research and management. A guaranteed solution apparently cannot be prescribed in advance.
3. While a vast amount of literature on the subject exists, much is repetitive and much is speculative. Project managers and their staffs simply do not have time to screen all this literature, even that available for one weed such as water hyacinth. Nor do they have sufficient staff, time or funds to conduct applied research on the subject in most instances. We have been considering the feasibility of the development and publication of a series of aquatic weed manuals for various ecological regions of the developing world, similar to those developed for the State of Florida (we have a copy), and have discussed this in a preliminary way with the University in Gainesville. Some people in AID, and the National Academy of Science also, have expressed interest in the possibility of jointly financing such an undertaking by means of contracts with various groups of experts, under the overall guidance of two or three individual experts and the participating agencies. We have had no time to pursue this further than "talk", but still believe there may be merit and high practical utility in such a manual directed towards project needs, including some ideas of costs. I would like to discuss this with you at your convenience.

Mr. Goodland

-2-

January 25, 1979

4. Regarding Bangladesh, I wonder how much money needs to be spent on an expert who can probably only tell us that mechanical harvesting, with emphasis on readily available hand labor, is the solution to the Bangladesh water hyacinth problem? The NSF report tells us that harvesting water hyacinth for other uses is not yet very feasible in most cases. The Bangladesh answer may well be "periodic maintenance", which GOB does not seem to understand in any sense of the term.

FLHotes:rm

cc: Messrs. Pranich, Tennent (ASP); ✓Lee (PAS); Pickering, Sprague, Collins (AGR/CI)

*S. Environment*

**IIED** INTERNATIONAL INSTITUTE FOR ENVIRONMENT AND DEVELOPMENT

*President: Barbara Ward (Baroness Jackson of Lodsworth, D.B.E.)*

Suite 501  
1302 Eighteenth Street, NW  
Washington, DC 20036  
(202) 462-0900  
Telex: IIEDWASH64414

January 19, 1979

Dr. James Lee, Director  
Office of Environmental and Health Affairs  
World Bank - Room E-1005  
1818 H Street, N.W.  
Washington, D.C. 20433

Dear Dr. Lee:

On behalf of Lady Jackson, Brian Johnson, and all of my colleagues, I would like to thank you for supporting our seminar at UNDP. In particular, we appreciated your taking the time to travel to New York and participate in the discussions. Now, let's all stay on their heels!

See you soon.

Very truly yours,



R. Thomas Hoffmann

RTH/hh

RECEIVED

1979 JAN 24 AM 9:38

INCOMING MAIL UNIT

S - Environment

HARVARD UNIVERSITY  
SCHOOL OF PUBLIC HEALTH

HARVARD AIR CLEANING LABORATORY  
DEPARTMENT OF ENVIRONMENTAL HEALTH SCIENCES

665 Huntington Avenue  
Boston, Massachusetts 02115  
617-732-1164

16 January 1979

Mr. James Lee  
World Bank  
Washington, DC

Dear Mr. Lee:

It has come to my attention that your organization is prepared to make funds available for travel in the People's Republic of China under appropriate circumstances.

My interest in China travel has been stimulated by the enclosed letter, recently received by my colleague, Dr. Moeller. It has been thirty years since we have received any news at all from Mainland China on the subject of environmental health activities. It is obvious from Prof. Yang's letter that there is a deep desire on the part of Chinese professionals to exchange information on a subject that has assumed major health importance worldwide.

My purpose in writing is to ask your assistance in organizing and financing an official visit by U.S. environmental health specialists to representative health institutions in the People's Republic of China. The visits would include universities, such as the Shanghai First Medical College, and governmental public health agencies. My personal interest in such a visit to China as I have described is greatly stimulated by my memories of an extended stay in Western China during 1944 and 1945.

Your assistance in this matter will be greatly appreciated.

*Melvin W. First*  
Melvin W. First, Sc.D.  
Professor of Environmental  
Health Engineering

MWF:pt  
cc: Dr. D. W. Moeller  
Encl.

no!  
? not a member of Bank

150 B. 3 73  
E. 302102

RECEIVED

1979 JAN 23 PM 2:13

INCOMING MAIL UNIT

[Faint, illegible text]

[Faint, illegible text]

[Faint, illegible text]

[Faint, illegible text]

[Faint, illegible text]

[Faint, illegible text]

上海第一医学院  
SHANGHAI FIRST MEDICAL COLLEGE

19th December, 1978

Dr. Dade W. Moeller,  
Dept., Environmental Health Sciences,  
Kresge Center for Environmental Hlth,  
Harvard Univerity,  
Boston.

Dear Dr. Moeller,

Allow me to express how pleased we are that our two countries have now established diplomatic relations. This will enable us to have more convenient mutual exchanges of scientific knowledge, and perhaps you will come to visit China. We should be very happy to see you.

Let me also extend greetings for the new year.

Yours truly,

*Yang Ming-ting*  
Yang Ming-ting

Prof. Yang Ming-ting  
Dept. Environmental Health  
Shanghai First Medical College  
Shanghai, 200032  
People's Republic of China



Mr. William Clark, VPE


January 16, 1979

Hernan Reitze, Office, Environmental and Health Affairs

UNEP Meeting of Designated Officials for Environmental Matters

1. This report follows instructions contained in your memorandum of October 27, 1977.
2. From December 11-15, 1978 I represented the Bank at the Meeting of Designated Officials for Environmental Matters (DOEM), formerly known as agency Focal Points, of the United Nations Environment Programme (UNEP), which took place in Nairobi, Kenya.
3. At the request of UNESCO and FAO, the item "Coordination and Cooperation Between UNEP and the Organizations of the UN System" was added to the provisional agenda. Not unexpectedly, it became the central theme of discussion during the entire meeting. The discussion on almost all the other agenda topics (including the Programme Document, supposedly the most important item) became impregnated with the unsavory exchanges of the first two days.
4. The DOEM's expressed serious concern over the lamentable situation concerning UNEP's handling of inter-agency cooperation and coordination. They considered the main problems to be:
  - (1) "The excessively wide scope and complexity of UNEP's activities in the environment programme" (coupled with insufficiently qualified professional expertise);
  - (2) "The consequent difficulty for UNEP to fulfill effectively its stimulation and coordination roles within the UN family", (coupled with persistent administrative management of both the Programme and the Fund);
  - (3) "The ways through which a number of projects were implemented with UNEP's support" (coupled with a disregard for the responsibility and expertise of other UN organizations).
5. After some careful listening and attentive monitoring of UNEP's activities for almost two years on my part, I expressed the opinion that UNEP has thus been indicted at its core by the rest of the UN system. Moreover, judging from its external actions and re-actions it does not appear that the severity of the situation has been appropriately registered and gauged by UNEP. I concurred with other DOEM's who said that their own predicament vis-a-vis their respective organizations was becoming increasingly unbearable and that a sharp turn-around was urgently required for the continued cooperation of their institutions.
6. The documentation emerging from the meeting is filed in this office and will be made available upon request.

cc: Dr. James A. Lee, OEHA; Mrs. S. Boskey, IRD; Mr. C. Boucher, IRD;  
Mr. R. Overby, OEHA; Mr. J. Tixhon, OEHA; Mr. R. Goodland, OEHA

 HReitze:OMc

OFFICIAL FILE COPY

RG

January 15, 1979

Dr. Gustavo Cruz  
Secretaria de Estado de  
Recursos Naturales  
Tegucigalpa, Honduras

Dear Gustavo:

Thank you for your letter of 27 December 1978 which has only just arrived. The Smithsonian has not sent the identifications of snails yet. Since I'll be away for a month, I hope they are sent directly to you as requested.

In response to your comments on the pulp and paper project, I will send a copy of this letter with yours to the loan officer for Honduras, Mr. Herman Nissenbaum, so that he can communicate directly with you. It sounds as though an environmental reconnaissance would be appropriate. Does Recursos Naturales execute such activities.

Best wishes for your environmental work on El Cajon.

Sincerely,

*R Goodland sp O. medical*

R. J. A. Goodland  
Office, Environmental  
and Health Affairs

RG

cc: Dr. J. A. Lee, OEHA  
Mr. H. Wieseman, LCP  
Mr. E. Wessels, LCP  
Mr. H. Nissenbaum, LCI

RGoodland:OMc



S - Environment -  
 Addresso  
 26, rue de Tourville, B 1  
 78100 St-Germain-en-Laye, France

Please address all communications to  
 C. A. COCHRANE, Chief Executive  
 Tel. (Paris) 963.43.90

Ref.: CAC/79/028

13th January 1979

Mr. J.M.H. Tixhon,  
 Environmental Health Service,  
 I.B.R.D.,  
 1818 H Street N.W.,  
 Washington, D.C. 20433

*Received Jan 25 after  
 the meeting  
 I assisted (phone  
 workshop)*

Dear Mr. Tixhon,

We have an I.C.I.E. meeting on International Programmes Related to Control of Chemicals on 25th January next. This is being held in the Chamber of Commerce of the U.S. and, if you are in Washington on that day, we should be very pleased to have you as our guest. The meeting will start at 09.00 and I expect it to close around 16.00

Dominique Larré who has replaced Léon de Rosen, and Peter Crawford who has been appointed to Head of the new division on chemicals in the OECD have agreed to participate on the 25th.

We should also be very pleased if you could join us for a cocktail in the Chamber on the evening of the 24th at 18.00 hours.

If you are unable to participate yourself our invitation to our meeting is, of course, extended to your colleagues in the World Bank.

Yours sincerely,

*Alec Cochrane*

C.A.Cochrane

RECEIVED  
 1979 JAN 25 10 58 AM  
 MAIL ROOM

WLG

RECEIVED

1979 JAN 24 PM 2:42

INCOMING MAIL UNIT

C. A. COCHRANE

*Handwritten signature*

Yours sincerely,

colleagues in the World Bank.  
 Participation to our meeting is, of course, extended to you.  
 If you are unable to participate yourself, our  
 18.00 hours.  
 as for a cocktail in the Chamber on the evening of the 25th of  
 we should also be very pleased if you could join  
 on the 25th.  
 Participation on chemicals in the OECD was agreed to participate  
 and Peter Clamator who has been appointed to head of the new  
 Committee will be replaced by Jean de Rosen.  
 I expect it to close around 16.00  
 to make you as our guest. The meeting will start at 09.00 and  
 if you are in Washington on that day, we should be very pleased  
 this is being held in the Chamber of Commerce of the U.S. and  
 programmes related to control of chemicals on 25th January next.  
 We have an I.C.I.E. meeting on International

Dear Mr. Dixon,

Washington, D.C. 20542  
 1818 H Street N.W.  
 I.B.B.D.  
 Environmental Health Service,  
 Mr. J.M.H. Dixon,

*Handwritten notes:*  
 I am not (sure)  
 of meeting  
 16.00 for 27. after

Ref.: GAC/22/058

25th January 1979

Tel. (Paris) 883.43.80  
 C. A. COCHRANE, Chief Executive  
 Please address all communications to

18100 St-Germain-en-Laye, France  
 2e, rue de Tourville, B 1  
 Addresso



S- Environment

PERSONAL AND INFORMAL

**DECLASSIFIED**

**JUN 05 2017**

**WBG ARCHIVES**

January 11, 1979

Mr. Louis Huguet  
Food and Agriculture Organization  
of the United Nations  
Via delle Terme di Caracalla  
00100 - Rome

Dear Mr. Huguet:

My colleague Hernan Reitze told me how much he enjoyed meeting you recently in Nairobi and what a productive -- if unconventional -- session you both had at the Focal Point. It is propitious that I asked him to meet you since my hopes are now confirmed by your letter of 29 December 1978 which arrives on fertile ground indeed.

You want to establish a dialogue between IDWG of FAO and OEHA of the Bank, and this wish is heartily reciprocated. More specifically, I propose to participate already in the Transmigration workshop in Rome on about 20 February, and would be pleased to join your round-table on 23 February. Should these dates be adjusted, would you please telex me at the Bank office in Jakarta? (Telex No. 44456 INTBAFRAD)? I expect to be away from Washington and mainly in Indonesia from 13 January until the Rome workshop. I hope and expect these meetings to be especially productive since "preaching to the converted" will be avoided.

Your letter deals with what you call "appropriate technology" in land management or agriculture (sensu lato) in tropical lands. Arguably, this is the single most significant goal of OEHA.

The Bank is in the lengthy but eminently worthwhile throes of updating our "Rural Development" Sector Policy Paper (enclosure #1) -- and we expect this fundamental issue will permeate the next edition. I hope we collaborate further on this matter in the months to come. You will remember the recent companion policy paper "Forestry" (enclosure #2) with which FAO assisted so effectively. I know you will agree that "Forestry" reflects the environmental thinking we share.

The Bank recently held an exploratory meeting on "appropriate" agriculture for use in Bank projects, and I hope you will involve Mr. Donald Pickering and Mr. Walter Kock in your discussions on these issues. Furthermore, as you may know, Bank contains an active and innovative "appropriate technology" group under the Science and Technology Adviser's auspices.

Mr. Louis Huguet

-2-

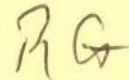
January 11, 1979

These points are outlined to focus your aim, rather than to claim 'we know it already'. I readily admit (note that my letter, like yours, is cagily headed Personal and Informal), that we have much to learn. The (ab) use of industrial fertilizers, biocides and heavy machinery, intensive energy use in pumping, transport, etc., and increased thralldom to distant markets are recognized as issues requiring judicious attention.

Enclosures #3 and #4 demonstrate the concern with these issues, especially sustained yield and carrying capacity.

Thank you most sincerely for your letter and especially for the support it provides. I look forward to progressing with these matters in Rome or by letter beforehand should you prefer.

With best wishes, cordially



R. J. A. Goodland  
Office, Environmental  
and Health Affairs

4 Enclosures

cc: Dr. J. A. Lee, OEHA  
Mr. R. Overby, OEHA  
Mr. H. Reitze, OEHA

RG:om

*Yellow Copy*  
F 338OFFICE MEMORANDUM *S - Environment*

TO: See Below

DATE: January 8, 1979

FROM: R. Goodland, Environmental and Health Affairs *RG*SUBJECT: Meeting with Dr. Michael Nelson, Economic Commission for Latin America

Dr. Michael Nelson, Water Resource Management, CEPAL, Santiago, Chile, will be in Washington shortly. A meeting to discuss possible CEPAL/Bank collaboration, primarily in the field of water resource management and environment, will be scheduled as soon as his arrival is confirmed. Please let this office (74823) know if you would like to attend or send a representative.

Dr. J. A. Lee, OEHA  
Mr. R. Overby, OEHA  
Mr. H. Reitze, OEHA  
Mrs. S. Boskey, IRD  
Mr. E. Friedmann, EWT  
Mr. Y. Rovani, EWT  
Mr. E. Wessels, LCP  
Mr. P. Kirpich, LCP  
Mr. R. Norton, DRC  
Mr. F. Ibanez, EMP  
Mr. J. Kalbermatten, EWT  
Mr. Landau (IDB) mail

RGoodland:om

S. Environment

January 3, 1979

Dr. Peter H. Raven  
Chairman  
NSF/NAS/NRC Tropical Forestry Group  
Missouri Botanical Garden  
2345 Tower Grove Avenue  
St. Louis, Missouri 63110

Dear Peter:

Re: Tropical Forest Management

Jim Talbot has congenially coerced me into less discourteous ways and I apologise for not attempting to answer your fundamental queries sooner. Taking your specific questions as they occur in the text (4 Dec 78):

1a Comparison of intact TWF with disturbed or disturbable tracts nearby: yes, possibly the most important single method, but comparison of sites disturbed in similar ways can also be revealing e.g. Susanna Hecht's most significant researches on recent Amazonia cattle pastures.

1b You may find it better to build on existing research institutions and sites using their backlog of data and monitoring where they suit your other purposes, rather than creating all new stations.

1c Most developers of Tropical Wet Forest, sensu lato, realize their methods are not sustainable and some may be willing to cede part of their concession to national groups researching ways to improve the developer's investment. For example, National Research Councils or local UN-MAB committees or UNEP may be welcomed to set up plots near or in development sites.

2a Sustained yield (SY) and carrying capacity (CC) are clearly the ultimate goals.

2b However, they (SY-CC) may not be fully achievable to any degree perceived as economically worthwhile by developers in the proximal future. Therefore, some attention should be accorded prevailing development models, to quantify (or at least rank) their departure from SY. For example, annuals



January 3, 1979

and cattle pasture delta SY greatly exceeds tree crops and selective logging delta SY.

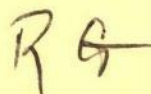
2c Since much, if not nearly all, virgin TWF will be destroyed soon, some emphasis on its replacement - second growth or capoeira etc. - is necessary. How can second growth be best managed? What are the SY-CC models for second growth? Can second growth successional renovation towards primary states be accelerated or restored, and to what extent is this worthwhile?

3 Of all possible SY, oligotrophic plant products will figure more prominently than eutrophic exports from the nutrient cycle. Aquaculture appears to offer the fastest returns on short term SY research.

4 Some attention, if not by ecological groups then by others, must be accorded the economics promoting the prevailing destructive patterns, which undeniably are profitable in the short term. Regeneration rates are lower than the monetary discount rates currently selected in calculation of future returns. (See Dennis Mahar's and Colin Clark's books, inter alia.) Furthermore, societal consumption patterns will be perforce changed drastically when forest cannot easily be exchanged any longer for a few years of beef or bananas. Any fiscal manipulations or education of controllers and consumers beforehand to mitigate these changes will serve the people well.

So endeth today's sermon: best wishes.

Sincerely,



R. J. A. Goodland  
Office, Environmental and  
Health Affairs

cc: Mr. J. Talbot, NAS/NRC

cc: Messrs. J. A. Lee, OEHA; J. Spears, AGR;  
D. Mahar, LC2; B. Gray, AGR; H. Mirza, LC 2

R. OVERBY, OEHA

RJAG:om



JAMES & MOORE

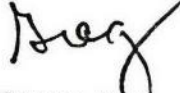
Dr. James Lee  
December 29, 1978  
Page Two

✓ S-Health  
✓ CCS-Environment

Let me take this opportunity to wish you every success in the New Year and to say that I hope our personal collaboration can be even closer in future than in years past.

Yours cordially,

DAMES & MOORE



Gregory Votaw

GV:jag



UNITED NATIONS ENVIRONMENT PROGRAMME  
PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT



Cable Address : UNITERRA, Nairobi  
Telex No. 22068  
Telephone : 33930

P. O. Box 30552,  
Nairobi.

Ref. No. ORG 232/1(1)

21 December 1978

Dear colleague,

I refer to the meeting of designated officials for environmental matters which was held at Nairobi on 11-15 December 1978 at the headquarters of UNEP.


— retained by OEHF

..... I am pleased to enclose a copy of the report of the meeting and would appreciate receiving your comments, if any.

I further wish to take this opportunity to express my appreciation for your kind co-operation in the course of our frank and constructive deliberations.

Yours sincerely,

P.S. Thacher  
Deputy Executive Director

  
Mr. H. Reitze  
Office of Environmental and  
Health Affairs  
The World Bank  
1818 H. Street N.W.  
Washington D.C. 20433  
USA

Mr. William Clark, VPE

December 21, 1978

R. Goodland, Environmental and Health

RG

Attendance at an International meeting in Guyana

RG

From Sunday 15 October of Friday 20 October I visited Guyana. The first three days were devoted to field inspections with local environmentalists, of various development projects jointly financed with the Bank, AID and others.

The second half of the period ~~was~~ spent in discussion of the Environmental/Development interface in general. I outlined the Banks activities in this regard, using examples where possible of Bank-financed projects in Guyana. At the request of the Government, I also discussed watersheds and power projects from the environmental point of view.

The program of the seminar and two follow-up letters are enclosed for your information.

cc: Dr. James Lee, OEHA  
K. Venkatraman, LC2  
H. Reitze, OEHA

RGoodland:cp



DEPARTMENT OF STATE

Washington, D.C. 20520

BC  
S-Environment

BUREAU OF OCEANS AND INTERNATIONAL  
ENVIRONMENTAL AND SCIENTIFIC AFFAIRS

December 14, 1978

Dr. Robert Goodland  
Room E-1044  
World Bank  
1818 H Street, N.W.  
Washington, D.C. 20433

Dear Dr. Goodland:

Last June, in response to the rapid growth of concern about the social, economic and environmental implications of tropical deforestation, the U.S. Department of State and the Agency for International Development (AID) co-sponsored a "U.S. Strategy Conference on Tropical Deforestation" in which you participated. We are pleased to provide a copy of Proceedings of the Conference and invite your reactions...particularly with respect to whether and how the various recommendations should be implemented by the United States.

Several steps have been taken in response to the principal conclusions of the Conference. A standing interdepartmental Task Force on Tropical Forests has been established to develop and coordinate U.S. Government policy and programs in this field (Rec. 34) under the chairmanship of the Department of State. In addition, AID and the U.S. Forest Service are co-chairing an interagency working group which is drafting a U.S. "policy, strategy and program" on tropical forests (Rec. 33). The target date for completion of the draft is August 1979.

Another noteworthy, related effort has been the creation of a Tropical Forest Working Group, under the auspices of the Natural Resources Defense Council, to provide a focal point within the nongovernmental community for program planning and liaison with Federal activities.




- 2 -

In the months ahead one of our principal concerns will be the identification of measures the U.S. can support in various international forums to increase the level of awareness of the global deforestation problem and accelerate the level of effort to combat it, both at the international and national levels. Any thoughts you have about how this might be accomplished would be welcome.

We appreciate your participation and contribution and hope that you will continue to keep in contact.

Sincerely,

A handwritten signature in cursive script that reads "Bill L. Long".

Bill L. Long  
Deputy Director  
Office of Environmental Affairs

Enclosure:  
As stated.





*BC*  
S-Environment

INTERNATIONAL ASSOCIATION OF MEDICINE AND BIOLOGY OF ENVIRONMENT  
ASSOCIATION INTERNATIONALE DE MÉDECINE ET BIOLOGIE DE L'ENVIRONNEMENT

PRÉSIDENT D'HONNEUR PROF. RENÉ DUBOS UNIVERSITÉ ROCKEFELLER U.S.A.

115 RUE DE LA POMPE - F-75116 PARIS - TELEGR. ECOMEBIO-PARIS - TÉL. 553.45.04

LE PRÉSIDENT

Mr. Jean TIXHON

Le 5 décembre 1978.

Office of Environmental Health Affairs  
The World Bank  
1818 H Street, NW  
Washington, D.C. 20433  
U.S.A.

RA/MCM/0567/78

Monsieur et Cher Ami,

C'est avec infiniment de plaisir que je vous remercie de votre excellente réception lors de ma dernière venue à Washington.

J'ai parlé du fameux livre à faire sur l'environnement industriel et le développement à mes amis américains. Malgré le budget relativement mince consacré à cet ouvrage, ils sont tout à fait d'accord pour apporter leur contribution à sa rédaction.

Je pense revenir à Washington à la fin Janvier afin de m'en entretenir avec vous. Entre-temps, j'espère que j'aurai de vos bonnes nouvelles en particulier à propos des sujets que nous avons évoqués.

Dans l'attente de vos nouvelles, je vous prie de croire, Monsieur et Cher Ami, à l'assurance de mes sentiments très cordiaux.

*Très me meilleurs vœux pour la nouvelle année!*

*S. Abou*  
Docteur Richard ABBOU

INCOMING MAIL UNIT

1978 DEC 17 PM 1:28

RECEIVED

RECEIVED  
1978 DEC 14 PM 1:58  
INCOMING MAIL UNIT

Docteur Richard ABBON

*Richard ABBON*

*Je vous remercie de votre lettre du 12/12/78*

et cher Ami, à l'assurance de mes sentiments très cordiaux.  
Dans l'attente de vos nouvelles, je vous prie de croire, Monsieur  
en particulier à propos des sujets que nous avons évoqués,  
tenir avec vous. Entre-temps, j'espère que j'aurai de vos bonnes nouvelles  
je pense revenir à Washington à la fin janvier afin de m'en entre-  
apporter leur contribution à sa rédaction.  
vement mince consacré à cet ouvrage, ils sont tout à fait d'accord pour  
et le développement à mes amis américains. Malgré le budget relatif  
j'ai parlé du fameux livre à faire sur l'environnement industriel  
excellente réception lors de ma dernière venue à Washington.  
C'est avec infiniment de plaisir que je vous remercie de votre

Monsieur et cher Ami,

BAVMCMV026778

U.S.A.  
Washington, D.C. 20433  
1818 H Street, NW  
The World Bank  
Office of Environmental Health Affairs

LE PRÉSIDENT

Mr. Jean TIXHON

Le 2 décembre 1978.

112 RUE DE LA POMPE - 75001 PARIS - TELEGR: ESCOMEBIO-PARIS - TEL: 222.42.04

PRÉSIDENT D'HONNEUR PROF. BENE DUBOS UNIVERSITE ROCKEFELLER U.S.A.

ASSOCIATION INTERNATIONALE DE MÉDECINE ET BIOLOGIE DE L'ENVIRONNEMENT  
INTERNATIONAL ASSOCIATION OF MEDICINE AND BIOLOGY OF ENVIRONMENT



*2-Environment*

*BC*

Missouri  
Botanical  
Garden



December 4, 1978

Dr. Robert Goodland  
The World Bank  
1818 H. Street, N.W.  
Washington, D.C. 20433

Dear Bob:

Jim Talbot recently shared with me two documents you gave him during the course of your visit and I read these with the greatest interest. Jim will have explained to you the objectives of our committee and I believe he will have given you the enclosed statement on our goals but I enclose another copy to be sure.

The reason I am writing is that I would like to ask for your suggestions on a very practical point. As you can see from a statement of our goals, we are operating under funds given by the National Science Foundation on conditions which assume that 1) a great deal of tropical forest if not all is going to be destroyed in the fairly near future, and 2) the more precisely we can formulate definite research objectives, the more likely we are to secure additional significant funding for the pursuit of these objectives. Many possible objectives have a definite scientific importance and many of these scientific aims can be achieved only if the problem is attacked very broadly. Nevertheless, and this is the area in which I would particularly like to have your advice as soon as possible, a number of these objectives that can be carried out also have profound human implications or can contribute more strongly than other possible scientific objectives to the realization of the kind of sustained yield systems you have outlined so capably in your papers.

It is anticipated that one major set of recommendations that our committee will make will be essentially in accordance with the MAB-I objectives and will consist of the establishment of a series of definite research areas at selected points through the tropics in which significant amounts of undisturbed or relatively undisturbed forest exist, and by the side of which there is significant additional land for manipulation, agricultural, semi-destruction, sustained harvesting, or whatever, consistent with using this as a yardstick to find out how the undisturbed forest is functioning, and also to plan

1978 DEC -7 AM 10:48  
INCOMING MAIL UNIT

RECEIVED

Dr. R. Goodland  
December 4, 1978  
-2-

what may be done to convert this forest into the kind of system which most of us believe offers the only hope for humanity in the developing countries in the future.

I would be very interested in having your specific suggestions as to whether you think this model is a satisfactory one or whether there are other research objectives that ought to take higher priority in the tropics because of their scientific importance and economic relevance; and I would be interested then in having your views about the specific kinds of operations that ought to be carried out at these selected sites for maximum scientific and societal benefit. We are actually going to try to convert this into a proposal with definite budgets, and need to try to ensure even at this early date that as broad a conception of the kinds of operations that ought to be carried out as possible will be formulated.

As we discussed earlier in New York, I am certainly hoping that you will be involved with the more definitive statement of action by the committee and we will certainly be asking for your participation at some of these meetings as soon as our own outline of the meetings is better established. Meanwhile, I would find your thoughts on the questions outlined here exceedingly valuable and appreciate your taking the time to advise me about them.

With good wishes, I am

Cordially,



Peter H. Raven  
Director

PHR:mv

Encl.

# NATIONAL RESEARCH COUNCIL ASSEMBLY OF LIFE SCIENCES

2101 Constitution Avenue Washington, D. C. 20418

## DIVISION OF BIOLOGICAL SCIENCES

### Research Objectives: Committee on Research Priorities in Tropical Biology

The Committee on Research Priorities in Tropical Biology, through the National Academy of Sciences and Assembly of Life Sciences, will study certain aspects of research in tropical forest biology. It will assess research priorities in this area against a background of seemingly rapid destruction of humid tropical forests, indicating the intrinsic importance of special scientific research projects as well as their importance for the survival of man within tropical ecosystems. A holistic approach to the problem will be implemented by a diversified committee composed of biosystematists, plant and animal ecologists, foresters, hydrobiologists and geographers.

The objectives of the Committee are:

1. To establish present rates of conversion of tropical moist forests (t.m.f.), delimiting proximate and ultimate causes of conversion; to make preliminary projections of future short-term (until the end of the century) and long-term (over a period of four or five decades) rates of conversion; and to evaluate prospects for shifts in present patterns of forest conversion, specifically (i) how far are current rates likely to accelerate or decline, (ii) what new processes of conversion may arise, and (iii) what opportunities are foreseeable to relieve some of the exploitation pressures currently directed on t.m.f.?
2. Given the rates of conversion, what scientific questions can best be addressed and receive priority in the tropics. These research questions should be evaluated both in terms of intrinsic scientific importance and economic development potential.
3. Given a series of key questions to be investigated, recommendations will be made for support of research projects expected to provide some of the answers.
4. To recommend effective ways to fund the current international efforts.
5. To evaluate effective methods such as publications, symposia, conferences, other activities, that would best serve to focus worldwide attention on and lead to the development of information concerning these problems.

December 4, 1978

Mr. Wassif Y. Boutros-Ghali  
United Nations Development Programme  
1 United Nations Plaza  
New York, N.Y. 10017

Dear Michel:

First of all, I want to inform you that at your suggestion I wrote to Mr. Andrew J. Joseph, Assistant Administrator and Regional Director of UNDP, about Indonesia's Minister Salim's request to the Bank. A copy of the Minister's letter to Dr. Lee of August 10, 1978 containing this request was enclosed. An additional copy for your use goes with this letter. *reference*

During our meeting here of last November 22, you may recall that I suggested that some UNDP Resident Reps may profitably use at this stage some of the early checklists and guidelines which the Bank was using in 1971. It was at this stage that the Bank began to concern itself systematically with the environmental implications of its economic development activities. I am enclosing a brief document prepared by Dr. Lee as of April 1971, providing Bank staff for the first time with a short but comprehensive checklist of Environmental Considerations for World Bank projects. Eventually, as you well know, after undergoing several further stages of aggregation, precision and sophistication, these incipient guidelines evolved into a full-fledged World Bank publication: "Environmental, Health, and Human Ecologic Considerations in Economic Development Projects." Next year, that is, five years after its original publication, we expect to publish an updated and revised version of it.

In addition to this early environmental document, I am sending you under separate cover a copy of the following environmental publications:

- 1) Environmental, Health, and Human Ecological Considerations in Economic Development Projects (May 1974). Currently under review.
- 2) Environment and Development (June 1975). Currently under review.
- 3) Environmental Considerations for the Industrial Development Sector (August 1978).

There are a good number of other World Bank publications that, while not considered to be directly environmental, actually provide the operational framework for the multifaceted activities of this office. Therefore, I am also sending you (under separate cover) a copy of the following:


- 4) Health - Sector Policy Paper (March 1975). Currently under review.
- 5) The World Bank's Role in Schistosomiasis Control (January 1978).
- 6) Forestry - Sector Policy Paper (February 1978)

Also, I have compiled for you a set of environmental guidelines (available in English, Spanish and French) which were prepared by this office for the preparation of projects in specific industrial sub-sectors. Attached you will find a list of these sub-sectoral environmental guidelines.

I believe that these documents will be helpful to you and others working with you in steering some of the laudable current efforts of the UNDP towards a more fully systematic consideration of the environmental implications of its influential economic development activities.

I look forward to an active and fruitful cooperation between our two organizations, where you and I may have a significant role to play.

Cordially,

  
Hernan Reitze  
Office of Environmental  
and Health Affairs

Attachments

HReitze:mr



November 29, 1978

Mr. Andrew J. Joseph  
Assistant Administrator  
and Regional Director  
United Nations Development  
Programme  
1 U.N. Plaza  
New York, New York 10017

Dear Mr. Joseph:

I am writing to you upon the advice of Mr. W. Y. Boutros-Ghali of that organization.

The purpose of my letter is to inform you that the Government of Indonesia, through its newly-created Ministry of State for the Environment and for the Control of Development, has requested the World Bank to explore the views of other international organizations, active in Indonesia's development efforts, on the question of the appropriate integration of the environmental dimension into the country's economic development process.

This request was made by Minister Emil Salim, following a World Bank environmental reconnaissance mission that visited the country during July-August of this year. For your reference, I am enclosing a copy of the Minister's letter dated August 2, 1978 to Dr. James A. Lee, Director of the Bank's Office of Environmental and Health Affairs.

Therefore, we are currently exploring with selected multilateral and bilateral aid agencies, the kind of response they would be prepared to give to this request. To this effect an inter-agency meeting will be convened possibly in March of next year in order to discuss these issues in more detail.

Please let us have your views on these matters at your earliest convenience.

Sincerely,

cc: Dr. J.A. Lee, OEHA  
Messrs. R. Goodland, OEHA  
R. Overby, OEHA  
J. Tixhon, OEHA  
S. Please, AEA  
M. Gould, AEA  
HReitze: R. Stern, AEA  
cb I. Zincir, AEA  
J. Baneth, RSI  
W. Boutros-Ghali, UNDP

Hernan Reitze  
Office of Environmental  
and Health Affairs

Files

November 27, 1978

Hernan Reitze, CPSVP

Visit of Mr. Peter Thacher (UNEP)

1. Mr. Peter Thacher, Deputy Executive Director of the United Nations Environment Programme (UNEP) visited the Bank on Wednesday, November 22, 1978. He was accompanied by Messrs. Y. Ahmad, IMF/World Bank Focal Point of UNEP Nairobi, and J.C. Faby, of UNEP New York Liaison Office. Mr. W.Y. Boutros-Ghali, who is UNDP's designated official for environmental matters, was asked by Mr. Thacher to join Dr. Lee and myself on this occasion.

2. Dr. Lee, in personal conversations with Mr. Thacher during UNEP's ECB in October of 1977, had suggested a few areas of potential cooperation between UNEP and the World Bank. Mr. Thacher's visit, therefore, was partly motivated as a follow-up on some of those points.

3. The meeting agreed on Mr. Thacher's specific proposal that a meeting be convened by UNEP, jointly co-sponsored by UNDP and the Bank, of all those multilateral lending agencies studied and reported about by the IIED Report and the Ashford Report. The upshot of such a meeting would be to have the respective Executive Boards and Management, formally adopt and publicly commit their institutions to appropriate environmental policies and procedures, in carrying out and financing economic development activities around the world. This initiative will be launched and discussed during the upcoming Meeting of Designated Officials for Environmental Matters (formerly Focal Points) to be held from December 11th - 15th, 1978 in Nairobi.

4. A small steering group will be set up with representatives from UNEP, UNDP and the World Bank in order to discuss agenda and other details. Dr. Lee suggested that while the steering group should meet independently in advance of the larger Symposium, the Bank would likely be able to provide for the accommodation of the Symposium itself in the Paris office. The date tentatively agreed on was September - October of 1979.

5. We asked Mr. Thacher for UNEP's participation on two Bank proposals:

- (a) On behalf of Mr. Raymond Frost, EDI, we asked whether Mr. Thacher himself, or another qualified UNEP official, could meet with EDI educators for a more detailed discussion of ways and means of providing environmental education within EDI courses, including environmental training for DFC's. Mr. Thacher responded with a "strong yes" to this request. Tentatively, he left the days between January 29 and February 2, 1979 open for such a meeting. This response shall be conveyed to Mr. Frost, and further arrangements made through his office.

- (b) On behalf of Mr. Mats Hultin, EDC we asked Mr. Thacher whether UNEP could provide a lecturer and/or logistical support to an environmental seminar now being organized by EDC for Bank staff working with education and training in Bank projects. This seminar would be organized along the same lines of an earlier one organized by POP. Mr. Thacher agreed, in principle, to have UNEP cooperate with this effort. His response shall be relayed back to Mr. Hultin along with Mr. Thacher's suggestion that a written and specific request be addressed by EDC to UNEP, through him.

6. The following documents were furnished to us by Mr. Thacher for our information:

- (a) letter from Mr. G. Arthur Brown, Deputy Administrator, UNDP to Mr. Mostafa K. Tolba, Executive Director, UNEP, dated October 24, 1978;
- (b) letter from Mr. Tolba to Mr. Brown, dated November 8, 1978 (reply); and
- (c) The State of the Environment: Selected Topics - 1979, a report of the Executive Director of UNEP. These documents shall be kept in our files and can be made available to Bank staff upon request.

cc: Dr. James A. Lee

Messrs: R. Overby,  
J. Tixhon,  
R. Goodland,  
Mrs. S. Boskey, IRD  
C. Boucher, IRD  
M. Burney, IRD  
R. Frost, EDI  
M. Hultin, EDC  
A. Habte, EDC

HReitze:cb

Mr. Mats Hultin, Senior Adviser, EDC

November 27, 1978

Hernan Reitze, CPSVP

Environmental Seminar for World Bank Educators

1. This note follows our telephone conversation of last November 20 and your memorandum of October 28, 1978 to Mr. Aklilu Habte, Director, EDC on the subject of "environmental education".
2. As per your request, Dr. Lee and myself asked Mr. Peter Thacher whether UNEP could provide for a lecturer and/or other logistical support in arranging for such a Seminar.
3. Mr. Thacher was encouraged and quite enthusiastic about this effort. He suggested that a written and specific request be sent to him from the Bank's Education Department on this subject. He assured us that he will personally see to it that EDC's request be handled adequately and promptly.
4. In order to continue to keep you and Mr. Habte informed on some of the activities of the Office of Environmental and Health Affairs which could be of interest to you, I am attaching a copy of the minutes of our recent meeting with Mr. Peter Thacher partly covering this topic.

Attachment

cc: Dr. Lee, PAS  
Mr. Habte, EDC

HReitze:cb

Mr. Raymond Frost, Director, EDI

November 27, 1978

Hernan Reitze, CPSVP

Environmental Education and Training Opportunities in EDI

1. This note follows our telephone conversation of last Wednesday, November 22 on the above subject.
2. As I informed you then, Mr. Peter Thacher, Deputy Executive Director of the United Nations Environment Programme (UNEP) came to the Bank for meetings with Dr. J.A. Lee and myself. As you requested, we asked him whether he or another qualified UNEP official would come and meet with you and other EDI educators to discuss the various aspects involved in providing adequate environmental education and training opportunities for EDI participants. Special mention was made for the need to involve participants from our client DFC's.
3. Mr. Thacher responded to your relayed request with an emphatic and "strong yes". It was not possible for him to see you that same day since he was leaving for Nairobi, but he mentioned that he is likely to be back in the United States between January 29 and February 2, 1979. However, in the realization that this might be too late he suggested that you write to him directly providing him with some of the specifics which you have in mind. In the meantime, he assured us that he will personally make sure that your request is handled promptly and appropriately.
4. Please let me know how the Office of Environmental and Health Affairs can be of assistance to the EDI on this important subject.
5. In order to continue to keep you informed about those of our activities of potential interest to the EDI, I am forwarding a copy of the internal minutes of our meeting with Mr. Peter Thacher.

Attachment

cc: Dr. J.A. Lee, PAS  
Mr. V. Srinivasan, EDI  
Mr. L. Helmers, EDI

HReitze:cb

November 20, 1978

Professor August T. Rossano  
University of Washington  
Water and Resources Division  
Civil Engineering Department  
Seattle, Washington 98195

Dear Professor Rossano:

This letter follows our telephone conversation of last Friday November 17, 1978. I want to express my appreciation for your accepting our request to take a few days of your time to review and assess the World Bank publication, Environmental, Health and Human Ecologic Considerations in Economic Development Projects (dated May 1974). We would expect you to produce detailed guidelines to appropriately address the environmental education and training requirements of World Bank projects in this particular document; three copies of it are enclosed for your use.

I am also sending you the following World Bank publications as background reference material:

- (1) Environment and Development (June 1975), which is likewise being revised and updated at this time;
- (2) Environmental Considerations for the Industrial Development Sector (August 1978) which is our most recent environmental publication;
- (3) The World Bank's Role in Schistosomiasis Control (January 1978);
- (4) Forestry - Sector Policy Paper (February 1978) plus a copy of;
- (5) The World Bank Annual Report - 1978, which will provide you with a sense of the priority activities of the Bank.

Please call me (202) 477-6940 if you think I can be of any assistance. In the meantime, however, I would appreciate it if you would send me a rough reference framework outlining your thoughts on these matters, at your earliest convenience.

Sincerely yours,

Enclosures



Hernan Reitze  
Office of Environmental  
and Health Affairs

cc: Dr. Lee

**OFFICIAL FILE COPY**

S- Environment

November 17, 1978

Mr. D. J. C. Schuurmans  
Vale do Lobo 397  
Almansil, Algarve  
PORTUGAL

Dear Dick:

I have delayed my answer to your letter of October 24th as I wanted to send you our staff's comments on your draft on "Issues in International Petroleum Agreements".

The comments received relate mostly to Bank language sensitivities and do not require that you do any extra work. I can take care of them. However, if you have made some changes following my previous comments, please forward them to me as soon as possible.

We all regret your decision regarding our job offer but we understand your reasons for not accepting it. Anyhow, we still hope to benefit from your expertise in a consulting capacity. In this connection we would like to have you here for a week in late January or early February for an exchange of views on some approaches we are considering in a number of oil and gas projects currently under preparation, particularly some involving exploration. Please let me or Philippe Bourcier (I'll be away December 14-January 10) know if this is convenient.

Best wishes,

Sincerely yours,

Efrain Friedmann  
Assistant Director  
Energy, Water and Telecommunications Department

cc: Mr. Rovani, Mr. Bourcier, EWT  
Mr. Mehlretter, PER

EFriedmann:mbk



5 Environment  
UNITED NATIONS ENVIRONMENT PROGRAMME  
PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT



Télégrammes : UNITERRA, PARIS

Téléphone : 766.16.40  
227.45.12

Télex : 650273

RÉF. N° : 3051

INDUSTRY AND ENVIRONMENT OFFICE  
DEPARTEMENT INDUSTRIE ET ENVIRONNEMENT

17, rue Marguerite  
75017 PARIS - France

*IBC*  
*No time to answer*

*+*  
*Feb. 2. 79*

November 16, 1978

Dear Jean,

I was happy to speak with you over the telephone whilst I was in New York, and I do hope that before long we will have the opportunity to meet again.

On my return to Paris I found your letter of November 2, 1978, which I read with great pleasure and for which I thank you very much.

I particularly appreciated your kind remarks concerning cost-benefit analysis. I have noted that you proceed to cost-benefit analysis on a qualitative basis, which I do not find objectionable inasmuch as, for instance, you cannot quantify the cost of human life. I would, accordingly, be very grateful if (when you have the time?) you could let me have a few examples where cost-benefit analysis on a qualitative basis has been applied.

Could I also suggest that, whereas cost-benefit analysis must be dealt with on a qualitative basis, cost-profit analysis should always be quantitative. If you agree with this criterion, I would then also be grateful if you could let me have a few examples taken from different industrial sectors of the cost-profitability of environmental investments.

./....

Jean M.H. TIXHON Esq.  
Office of Environmental & Health Affairs  
The World Bank  
1818 H Street, N.W.  
WASHINGTON, D.C. 20433

U.S.A.





PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT  
 UNITED NATIONS ENVIRONMENT PROGRAMME



DEPARTMENT INDUSTRIE ET ENVIRONNEMENT  
 INDUSTRY AND ENVIRONMENT OFFICE

17, rue Mazarine  
 75017 PARIS - France

Télégrammes : UNITERA, PARIS  
 Téléphone : 227.42.12  
 Télex : 820273

Réf. N° : 3051

November 16, 1978

Dear Jean,

I was happy to speak with you over the telephone whilst I was in New York, and I do hope that before long we will have the opportunity to meet again.

On my return to Paris I found your letter of November 2, 1978, which I read with great pleasure and for which I thank you very much.

I particularly appreciated your kind remarks concerning cost-benefit analysis. I have noted that you proceed to cost-benefit analysis on a qualitative basis, which I do not find objectionable inasmuch as, for instance, you cannot quantify the cost of human life. I would, accordingly, be very grateful if (when you have the time) you could let me have a few examples where cost-benefit analysis on a qualitative basis has been applied.

Could I also suggest that, whereas cost-benefit analysis must be dealt with on a qualitative basis, cost-profit analysis should always be quantitative. If you agree with this criterion, I would then also be grateful if you could let me have a few examples taken from different industrial sectors of the cost-profitability of environmental investments.

Jean M.H. TIXON Esq.  
 Office of Environmental & Health Affairs  
 The World Bank  
 1818 H Street, N.W.  
 WASHINGTON, D.C. 20433

RECEIVED  
 NOV 20 PM 4 58  
 U.S.A.

Jean M.H. TIXHON Esq.  
November 16, 1978

2.

...../.....

On items 2 and 3 of your above-mentioned letter, I hasten to reassure you that we did receive your six case studies on industrial environmental operations as well as a complete set of occupational safety and health guidelines. Concerning the letter, there was a small misunderstanding in our Office inasmuch as it had not been understood that these guidelines were those provided on "Environment and Occupational Health and Safety" ranging from 1975 to 1977.

With regard to your item 4, I did receive my copy of "Environmental Consideration for the Industrial Development Sector". Thank you very much. In this respect, two items puzzle me : (i) that, for a book which I suppose is essentially meant for developing countries, you have used the U.S. National Ambient Standards; (ii) that, in Appendix D on Institutional Resources, you have included the International Centre for Industry and the Environment within UNEP whereas, as you well know, this is a non-governmental organization composed of some 30 industrial associations or profit-making firms.

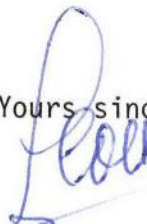
I would be very grateful if you could send me six more copies of your booklet "Environment and Development".

I was sorry that you were not able to attend our Iron and Steel Workshop which, I dare say, met with an outstanding success. Within one month I hope to send you the resulting report.

Concerning our Workshop on the Environmental Aspects of the Chemical Industry, as you know, it has been postponed to May 22-25, 1979. I assume that you will be able to attend this meeting as the designated representative of the World Bank. As I told you over the telephone, we will hold in Geneva at ILO's Headquarters a small meeting limited to 20 outstanding experts with a view to prepare and better revise the content of the major cluster area issues to be discussed during this Workshop. This restricted meeting will be held on December 5-8, on the dates we had initially earmarked for the Workshop. I would be most grateful if you could attend this restricted meeting inasmuch as your wide experience on the environmental problems of the chemical industry would be much appreciated in this preparatory and exploratory phase. Please let me know if a formal letter of invitation is necessary, but I would hope that this mention will suffice and that you will be able to fit this meeting into your schedule of missions abroad.

With renewed thanks and warmest regards,

Yours sincerely,



Léon de ROSEN  
Director, Industry & Environment Office

S-Environment

BL



UNITED NATIONS ENVIRONMENT PROGRAMME  
PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT



Télégrammes : UNITERRA, PARIS

Téléphone : 766.16.40  
227.45.12

Télex : 650273

INDUSTRY AND ENVIRONMENT OFFICE  
DEPARTEMENT INDUSTRIE ET ENVIRONNEMENT

17, rue Marguerite  
75017 PARIS - France

RÉF. N° : 3061

November 16, 1978

Dear Jean,

Many thanks for your letter of November 2, 1978. I am very sorry that we could not meet in Paris on October 2, and I hope there will be many more opportunities for us to meet in the future.

I have noted that your manual will be written along the lines of "Environmental Considerations for the Industrial Development Sector". When you have the time, could you please let me know when you expect this manual to be available and in what way it will be different from "Environmental Considerations for the Industrial Development Sector".

Thanking you in advance and with warmest personal regards,

Yours sincerely,

  
Léon de ROSEN  
Director, Industry & Environment Office

Jean M.H. TIXHON Esq.  
Office of Environmental & Health Affairs  
The World Bank  
1818 H Street, N.W.  
WASHINGTON, D.C. 20433

U.S.A.

RECEIVED

U.S.A.

NOV 20 PM 4:58

INCORPORATED MAIL UNIT

WASHINGTON, D.C. 20433  
1818 H Street, N.W.  
The World Bank  
Office of Environmental & Health Affairs  
Jean M.H. Dixon Esq.

Director, Industry & Environment Office  
Leon de ROZEN

Yours sincerely,

Thanking you in advance and with warmest personal regards,

Considerations for the Industrial Development Sector, be available and in what way it will be different from "Environmental  
have the time, could you please let me know when you expect this manual to  
mental considerations for the Industrial Development Sector". When you  
I have noted that your manual will be written along the lines of "Environ-  
opportunities for us to meet in the future.  
could not meet in Paris on October 5, and I hope there will be many more  
Many thanks for your letter of November 5, 1978. I am very sorry that we

Dear Jean,

November 10, 1978

REF. No. : 30ET

Telex : 920313

21.24.753

Telephone : 04.31.227

Telegrams : UNITENV, PARIS

Office of the Director  
17, rue de la Paix - Paris

DEPARTEMENT INDUSTRIE ET ENVIRONNEMENT  
INDUSTRY AND ENVIRONMENT OFFICE



ORGANISATION DES NATIONS UNIES POUR L'ENVIRONNEMENT

UNITED NATIONS ENVIRONMENT PROGRAMME



2-ENV/10/10/78

B 7

November 15, 1978

Mr. Ulric P. Gibson  
WAPORA, Inc.  
6900 Wisconsin Avenue, N.W.  
Washington, D.C. 20015

Dear Mr. Gibson:


Thank you for your letter of November 3, 1978 enclosing two draft documents prepared by WAPORA, Inc.

As I discussed it with you on the telephone last October 30, we are, indeed, engaged in the process of reviewing and updating World Bank environmental guidelines. We appreciate therefore, your sending a sample of WAPORA's work for our evaluation within this context. You can be assured that they will be reviewed and appropriately assessed in due course. Should the need arise to request your active participation in this effort we would then contact you.

Sincerely,

Hernan Reitze  
Office of Environmental  
and Health Affairs

cc: Dr. Lee

 H Reitze:cb

November 15, 1978

Mr. A. Keith Smiley  
Mohonk Lake  
New Paltz, N.Y. 12561

Dear Mr. Smiley:

Thank you for your letter to Mr. McNamara of October 23, 1978 inviting the World Bank to appoint a representative to participate in the discussions of an Advisory Group for the exploration of the issues surrounding the creation of an Environmental Center at Mohonk.

This letter confirms my earlier telephone conversation with you since I have been asked by Dr. James A. Lee, Director of the Bank's Office of Environmental and Health Affairs to represent the Bank at the upcoming meeting of the Advisory Group to be held at the Mohonk Mountain House from December 8-10, 1978.


Please send to me any material issued in advance of the meeting and/or any other information relevant to this occasion.

I welcome this opportunity to learn about the environmental activities of the Mohonk Trust, and provide my limited, but enthusiastic personal contribution to this project.

Sincerely,

Hernan Reitze  
Office of Environmental  
and Health Affairs

cc: Dr. Lee  
Mr. Maddux

 HReitze:cb

Those Listed Below

November 15, 1978

Hernan Reitze, CPSVP

Seminar on Ecological Design of Tropical Hydroelectric and Irrigation Systems for Prevention of Bilharzia and Malaria

The Office of Environmental and Health Affairs has recently received an invitation to participate in the above mentioned seminar, the attached brochure is self-explanatory. It will be held at the Center for Energy and Environment Research in San Juan, Puerto Rico from February 5-9, 1979.

The reported resurgence of the incidence of malaria in some regions of the world makes the topic of this seminar of particular relevance and interest to World Bank activities.

Messrs:

- F. Hotes, (AGR)
- E. Chittleburgh, (EDC)
- Y. Rovani, (EWT)
- J. Kalbermaaten, (EWT)
- E. Erkmen, (EAP)
- W. Cosgrove, (WAP)
- W. Smith, (AEP)
- J. Beach, (AEP)
- F. Lamson-Scribner, (ASP)
- A. Thys, (EMP)
- J. Fish, (EMP)
- A. Zavala, (LCP)
- E. Gigliolo, (AEP)
- M. French-Mullen, (EMP)

cc: Dr. J. A. Lee, PAS  
HReitze:cb

*HReitze*  
HReitze:cb

November 15, 1978

Mr. Herman Barger  
Inter-American Development Bank  
808 17th Street, N.W. Rm. 515  
Washington, D.C. 20577

Dear Herman:

The purpose of this letter is merely to share with you a self-explanatory brochure and invitation recently received by the Bank's Office of Environmental and Health Affairs to participate in a "Seminar on Ecological Design of Tropical Hydroelectric and Irrigation Systems for Prevention of Bilharzia and Malaria". It will take place at the Center for Energy and Environment Research in San Juan, Puerto Rico, from February 5-9, 1979.

I have sent copies of the invitations to various World Bank staff working in related fields. Given the reported resurgence of Schistosomiasis (Bilharzia) and malaria in some of the tropical zones of South America, I thought you might wish to consider this opportunity in terms of the interests and activities of the Inter-American Development Bank in those regions.


I have been asked by Dr. Lee to accept the invitation extended to the World Bank to participate on the Advisory Group that will discuss the questions concerning the establishment of an Environmental Center at Mohonk. Therefore, "Ceteris Paribus", I look forward to seeing you at the Mohonk Mountain House next December 8th.

Sincerely,

Hernan Reitze  
Office of Environmental  
and Health Affairs

Enclosures

cc: Dr. Lee

 HReitze:cb



November 14, 1978

Mr. Arthur R. Tingley  
Battelle Pacific Northwest  
Laboratories  
Battelle Boulevard  
Richland, Washington 99352

Dear Mr. Tingley:

Thank you for your letter of October 24, 1978 to Dr. James A. Lee, Director of the World Bank's Office of Environmental and Health Affairs.

In order to adequately provide you with the information requested as to "the method of registering Battelle-Northwest for consideration in future World Bank financed programs", I am forwarding a copy of your letter plus a copy of mine to Mr. Maurice W. Dickerson, the Bank's Consultant Services Officer, along with the request that he send you the appropriate forms and/or any other relevant material.

We appreciate your interest in joining the development efforts fostered by this institution.

Sincerely yours,

Hermen Reitze  
Office of Environmental  
and Health Affairs

cc: Dr. Lee

Reitze:cb



S. Environment-

November 13, 1978

Mr. T. Markus  
Asian Development Bank  
P.O. Box 789  
Manila, Philippines

Dear Mr. Markus:

Thank you for your letter of November 2, 1978 acknowledging the receipt of some World Bank publications which I had sent to you. It is indeed an encouraging development to note that the Asian Development Bank is currently in the process of establishing a Division within the Bank which would take on functions similar to those which the Office of Environmental and Health Affairs has within the World Bank.

You ask that I send you an organizational chart of the Office of Environmental and Health Affairs (OEHA) along with a description of the various in-house technical expertise available to it. As you may recall from our meeting with Dr. Lee of last September 27, the World Bank is currently in the process of sorting out some of the major policy and organizational implications involved in the yet-to-be implemented policy of direct lending for health sector projects. Within this state of flux, it would be difficult for me to furnish you with a more precise, up-to-date and stable organizational chart of this Office that would go beyond our discussions during the aforementioned meeting. Insofar as the technical expertise available to the OEHA, while it pools together a significant variety of environmental and health disciplines, there appears to be at least two other important considerations to bear in mind. Firstly, the World Bank at large possesses a wide variety of other relevant skills--not necessarily reflected in the small permanent staff of the OEHA--which may be tapped if and as required. Secondly, the Office makes extensive use of consultants, as appropriate, thereby considerably expanding the range of professional human resources available to it worldwide.

I have received Mr. Luthra's encouraging and prompt response to my letter. I shall remain in touch with him concerning these matters.

We wish you success in your efforts at strengthening the environmental and health capabilities of the Asian Development Bank.

Cordially,

Hernan Reitze  
Office of Environmental  
and Health Affairs

cc: Dr. Lee

HReitze:cb

OFFICIAL FILE COPY

S-Environment

November 13, 1978

Ms. Dolores Gregory  
Environmental Protection Agency  
Office of International Activities  
401 M Street, S.W.  
Washington, D.C. 20460

Dear Dolores:

Following our telephone conversation I am now sending you, under separate cover three copies of Environment and Development (June 1975), and three copies of Environmental, Health and Human Ecologic Considerations in Economic Development Projects (May 1974), so that you may arrange for their review by staff from EPA's Training Center in Cincinnati.

In brief, we would like to receive comments and suggestions on how to improve and update these publications (particularly the project guidelines) from the standpoint of environmental training requirements in each of the sectors covered. As you know, while the Office of Environmental and Health Affairs is responsible for overseeing all environmental aspects of World Bank projects, a more precise and detailed set of guidelines for project design and preparation is needed.

Recently the Board of Executive Directors and the President of the Bank have strongly endorsed the activities of Dr. Lee's office and recommended that it be strengthened and its scope broadened. Among other things, the office is being requested to continue to produce environmental guidelines for Bank projects as well as to provide adequate environmental educational opportunities for Bank staff. Therefore, our efforts to review and update the two documents mentioned above seems entirely appropriate at this time, and we very much appreciate the qualified input which the US/EPA may be able to provide on this matter.


As you requested, I am also sending you a copy of our recent publication, Environmental Considerations for the Industrial Development Sector (August 1978).

Please allow me to take this opportunity to congratulate you on the news of your marriage. My best wishes go to you and Mr. Aly. Thanks again for your kind assistance, and hope to see you soon.

Cordially,

Hernan Reitze  
Office of Environmental  
and Health Affairs

cc: Dr. Lee

 HReitze:ch

**OFFICIAL FILE COPY**

November 13, 1978

Mr. K.L. Luthra  
Director  
Infrastructure Department  
Asian Development Bank  
P.O. Box 789  
Manila, Philippines

Dear Mr. Luthra:

Thank you for your letter of November 3, 1978, expressing the interest of the Asian Development Bank to be of assistance to the government of Indonesia in their efforts to integrate the environmental dimension in the economic development process of the country. We shall keep you informed, as requested about the progress being made in convening an inter-agency meeting next year to discuss some of the implications of these issues to both our institutions.

I sincerely apologize for the oversight in not enclosing in the envelope a copy of Minister Salim's letter to Dr. Lee as I mentioned to you in the text of my letter. I am personally making sure that a copy be enclosed this time.


I appreciate your prompt response and shall remain in touch with you.

Sincerely,

Hernan Reitze  
Office of Environmental  
and Health Affairs

Enclosure

cc: Dr. Lee, OEHA  
Mr. Goodland, OEHA  
Mr. Overby, OEHA

 HReitze:cb

OFFICIAL FILE COPY

## OFFICE MEMORANDUM

TO: Sushil Bhatnagar, CPSVP

DATE: November 10, 1978

FROM: Hernan Reitze, CPSVP

SUBJECT: Requested Brief on Some of the Key Environmental Issues Discussed at the Session of the Board of Executive Directors of November 7, 1978

1. At the request of Dr. Lee, I am providing you a brief rundown on some of the key issues about the World Bank's environmental activities as reviewed and discussed by the meeting of the Board of Executive Directors of November 7, 1978, according to a paper submitted to it entitled, The World Bank's Environmental Activities: A Progress Report. For your convenient reference I am also attaching a copy of this paper and a copy of Dr. Lee's presentation -- as prepared, but not necessarily as delivered. n/att.
2. There was praise and a strong endorsement of the quality and quantity of the work put out by the Office of Environmental and Health Affairs (OEHA), along with the recommendation that the OEHA's overall capabilities be strengthened 'vis-a-vis' the size of the Bank's operations, and a general approval of the direction of the current thrust of environmental activities as presented in the progress report.
3. The following topics were mentioned and discussed with some detail:
  - a) The need to provide more direct technical advice to governments on environmental matters, with particular emphasis on the development of their local environmental expertise and institutions.
  - b) The OEHA should produce more environmental guidelines and provide appropriate educational opportunities for Bank staff (lectures, seminars, workshops, etc.).
  - c) The Bank should not remain complacent about the relatively underdeveloped environmental posture of other international development financing institutions, but rather, seek joint cooperative efforts and intensify its liaison activities with them.
  - d) The question of how to deal with the environmental implications of the Bank's borrowing Development Finance Companies (DFC's) is admittedly a difficult issue, and one for which the Bank does not have an adequate answer at this time.
  - e) The Bank should continue to oversee the environmental implications of its lending operations on a project-by-project basis, however, a broader policy approach appears to be appropriate henceforth.
  - f) Pollution control projects (so-called "environmental projects") should be openly encouraged and subsequently financed by the Bank.

- g) The need to supervise environmental aspects of projects, and to have the Operations Evaluations Department conduct post-audits on these aspects of selected Bank projects.

4. I trust the above summary of issues may be of help to you. Please let me know if I can be of further assistance.

Attachments:

cc: Dr. James A. Lee, OEHA

HReitze:cb

Mr. William Clark, VPE


November 8, 1978

Hernan Reitze, CPSVP

Professional Services Organization (PSO)

1. At the request of my colleague Mr. Ragnar Overby, and as agreed with you during our meeting of last Monday, November 6, I am hereby presenting to you some base line thoughts on this subject for your consideration when replying to Mr. Max Nicholson's letter to you of October 24, 1978.
2. The need for environmental consulting services for LDC's rendered by top qualified and experienced professionals is very real, and likely to increase in the years to come.
3. In principle, the World Bank has expressed its support to the idea of an international consulting organization of this nature, and would be willing to try it out within a fair and competitive framework, as appropriate, when it materializes. Nevertheless, the Bank should not be expected to make financial contributions to it at this stage.
4. Mr. McNamara seems to have endorsed this general position (as stated in paragraph 3 above) in personal communications with Mr. Maurice Strong. Later on, Mr. Overby made his personal professional contributions to the idea along these same lines, at their Second Meeting in Morges, Switzerland in March of 1978.
5. Mr. Nicholson (as per Mr. Overby's notes) seems to have been present at the Morges meeting. You may wish to encourage him to visit with us for further discussions on some of these issues, including among others, whether or not the International Institute for Environment and Development (IIED) should take on this task, as he suggests.
6. I trust these pointers would be of some guidance to you on this matter. I hope that Ragnar recovers quickly and is back to the office soon, in the meantime, however, please feel free to call on me anytime if you think I can be of any further assistance.

cc: Dr. James A. Lee, OEHA  
Mr. Ragnar Overby, OEHA

  
HReitze:cb

ERLW - UNEP  
✓ cc: S - Environment & Development

Mrs. Shirley Boskey

November 1, 1978

Mahmud Burney

UNEP - Focal Point

As you know, I have been designated as the focal point in the Bank for UNEP. For a number of reasons I have acted passively in this area, with the actual coordinating function being carried out in Jim Lee's Department, more specifically by Hernan Reitze. He has increasingly and ably assumed the responsibilities of coordinating environmental matters with UNEP, other UN bodies and outside agencies. He has kept this office (especially Miss McDonald) fully informed of the results of his contacts. Given the sensitive and complex relationship we (and all others) have with the UNEP, I suggest that the role of Focal Point be officially transferred to Dr. Lee's Office.

cc: Dr. Lee  
Mr. Grenfell  
Mr. Boucher

  
MB:mmcd



*n / regional*  
S. Environment & Health

Dr. James A. Lee, Office of Environmental and Health  
Affairs

November 1, 1978

J. Tixhon, OEHA *✕*

UNEP - Geneva Meeting November 29-December 1, 1978.  
Improvement in the Working Environment.

1. We went to two meetings already. Moreover the meeting will discuss the "World Bank Statement" (See annex).
2. I think one of us should go, if only to avoid misinterpretations or misrepresentations of the Bank policy.

cc: Mr. H. Reitze, OEHA

JTixhon/md

Mr. Robert S. McNamara, President, IBRD

October 31, 1978

Mr. Hernan Reitze, CPSVP

Through:

Dr. James A. Lee, Environmental and Health Adviser

Requested Briefing About The Environmental Affairs Of Eight Other UN Agencies According To The IIED's Report "Banking On The Biosphere?," Dated July, 1978

GENERAL BACKGROUND

1. As of July, 1978 The International Institute for Environment and Development (IIED) published the final report of phase I of a study of the Environmental Procedures and Practices of Nine Development Financing Agencies, co-sponsored by UNEP and CIDA, entitled Banking on the Biosphere. The agencies covered are: The World Bank (IBRD); The Inter-American Development Bank (IDB); The Asian Development Bank (AsDB); The Caribbean Development Bank (CDB); The African Development Bank (ADB); The Arab Bank for Economic Development of Africa (BADEA); The European Development Fund (EDF); The United Nations Development Programme (UNDP); and, The Organization of American States (OAS).

2. A more detailed account of the findings of an interim version (September, 1977) of the IIED report -- which have remained essentially identical to its final version -- was reported to you (Dr. Lee to Mr. McNamara of December 12, 1977) highlighting some of its main implications for the World Bank. The final draft of the report has also been reviewed from this perspective (Mr. Reitze to Dr. Lee of May 8, 1978). What follows is a summary of selected statements made by the IIED's published report with reference to the other eight agencies.

THE REGIONAL BANKS

3. The report states that these institutions vary greatly in size, experience, and to some extent also in their objectives. However, a few similarities have been pointed out: (1) "None of them has a formally stated official position or policy on environment"; (2) "None has any staff or office with a continuous and specific environmental responsibility"; (3) with the exceptions of BADEA and EDF, they have "a similar set of procedures for loan evaluation, appraisal, and surveillance, generally modeled on the original example of the World Bank"; (4) with the single exception of BADEA the other regional banks make "more or less frequent use of some form of environmental expertise over a variety of projects, though on an 'ad hoc' basis". (IIED Report, p.21)

The Inter-American Development Bank

4. "The view of the environment taken at the IDB is still largely a function of individual interest..." (p.29). ... "There is strong evidence of recently heightened environmental awareness. This has undoubtedly been occasioned in part by the fact that it has its headquarters in Washington, which allows for close contacts with the World Bank and the U.S. Congress". (p.26) Various environmental policy documents have been

circulating within the Bank for several years with no top level commitment and/or decision. While the present situation is described as "in a state of flux" (p.27), and while it is reported that "a draft environmental policy paper has been prepared for review by departmental managers and will be presented to the IDB Board in 1978", I have been personally informed by two senior IDB officials involved in this matter that their Board recently declined a formal consideration of the issue until January, 1979.

#### The Asian Development Bank

5. "The Asian Development Bank lacks any formal constitutional commitment to environmental protection, and it has no specific guidelines or checklists for ensuring that various aspects of environmental impact are considered in the loan preparatory process". AsDB officials explained (p.29) that part of the problem had to do with the limited acceptability of environmental modifications to loan proposals on the part of their member governments. The IIED team concluded, however, that a "lack of specific in-house environmental expertise was a significant part of the problem". (p.31)

#### The Caribbean Development Bank

6. "No formally agreed environmental policy exists at the CDB..." "The thoroughness of environmental assessment work done at the Bank seems to depend to a large degree on the interest of the individual officer". A new Project Procedures Manual recently issued fails to even mention environment as an aspect of project preparation or appraisal. Even "minimal efforts to systematise the process have not succeeded". (p.32)

#### The African Development Bank

7. "The ADB not only lacks formal procedures for environmental assessment, but its staff generally displays limited awareness of the broad range of environmental concerns relevant to development lending". Insofar as its "environmental practice" the IIED team drew the conclusion that "much the same picture appears to obtain for the ADB as for the AsDB". The report expresses surprise that despite the African location of UNEP; the awareness brought about by Sahelian droughts; plus the activities being carried out by "major disease control campaigns", the "attitudes encountered within ADB were not so much skeptical or hostile as uncomprehending of what the IIED team described as environmental concern". (p.33)

#### The Arab Bank for Economic Development of Africa

8. "There are no environmental assessment procedures in the Bank". The report flatly concludes that "environmental assessment as such did not figure in the thinking of the Bank at this stage" to the point that "no environmental advisor had so far been used by BADEA". (p.34)

The European Development Fund

9. While the report describes EDF with an "institutional personality between the World Bank and the UNDP", its environmental awareness and procedures are judged to be closer to the latter than the former. There is no reference in EDF's constitution or terms of reference to the environment, nor is any environmental impact statement required in the project appraisal process. The report states furthermore, "the EDF appears to have a rather low level of environmental awareness and was a difficult agency to assess". (p.38)

THE UNDP AND THE OAS

The United Nations Development Programme

10. "UNDP management has a general awareness of environmental problems, but takes the view that these should be the concern of both UNEP and whichever institution carries out the project which UNDP funds". Some UNDP manuals mention the environment as an aspect of project design which their officers "might be advised to consider in particular circumstances". "One staff member in UNDP's small Technical Advisory Division (TAD) has been requested, along with his other responsibilities, to keep up-to-date and informed about environmental matters and to be primarily responsible for handling requests for information relating to UNDP and the environment". (p.46)

The Organization Of American States

11. "Environment is not a subject on which the OAS has overall policies, although as an organization it appears to have a strong interest in the environment and certainly sponsors a number of environmental activities". Their Program of Regional Development (PRD) has allocated since 1975 one staff position to "Environmental Protection". The incumbent participates on technical assistance project teams and provides advisory services upon request. As with the rest of the OAS, however, its "dependence on national request continues to limit its initiating role". (p.45)

CONCLUSIONS AND RECOMMENDATIONS

12. Among its various conclusions and recommendations the report states that "it seems that none of these organizations has paid sufficient attention to the environmental dimension of its development programme (p.34)". One of the recommendations offered is that "in most cases great benefit, it seems, could be received from closer liaison with the World Bank which has expressed its willingness to share the lessons of its eight years' experience". (p.36)

HReitze:cb

October 27, 1978

Mr. Goosen Broersma  
Frankenstraat 64,  
2582 SM The Hague,  
The Netherlands

Dear Mr. Broersma:

On October 20, 1978, you wrote to The Director, OEHA, and I have been asked to reply.

We are pleased to note your "can-do" spirit as reflected in your cover letter and the report itself. It is indeed fortunate for mankind that not all processes are irreversible. The World Bank is accordingly supportive of several large-scale projects of a curative nature, ranging from land rehabilitation to pollution control. To date, however, none of our borrowers has requested assistance for secondary resource recovery from the bottom of the sea.

I have studied your interesting report carefully and would like to thank you for sharing it with us. It will be made available to other staff as appropriate.

Yours sincerely,

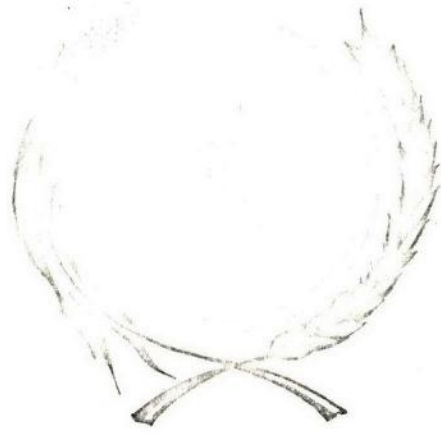
Ragnar Overby,  
Office of Environmental  
and Health Affairs

Ro

cc. Dr. Lee, OEHA

RO:mfb

S. Environment



NATIONAL SCIENCE RESEARCH COUNCIL GUYANA

44 PERE ST. KITTY GREATER GEORGETOWN  
TELEPHONE 63278-9: 63270  
CABLE: NARESCO GUYANA  
P.O. BOX 689

OUR REF: NSRC-3480-78  
YOUR REF: .....

October 24, 1978

Dr. Robert Goodland  
Environmental & Health Affairs Officer  
The World Bank  
1818H Street  
N.W. Washington, D.C. 20433  
U.S.A.

Dear Dr. Goodland:

As you are well aware, a decision was taken to have the papers presented at the Seminar on "The Environmental Aspects of Development" published in the form of a book.

Accordingly, it shall be helpful if you could re-read the papers you presented at the Seminar making any necessary corrections and let us have same as before October 31, 1978. Kindly attach complete list of references at the end.

In addition it shall be appreciated if you could let us have a passport size photograph of yourself and any photographs on the environment that you took in Black Bush and Linden that you think would be good to include in the book.

With all best wishes.

Yours sincerely,

*Robert*  
Rhoeheit  
for Secretary General.

mf



# Mohonk MOUNTAIN HOUSE

LAKE MOHONK NEW PALTZ • NEW YORK 12561 • TELEPHONE (914) 255-1000

23 October 1978

Mr. Robert S. McNamara, President  
The World Bank Group  
1818 H. Street N.W.  
Washington DC 20006

Dear Mr. McNamara:

We are writing you at the suggestion of Dr. Baruch Boxer, Director of International Environmental Studies Program at Cook College of Rutgers University, who recently had discussions with members of the World Bank staff, and who serves on the Advisory Group for exploration of an Environmental Center at Mohonk. We hope that the World Bank may be represented at the consultation described in this letter and in the enclosed announcement. If you personally are unable to attend we hope you will suggest a member of your staff.

Many of us have been working to communicate about environmental issues. The first questions a communication researcher asks are:

“Is anyone really listening?” and  
“What are people doing about what they hear?”

Although much has been accomplished to sensitize people to the issues related to developing a quality environment, our data suggest that not enough people are effectively involved. In our consultation we propose to address the question: “How do we get more people listening and more people involved?”

We are inviting you to a weekend conference, from December 8 to 10, 1978, where environmentally sensitive planners will explore this issue with experienced communicators and develop a focused action plan. The procedures to be developed will include appropriate resources, including conferences with leaders and administrators in business, banking, associations, media, and others.

The conference will be policy oriented. Its design will build on what we all have learned and move toward a realistic communicative plan and specific follow-up procedures.

It is appropriate that Mohonk Mountain House be the site for this conference, as Mohonk has demonstrated a long-term commitment to sharing and teaching environmental concerns. You are invited to be the guest of the groups sponsoring this conference as described in the accompanying information, so that the only expense to you or your organization would be for travel. If you wish to bring your spouse, we will supply appropriate rate quotations.

Please let us know as soon as possible whether you can attend. Your perspectives and experience, and your ideas, are most important to us. If your schedule does not allow you to join us on December 8 to 10, we will still want you to be part of this ongoing consultation. We would like to bring your thoughts and ideas to the meeting and to report back to you after December 10th as well. We look forward to having the benefit of your help and counsel.

Sincerely,

*Keith Smiley*  
A. Keith Smiley  
For Mohonk Mountain House  
and The Mohonk Trust

*Richard J. Cassidy*  
Richard J. Cassidy  
Decision Research Corp.  
New York, N.Y.

Encls.





October 23, 1978

Professor Daniel A. Okun  
Kenan Professor of Environmental Engineering,  
The University of North Carolina at Chapel Hill,  
Rosenau Hall 201 H,  
Chapel Hill, N.C. 27514

Dear Dr. Odum:

This letter follows our telephone conversation of last October 17.

First of all, I wish to express my appreciation for your accepting my request that you take a few days of your time to review, evaluate and produce a detailed outline for a revised and updated version of the World Bank publication, "Environment and Development", dated June 1975. I am enclosing three copies of it for your use.

Also, for your reference, I am sending you three copies of each of the following Bank publications: (1) Environmental, Health, and Human Ecologic Considerations in Economic Development Projects, dated May 1974, which we have next-in-line for reviewing and updating; and (2) Environmental Considerations for the Industrial Development Sector, dated August 1978, which is our most recent publication. Both these documents should provide the Bank's general criteria and guidelines for the design and implementation of World Bank-financed economic development projects. You may wish to keep them in mind while working on Environment and Development.

Please do not hesitate to call me directly (202: 477-6940) if you think that I can be of any assistance to you on this matter. Otherwise, we look forward to receiving your final work by November of this year, as we agreed.

Sincerely yours,



Hernan Reitze  
Office of Environmental  
& Health Affairs

Attachments

cc. Dr. Lee, OEHA  
Mr. Overby, OEHA  
Mr. Tixhon, OEHA  
Mr. Goodland, OEHA

**OFFICIAL FILE COPY**

*Non Regional  
S. Environment*

October 20, 1978

Mr. Timothy Murphy  
Atkins Research and Development  
Woodcote Grove Ashley Road  
Epsom Surrey KT18 5BW  
ENGLAND

Dear Mr. Murphy:

Thank you for your letter of October 13th which reached my desk today.

It will be a pleasure for me to see you during the period of November 6 - 10 except on the 7th which is previously committed. We can discuss the Siting of Industry and review a few projects where we had problems because of the location.

Please phone me or my secretary on the 6th so that we can firm up the date and hour of the meeting. Telephone No. (202) 477-6665.

Best regards to Mr. Rees and to you.

Yours very truly,

Jean M.H. Tixhon  
Office of Environmental and  
Health Affairs

cc: Dr. J. A. Lee, OEHA

JTixhon/md

October 20, 1978

Mr. Robert E. Stein  
Director  
International Institute for Environment  
and Development,  
1302 18th Street, N.W., Suite 501,  
Washington, D.C. 20036.

Dear Bob:

Thank you for your letter of September 27, 1978, seeking Dr. Lee's authorization to publish in your upcoming book "Banking on the Biosphere" a text from his unpublished paper entitled "Environment and Development: the World Bank Experience".

I am enclosing the permission request form signed by Dr. Lee.


Good luck and best wishes for a useful and enlightening publication.

Cordially,

Hernan Reitze,  
Office of Environmental  
& Health Affairs

Attachment

cc. Dr. Lee, OEHA

HR:mfb

October 20, 1978

Mr. Herman Barger,  
Interamerican Development Bank (IDB),  
Room 515,  
808 Seventeenth Street, N.W.  
Washington, D.C. 20577

Dear Herman:

As per your request, during our telephone conversation of yesterday afternoon, I am providing you with sets of copies of World Bank environmental publications for the convenient use of the IDB Executive Directors.

These publications are: (a) Environmental, Health and Human Ecologic Considerations in Economic Development Project, May 1974; (b) Environment and Development, June 1975; and (c) Environmental Considerations for the Industrial Development Sector, August 1978. As I said to you over the telephone, we are in the process of reviewing and updating the first two and we expect to come up with a new edition of each sometime next year. Additionally, I am enclosing a copy of a paper prepared by Dr. Lee, entitled "Environment and Development: The World Bank Experience", October 1976, which I believe will be of interest to your EDs.

While your intention is to give your Board ample information for their consideration in drafting the IDB's own environmental policy and project guidelines, as you expressed, I suggest that you may wish to consider furnishing them with a copy of the IIED's report "Banking on the Biosphere?", which would give them a comparative view of how environmental affairs are conducted within some of the major international development financial institutions.

If I come across some other relevant material I shall send it to you immediately. In the meantime, I hope this is of help to you, but do not hesitate to call if you feel I can be of further assistance.

My best wishes to you and the IDB in the successful completion of this important task.

Cordially,

Hernan Reitze  
Office of Environmental  
& Health Affairs

Attachments

cc. Dr. Lee, OEHA

Mr. Carlos N. Quijano, Spec. Rep. for Inter-American  
Organizations, LCNVP

**OFFICIAL FILE COPY**

*HR*

HR:mfb

October 17, 1978

Professor Daniel A. Okun  
Kenan Professor of Environmental Engineering,  
The University of North Carolina at Chapel Hill,  
Rosenau Hall 201 H,  
Chapel Hill, N.C. 27514

Dear Dan:

Yesterday I received your letter of October 10, 1978, confirming the invitation extended to me earlier to participate in a planning meeting for your program for the Environmental Training for Africans being sponsored by the Agency for International Development. At the same time, I also received information from Mr. R.B. Ford, of Clark University, describing the overall goals of the project and activities planned for October 23 in Chapel Hill.


In the meantime, you and I have had a highly efficient and effective subject meeting which made it quite evident that there is no need for my participation on October 23 and for my further involvement at this stage.

I thank you again for your invitation and wish that improved resources management will, in time, accrue from our endeavors.

Sincerely,

Ragnar Overby,  
Office of Environmental  
& Health Affairs

P.S. A copy of this letter has been sent to Mr. R.B. Ford.

 RO:mfb

October 16, 1978

Mr. R.J. Dolan,  
The Center for the Environment & Man, Inc.  
275 Windsor Street,  
Hartford, Conn. 06120

Dear Mr. Dolan:

Thank you for your letter of September 18, 1978, attaching a copy of a "Corporate Profile of CEM.

We shall review this information with interest and should we decide to request further information in order to consider contracting your services we would contact you.

In the meantime, as I explained to you over the telephone, you should stay in touch with the Consultant Services Office, which I understand has already sent you all the appropriate forms to register CEM on their Bank-wide roster of consultant firms.

We appreciate your consideration in keeping us informed.

Sincerely,

Hernan Reitze,  
Office of Environmental  
& Health Affairs

cc. Dr. Lee, OEHA  
Mr. M.W. Dickerson, PAS

  
HR:mfb

Woodcote Grove Ashley Road  
Epsom Surrey KT18 5BW England

Telephone Epsom 26140 (STD code: 037 27)  
Cables Kinsopar Epsom  
Telex 23497 (answerback code: Atkins G)

Telephone ext

Your ref

Our ref 2019204/TFM/let

S- ENVIRONMENT

## Atkins Research and Development

A Member of the WS Atkins Group

Date 13th October 1978

Mr J. M. H. Tixhon  
Office of Environmental and Health Affairs  
The World Bank  
1818 H. Street N.W.  
WASHINGTON, D.C. 20433  
U.S.A.

Dear Mr Tixhon

I am writing to you following your discussions with my colleague Colin Rees in August this year. As you will recall, Colin discussed with you the commission which we have received from the Industry Office of the United Nations Environment Programme to produce guidelines for Assessing Industrial Environmental Impact and the Siting of Industry. You will recall that the Guidelines are principally to be aimed at developing countries. I and a colleague, John Horberry, are primarily responsible for the socio-economic content of the guidelines and we will be visiting the United States in early November to see a number of people who have been involved in assessing the socio-economic impact of development activities, particularly within a wider environmental assessment.

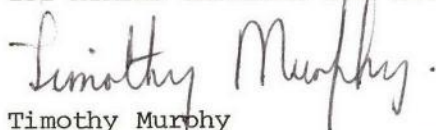
We are interested both in the methodological aspects of this work, where experience in countries such as the United States would be very valuable, as well as in the practical application of socio-economic guidelines in developing countries.

We would greatly appreciate any assistance which you could give us on this project either through a further meeting with ourselves or by recommending anyone in your organisation or in others who could assist us.

I intend to be in Washington D.C. from 6th to 10th November inclusive and in New York City from 13th until 17th November. It would be much appreciated if you could write to me before I leave the U.K. on 3rd November if there are specific contacts whom you feel we should meet during our visit. Please also write if you would like us to make a firm appointment with yourself or anyone else in your organisation who could be of assistance. If I do not hear from you I will contact you when I arrive in the United States.

Colin Rees sends his regards,

Yours sincerely  
for ATKINS RESEARCH AND DEVELOPMENT



Timothy Murphy  
Senior Environmental Consultant



RECEIVED  
1978 OCT 19 PM 1:59  
INCOMING MAIL UNIT





UNITED NATIONS ENVIRONMENT PROGRAMME  
PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT



Télégrammes : UNITERRA, PARIS

Téléphone : 766.16.40  
227.45.12

Télex : 650273

1937

RÉF. N° : \_\_\_\_\_

INDUSTRY AND ENVIRONMENT OFFICE  
DEPARTEMENT INDUSTRIE ET ENVIRONNEMENT

17, rue Margueritte  
75017 PARIS - France

October 13, 1978

Dear Dr. LEE,

Thematic Joint Programming Meeting on Industry and Environment  
Geneva, October 26 & 27, 1978

--- Please find enclosed a preliminary draft of the Industry and Environment section of the UNEP GC 7 Programme Document, for examination at the Thematic Joint Programming Meeting on Industry and Environment to be held in Geneva on October 26 and 27, 1978.

Whilst, through my letter of September 12, 1978, the help of UN Agencies was sought to critique the preliminary material which we assembled on agency programmes, and to obtain further information on significant recent accomplishments, work plans and budget implications, very little response has been received to date. This preliminary draft contains, almost exclusively, only material we have put together on the basis of documents available to us and the only budgetary information included is the estimate of UNEP costs.

I would, consequently, ask you to bear with us and consider this document as a first preliminary draft, perhaps too wordy in places and probably containing

./..

Dr. James A. LEE  
Environmental & Health Adviser  
The World Bank  
1818 H. Street, N.W.  
WASHINGTON, D.C. 20433

U.S.A.

enclosures retained by OEHA

RECEIVED

1978 OCT 19 AM 10:01  
INCOMING MAIL UNIT

inaccuracies due to lack of information concerning your own programmes. Furthermore, since time has not permitted consultations amongst different UNEP task forces before sending you this document, it does not yet contain the full range of cross-references to other UNEP activities.

You will note that gaps have been left in the text where we would like to enlist your help in expanding or completion. Besides a critique of the preliminary draft text and correction for inaccuracies or misrepresentations, we would be grateful if you would, at the time of the Thematic Joint Programming Meeting provide :

(i) further analysed synthesis of your organisation's activities which could be directly incorporated in the section of the document on "Significant Recent Accomplishments" in relation to industry and environment ;

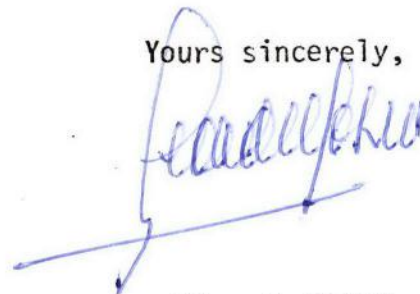
(ii) details of relevant future action programmes to meet specific objectives (see paragraph 70) (a) approved and (b) planned for the period 1979 to 1982 ;

(iii) a breakdown of "budgetary implications" for achieving objectives in relation to industry and environment (a) regular UN budget, (b) other sources.

You will appreciate that an iterative process is required in preparing plans for mutual action programmes to meet specific objectives and we thank you for your help and cooperation in this mutual endeavour.

Looking forward to seeing you at the meeting and with warmest kind regards,

Yours sincerely,



Léon de ROSEN  
Director, Industry & Environment Office

# International Bank for Reconstruction and Development

FOR OFFICIAL USE ONLY

**FOR  
EXECUTIVE  
DIRECTORS'  
MEETING**

**DECLASSIFIED  
JUN 05 2017  
WBG ARCHIVES**

For consideration on  
November 7, 1978

R78-231

FROM: Vice President and Secretary

October 13, 1978

**THE WORLD BANK'S ENVIRONMENTAL ACTIVITIES:  
A PROGRESS REPORT**

---

There is attached a paper entitled "The World Bank's Environmental Activities: A Progress Report" prepared in the Office of the Vice President, Projects Staff.

Questions on this paper may be referred to Mr. J. A. Lee (extension 76151).

Distribution:

- Executive Directors and Alternates
- President
- Senior Vice President, Finance
- Vice President, Operations
- President's Council
- Vice Presidents, IFC
- Directors and Department Heads, Bank and IFC

This document has a restricted distribution and may be used by recipients only in the performance of their official duties. Its contents may not otherwise be disclosed without World Bank authorization.

THE WORLD BANK'S ENVIRONMENTAL ACTIVITIES: A PROGRESS REPORT**DECLASSIFIED**

MAY 20 2022

Table of Contents**WBG ARCHIVES**

	<u>Page No.</u>
I. INTRODUCTION	1
II. ENVIRONMENTAL ASPECTS OF BANK OPERATIONS	2
A. Environmental Monitoring of Projects	2
B. Environmental Screening of Bank Projects	2
C. Environmental Assessment of Specific Projects	3
D. Guidelines and Policy Work	4
E. National Environmental Policy Planning Assistance	4
F. Environmental Projects	5
G. Liaison with Environmental Organizations	6
III. EVALUATION OF BANK'S ENVIRONMENTAL EXPERIENCE	7
A. Environmental Review	7
B. Environmental Protection Costs	8
C. Environmental Policy and Criteria	9
D. Staff Training	10
IV. CONCLUSION: FUTURE ENVIRONMENTAL ROLE OF THE BANK	10

## THE WORLD BANK'S ENVIRONMENTAL ACTIVITIES: A PROGRESS REPORT

### I. INTRODUCTION

1. Rational economic development--management of resources for the welfare of the present population and of future generations as well--calls for sound environmental management. The Bank's member countries are increasingly concerned that rapid economic growth and exploitation of resources are magnifying the demands on the environment, while at the same time the resource base is deteriorating. The Bank endeavors to ensure that development does not exceed the regenerative capacities of the environment which sustains it.

2. Many developing countries are in the tropics where the renewable resource base is much more susceptible to deterioration than in the temperate zones. Hence, serious environmental problems are inherently more likely in these countries. Moreover, burgeoning populations--and their need for food, shelter, and fuel--strain the supporting capacity of their ecosystems. Overgrazing, range deterioration and desertification are global phenomena. World fish catches, for example, which met an increasing proportion of protein needs for the last two decades, now supply dwindling per capita amounts, and increasing expenditures yield decreasing catches. Village families in many Bank member countries require roughly one ton of fuel wood each year for survival. As forests recede ever further from growing villages, whole regions decline in productivity due to deforestation and the accompanying erosion, siltation and floods. Growing demand for food provokes overuse of farmland and cultivation of progressively less productive tracts, eventually exceeding the capacity of the environment to sustain such cultivation.

3. Some environmental problems that are the consequence of poverty are being addressed by international development efforts. Other environmental problems are inherent in development itself. Worldwide concern has steadily mounted over this cost of development. At the same time, industrialized countries are increasingly dependent on developing nations for energy supplies and other natural resources. Import demand by developing nations sustains growth and employment in the industrial countries. Economic logic and environmental imperatives are forcing the peoples of the world to learn the true meaning of "only one earth"--ecological stewardship.

4. Development policies and projects need to be judiciously designed and implemented if economic progress is to be compatible with sound environmental management. The Bank's experience demonstrates that it is possible, with government agreement, to incorporate suitable environmental and health-protection measures into any project.

## II. ENVIRONMENTAL ASPECTS OF BANK OPERATIONS

5. Environmental questions are handled as an integral part of the analysis of each Bank project: the Regions (or IFC) advise Borrowers to take environmental issues into account when identifying a project, or shortly thereafter, and encourage them and their consultants to incorporate the environmental component in feasibility studies and project design. Advice is also given on environmental aspects of economic planning, in response to government requests. The Office of Environmental and Health Affairs (OEHA), created in 1970, provides central staff support for these efforts.

6. The Bank's environmental activities can be classified as follows:

- A. Environmental Monitoring of Projects
- B. Environmental Screening of Projects
- C. Environmental Assessment of Specific Projects
- D. Guidelines and Policy Work
- E. National Environmental Policy Planning Assistance
- F. Environmental Projects
- G. Liaison with Environmental Organizations

### A. Environmental Monitoring of Projects

7. More than seven hundred Bank projects in preparation are expected to have environmental implications. OEHA has established a monitoring system to help operational units consider these problems in a timely and appropriate manner. In addition, it closely follows over 750 projects now being executed that have environmental components of some kind, to help gauge the effectiveness of environmental measures, take any necessary remedial action, and apply any lessons learned to projects in preparation.

### B. Environmental Screening of Bank Projects

8. All projects are subjected to a serial screening process in which those clearly without significant environmental implications receive no further attention. Experience shows, for example, that telecommunications projects rarely merit detailed environmental work, while all large hydro-power reservoirs and many settlement schemes, for example, have major environmental (and social) dimensions. The preliminary screening excludes most Bank projects from further environmental review since their environmental and health dimensions pose no significant problems. The environmental implications of many other projects can be assessed in-house; the remainder (about 8% of all projects) need more extensive work.

9. The results of this screening process for Fiscal Years 1972-1977 are summarized in the following table:

<u>Results of Environmental Review</u>	<u>Number of Projects Approved</u>		
	<u>Bank/IDA</u>	<u>IFC</u>	<u>Total</u>
No problems apparent when reviewed	786	59	845
Environmental dimensions handled by others prior to Bank involvement	22	--	22
In-house disposition	263	102	365
Special studies required	<u>95</u>	<u>15</u>	<u>110</u>
Total	<u>1,166</u>	<u>176</u>	<u>1,342</u>

10. In a few cases some other agency, such as UNDP or WHO, had earlier determined the need for environmental safeguards for mitigating measures, and had already taken appropriate action. In about one-quarter of the projects, the environmental problems identified were dealt with by Bank staff. Such in-house disposition frequently consists of joint consideration by OEHA and the project and loan officers as to improvements in project design and/or operation (for example, specifying occupational health and safety measures), to avoid environmental problems and exploit opportunities for improving the environment. Finally, in over one hundred projects environmental problems appeared sufficiently serious to demand special assessment.

#### C. Environmental Assessment of Specific Projects

11. The intensive treatment given to those Bank projects with major environmental ramifications usually begins with an on-site environmental assessment. This may involve a single environmental officer or consultant visiting the project area for a couple of weeks, or a mission encompassing several disciplines spending five man-months in the field plus preparatory and write-up time. At the Bank's urging, ecologists and members of other appropriate disciplines are now being engaged full time by borrowing countries for large projects known to pose serious threats to the environment.

12. Occasionally, such an assessment will reveal the need for further in-depth studies, but usually the assessment report is adequate to establish a productive collaboration between the Borrower and the Bank. Most of these special assessments have resulted in the incorporation of important environmental safeguards in the project design or the loan agreement.

13. The Bank seeks to ensure that environmental aspects are addressed by the Borrower as part of its prefeasibility and feasibility studies. In these cases, Bank staff contribute to the terms of reference of the studies, and review and evaluate the environmental sections of the feasibility report.



Similar activities are carried out for projects co-financed with other agencies. The earlier in the planning process the environmental dimension is addressed, the better: major environmental measures can best be fully integrated into a project during its formulation and design. After appraisal, any major changes are time-consuming and expensive.

#### D. Guidelines and Policy Work

14. In response to requests from Borrowers, a set of general guidelines, Environmental, Health and Human Ecologic Considerations in Economic Development Projects, was issued in 1972, and has been translated into Spanish and French; a third edition is in preparation. This 142-page manual outlines the environmental and health implications of projects in the various sectors, and includes comprehensive sections on environmental health and comparative international standards of environmental quality. For the industrial sector, where pollution is a serious problem, a detailed handbook, Environmental Considerations for the Industrial Development Sector, was field-tested last year, and is now available for distribution. Currently in preparation are guidelines on acceptable pollution standards and on occupational health/safety in different industries. The Bank's general policies on environmental matters are covered in Environment and Development, issued in 1974 and currently being revised.

15. Thorough analysis of environmental questions in sector policy papers can do a great deal to encourage a full consideration of environmental concerns by those formulating policies and designing projects. The Forestry Sector Policy Paper (1978) demonstrates the economic significance of forests and the potentially disastrous effects of their injudicious destruction, and discusses environmental factors pertinent to the design of Bank forestry projects. The Agricultural Land Settlement Issues Paper (1978) stresses the need to protect indigenous populations within new settlement areas, and calls for measures to prevent damage to the environment over the long run, and rational management of nonrenewable resources in the project area. The success or failure of such projects in the long run depends primarily on these environmental essentials.

#### E. National Environmental Policy Planning Assistance

16. Member governments are increasingly requesting environmental assistance from the Bank, mostly on how to incorporate an environmental component into sectoral planning, such as national energy master plans. Requests for assistance in planning environmental policy and legislation, establishing environmental quality criteria and institutions, and designing regional development plans give the Bank an opportunity to affect environmental conditions more broadly than is feasible through projects alone. Within the limits of staff expertise and time, such requests are thus accorded high priority.

17. An example of such assistance followed a request by the Government of Malaysia for assistance in developing a national environmental policy. During the early 1970s, Malaysia had become concerned about the environmental implications of economic expansion based on the settlement of forest lands. The recommendations of the Bank environmental mission that took place in 1975 were incorporated into the Third Malaysia (Five-Year) Plan. These covered environmental education, ecosystem preservation, resource management, national environmental institutions, industrial pollution control technology, environmental monitoring, and environmental impact assessment.

18. Several other countries, alarmed by deterioration of their renewable resource base and by the spiralling costs of maintaining environmental quality, have created high-level environmental policy or advisory units. Most recently, the Government of Indonesia has asked the Bank to assist its State Ministry for the Environment and the Control of Development in environmental policy planning and in the coordination of new environmental initiatives.

#### F. Environmental Projects

19. In 1974, the Executive Directors endorsed Bank lending for environmental projects. The need for these projects often arises because past development decisions have been abusive of the environment. Member governments have been giving increasing priority to afforestation and reforestation, soil conservation, countering desert encroachment, flood control, range management, abatement of air and water pollution, and wild-life protection. Several individual Bank projects, and a much larger number of project components, now address these aspects.<sup>1/</sup> Projects in the

---

<sup>1/</sup> Projects in recent years concerned largely with pollution control include: Tunisia, First Urban Sewerage (1975); Finland, Water Pollution Control (1975); Singapore, Environmental Control (1975); Yugoslavia, Sarajevo Air and Water Pollution (1976); Bahamas, Water Supply and Sewerage (1976); and Brazil, Sao Paulo Industrial Pollution Control (recently appraised). Other "environmental projects" mainly address problems of resource management and conservation, as, for example: Egypt, Upper Egypt Drainage (1973); Kenya, Wildlife and Tourism (1973); Ethiopia, Drought Rehabilitation (1974); Burundi, Fisheries (1976); Indonesia, Jakarta Urban Development (1976); Philippines, Manila Urban Development (1976); Bolivia, Ulla Ulla Development (1978); Niger, Forestry (1978); Brazil, Greater Sao Paulo Sewage Collection and Treatment (1978); India, Bombay Water Development and Sewerage (1978); and India, Watershed and Area Development (recently appraised).

forestry and agriculture sectors now pay increasing attention to improved resource management and the need for conservation or rehabilitation of resources. Many of these projects are in poorer countries, where the stresses on the environment are often particularly acute. It can reasonably be expected that proposals for environmental projects, or components, will increase, and that projects designed to manage environmental resources will eventually be accorded the priority they merit as economically sound, long-term investments.

#### G. Liaison with Environmental Organizations

20. The Bank participates in international environmental activities where they serve to promote improved environmental conditions in the developing world. Of the numerous organizations concerned with environmental questions, the United Nations Environment Programme (UNEP) is the most relevant to the Bank's environmental activities. The Bank's cooperative endeavors with UNEP include the Habitat Conference (Vancouver, 1975); the Water Conference (Mar del Plata, 1976); Industrial Pollution Seminars (Paris, 1976, Nairobi, 1977), and the Desertification Conference (Nairobi, 1977). The Bank and UNEP are currently collaborating on various environmental education and training proposals, including a wide range of courses and activities for developing countries proposed for incorporation in the Bank's Economic Development Institute curriculum. Discussions have also been held with UNESCO on environmental education, as well as with ILO, IMCO, UNIDO, UNITAR and other agencies on a wide range of environment-related matters.

21. Human diseases exacerbated by development projects, such as schistosomiasis, receive close attention by the Bank. The most influential, and in the long term perhaps the most important, international activity dealing with environmentally aggravated health issues is the Special Programme for Research and Training in Tropical Diseases, which is a joint effort of WHO, UNDP and the Bank, involving numerous supporting institutions and scientists throughout the world. The Bank has also supported the Onchocerciasis Control Programme in West Africa. Similarly, Bank efforts are under way to promote greater international concern for and research into the diarrheal diseases. Closely associated with poverty and unsatisfactory living conditions, these diseases are the major causes of morbidity and mortality in many member countries.

22. The Bank also provides information and technical advice to many nongovernmental organizations (NGOs), generally within the scope of international activities and cooperation involving other international agencies.

23. The Bank's efforts to integrate developmental and environmental goals have been studied in "Banking on the Biosphere," recently released by the International Institute for Environment and Development (IIED), which compares the Bank's efforts with those of eight other multinational institutions; and a UNEP study, now in progress, of the environment-affecting activities of the United Nations Specialized Agencies, with special emphasis on the Bank.

### III. EVALUATION OF BANK'S ENVIRONMENTAL EXPERIENCE

#### A. Environmental Review

24. The environmental implications of projects obviously differ between sectors. Of the Bank and IFC projects approved in the past six years, most of those in the electric power sector required some modifications on environmental grounds; so did two-thirds of the industrial projects, often in the form of emission and effluent treatment components and occupational health and safety measures, or the furnishing of detailed guidelines, specifications and quality criteria to the Borrower for incorporation in the project. Some significant action was also taken in about one-half of the projects in the agriculture and water/sewage sectors, but in less than one-quarter of transport projects. These sectoral differences relate to the nature of the environmental problems and the remedies required: the need for effluent and emission treatment in industry is readily apparent and a technological solution rather easily achieved. But it is also true that environmental problems and ways of solving them in agricultural projects are sometimes less clear-cut, and the need for action therefore perhaps less immediately recognizable and less readily accepted.

25. The weaknesses inherent in the project-by-project approach are noted in Chapter IV. The Bank's environmental review of the projects it finances now functions satisfactorily except in two respects: assessment of Development Finance Corporation (DFC) loans, and attention to environmental aspects during project supervision and after project completion.

26. The information submitted on most DFC subprojects permits only a superficial consideration of their environmental implications except where these are readily apparent. Few DFCs have established a satisfactory review mechanism. More systematic efforts are needed to ensure DFCs give adequate attention to the environmental aspects of their subprojects, since the pollution produced in medium and small industry, their main clients, is usually higher and problems of occupational safety and health generally more severe, than in large modern plants.

27. Because of their heavy workload the staff engaged in environmental review (including that of OEHA with three environmental officers in addition to the Environmental and Health Adviser) concentrate on projects most likely to cause serious environmental and health problems. But, as the recent IIED study referred to in para. 23 warns, "... this heavy workload inevitably leads to occasional hurried and superficial judgments ..." and some projects probably warrant greater attention than they receive. In particular, environmental review in the preparation stage makes such substantial demands on OEHA that it can give less attention than is desirable to reviewing projects during implementation.

28. Since concern with the environment is relatively new, the theoretical and empirical basis for predicting the environmental effects of development projects is a scanty one. Furthermore, serious environmental problems may often arise only years after completion of a project, or after the project loan has been fully repaid. For these reasons, environmental matters should not only be covered in project completion and performance audit reports, as appropriate, but should also be the subject of special post-audits, to gather experience at a later stage as a way of improving future projects. The efforts recently initiated by the Bank are a useful first step in this direction.

#### B. Environmental Protection Costs

29. When the Bank first began to incorporate environmental protection provisions in its lending operations, some concern was expressed about the cost of such measures and the burden they would impose on developing country borrowers. Experience shows that the cost of environmental protection has on the whole been relatively small, particularly where suitable measures were taken promptly. An earlier Board Paper<sup>1/</sup> reported that the cost of preventive measures regarding environment and health in "nonenvironmental" projects (i.e., exclusive of sewerage projects, afforestation projects and other projects whose primary objective is environmental rehabilitation or control) ranged from zero to three percent of a project's total cost. Subsequent experience has not revealed any appreciable changes.

30. To place environmental control costs in perspective, it must be remembered that the damage resulting from adverse environmental changes can be significant. A relatively small investment in prevention at an early stage is usually far less expensive, as well as more effective, than subsequent remedial actions that are sure to become necessary later. Watershed management, for example, serves to protect hydropower reservoirs from siltation, and helps avoid damaging floods, at a much smaller cost than rehabilita-

---

<sup>1/</sup> Environmental Aspects of Bank Operations, October 25, 1974, R. 74-215.

tion of a deforested, eroded, and denuded watershed. There is a growing awareness in Bank member countries that the cumulative impact of development on environment requires the imposition of tighter standards and controls, even if at somewhat higher initial costs, and that the earlier the controls are introduced the less costly they will be in the long run.

31. The benefits of expenditures on environmental safeguards are often difficult to quantify with any precision, but they are undoubtedly very large, given the relatively moderate standards of control being used in Bank-financed projects. (Even in the United States or Europe, where environmental controls are seen as very stringent, the benefits of environmental control far outweigh the costs, according to studies by the US Council on Environmental Quality.) Benefits derived from these environmental measures include, among others, preservation of important renewable resources as a basis for sustained economic yields, and lower expenditures for both preventive and curative health measures and for maintenance and repair of property damaged by pollutants.

32. An explicit concern for environmental quality accords well with the Bank's policy of focusing assistance on lower income groups. It is the poor who most often bear the brunt of environmental degradation. Typical examples are the endangerment of public health through poor sanitation, water and air pollution, and water-borne diseases; loss of a resource base necessary for subsistence, such as the loss of a fishery resource through contamination by industrial wastes or pesticides; and occupational health hazards resulting from poor working conditions, such as the increased risks of lung disease and cancer in asbestos mining and the production of certain chemicals.

### C. Environmental Policy and Criteria

33. The Bank has not adopted rigid environmental standards, judging that in view of the sensitive nature of environmental issues they are best handled by a pragmatic approach, tailored to local circumstances. It systematically reviews the environmental consequences of a development project and requires that appropriate action be taken to avoid or mitigate major adverse effects. In this endeavor the entire range of environmental issues is addressed, including those of renewable resources and their proper management. To date, it has always been possible to reach agreement on warranted environmental measures with the Borrower or member country.

34. The Bank has, however, been guided by certain basic principles. It will not finance those projects which compromise the public's health and safety significantly, cause severe or irreversible environmental deterioration, or displace people without adequate provisions for resettlement.

Some environmental issues require a regional approach. River basins, watersheds, or even "airsheds," for example, are ecologically delimited areas which may lie astride political boundaries. Projects likely to have a significant effect on the environment in a neighboring country are not approved for financing without the express consent of that country; nor are projects violating any international environmental agreements.

35. Environmental measures found necessary during project review are the subject of an informal cost/benefit analysis, to assess whether the costs to the country of the proposed measures are justified by the expected environmental benefits. However, it is difficult to quantify the environmental impact of a project and any remedial or mitigatory measures to be taken, and their value to the country. Efforts are continuing to develop better methodologies for identifying and evaluating the various expected costs and benefits.

#### D. Staff Training

36. Most Bank staff members now recognize environmental considerations as an essential part of project design, and this is being reflected in an increasing number and variety of projects. However, it cannot be assumed that this "environmental sensitivity" has become universal. Some Bank staff still have little feeling for the "why" and "how" of environmental issues, which are not, after all, within the traditional province of development finance institutions. This is a problem which requires continuing attention. Environmental workshops, short courses and seminars for Bank staff--and indeed for a wide range of staff and officials in the Bank's borrowing countries--would help greatly in this regard. Some efforts are being made but much remains to be done in this area.

#### IV. CONCLUSION: FUTURE ENVIRONMENTAL ROLE OF THE BANK

37. While the Bank's environmental work naturally focuses on projects, environmental considerations must eventually be more closely integrated into broader issues of development policy if they are to be accorded the priority they deserve. Many general policy questions (for example, large projects vs. small; centralized power production vs. decentralized; conservation vs. growth; improving existing lands vs. expanding into marginal tracts; unduly sophisticated technology vs. "appropriate" technology; dependence on exports vs. fostering economic self-reliance; village societies vs. urbanization; industrialization vs. less consumptive lifestyles; nuclear vs. fossil energy) have crucial environmental aspects. Including environmental considerations in national and regional policies governing development, rather than simply at the project level, strengthens both economic and environmental goals.

38. In its project work, the Bank will continue to adapt standards of environmental protection and control to the circumstances of the project and the country, and to incorporate in the project all environmental and health measures found appropriate. It will also continue to lend for "environmental" projects, including ecosystem management to ensure that yields do not deteriorate, air and water pollution control, control of erosion, reforestation, and pest and disease-vector control, among others, since the economic and social returns of such projects can be substantial relative to other projects in a particular country. To be eligible for financing, they must satisfy the Bank's customary project criteria.

39. Through the regular Project Completion Reports/Performance Audits and, in particular, through special studies, the Bank proposes greater efforts to undertake "environmental post-audits" of selected projects and other post-completion and long-term evaluations to determine the accuracy of ecological predictions, the efficacy of prescribed control measures, and the adequacy of supervision over environmental aspects of project implementation. Such feedback is important in improving the quality of the Bank's environmental work, particularly since some environmental problems may not appear for some years after project completion.

40. The Bank's environmental scrutiny of projects proposed for financing, coupled with the costs of any necessary control measures, however modest, have prompted a few borrowers to seek financing from sources considered less demanding in this regard. More important, to the extent that other development finance institutions give less rigorous consideration to the environmental consequences of proposed investments, the Bank's efforts become less effective. The Bank must therefore continue trying to persuade other lending institutions to harmonize their treatment of environmental issues.

41. The Bank will continue to encourage member governments, both developed and developing, to consider whether development programs may have adverse environmental effects, to carry out further analyses where these effects seem likely to be severe, and to ensure that project planning and execution take due account of the results of such analyses. Along with UNEP, the Bank will continue to work actively with developing countries on a wide range of environmental matters, such as legislation, institution-strengthening, standards and criteria and their enforcement. To facilitate a common approach, the Bank and UNEP are considering seminars and training sessions for their environmental staffs.

42. The Bank's efforts to promote national environmental programs and the identification of environmental projects should, if possible, be expanded, especially in countries whose environment and renewable resources have



deteriorated to the extent that remedial action is urgently required. Preparation of "country environmental profiles" may be useful in such cases to help identify high-priority environmental projects. Advice on promulgation and implementation of legislation and regulations establishing appropriate safeguards for the environment is also helpful in many cases. More generally, the Bank can underscore the significance of the environment to sustained development in its country economic and sector reports and, on a selective basis, single out environmental problems for special study. Environmental aspects of development should become a regular part of the EDI curriculum, and the Bank's environmental guidelines and handbooks, more and more in demand by governments, international groups and organizations concerned with economic development, should be expanded in scope and number.

43. The Bank's record in trying to accommodate the environmental implications of its economic development activities is, in general, good and improving. The recent IIED study quoted earlier concluded that "The Bank has the most advanced environmental policy and practices of any aid organization included in this study and undoubtedly exerts intellectual leadership on environmental matters in the whole international development community." But even if this is true, the sad fact remains that the Bank cannot claim that its efforts have appreciably slowed, let alone halted, the process of environmental deterioration and destruction of important life-support systems in any of its member countries. A broader commitment to environmental considerations is needed by all concerned, and the Bank should continue its efforts to bring about such a commitment.

Office of the Vice President, Projects Staff  
October 6, 1978



CENTER FOR INTERNATIONAL ENVIRONMENT INFORMATION

300 EAST 42nd STREET NEW YORK, NEW YORK 10017 CABLE ADDRESS: UNASAMER. (212) 697-3232

- Advisory Committee Chairman GEORGE P. LUTJEN Fisher Newsletter Center in. Crow-Hill Publications Co. CHAPLIN B. BARNES Director of International Activities Audubon Society PAUL J. BEAULIEU Director International Programs Branch Environment Canada JOHN CHANCELLOR NBC News SIDNEY R. GALLER Deputy Assistant Secretary for Environmental Affairs U.S. Department of Commerce WALTER A. HAMILTON Vice President The Conference Board PEGGY HEPPES Administrator Canadian Nature Federation JAMES G. KOLLEGER President Environment Information Center, Inc. W. C. KRUMREI Director Procter & Gamble Company DR. MICHEL MALDAGUE Director, Environmental Programs Université Laval W. E. PATTE Vice President Abitibi-Price Sales Corporation PATRICIA SCHARLIN Director of Sierra Club International Earthcare Center WILLIAM SHAIN Vice President Atlantic Richfield Company JACK RAYMOND President Jack Raymond and Company ARTHUR REEF Vice President AMAX INC. MARTHA STUART President Martha Stuart Productions MAURICE F. STRONG Chairman Petro-Canada

Executive Director DR. WHITMAN BASSOW Editor-in-Chief ALBERT WALL

The Center for International Environment Information was established by the United Nations Association of the USA with the support of the United Nations Environment Programme.

10 October 1978

Mr. Jean M.H. Tixhon Office of Environmental and Health Affairs The World Bank 1818 H Street, N.W. Washington, D.C. 20433

Dear Mr. Tixhon:

Thank you for your letter and a copy of "Environmental Considerations for the Industrial Development Sector."

It seems to me that the book will be very useful in developing countries where technical information is difficult to come by, especially in a compact form like this.

As you know, World Environment Report is carrying a brief notice on the book, together with information on where it can be obtained. I would be interested in knowing whether you get any requests for the book from developing countries where we have subscribers.

I shall be in touch with you about this.

With best wishes.

Sincerely, Whitman Bassow Whitman Bassow, Ph.D. Executive Director

WB/nc



S. Environment

# The Wellcome Research Laboratories

The Wellcome Foundation Ltd

Langley Court  
Beckenham  
Kent BR3 3BS  
telephone 01-658 2211 ✓



Wellcome

telegrams and cables  
WELLAB BECKENHAM  
telex  
WELLAB  
BECKENHM 23937

*File*

AJB/AS

9th October 1978

Dr. J.A. Lee,  
Director, Office of Environmental and Health Affairs,  
The World Bank,  
1818 H Street, N.W.,  
Washington, D.C. 20433, U.S.A.

Dear Dr. Lee,

Your letter of September 22nd has been passed to me by Dr. Vane for reply since I am in charge of this area of our research at Wellcome.

I would very much value a discussion with you either in New York or London. I am going to a meeting organised by the Bureau of Biologics at Lake Placid from Monday 23rd October to Wednesday 25th inclusive and then going on to a meeting organised by the National Institutes of Health on Pertussis on 31st October to 3rd November. I could see you in New York on the Friday, 3rd November or after the pertussis meeting or during the pertussis meeting.

Please let me know what date would suit you.

Yours sincerely,

Dr. A.J. Beale  
Director, Biological Products.





UNITED NATIONS ENVIRONMENT PROGRAMME  
PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT



Télégrammes : UNITERRA, PARIS

Téléphone : 766.16.40  
227.45.12

Télex : 650273

RÉF. N° : 2839

INDUSTRY AND ENVIRONMENT OFFICE  
DEPARTEMENT INDUSTRIE ET ENVIRONNEMENT

17, rue Marguerite  
75017 PARIS - France

October 6, 1978

Dear Jean,

Subject : Workshop on the Environmental Aspects of the Chemical Industry

I regret to have to inform you that our Workshop on the Environmental Aspects of the Chemical Industry, scheduled to be held on December 5 to 8, 1978, in Geneva has now been postponed to May 22-25, 1979, Geneva.

The reasons for this postponement are :

- Because some important background reports have reached us very belatedly and others are still outstanding, we are late in sending you the Secretariat's report, which should have reached you at the beginning of last month. Actually this document will be sent to you towards the end of this month.
- Because of the magnitude of the Chemical Industry and the wide range of its environmental problems, many of the participants to the Workshop have advised us that, in order to ensure to the fullest extent the success of a meaningful Workshop, we should allow far more time between the reception of the Secretariat's report and the Workshop itself. This will enable us to solicit written comments on the report and, from them, refine, for consideration by the Workshop, the major cluster areas which, on the basis of appropriate ad hoc papers prepared by the Secretariat, will be discussed during the Workshop in specific working groups.

./....

Mr. Jean M.H. TIXHON  
Office of Environmental & Health Affairs  
The World Bank  
1818 H Street, N.W.  
WASHINGTON, D.C. 20433

U.S.A.

- The Workshop has aroused such a worldwide interest that the number of participants has grown to a number (i.e. 80) which would not warrant meaningful results unless the main emphasis of the Workshop be focused on a few major cluster areas to be studied in limited working groups.

Taking this advice into consideration, we have decided to proceed as follows :

- Step 1 : Before the end of this month, we will send you (i) the Secretariat's draft overall report; (ii) the summaries of the reports provided by three consultants; (iii) a brief paper outlining five key cluster areas which will be discussed together with the Secretariat's report during the May 22-25, 1979 Workshop.
- Step 2 : We would be most grateful if, before the end of November 1978, you could let us have your comments and suggestions on our paper concerning key cluster areas, possibly also on our draft overall report on the environmental aspects of the chemical industry.
- Step 3 : On December 5-8, 1978 - dates that we had earmarked for the now postponed Workshop - the Secretariat will meet in Geneva with our consultants in order to (i) study your comments (cf. Step 2 above); (ii) prepare, on the basis of your comments, papers on each of the cluster areas; (iii) incorporate into the report your comments on the draft of the Secretariat's overall report.
- Step 4 : During the first half of April 1979 we will send you the Secretariat's papers on the five cluster areas.
- Step 5 : On May 22-25, 1979, we will hold at ILO's Headquarters in Geneva, the Workshop that had originally been planned for December 5-8, 1978. The four days of the Workshop will be distributed as follows : (i) first day : plenary to discuss the Secretariat's report; (ii) second and third days : five working groups will discuss the Secretariat's paper (for each of the five cluster areas); (iv) fourth day : plenary to wind up the results of the first three days and single out such specific issues as should be subsequently studied over a span of one to two years through specific task forces with ad hoc experts.

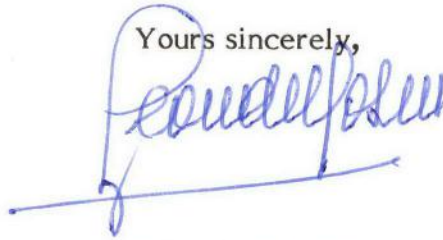
./....

3.

I do hope that this change in our programme, which the majority of participants have inspired, will not inconvenience you. Let me, nevertheless, apologize, and I earnestly hope that you will be able to confirm your attendance on May 22-25, 1979.

With kindest regards and best wishes,

Yours sincerely,



Léon de ROSEN  
Director, Industry & Environment Office



October 6, 1978

Mr. Leon de Rosen  
Director, Industry & Environment Office  
UN Environment Programme  
17, rue Margueritte  
75017, Paris  
France

Dear Mr. de Rosen:

Thank you for your letter of September 12, 1978, to Dr. James A. Lee, enclosing the World Bank chapter of your document entitled "Draft Section of GC7 Programme Document on Agency Activities" and other related documents. This chapter is intended to summarize "industry and environment" activities of the World Bank since the Stockholm Conference, as well as provide a summary of future work plans in this area. Specifically, you request that we assist you in confirming the accuracy of the information contained in this chapter.

We would, then, offer the following observations:

(1) The third sentence of the first paragraph, entitled "Introduction", is inaccurate. We suggest it be changed to read as follows:

"The cost of environmental considerations in World Bank projects may range from nearly zero to nearly 100 percent of the total cost of the project, depending on the nature of the project. Examples of the former may be found among some education, telecommunications and/or watershed management projects; examples of the latter may be found among some forestry, sewage treatment and/or remedial pollution control projects. Insofar as the "additional cost" of environmental safeguards which are incorporated into some Bank projects as appropriate, Bank experience suggests that it revolves around 3% of the total cost of the project (see Environment and Development, World Bank, 1975)."

(2) The last sentence of the same introductory paragraph is, likewise, incorrect. We suggest it be changed to read as follows:

"The Bank incorporates training components into its projects as appropriate."

(3) We suggest you add the following statement to your last paragraph under the section entitled "Up to GC 6":

"In August, 1978, the World Bank published "Environmental Considerations for the Industrial Development Sector". The main purpose of this document is to furnish general guidelines and criteria for the design and implementation of industrial development projects."

Current World Bank environmental activities are not strictly comparable with that of other UN programmes and/or agencies. Therefore, the "future work plans" of these activities along with their "budgetary implications" do not lend themselves for a programmatic analysis beyond the sphere of the Bank's specific development lending operations.


I hope this information may be of help to you.

With best regards,

Cordially,

Hernan Reitze  
Office of Environmental  
& Health Affairs

cc. Dr. Lee, OEHA  
Mr. Overby OEHA  
Mr. Tixhon OEHA  
Mr. Goddland, OEHA

HR:mfb

October 5, 1978

Baron Leon de Rosen  
Director, Industry & Environment Office  
United Nations Environment Programme  
17 rue Margueritte  
75017 Paris, France

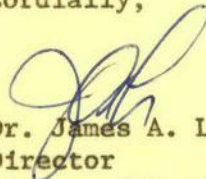
Dear Baron de Rosen:

Thank you for your letter of September 26, and for your kind remarks about my paper presented several years ago to the CEI.

Mr. Tixhon is at present out of the country but will return shortly. I have requested him to respond to the several points made in your letter.

With kind regards,

Cordially,



Dr. James A. Lee  
Director  
Office of Environmental and  
Health Affairs

cc: Mr. J. Tixhon - with incoming

JAL:on

THE INTERNATIONAL CENTRE OF  
INSECT PHYSIOLOGY AND ECOLOGY  
P.O.BOX 30772, NAIROBI, KENYA

PROGRAMME AND BUDGET FOR  
1979, AND FORECASTS FOR 1980 - 1982

BASIC PAPER FOR THE INTER-AGENCY MEETING ON THE LONG-TERM DEVELOPMENT  
AND SUPPORT OF THE ICIPE, TO BE HELD ON 9TH NOVEMBER 1978 AT THE WORLD  
BANK, IN WASHINGTON, D.C.

LIST OF CONTENTS

		<u>Paragraphs</u>
I.	ORIGINS AND MANDATE OF THE ICIPE	1 - 16
II.	OBJECTIVES AND MISSION	17 - 18
III.	PROGRESS IN 1977/78	19 - 22
IV.	RESEARCH AND TRAINING ACTIVITIES	23 - 27
V.	THE 1979 BUDGET	28 - 35
VI.	THE 1979 RESEARCH PROGRAMMES	36 - 44
	1. Bases of Plant Resistance to Insect Attack	
	2. Experimental Bases for Insect Mass-Rearing and Screening for Resistance	
	3. Sorghum Shootfly	
	4. Borers	
	5. Tsetse	
	6. Livestock Ticks	
	7. Medical Vectors	
	8. Grassland Termites	
	9. African Armyworm	
VII.	THE 1979 RESEARCH UNITS	45 - 48
	1. Chemistry and Biochemistry	
	2. Histology and Fine Structure	
	3. Sensory Physiology	
	4. Bioassay	
VIII.	RESEARCH AND TECHNICAL SUPPORT SERVICES	49 - 56
	1. Insect and Animal Breeding	
	2. Mbita Point Field Station	
	3. Coastal Field Station	
	4. Kajiado Field Station	
	5. Outreach Management	
	6. Workshops	
	7. Laboratory Management	
	8. Library and Documentation	

Paragraphs

IX.	TRAINING AND COMMUNICATION ACTIVITIES	57 - 59
	1. Training Programmes	
	2. Communication and Information	
	3. Conferences and Study Workshops	
X.	MANAGEMENT AND ADMINISTRATION	60 - 64
	1. Board and Committees	
	2. Office of the Director	
	3. Financial and Accounting Services	
	4. Supplies and Stores	
	5. Personnel and Office Management	
XI.	GENERAL OPERATIONS	65 - 67
	1. Estates and Maintenance Services	
	2. Transport Unit	
	3. Utilities	
XII.	CAPITAL DEVELOPMENT PROGRAMME AND BUDGET	68 - 71
XIII.	GOVERNING BOARD	
XIV.	BUDGET TABLES	

## I. ORIGINS AND MANDATE OF THE ICIPE

### Origins

1. In December 1968, four senior scientists and two science administrators met with Professor Thomas R. Odhiambo of the University of Nairobi, Kenya at the offices of the American Academy of Arts and Sciences, in Boston, USA, to consider whether there was a need for the establishment of an international research institute for tropical insect science and, if so, where. The meeting was the result of an article in an international science journal, Science, which had appeared in November a year before, and in which Professor Odhiambo had advocated the establishment of a few concentrated research centres in the less developed countries (LDCs) as a means for building up their intellectual capital as well as solving their long-term science-based problems. The article was seen by Dr. Carl Djerassi, Professor of Chemistry at Stanford University, USA, who had suggested to the 1967 Pugwash Conference a model for postgraduate training in specialised scientific fields in the LDCs arising from his own experiences in building up postgraduate schools of chemistry in Mexico and Brazil by using young American postdoctoral scientists as a nucleus for these embryonic schools. Correspondence between Professors Odhiambo and Djerassi ensued, and later led to the convening of the Boston meeting.
2. The Boston meeting accepted the principle that an advanced research centre dealing with tropical insect problems should be established in Kenya; and recommended that an international planning conference be convened as soon as possible to work out a detailed programme of the institute's work and governance. The planning conference met in Nairobi in October 1969; and brought together over 80 distinguished scientists, science policy makers, research administrators, and public officials from Africa, Europe, North America, and Australia, for a week of intensive discussions and field visits. The conference endorsed the idea of establishing "The International Centre of Insect Physiology and Ecology" (ICIPE) in Nairobi, appointed an organising committee, and laid down a number of principles to guide the committee in elaborating the detailed plans for the institute and execution of the policy decisions reached by the conference as a whole.
3. Under the Chairmanship of Professor Odhiambo, the organizing committee met for the final time in January 1970 at Wageningen, in the Netherlands. The detailed design of the ICIPE as a research and training institution, its legal status, its organizational arrangements, and a schedule for effecting its establishment was agreed upon. On 7th April 1970, the ICIPE was registered under Kenya laws as a company limited by guarantee and having no share capital.

4. Parallel with these efforts were negotiations with the Government of Kenya and the University of Nairobi: the first because of the need to obtain certain privileges to facilitate the work of the ICIPE (including the provision of land, exemption from income tax and customs duties, and the provision of work permits for international staff); the second to enable the Centre to have a close working relationship in the sphere of advanced training, in which field the ICIPE was committed from the very beginning. The Agreement with the Government of Kenya was signed on 6th October 1971, and that with the University of Nairobi on 12th October 1971.
5. Similar efforts to reach an understanding with the East African Community were initiated in 1971. And, in spite of the serious internal problems that were already racking this semi-federal set-up, an understanding regarding collaborative efforts between the ICIPE and the applied research institutes of the Community was reached informally in 1972. A practical demonstration of this spirit is exemplified by the close working relationships which exist between the ICIPE and the Tropical Pesticides Research Institute (TPRI), in Arusha, Tanzania, the former East African Virus Research Institute (EAVRI), at Entebbe, Uganda, the former East African Trypanosomiasis Research Organization (EATRO), at Tororo, Uganda, and the former East African Agriculture and Forestry Research Organization (EAAFRO), at Muguga, Kenya. It is also illustrated by the Memorandum of Understanding which was concluded between the ICIPE and the former East African Veterinary Research Organization (EAVRO), at Muguga, in May 1974 in regard to research on East Coast Fever (ECF) and its tick vector. The rapid manner in which these various understandings were reached in East Africa testified to the major concern these countries felt regarding pest problems and the appropriate high-level training and research expertise required to meet the challenge.

#### Purpose

6. At the time the ICIPE was being planned, thoughtful insect scientists and senior planners were becoming disillusioned by the fact that pesticides seemed to be the main - and, in some case, the sole - prop for pest control, while there was a gathering storm against the large-scale use of pesticides because of environmental pollution, the rise in numbers of insect and tick species which had acquired resistance to a variety of pesticides, and the killing-off of beneficial parasites and predators. This was also the time in which ideas about "third-generation" insecticides - in which the insect's own hormones and other active physiological agents were being tested as a means of inducing insect pests to commit insecticide - were then becoming fashionable. It was also the time during which suggestions regarding "integrated pest control" were commanding more serious attention. Added to the fact that it was intentionally being established in a tropical developing country, the birth of the ICIPE at this particular time was therefore a most opportune enterprise.



7. The ICIPE set itself a double mission. Firstly, it set itself to undertake high quality research in several critical aspects of insect life which would lead to the design of novel methods for the control of major pests in a long-range, selective manner within an acceptable ecological framework. Secondly, it set itself the task of carrying out high-level technical and scientific training of young, gifted scientists and senior technicians from Africa and other developing countries in the field of insect science and related areas. It was the vision of the ICIPE founders that such research training in a development-oriented field of international concern would foster the growth of a young scientific community in Africa and other developing countries within an appropriate intellectual framework.
  
8. A principal driving force behind the genesis of the ICIPE was to bring together within a single intellectual environment a multiplicity of disciplines, many of which were not at that time associated with traditional entomological research, in an attempt to solve major pest management problems without the already known drawbacks of classical approaches to insect control. An essential step in the establishment of the ICIPE consequently was to ensure that, at an early stage, experienced scientists in diverse disciplines were offered appointments at the ICIPE - in ecology, population dynamics, genetics, sensory physiology, endocrinology, fine structure, natural products chemistry, biochemistry, insect behaviour, insect development and reproduction, and several others - all targetting their skills onto a few carefully selected, major pest species. The majority of these disciplines are not flourishing in the developing world; it was therefore essential to ensure that the ICIPE was plugged into a network of advanced laboratories in these disciplines. The ICIPE invented a mechanism to give this assurance - the appointment of Visiting Directors of Research (VDRs). These are leading world scientists in their own disciplines, who are appointed for honorary three-year periods, and visit the ICIPE frequently to help the Director in guiding the work of the research staff and offering, at the same time, their own laboratories as a watering place for the eager ICIPE scientists.

#### International Cooperation

9. A great resource of the ICIPE, one that is unique among institutions of its kind, is the commitment on the international scientific community to its success. This commitment is expressed in the formation since early 1970 of a consortium of some of the leading academies of science in nearly 20 countries to the continuing support of the ICIPE. It plays an advisory role to the ICIPE Governing Board on scientific matters; and since 1974, the consortium agreed to appoint every so often (3 years so far) an independent visiting group to review ICIPE's programmes of research and training, and to monitor the institute's quality of work. The first such visiting group issued its report in May 1975. The second visiting group will be reporting shortly. This consortium worked as the International Committee for the ICIPE until December 1976. Since January 1977, the relationship with the ICIPE has been more clearly formalised, and a new body - The ICIPE Foundation-

has been established in Stockholm under Swedish Law. It has its small secretariat in the Royal Swedish Academy of Sciences, and it is basically continuing the work of the previously informal International Committee; but it has no direct financial role to play.

10. Because of its preponderant goal in increasing world agricultural production and better human health through the control of major pests and disease vectors and its commitment to the training of young scientists and technologists who would perpetuate these activities, the ICIPE's objectives are necessarily complementary to those of existing international agricultural research centres, the vector control organizations (national, regional, and international), and other applied research institutions in the LDCs.

#### Evolution of Mandate

11. At the very beginning, the ICIPE had not only an educational aim, it also had a primary interest in the pursuit of fundamental research in insect biology and related disciplines, in the discovery of new knowledge that might lead to the design of novel methods of pest management, and in the encouragement and development of a young African scientific community. To many people in authority either as science policy-makers or as development experts, this approach to science-based problems in the tropical world seemed far too removed from practical realities of the human condition in the LDCs. The argument was that the ICIPE (or any similar organization) should devote itself to the application of existing knowledge to the solution of pest problems afflicting Africa and other LDCs.
12. The ICIPE recognizes that there are important applied problems in the pest management of food crops, the pests and vectors of livestock diseases, and the vectors of human tropical diseases. But it also recognizes that in several crucial cases these applied problems cannot be satisfactorily approached without further basic knowledge. Indeed, the target pest species that the ICIPE has chosen for its priority attack are all pests that have already received considerable national, regional, and international attention - tsetse flies, livestock ticks, sorghum shootfly, cereal stem-borers, African armyworm, grassland termites, and vectors of malaria, filariasis, and leishmaniasis. Many of these have been the subject of practical eradication programmes on an extensive scale over the last several decades. If there were simple, direct methods for the control of these important pests they would have been found in that time and put into operation.
13. The approach the ICIPE has adopted is one of open strategy. For each target insect, the ICIPE is exploring several lines of study which hold promise as novel avenues for pest management. While not eschewing short-term strategies for pest control, it has not felt it compelling to devote its best endeavours to fire-fighting efforts in order to stem the tide of flushes of pest outbreaks. Its mandate is to find new knowledge that will lead us to long-range and environmentally-acceptable pest management techniques.
14. As a result of the approaches the ICIPE made to the CGIAR and its Technical Advisory Committee (TAC) from August 1974, the Director of the ICIPE has concluded and signed memoranda of agreement with

IITA (June 1976), IRRI (July 1976), and ICRISAT (December 1976). These agreements enable the ICIPE to carry out specific research, on an agreed budget, requested by the partner institutes. All the three projects have been initiated, although they require to be deepened considerably from 1979 onwards.

15. The ICIPE has held wide-ranging discussions with the WHO and its advisors in connection with its Special Programme on Tropical Diseases Research and Training (TDR). The consensus of opinion is that the ICIPE could provide vital inputs to the programme if it were to direct its attention to aspects of vector biology and epidemiology, particularly in regard to human trypanosomiasis, malaria, filariasis, and leishmaniasis. Cooperative programmes and mechanisms for collaboration are still being worked out.

#### Research Training

16. At the beginning, the training programmes of the ICIPE were closely linked with those of the University of Nairobi, the Kenya Polytechnic, and similar institutions in East Africa. One of the important advisory organs that the ICIPE established at its inception was an African Committee to advise the Governing Board on, amongst other things, the training activities of the ICIPE. The Committee has always taken this objective seriously and, as ICIPE's success on training became more obvious, it has strongly advised a more solid base for training. A recent outcome of this advice is the signing in March 1978 of an Agreement between the ICIPE and the University of Ibadan under which young graduate and postdoctoral Nigerian scientists should receive advanced research training at the ICIPE Research Centre in those areas in which the ICIPE is competent. It may well be that this new Agreement will be the forerunner of similar arrangements with other training institutions in Africa and perhaps other LDCs.

## II. OBJECTIVES AND MISSION

17. The objectives of the ICIPE are simply stated:

To promote and carry on advanced research into insect science, including fundamental questions in insect physiology, endocrinology, genetics, biochemistry, natural products chemistry, biophysics, ecology, epidemiology, and other related disciplines, in those areas that promise breakthroughs important for designing new pest management systems or the beneficial use of insects

To provide advanced training in research methodology and application for promising graduate and postdoctoral research fellows interested in development-oriented research

To provide an international forum for the discussion and exchange of knowledge among scientists through seminars, study workshops, symposia, and conferences on the results of the most recent research relating to insect science and technology

To foster and promote - by its activities, by its relations with university and research institutions, and by its close association with the foremost academies of science - the growth of the scientific community in the developing tropical countries, especially in Africa.

18. The ICIPE is presently focussing its attention on insect pests and vectors; but it also realises that there are important questions to be asked on the uses to which insect can be put. This will constitute a programme at a later phase in the development of the ICIPE.

### III. PROGRESS IN 1977/78

#### 19. The ICIPE scientists working on crop pests

Have discovered that the resistance of certain rice cultivars to the rice brown planthopper (BPH) is due primarily to factors that affect feeding, utilization of food, and egg hatching. In this respect, they have found a strong specificity between certain biotypes of BPH and certain amino acids found differentially in the various rice cultivars. Among other uses of this discovery will be the development of a methodology for the identification of the various BPH biotypes, which differ in their resistance potential to various rice cultivars

Have developed a simple but effective method for monitoring the colonization of rice fields with BPH, using a yellow pan oil-water trap (YPT). Using such a method, it has been shown that the cultural concept of a trap crop for controlling heavy BPH trans-migration and infestation is feasible by planting small plots of rice three weeks before the main planting season.

Have found that the sorghum shootfly (Artherigona soccata) population appears in three phases over the sorghum crop: I, invasion phase, during August and early September; II population build-up phase (during September and October); and III, phase of rain-induced synchronous emergence of adults (following the onset of rain after the dry season). It was confirmed that A. soccata larvae survived dry periods in a quiescent stage, with reduced respiration rates; such quiescence was easily terminated by providing moisture. The significance of this observation is that this phenomenon may well be found in several tropical crop pest species, which have to adopt mechanisms for overcoming dry seasons

Have revealed that a variety of sorghum developed in East Africa some years ago, 'Serena', received significantly less number of shootfly eggs as compared to a susceptible Indian hybrid variety, CSH-1. This was also reflected in the larger number of 'dead-hearts' in the case of CSH-1. All preliminary indications point to non-preference for oviposition as a mechanism for resistance (to sorghum shootfly) in Serena

Have confirmed, by a study of the bio-genetics of enzymes of the African armyworm populations from widely separated localities in North to Southern Africa, that armyworm moth populations are highly mobile, and that there are no sharply defined and divergent local populations. The implications of this finding is that armyworm control has to be developed along a regional or international basis

Have clearly established that the termite, Macrotermes subhyalinus, under semi-arid savannah areas - which are

a main rangeland region for livestock production - after a careful and systematic study of foraging activities over several seasons, the termite harvest as much forage as all livestock and game animals in the same area put together. The implication of this surprising finding is that termites are effective competitors with vertebrate animals for pastures

Have developed a novel method for the laboratory breeding of Macrotermes termites: winged adults (of either sex) are given eggs or larvae from any colony source, and it has been found pairs of foster parents do much better than single parents, and it is even more convenient if the parents are both either male or female (and they do better than male-female pairs). These incipient colonies are a source of experimental material, and are being utilised in studies on caste differentiation

Have worked out a complete developmental sequence of castes in a higher termite (macrotermes) for the first time, and a start is now being made on a study of the endocrinological basis for this differentiation

Have found that food taste is an important component as a stimulus for recruitment of termites to food-oriented trails, and that the termite foraging effort is proportional to the quantity of food available. This finding is part of ICIPE's study of the chemical communication profile of termites, as an approach to novel control possibilities.

20. The ICIPE scientists working on vectors of livestock diseases

Have succeeded in culturing infective trypanosomes (T.brucei) in an artificial medium; the trypanosomes originated from tsetse mid-gut, and although they had morphological and biochemical features of traditional non-infective forms, they proved infective to mammals for a period of at least nine weeks. The importance of culturing infective trypanosome from the insect vectors is of great importance for attempts to reach an immunological method for the prevention of trypanosomiasis. These studies are continuing with vigour

Have found good evidence for a biochemical factor in the mid-gut of tsetse which has had several bloodmeals which make trypanosomes stick together in a rosette-form and eventually leads to parasite mortality

Have discovered an ovulation stimulation hormone (OSH) in an insect for the first time. OSH initiates the release of a mature oocyte in a tsetse female soon after it has mated

- . Have confirmed, through a number of lines of investigation, that the tsetse Glossina pallidipes occurs in distinct, semi-isolated populations corresponding to certain eco-geographical areas
  - . Have shown that petrol-ether and benzene-methanol extracts of molasses (or gordura) grass (Melinis minutiflora) have repellency to ticks. The analytical work is continuing
  - . Have found that tick nymphs possess a moulting hormone-like substance, which shows moulting activity on test insects.
21. The ICIPE scientists working on vectors of tropical diseases
- . Have initiated a research project on a study of the vectors of malaria and bancrofti filariasis, mainly on population ecology
  - . Have started a preliminary survey of the diseases of pre-adult mosquitoes, as a prelude to more detailed investigations.
22. Research training activities were intensified during the year; two events are particularly significant in this respect:
- . The ICIPE concluded an Agreement with the University of Ibadan, in Nigeria which, amongst other provisions, facilitates ICIPE programmes in Graduate Research Scholars, Postdoctoral Research Fellowships, and Research Associateships in Nigeria
  - . The second ICIPE/UNEP Group Training Course in Pest and Vector Management System was held in Nairobi during July/August 1978, with professional entomologists from Africa, Latin America, Asia, and Middle East, and was a great success. It is hoped to continue this project as an annual event.

#### IV. RESEARCH AND TRAINING ACTIVITIES

23. Research activities of the ICIPE are budgeted under 9 categories consisting of 7 principal programmes (only two of which have almost reached optimum research staff levels), supported by 4 highly specialised research units, and 6 research and technical support services. The expectations are that all these activities will have reached optimum staff levels by 1982, in step with the provision of adequate levels of physical facilities. These increases are in keeping with the major goal of searching for new knowledge essential for the design of new, long-range ecologically acceptable pest and vector management systems, especially for the vast rural community in the IDCs.
24. The research programmes take up about 62% of the principal staff of the ICIPE; if the research units are also considered, the proportion rises to 76%. The research programmes, all of them chosen because of their critical position in the agricultural production and human health in the tropics, are the following:

- . \*Bases of Plant Resistance to Insect Attack
  - . \*Experimental Bases for Insect Mass-Rearing and  
and Screening for Resistance
  - . \*\*Sorghum Shootfly
  - . \*\*Borers
  - . Tsetse
  - . Livestock Ticks
  - . Medical Vectors
  - . Grassland Termites
  - . African Armyworm
- (\* Will probably be combined into one programme shortly, as they are closely related  
\*\* Similarly, these two may well be combined into one programme shortly).

The 1979 proposals include 4 additional principal man-years, mainly for the crop-oriented programmes (3 man-years). The new establishments are important for increasing the capability of the ICIPE in field ecological investigations.

25. The 4 research units continue to render across-the-programme specialised support:
- . Chemistry and Biochemistry Research Unit
  - . Histology and Fine Structure Research Unit
  - . Sensory Physiology Research Unit
  - . Bioassay Research Unit



The last unit was established in 1977, and has already given vital information to ICIPE's research in pheromones, hormones, and other insect-active substances. All the research units will need an increase in principal staff, and a total of 2.5 man-years have been requested for 1979.

26. There are now 6 research and technical support services at the ICIPE:

- . \*Insect and Animal Breeding
- . \*Field Stations (Mbita Point, Coastal, and Kajiado)
- . \*Outreach Management
- . Workshops
- . Laboratory Management
- . Library and Documentation

(\*Headed by principal staff).

The major increases in expenditure for these services are related to the expansion of the work itself, rather than in principal staff. It is expected that, once the physical facilities at the ICIPE (Headquarters and field stations) are expanded, there will be a concomitant increase in staff and services.

27. The ICIPE puts very high premium on training (see para. 7 above). For 1979, the budget proposals contain several fellowship packages to permit a number of appointments of research scholars, postdoctoral fellows, and research associates from IDCs during the year. An additional principal staff is being requested, as it is planned to extend considerably the training activities of the ICIPE to coincide with the expected completion of the International Guest Centre at Duduville in August/ September 1979.

V. THE 1979 BUDGET

28. The ICIPE will require U.S.\$ 5,699,200 for its total operating expenditure in 1979 as compared to the 1978 budgeted expenses amounting to U.S. \$ 4,210,900. This represents a rise in expenditure amounting to \$ 1,488,300 (or 35.3%) when compared to the 1978 budget.
29. The largest part of the increase is accounted for by the increase of 10½ man-years over the 1978 budget, and the supporting staff and services that accompany the increase in man-years. The growth of the research field stations has contributed significantly to the increase in expenditure, as is also the accelerated emphasis on training. In this respect, it is noteworthy that a considerable part of the increase in the 1979 budget is concomitant with the increased manpower needs in the research-and-training activities of the Centre. Likewise, ICIPE's research work extends beyond the headquarters in Nairobi, to the Coastal Field Station at Mombasa, the Mbita Point Field Station on Lake Victoria, and the Kajiado Field Station, some 80 kilometres from Nairobi; and the field aspects of this work adds substantially to the cost of research.
30. Cooperative programmes now exist between the ICIPE and IITA (in Nigeria), ICRISAT (In India), and IRRI (in the Philippines). This reflects ICIPE's international and pan-tropical involvement in key pest problems.

Budgetary increases for 1979 are summarised as follows:

	<u>U.S.\$</u>
(a) Research Activities	926,100
(b) Training and Communications	176,000
(c) Management and Administration	279,400
(d) General Operations and Contingencies	<u>106,800</u>
	Total <u>1,488,300</u>

31. Contingencies A sum of \$ 75,900 has been included in the 1979 operating budget to cater for unforeseen expenses.
32. Provision for Price Changes of commodities has been budgeted at \$ 152,900. Inflation has been persistent for sometime in Kenya, where most of the ICIPE research activities are carried out.
33. Working Capital: The ICIPE has operated without working capital throughout its short existence. However, the present size of the

ICIPE, and hence its financial commitments, require a healthy working capital. The Governing Board has, consequently, approved an estimate of \$ 657,600 for 1979, representing 6 weeks estimated expenditure for the Centre.

34. The Centre's summary of financial requirements for 1979 can be shown therefore as follows:

	<u>U.S.\$</u>
. Operating Expenditure	5,699,200
. Provision for Price Changes	152,900
. Working Capital	<u>657,600</u>
Total	<u><u>6,509,700</u></u>

As there is still a shortfall of grants for the 1978 budget at the time of writing (4th October 1978), budgeted working capital of \$ 485,300 for the year 1978 has not really been effectively put into use, and hence the estimated surplus at the beginning of 1979 to the same extent (i.e. \$ 485,300) is no longer a likely reality.

35. Grants Status: Given the picture above, and the grants already pledged for 1979 amounting to U.S.\$ 2,858,800 (as will be seen on the "Source of Funds" at Budget Table II), the requirements of the Centre amount to \$ 3,651,900, which is the total sum of unidentified grants for the Operating Budget for the year 1979.

36. CORE: BASES OF PLANT RESISTANCE TO INSECT ATTACK

						MAN - YEARS					
(P R I N C I P A L) Research Scientists and above						Scientific Officer Postdoctoral Research Fellow	Technical Staff	Adminis- trative and Support Staff			
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
1½	1½	2	2	2	2	1½	3	3½	6	-	-

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
46.4	174.1	210.8	243.8	291.6	340.6

The budgeted core programme cost for Bases of Plant Resistance for the financial year 1979 amounts to US \$ 210,800 which reflects an increase of \$ 36,700 (or 21.0 per cent) over the 1978 allocation of \$ 174,100.

This is accounted for by the increase of ½ man-years of principal research staff in 1979 over the 1978 financial year. The Postdoctoral Research Fellow will also be in establishment for the entire financial year 1979, while the position is budgeted for only 6 months in 1978. The additional funds are therefore required to finance this increased obligation in the programme. New field vehicles will not be required in 1979.

PROGRAMME COMMENTS

The programme is concerned with a comprehensive study of the planthost/insect relations in specific crops and farming systems as a prelude to an appropriate pest management system. It is also concerned with the identification of factors that cause resistance or tolerance in particular crops to specific pests, as well as a study of the causes and mechanisms for the development of insect biotypes, particularly in situations where resistant cultivars have been incorporated in the agronomic system.

The programme was initiated in 1977/78, in collaboration with IRRI, with a research project on the brown planthopper of rice (BPH), *Nilaparvata lugens*. Once a minor pest of rice, BPH has in recent years attacked lowland rice crops in epidemic proportions from India to Japan and from China to the South Pacific. This pest situation is alarming, as the insect is invading new rice growing areas in Asia. The occurrence of biotypes of BPH with different potentials for resistance to resistant cultivars of rice, as well as their tolerance to insecticides, makes their control even more complicated than originally thought.

Studies have been initiated on trans-migration and colonization of BPH and methods for monitoring BPH populations. This work will be continued in 1979, as well as initiating studies on biotype composition and resistance. A Programme Leader for this work will be recruited in 1979 to enable the ICIPE to plan for the intensification of this programme in subsequent years.

.37. CORE: EXPERIMENTAL BASES FOR INSECT MASS REARING AND SCREENING FOR RESISTANCE

						MAN - YEARS					
(P R I N C I P A L) Research Scientists and above						Scientific Officer Postdoctoral Research Fellow	Technical Staff	Adminis- trative and Support Staff			
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
-	-	-	-	-	-	1	1	1½	4½	-	-

FINANCIAL COMMENTS

U.S. \$ 000's						
Actual	Approved	BUDGET	PROJECTIONS			
1977	1978	1979	1980	1981	1982	
16.9	66.7	82.1	104.5	120.4	141.7	

The budgeted core programme costs for the Experimental Bases for Insect Mass-Rearing and Screening for Resistance amounts to U.S. \$82,100 for the year 1979. In 1978 the cost was budgeted at \$66,700. The 1979 budget reflects a rise of \$15,400 (or 23 per cent over 1978). The major budgetary changes are in technical staff costs which increase from 1½ to 4½ personnel-years. Increased personnel carries with it a likely increase in consultations; and the cost has been built into the budget appropriately. Purchase of new motor vehicles is not anticipated in 1979 for this programme.

PROGRAMME COMMENTS

Adequate techniques for measuring the degree of resistance in the world's germplasm for the various agricultural crops (rice, maize, sorghum, sweet-potatoes, cassava, cowpeas, etc.) presuppose the availability of insect material for the resistance tests. The requirement is for insect material in sufficient quantity to permit a wide-ranging, statistical significant screening programme; the insect material must be competitive with the wild type; and it must be of predictable quality.

There are difficulties in producing this type of material for several important crop pests. e.g. cereal stem-borers (for rice, maize, sorghum, and millet), sorghum shootfly, and the widespread and serious crop pest Heliothis armigera.

The ICIPE has recently launched a project for the experimental pilot production of some of these pests, with appropriate monitoring systems for ensuring that the insects so produced are healthy, are of high quality, and behave in a comparative manner as the wild populations. This project is of importance to several CGIAR centres. A start has been made with the development of a methodology for the mass-rearing of the sorghum shootfly. These attempts will continue in 1979, as well as preliminary investigations on the breeding of the pod-borer, Maruca testulalis.

The relevant studies will be carried out under the supervision of a scientific officer, with the advice of a cross-section of research staff from several crop-oriented programmes.

38. CORE : SORGHUM SHOOTFLY

						MAN - YEARS					
(P R I N C I P A L) Research Scientists and above						Scientific Officer Postdoctoral Research Fellow	Technical Staff	Adminis- trative and Support Staff			
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
1	1½	2½	3	3	3	1½	2	5½	6	-	-

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
67.2	210.2	227.8	313.5	361.3	425.1

The estimated expenditure for the Sorghum Shootfly programme for the year 1979 amounts to U.S.\$ 227,800. This amount is \$ 17,600 (or 8 per cent) higher than the 1978 budgeted expenditure of \$ 210,200. A Senior Research Scientist position has been added to the establishment for the last quarter of the financial year 1979 to strengthen research work in this programme.

PROGRAMME COMMENTS

The sorghum shootfly, *Atherigona soccata*, is considered the most serious pest of sorghum in the Old World. The seriousness of the shootfly has been exacerbated by the recent attempts to introduce new high-yielding varieties of sorghum, which happen also to be susceptible to the fly. The overall ICIPE goal in this programme is to contribute to increasing sorghum production in the tropics by providing basic information for improving shootfly management programmes. Since late 1975, when this research project was initiated, the investigations have been concentrated on studying the seasonal population cycles of the insect, its alternative host plants, and the importance of a dormant stage recently suspected. In 1978, studies on resistance of certain sorghum cultivars was started at Mbita Point Field Station (in collaboration with ICRISAT).

During 1979, it is proposed to continue the study of the factors controlling the development of the fly larvae, the chief pest stage - the manner in which the host physiology, host specificity, and the crop micro-environment regulates larval development (including diapause control of the shootfly reproduction and a study of the fly's reproductive potential in the field; larval movement in the host plant; the alternative host plants and their role in seasonal abundance and survival; and methods of sampling the adult population in a manner in which it reflects accurately the population dynamics of the shootfly in the field. The information garnered from these behavioural, ecological, and physiological research will form a critical base-line from which other studies (e.g. plant resistance studies, and biological control possibilities) can take off satisfactorily.

39. CORE : BORERS

						MAN - YEARS					
(P R I N C I P A L) Research Scientists and above						Scientific Officer Postdoctoral Research Fellow		Technical Staff		Adminis- trative and Support Staff	
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
-	½	1	1	1	1	½	1	1	4	-	-

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
-	116.5	130.6	174.2	202.7	236.2

The budgeted core programme costs for the Borers programme for the financial year 1979 amounts to U.S.\$130,600. This amount is \$14,100 (or 12.1 per cent) higher than the 1978 allocation of \$ 116,500. One Senior Research staff is budgeted for the whole year as compared to the 6 months provision in 1978. The postdoctoral Research Fellow who was also budgeted for in 1978 for 6 months in the programme is provided for a full year in 1979. The technical staff for the programme will increase from 1 personnel-year in 1978 to 4 personnel-years in 1979. An amount of \$ 5,000 is included in the 1979 budget to cover consultation expenses for the increased research activities. Expenditure on equipment has been reduced by \$ 17,500 in 1979 while no purchase of additional motor vehicles for the programme is envisaged in 1979.

The Borers programme is very much in its infancy at the moment. A senior scientist (at Programme Leader level) will be appointed in 1979.

PROGRAMME COMMENTS

Stem-borers are particularly serious pests of graminaceous crops in tropical areas; and apart from the sorghum shootfly and the sorghum midge, stem-borers are the most important insect pests of sorghum in Africa and Asia. These borers include Chilo partellus (in sugarcane, maize, sorghum, rice and millet), Busseola fusca (in maize and sorghum), Sesamia calamistis (in sugarcane, sorghum, maize, and rice), and Maliarpha separatella (in rice).

The grain legumes (cowpeas, pigeon peas, chick peas, etc.) equally seriously suffer from heavy damage by lepidopterous pod-borers, perhaps the most important being Maruca testulalis and Heliothis armigera, which occur over a great deal of the pan-tropical world.

Insecticidal techniques have not been a great success with any of these borers, even with newer methods for application being tested widely (e.g. the placement of encapsulated systemic insecticides, carbofuran and others, near the root zone). Breeding for borer-resistant cereals and grain legumes is being investigated in several CGIAR centres and other agricultural institutes, and methods for biological control are also receiving attention.

The ICIPE has already made a start on the Borer programme (in cooperation with IITA) with a study of seasonality and the occurrence of a larval aestivation-diapause in C. partellus. A more comprehensive programme will now be developed, concentrating mainly on Chilo and Maruca during 1979.

40. CORE : TSETSE

<u>MAN - YEARS</u>											
(P R I N C I P A L) Research Scientists and above						Scientific Officer Postdoctoral Research Fellow	Technical Staff	Adminis- trative and Support Staff			
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
3	5½	6	6	6	6	4½	6	15	16	-	-

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
276.1	500.6	545.7	627.0	722.6	850.0

The Tsetse programme is composed of three clusters of problems - Tsetse Population Diversity, Tsetse Salivary Gland Physiology, and Tsetse Reproductive Physiology. The budgeted cost for the entire programme for the 1979 financial year amounts to U.S. \$ 545,700, an increase of \$ 45,100 (or 9 per cent) above 1978 provision of \$ 500,600. The increase of 9 per cent is mainly explained by the slight increase in man-years. The programme has adequate number of field vehicles and hence no provision has been made for this.

The programme has now a full-time Programme Leader resident at the ICIPE since October 1978, and the effect of this should be seen in better coordination and more effective leadership of the programme activities in 1979.

PROGRAMME COMMENTS

The ICIPE has already laid a strong foundation of the physiology and parasitological relationships of the tsetse flies, especially in uterine reproductive physiology and the development of trypanosomes within the tsetse. However, there is a tremendous amount of basic information still needed in order to suggest several options for trypanosomiasis surveillance and tsetse vector control. These include the following aspects in which the ICIPE is particularly interested in 1979 and the subsequent 3 years:

- The nature of and the factors that regulate the vectorial capacity of tsetse
- Control of reproduction and reproductive behaviour
- Regulatory mechanisms of larval and pupal development, and the nature of the biological errors that can occur
- Development cycle of trypanosomes within the tsetse, and its relationship to the biochemical factors controlling infectivity
- The delineation of boundaries of semi-isolated populations of G.pallidipes and the genetic flow.



41. CORE : LIVESTOCK TICKS

						MAN - YEARS					
(P R I N C I P A L) Research Scientists and above						Scientific Officer Postdoctoral Research Fellow	Technical Staff	Adminis- trative and Support Staff			
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
2	3	3	4	4	4	2	2	7½	11	-	-

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
116.7	250.4	291.2	427.4	481.8	566.8

The budgeted core programme cost for the Livestock Ticks programme in the financial year 1979 amounts to U.S.\$ 291,200 as compared to \$ 250,400 allocated for the financial year 1978. This reflects an increase of \$40,800 (or 16 per cent). The man-years for technical staff increases by 3½ to 11 in 1979, consultation expenses are provided at \$ 6,200 while provision never existed for this item in 1978. The Expendables also reflect an increase of \$ 11,590 over 1978, while there is a reduction of \$ 13,790 in the allocations for equipment and purchase of motor vehicles.

From late 1977, the programme had a Programme Leader resident at the ICIPE; and this has resulted in a significant intensification of the programme, and therefore of budgetary provisions since then.

PROGRAMME COMMENTS

Losses due to ECF are extremely serious in its endemic area in eastern and central Africa; and is regarded as the most serious livestock disease after trypanosomiasis. The ICIPE started its programme on the ECF vector, Rhipicephalus appendiculatus, by making a beginning study on its detailed ecology and physiology, especially in relation to the epidemiology of the disease, tick pheromonal biology, and developmental physiology.

In 1979, and subsequent years, the ICIPE will be concentrating its research effort on the ecology and population dynamics of R. appendiculatus, closely integrated with the epizootiological studies on ECF, both in experimental paddocks and free-grazing land; and the immunological studies of cattle resistant to ticks. These studies will be extended to the habitats of reservoir animals (e.g. the African buffalo); the physiology of pheromone production, and a detailed study of the associated tick behaviour, particularly on aggregation phenomena; and the hormonal factors responsible for tick development.

42. CORE : MEDICAL VECTORS

						MAN - YEARS					
(P R I N C I P A L) Research Scientists and above						Scientific Officer Postdoctoral Research Fellow	Technical Staff	Adminis- trative an Support Staff			
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
3	2½	3	3	3	3	½	2½	2	5½	-	-

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
40.8	153.3	275.6	273.8	281.0	332.8

The 1979 budget proposed for the core programme of the Medical Vectors is \$ 275,600, which reflects an increase of \$ 122,300 (or 79.8 per cent) above the 1978 budget allocation of \$ 153,300. The research activities of this programme have been greatly expanded from a small beginning in 1977. Programme development by the additional staff - a Principal Scientist (as Programme Leader in 1979), a Research Scientist, A Scientific Officer, and one Postdoctoral Fellow - will involve the utilization of more funds in addition to cost of employing them. Expenditure on technical personnel will also increase concomitantly. By the end of the 1979 financial year, the programme will be very close to its optimum size; and any increases thereafter will be minimal (as will be seen from the Projections to 1982) to cater for normal growth. A proportion of the increased expenditure will be applied to finance consultation costs and appropriate increase in supplies and expandables. Most of ICIPE's research on Medical Vectors of tropical diseases is carried out within the vicinity of Mombasa, and the recent allocation of 320 acres of land at Muhaka near Mombasa for the purpose of our research underlines the importance of the programmes, and the need for its expansion of activities.

PROGRAMME COMMENTS

It is expected that in 1979, the ICIPE will continue its major research effort on the following problems:

- Studies on C. fatigans and A. aegypti:  
Distribution and population genetic variability along the East African coast, combining these studies with observations on the dynamics of resistance to insecticides and the latter's spatial distributions; population dynamics of the species in relation to man and human activities (including villaginisisation and urbanisation), and in relation to seasonal trends; the distribution and kind of breeding sites, types of larval habitats in relation to human activities; and the transmission of filariasis, and its quantitative aspects.
- Mosquito vectors of malaria;  
Detailed study of the population dynamics of Anopheles gambiae, in all its stages the factors constituting its population regulatory mechanisms, and in relation to insect/man contact: the resting behaviour of the adults; and the effect of man-made activities on population trends.
- Preliminary studies on the vectors of leishmaniasis in Kenya, in relation to its epidemiology in endemic areas.

43. CORE : GRASSLAND TERMITES

<u>MAN - YEARS</u>											
(P R I N C I P A L) Research Scientists and above						Scientific Officer Postdoctoral Research Fellow	Technical Staff	Adminis- trative and Support Staff			
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
4	5½	6	6	6	6	1	2	3½	12	-	-

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
163.3	232.1	378.2	418.0	480.0	566.8

The budgeted core programme cost for the Grassland Termites Research for the financial year 1979 amounts to U.S.\$ 378,200 as compared to the 1978 allocation of \$ 232,100. This amount is \$ 146,100 above the 1978 budget. The programme has operated for sometime without the required number of technicians. The need for adequate technical personnel has been felt by the research scientists and a provision is made in 1979 for 12 technical staff. The research staff include two Senior Scientists paid for by CNRS and STCA in 1978. The 1979 budget in this respect has taken into account the need for the senior research scientists and full financial provision has been made in the budget.

The programme carries its research at the Kajiado Field Station and at Nairobi. A Scientific Officer has been added to the programme to work at Kajiado in 1979 and the cost has been fully budgeted for.

PROGRAMME COMMENTS

The major objectives of this programme, which are all long-term, and were initiated on the higher termites with complex social behaviour, are:

- To investigate the role of termites in semi-arid savannah areas, with special referenceto their competitive role with game and livestock for forage, and their contribution to soil development
- To explore the uses of termites for human welfare
- To investigate the mechanisms of chemical communication among termites, and its role in the coordination and control of social and mound activities, which are crucial to their survival
- To understand the physiology of caste differentiation among the higher termites, with special reference to possible involvement of the endocrine and exocrine systems.

These two latter themes might well provide a physiological basis upon which safer and more permanent schemes for manipulating termite colonies could be formulated and tested.

This is a mature programme, with a solid basis for its experimental and observational work.

44. CORE : AFRICAN ARMYWORM

						MAN - YEARS					
(P R I N C I P A L) Research Scientists and above						Scientific Officer Postdoctoral Research Fellow		Technical Staff		Adminis- trative and Support Staff	
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
-	2	2	2	2	2	1	1	8½	9	-	-

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
100.5	145.7	159.5	179.0	241.0	286.0

The 1979 budget proposed for the African Armyworm programme totals U.S.\$ 159,500 which is more than the 1978 allocation by \$ 13,800 (or 9 per cent). There is an increase of one technician, otherwise the personnel for the programme will remain the same as for 1978. No expansion of the research activities is envisaged for the year 1979.

PROGRAMME COMMENTS

This programme's principal objectives are: to identify the sources of armyworm moths, to investigate the conditions that favour caterpillar outbreaks developing in places in which moths settle, and to add to the basic knowledge required to give better accuracy to a regional forecasting and monitoring system.

In 1979, the programme scientists will focus its attention in three key areas:

- Studies on the behaviour of gregarious and solitary-phase caterpillars in the field; investigations of phenology of field armyworm populations; and surveys of low-density populations
- Investigations of the survival of armyworm during adverse seasons or periods, including the nature of aestivation-diapause of pupae
- Methodology for aging of moths, as a means for studying moth migration and settling.

45. CORE : CHEMISTRY AND BIOCHEMISTRY

						MAN - YEARS					
(P R I N C I P A L) Research Scientists and above						Scientific Officer Postdoctoral Research Fellow	Technical Staff	Adminis- trative and Support Staff			
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
1	1½	2	2	2	2	1	1	2½	3	-	-

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET		PROJECTIONS	
1977	1978	1979	1980	1981	1982
80.9	146.6	208.8	243.7	283.0	339.6

The 1979 proposed budget for the Chemistry and Biochemistry Research Unit amounts to U.S.\$ 208,800 which reflects an increase of \$ 62,200 (or 42.4 per cent) above the 1978 allocation. Two Research Scientists, one Postdoctoral Research Fellow, and one technician will be in employment for the whole of 1979. In the same year, it is proposed to buy a Nuclear Magnetic Resonance Spectrometer at a cost of \$ 55,000 to facilitate the work of the Research Unit. Other aspects of the budget continue at almost the same level as for the 1978 financial year.

PROGRAMME COMMENTS

The chief mandate of the CBRU is to collaborate with the biologically-oriented research groups at the ICIPE to solve chemical and biochemical problems, by bringing to bear advanced physico-chemical methods, isolation techniques, purification methods, techniques for chemical structural elucidation, and biosynthetic studies to characterize the natural regulators of insect life, active principles, and other natural products (e.g. feeding attractants, trail and sex pheromones, defensive secretions, and hormones). The Unit has already done some extremely good work on armyworm antifeedants and termite pheromones.

In 1979, investigations will continue on the following projects: the elucidation of the developmental hormones in ticks, the analysis of plant constituents which either influence insect development or insect behaviour (e.g. antifeedants, repellents, and aggregation behaviour), analysis of attractants to insects (e.g. for sorghum shootfly adults); and the continued study of chemical communication agents in insects.

46. CORE : HISTOLOGY AND FINE STRUCTURE

						MAN - YEARS					
(PRINCIPAL) Research Scientists and above						Scientific Officer Postdoctoral Research Fellow	Technical Staff	Adminis- trative and Support Staff			
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
1	½	1	1	1	1	2	2	2½	4	-	-

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
74.5	139.5	219.4	263.3	315.9	379.2

The proposed budget for the Histology and Fine Structure Research Unit for the financial year 1979 totals U.S. \$ 219,400 as compared to \$ 139,500 allocated for the 1978 financial year. This reflects an increase of \$ 79,900 (or 53.7 per cent). While the Research Scientist will be expected to be in post for 6 months in 1978, the position is budgeted for the full year in 1979. The personnel years for technical personnel increase by 1½ to 4 in 1979. The HFSRU has operated for some time without adequate scientific equipment beyond the two large electron microscopes. This situation is ameliorated in the 1979 budget in which scientific equipment is allocated \$ 75,000. Other elements in the budget have remained almost at the same level as for 1978.

PROGRAMME COMMENTS

The Unit has reasonably adequate facilities for histological cytochemical, autoradiographic, and electron microscopic studies, and technical and scientific staff have been trained to permit effective work in these areas. The chief mandate of the HFSRU is to give assistance to the core programmes on questions demanding fine-structural information, at a resolution often approaching the molecular level. To date, the most extensive investigations have been on the chemoreceptors of ticks, tsetse flies, and armyworm caterpillars; the tsetse reproductive system; and the endocrine system of termites.

These studies will continue in 1979. But there will be, in addition, studies on the salivary glands of tsetse in relation to infection by *T. brucei* trypanosomes, as well as a study of the developmental cycle of the latter within the insect vector.

47. CORE : SENSORY PHYSIOLOGY

						MAN - YEARS					
(PRINCIPAL) Research Scientists and above						Scientific Officer Postdoctoral Research Fellow		Technical Staff		Adminis- trative and Support Staff	
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
1	1	2	2	2	2	2	2	1½	2	-	-

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
53.8	107.0	147.9	174.0	201.0	236.2

The budgeted cost for the year 1979 for the Sensory Physiology Research Unit amounts to U.S.\$ 147,900, an increase of \$ 40,900 (or 38.2 per cent) over the 1978 budget. This research unit is to be strengthened in 1979 by one more Research Scientist, and hence the increase in staff costs. The equipment requirements are building up gradually, and in 1979 an allocation of \$ 15,000 has been built into the budget for the purpose of acquiring equipment for the acoustic biological studies.

PROGRAMME COMMENTS

The analysis of the functional relationships of the insect chemoreceptors - whether for olfaction, taste, or hearing - constitutes one of the most urgent tasks of the SPRU in relation to the several studies already being undertaken at the ICIPE on chemical and acoustic communication (e.g. plant resistance studies, termite recruitment and mound building, and pheromonal biology of ticks and other target insects). Secondly, in combination with clear-cut behavioural tests, electrophysiological bioassays can greatly help the attainment of a more rapid identification of biologically active substances employed in mating, food-plant selection, oviposition-site selection, host detections, and host finding.

In 1979, these studies will be concentrated on the following projects:

- Continuation of the investigation of the taste sensitivity of the armyworm caterpillar in terms of chemicals that influence feeding
- A study of the sound production and receipt in tsetse flies, which was initiated in 1978
- Investigation of the mound building behaviour of termites.

48. CORE : BIOASSAY

<u>MAN - YEARS</u>											
<u>(P R I N C I P A L)</u> Research Scientists and above						Scientific Officer Postdoctoral Research Fellow	Technical Staff	Adminis- trative and Support Staff			
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
-	1	1	1	1	1	-	-	3½	4	-	-

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
22.9	39.4	78.3	95.5	107.5	120.0

The Bioassay Research Unit is a support service required by the core programmes and research units. It was established in 1977 with only a handful of technical staff. A Research Scientist was appointed in the second half of the 1978 financial year to head the research unit, which was originally established in 1977 by a graduate, pharmacologically trained technologist.

The budgeted cost for the Bioassay Research Unit for the year 1979 amounts to U.S. \$ 78,300. This amount will enable the Research Unit to become reasonably operational, with some basic equipment for its requirements.

PROGRAMME COMMENTS

This unit was established early 1977 to cater for a new support service that became increasingly on great demand by the core programmes and research units; namely routine analytical and experimental data on bioassays for established hormones, pheromones, and other active substance. For instance, the service routinely gives data on juvenile hormone activity for various insects and physiological stages, using the Galleria test ( a Musca test was added in 1978); bioassay data for ecdysone or ecdysone-like activities for ticks; and activity of anti-feedant isolates.

In 1979, a special facility will be developed which is required by a number of programmes radio-immunoassay for insect and tick endocrines.



49. CORE : INSECT AND ANIMAL BREEDING

						MAN - YEARS					
(P R I N C I P A L)						Scientific Officer		Technical		Adminis-	
Research Scientists and above						Postdoctoral		Staff		trative and	
						Research Fellow				Support	
										Staff	
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
1	1	1	1	1	1	-	-	7½	9	-	-

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET		PROJECTIONS	
1977	1978	1979	1980	1981	1982
79.3	109.8	113.8	162.0	195.0	233.0

The budgeted cost for the Insect and Animal Breeding Service (IABS) for the year 1979 amounts to US \$113,800 as compared to the 1978 allocation of \$109,800 reflecting an increase of \$4,000 (or 3.6 per cent). The technical personnel required are budgeted for the whole financial year in 1979 but some will be appointed towards the end of 1978. An element of travel has been built in the budget to enable staff to visit other research centres and also work for short periods in field stations. New motor vehicles are not budgeted for in 1979.

A senior scientific staff member is acting as Controller for this important service, supported by trained technical staff.

PROGRAMME COMMENTS

The task of this unit is to establish and maintain a large, self-producing colony of each of the target insect species for experimental purposes at the ICIPE, and of other insect species needed for bioassays and similar work. For blood-sucking arthropods, this requires that the unit also maintains colonies of the appropriate host animals; for plant-feeding insects, it may require the provision of standardized plant material grown in greenhouses, etc. Experimental, as opposed to routine, breeding of insects is the responsibility of a separate programme (see para.37 above).

The following colonies of insects are being routinely mass-reared by the IABS:

- . Tsetse flies: G. morsitans and G. Austeni
- . The ECF vector, R. appendiculatus
- . The soft tick, Ornithodoros moubata (for bioassay work)
- . The sorghum stem-borers, C. partellus
- . The wax-moth, Galleria mellonella (for bioassay work)
- . The African armyworm, Spodoptera exempta.

It is anticipated that the sorghum shootfly, on which experimental breeding work is now being conducted, and other major target insect named in the newer programmes on plant resistance and stem-borers, will be mass-reared by the IABS in the near future. Radically new and properly designed facilities are urgently needed for this critical support service, and these will be placed in a new site (at Duduville).

50. CORE : MBITA POINT FIELD STATION

						MAN - YEARS					
(P R I N C I P A L) Research Scientists and above						Scientific Officer Postdoctoral Research Fellow	Technical Staff	Adminis- trative and Support Staff			
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
-	1	1	1	1	1	-	-	3	7	6	8

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
51.1	111.8	191.2	229.4	275.3	330.4

The budgeted cost for the administration of the Mbita Point Field Station for the financial year 1979, amounts to U.S. \$191,200 as compared to the 1978 allocation of \$111,800. The Mbita Point Field Station is still in its early stages of development, still accommodated in rented accommodation. Most of 1978, was taken up with masterplanning of the Field Station, and construction should begin early in 1979.

It is expected that the total construction project will be completed at the beginning of 1981, but housing units for the staff will have been completed in late 1979. It is therefore confidently expected that much of the field station work will be significantly increased in 1979, and further consolidated by early 1981.

An agronomist was appointed in mid-1978 as a requisite for well-planned crop-pest programmes at the Field Station. He is supported by a Farm Controller, an Administrative Officer, and technical staff.

PROGRAMME COMMENTS

The ICIPE's research mandate requires that it carries out extensive and long-term ecological observations in a variety of tropical ecosystems. After a great deal of exploration, the ICIPE Governing Board has approved the establishment of a fully fledged, multi-programme field station at Mbita Point on the shores of Lake Victoria, a small field station at Kajiado for termite ecological work, and a medium-sized field station at Muhaka on the south coast of Mombasa.

The Mbita Point Field Station will, in 1979, accommodate the long-range ecological aspects of the following programmes: Tsetse (with a residential population of *G. pallidipes* in nearby Lambwe Valley), Livestock Ticks (with studies on nearby isolated islands), African Armyworm (with a resident population throughout the year), Borers (of cereals and cowpeas), and Sorghum Shootfly. Training activities will also begin in late 1979.

51. CORE : COASTAL FIELD STATION

<u>MAN - YEARS</u>											
<u>(P R I N C I P A L)</u> Research Scientists and above						Scientific Officer Postdoctoral Research Fellow	Technical Staff	Adminis- trative and Support Staff			
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
-	-	-	-	-	-	-	-	-	1	4	6

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
22.5	10.8	70.9	65.0	82.0	106.8

The budgeted cost for the administration of research work at the Coastal Field Station, Mombasa, for the year 1979 is U.S.\$70,900. Research in Medical Vectors and Tsetse which is carried out in Mombasa (budgeted for under the relevant core programmes) must be given the necessary administrative and other needed support services. It is a very young field station at the moment, but it will grow gradually to cater for increased research work.

It is presently housed on rented accommodation in the residential areas of Nyali Estate in Mombasa (but the Government of Kenya has recently allocated a 320-acre plot at the South Coast of Mombasa, which includes part of the ancient Muhaka Forest). Masterplanning for the construction of the Muhaka Field Station will commence in early 1979 (under the ICIPE Capital Development Programme (see Budget Table II).

An Administrative Officer will be recruited to take care of personnel, financial, and other administrative matters.

PROGRAMME COMMENTS

The Coastal Field Station caters presently for the long-term ecological studies of the following programmes:

- Medical Vectors programme, particularly studies on mosquito vectors of malaria and bancrofti filariasis
- Tsetse programme, especially part of the population diversity project (in association to investigations in other ecological sites in Kenya).

In 1979, some aspects of ecological projects in Borer and Livestock Ticks will be commenced.

52. CORE : KAJIADO FIELD STATION

						MAN - YEARS					
(P R I N C I P A L) Research Scientists and above						Scientific Officer Postdoctoral Research Fellow		Technical Staff		Adminis- trative and Support Staff	
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
-	-	-	-	-	-	-	-	-	-	1	6

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
-	-	61.1	40.6	57.6	80.0

So far, the research activities at the Kajiado Field Station have been under the scientific and administrative care of the scientific and technical staff themselves working at the Field Station. It is desirable to separate off the administrative activities in order to leave the research staff to concentrate on the research work. For this reason, an administrative and support budget amounting to U.S.\$61,100 has been proposed for the year 1979.

An Administrative Officer will be recruited in 1979 to take on the administrative duties, in collaboration with the Headquarters in Nairobi (which is only some 80 km away).

PROGRAMME COMMENTS

The Kajiado Field Station is located in a semi-arid savannah area, typical of much of sub-Saharan Africa. It is also typical of much of the potential rangelands of Africa. The station is therefore well-placed in undertaking long-term ecological and behavioural studies on grassland termites, such as Macrotermes. The station is continuing to be an admirable field centre for these studies, as it is at the centre of a large termite activity, parallel to that of free-ranging livestock and game animals.

53. CORE : OUTREACH MANAGEMENT

						MAN - YEARS					
(PRINCIPAL) Research Scientists and above						Scientific Officer Postdoctoral Research Fellow	Technical Staff	Adminis- trative and Support Staff			
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
1	½	1	1	1	1	-	-	½	1	½	1

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
1.5	60.4	70.0	74.0	80.0	84.0

The \$ 70,000 proposed for the 1979 core programme of the Outreach Management represents an increase of \$9,600 over the 1978 allocation. This budget is to support the Deputy Director (Research) in his efforts to relate the research results of the ICIPE to applications in the field.

There is no doubt that the Unit will grow gradually when it is fully established. A full-time Deputy Director (Research) will be appointed towards the last three months of 1978.

PROGRAMME COMMENTS

The coordination of ICIPE's own research activities with those being done cooperatively with the WHO's Special Programme on Tropical Diseases Research and Training (TDR) and the CGIAR Centres (and other institutes, e.g. EAVRO and EATRO) requires close management by a senior scientist.

The ICIPE has a full-time Deputy Director (Research) whose main function is to do just that, as well as coordinating in-house research. Several of the ICIPE's scientific staff will be working in the cooperating institutes for shorter or longer periods of time, especially in those projects needing long-range observations in particular situations (e.g. B PH studies in IRRI), or where experiments and surveys for several weeks at a time are needed frequently (e.g. sorghum shootfly work with ICRISAT). In either case, close communication needs to be effectively established.

54. CORE: WORKSHOPS

						MAN - YEARS					
(P R I N C I P A L)						Scientific Officer		Technical		Adminis-	
Research Scientists and above						Postdoctoral		Staff		trative and	
						Research Fellow				Support	
										Staff	
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
-	-	-	-	-	-	-	-	9	8	-	-

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
50.9	126.1	103.5	96.8	102.6	107.1

In 1979, the proposed budget for the Workshops amounts to U.S.\$103,500 as compared to the 1978 allocation of \$126,100. The reduction in expenditure is due to the transfer in 1979 of some functions ( and hence staff) to the newly established Laboratory Management Service. Hitherto, the two were administered under one department.

The separation of the functions has been necessitated by their nature and the need to maximise service to the growing staff at the ICIPE and their requisite facilities.

PROGRAMME COMMENTS

This service includes the management of the laboratory facilities, the operation of several specialised services (e.g. bioassay, electrophoresis, radioisotope and radiation, and photographic services and workshops). It supports most of the research programmes across the board.

The ICIPE vitally needs to maintain a first-class electronic workshop for servicing the many electronic and other sophisticated equipment at the ICIPE and to assist in the design and fabrication of new equipment, which is a constant need for electrophysiological, fine-structural, and chemical research going on at the Centre. The latter also needs mechanical and wood-working workshops. All these facilities already exist at the ICIPE, although in miniature form only. It is essential that these facilities be expanded to meet the enlarged needs of the research programmes and support services, the maintenance of the physical plant of the ICIPE, and the routine servicing of vehicles. This goal will be accomplished when the Headquarters Complex is completed some time in 1982. In the meantime, the basic needs are being met.

55. CORE : LABORATORY MANAGEMENT

						MAN - YEARS					
(P R I N C I P A L) Research Scientists and above						Scientific Officer Postdoctoral Research Fellow		Technical Staff		Adminis- trative and Support Staff	
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
-	-	-	-	-	-	-	-	-	2	-	-

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
-	-	46.8	56.2	67.4	80.9

Laboratory Management features in the Centre's budgets as a separate department for the first time in 1979. In the past the services were administered under the Centre's Workshops.

The proposed budget for this new department for the financial year 1979 totals U.S. \$ 46,800. A Laboratory Manager will be recruited, and will be supported in his work by a highly experienced principal technician.

PROGRAMME COMMENTS

The main laboratories at the ICIPE Research Centre now require the services of a professional Laboratory Management service, able to meet the stringent requests of a wide range of laboratory services - evaluation of equipment and instrument needs, provision of laboratory supplies and utilities, provision of technical input to professional training, and other support services.

These services will be expanded as physical space become available during the plan period.

56. CORE : LIBRARY AND DOCUMENTATION SERVICES

						MAN - YEARS					
(P R I N C I P A L) Research Scientists and above						Scientific Officer Postdoctoral Research Fellow		Technical Staff		Adminis- trative and Support Staff	
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
-	-	-	-	-	-	-	-	1	1	1½	3

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
60.6	84.5	98.4	94.0	106.7	115.0

The 1979 proposed budget amounting to U.S.\$ 98,400 for the Library and Documentation Services reflects an increase of \$ 13,900 over the 1978 allocation of \$ 84,500. The 1979 budget projects a steady build up of the Library in acquisition of books, journals, and other literature of interest to the entire Centre. It will have the effect of equipping the research and training staff with important reading and reference material; the non-scientific books and journals will also see a small expansion in 1979 to take care of the needs of administrative, financial, and other support staff working for the other essential services of the ICIPE. The increase in funds is not significant at the moment, but when more physical facilities are acquired the trend may well change.

PROGRAMME COMMENTS

A good library for literature on the target insects on which the ICIPE is working does not exist in East Africa. The Centre has now started a small reference library on these and related problems.

The level of expenditure in 1978 will be kept at about the same level as at present. But in 1979, this will go up substantially when a Documentalist is appointed to get the documentation activities of the ICIPE expanded.



57. CORE: TRAINING PROGRAMME

						MAN - YEARS					
(PRINCIPAL) Research Scientists and above						Scientific Officer Postdoctoral Research Fellow		Technical Staff		Adminis- trative and Support Staff	
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
1	-	-	2	2	2	-	-	-	-	-	-

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
125.1	256.8	350.7	370.1	400.4	410.4

The budgeted cost of the Training Programmes for the year 1979 amounts to US\$ 350,700 as compared to \$ 256,800 allocated in 1978. ICIPE's second major objective is Training. The funds asked for in the year 1979 are geared towards this important goal of the Centre.

ICIPE's training is diversified, as will be seen under the programme comments below. The projections for the three years 1980-1982 have been kept to a minimum due to uncertainties in the funding prospects, (including that for capital development), otherwise the ICIPE has much more potential for training.

The ICIPE in 1979 has put several fellowship packages to permit a number of appointments of graduate research scholars and postdoctoral and other fellows from developing countries during the year. Two full-time training officers were in position in 1978, and it is therefore the management of these training activities that have proved a much lighter burden on the scientific staff. Larger fellowship packages will only be possible after 1980, when training laboratory and residential accommodation will presumably be available. The availability of the International Guest Centre at Duduville in late 1979 will be an enormous facility for training and conference purposes.

PROGRAMME COMMENTS

The ICIPE currently operates a number of training programmes, besides related activities such as conferences and study workshops:

- Research Associateships, for gifted young scientists from LDCs with appointments in their own countries, allowing them to visit the ICIPE for 3-6 months each year for a period of 3-4 years to carry out collaborative research at the ICIPE.
- Postdoctoral Research Fellowships, for young scientists worldwide, selected on a competitive basis.
- Graduate Research Scholars, for project work at the ICIPE under the supervision of ICIPE staff, the trainees completing higher degrees of their home institutions in the LDCs.
- ICIPE Science Bursars, in which every year, 8-10 high school science graduates under a 6-month work experience in specific ICIPE research programmes or research units, before they proceed to university institutions.
- Professional Technical Training Programmes for ICIPE and other staff in areas in which the ICIPE has competence.

						MAN - YEARS					
(P R I N C I P A L) Research Scientists and above						Scientific Officer Postdoctoral Research Fellow	Technical Staff	Adminis- trative and Support Staff			
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
1	1	2	2	2	2	-	-	2	3½	3½	4

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
67.3	135.0	216.9	225.0	247.0	290.0

The budget proposed for Communications and Information Services amounts to US\$ 216,900 for the financial year 1979, an increase of \$81,900 over the 1978 allocation. A new post of Senior Communications Officer has been added for the 1979 to the establishment to strengthen the work of the Division. The required strengthening of the technical and administrative personnel is reflected in the relevant man-years above. The public relations aspect of the activities of the Division will receive specific emphasis in 1979. The publication needs of the ICIPE will also be strengthened significantly in 1979.

PROGRAMME COMMENTS

The Communication and Documentation Service was established in 1974 to develop regular communication channels with cooperating and collaborating institutions, to inform the donors on the progress of the ICIPE work, to provide editorial service to the ICIPE staff; to supervise the printing and all production aspects of ICIPE communication materials, and to provide the general public with information about the ICIPE. There is no question but that this service has accomplished a great deal in short time and with drastically limited facilities.

During 1979, the ICIPE will be developing a basic facility for graphic work and technical typewriting of manuscripts. Subsequently, it is proposed to add facilities for photo-composition, technical editing, full photographic services, and the commensurate professional staff. Further developments will come in the period beginning 1980, when the ICIPE building programme of the Duduville Headquarters has reached an advanced state.

						MAN - YEARS					
(PRINCIPAL) Research Scientists and above						Scientific Officer Postdoctoral Research Fellow		Technical Staff		Adminis- trative and Support Staff	
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
-	-	-	-	-	-	-	-	-	-	-	-

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
109.1	83.3	83.5	80.0	80.0	90.0

In 1979, a sum of US\$ 83,500 has been proposed for the funding of this activity. The 1979 budget in this respect is much the same as for the 1978 allocation. The funds requested are in recognition of the growing importance of the Centre's scientific conferences in evaluating and guiding ICIPE's research activities, and in dissemination of the information regarding the Centre's accomplishments. In the year under review, various scientific workshops of relevance to ICIPE research are proposed and reflected in the budget. It should be pointed out that the ICIPE could have ad-hoc study workshops arranged outside the budgeted ones through the help of special fundings not known to the Centre at the time of preparation of this budget.

PROGRAMME COMMENTS

The ICIPE Annual Research Conference reviews the research progress of the year under consideration and establish new priority lines of concentrated research. Weekly seminars on specialized topics have also become a feature of ICIPE scientific life from the very beginning, and has formed one of the linkages with the scientific community in East Africa. Finally, the ICIPE organises Study Workshops from time to time on problems areas related to the institutes core programmes.

On average, since 1978, two Study Workshops a year are planned for.

## 60. CORE: BOARD AND COMMITTEES

						MAN - YEARS					
(PRINCIPAL) Research Scientists and above						Scientific Officer Postdoctoral Research Fellow	Technical Staff	Adminis- trative and Support Staff			
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
-	-	-	-	-	-	-	-	-	-	-	-

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET		PROJECTIONS	
1977	1978	1979	1980	1981	1982
91.4	111.8	101.1	120.0	125.0	130.0

The 1979 proposed budget for meeting the cost of meetings of the Governing Board, Executive Committee and Building Sub-Committee of the Governing Board, Research and Training Council, the African Committee, Policy Advisory Committee, and the ICIPE Donor's Meeting amounts to US\$ 101,100. Big changes in the budget projections are not expected as the Centre intends to keep the frequency of the meeting at the same level annually.

Much of the expenditure of the advisory bodies comes from contributions external to the ICIPE core budget.

PROGRAMME COMMENTS.

The most important policy making bodies of the ICIPE are the following:

- . The Annual General Meeting of the ICIPE company (which meets once a year in Nairobi)
- . The Governing Board of the ICIPE, the principal policy-making body, which previously met 4 or 5 times a year, but from 1978 - with a major change in the composition of the membership, and its workings - will probably meet twice a year
- . The Research and Training Council, which had its inaugural meeting in June 1977, and has formed the main research-and-training programme committee for the ICIPE. It meets once a year, but its smaller Executive Committee has met three times a year on average.

These are supported by the African Committee, which meets once a year and advises the Board on the relevance of ICIPE's work on African problems; the Policy Advisory Committee, which advises on the applied implications of ICIPE's research; and ad-hoc committees appointed from time to time to deal with special questions.

						MAN - YEARS					
(PRINCIPAL) Research Scientists and above						Scientific Officer Postdoctoral Research Fellow	Technical Staff	Adminis- trative and Support Staff			
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
1	1	1	1	1	1	-	-	14	2	54	6

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
118.8	142.1	201.8	200.0	210.0	240.0

The proposed budget for the Office of the Director for the year 1979 amounts to US\$ 201,800 as compared to the 1978 provision of \$ 142,100. The Office of the Director coordinates all the activities of the Centre. The funds asked for are considered necessary for the running of the Office in the year 1979.

Two planning officers are included in the budget estimates for 1979.

PROGRAMME COMMENTS

The Director of the ICIPE is the Chief Executive and Chief Scientific Officer of the institute. He is the agent of the Board to ensure that the policy and mandate of the institute is carried out. As from June 1978, he has been appointed formally as a full member of the Board ex-officio. Under him are a number of deputies in research, administration, finance, and communications and training, who assist him in implementing the programme of work.

Planning has increasingly become a major preoccupation of the office of the Director.

<u>MAN - YEARS</u>											
<u>(PRINCIPAL)</u> Research Scientists and above						Scientific Officer Postdoctoral Research Fellow	Technical Staff	Adminis- trative and Support Staff			
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
1	1	1	1	1	1	-	-	-	-	8	13

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
91.6	142.5	253.7	230.0	250.0	270.0

The proposed expenditure in 1979 to meet the cost of Financial and Accounting Services totals US\$ 253,700 as compared to \$ 142,500 allocated for the year 1978. The Centre's activities have increased greatly, and so have the financial transactions. More personnel are budgeted for in 1979. ICIPE is also considering mechanising its accounts. Funds will be required to purchase accounting machines and requisite types of stationery. The Centre aims at a modern Financial division which will be able to cope up with the increased volume of work caused by the growth of the ICIPE and the capital development programme which is underway from 1978.

PROGRAMME COMMENTS

It is anticipated that the capital development programme will consume a great deal of detailed financial and accounting time of the ICIPE Accounting Service. It is proposed that from 1978, an expenditure accountant be recruited to especially oversee the accounts of this programme.

With the scattered ICIPE activities in the Nairobi Headquarters and the various Field Stations, added to the complex donor arrangements and cashflow needs, the division needs an updated system of financial accounting, internal auditing, and financial planning.

						MAN - YEARS					
(PRINCIPAL) Research Scientists and above						Scientific Officer Postdoctoral Research Fellow	Technical Staff	Adminis- trative and Support Staff			
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
-	-	-	-	-	-	-	-	-	1	2	3

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
18.6	28.7	45.2	50.0	55.0	70.0

The funds required to run the Supplies and Stores Services amount to US\$ 45,200 for the year 1979. The services of this section will increase with the execution of the capital development programme.

The Supplies and Stores Service is at present extremely small, manned by two purchasing and stores Assistants. As the capital development programme of the ICIPE becomes implemented, and as the sources of ICIPE supplies become more complex (needing more documentation and customs procedures), it becomes imperative to have a senior and experienced supplies officer to manage and administer the Supplies and Stores Service. This is proposed for 1979.

PROGRAMME COMMENTS

This service acts as part of the Financial Division of the ICIPE but is separated off for good management purposes.

The service has to facilitate purchases and requisition of supplies under the special communication problems of an LDC, and in a complex system involving field stations separated by long distances. Yet it must respond effectively to research and training needs. Recruitment of professional and experienced staff is being effected from 1979 to assure the ICIPE of this.

64. CORE: PERSONNEL AND OFFICE MANAGER

						MAN - YEARS					
(PRINCIPAL) Research Scientists and above						Scientific Officer Postdoctoral Research Fellow		Technical Staff		Adminis- trative and Support Staff	
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
1	1	1	1	1	1	-	-	3	1	10½	21

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET		PROJECTIONS	
1977	1978	1979	1980	1981	1982
90.0	162.1	264.8	270.5	284.2	336.6

The budgeted cost of running the Division of Personnel and Office Management amounts to US \$264,800 for the year 1979, in contrast for the provision of \$ 162,100 in 1978. This Division is being strengthened in 1979 to cope up with the growing field stations. The secretarial services have also been strengthened considerably to handle the increased number of manuscripts produced by the growing scientific population at the Centre.

PROGRAMME COMMENTS

The Administrative Manager needs the support of an Office Manager, to administer the small central secretarial pool that the ICIPE has for most of the ICIPE staff. It was hoped to have this senior officer in 1978, but because of financial stringency, this was not possible. This position is requested now for 1979. At the same time, 3 additional positions for technical typists are being requested, to cater for the increased research staff envisaged in 1979.

The Division deals with purely administrative matters (personnel matters, office management, security, etc) as a support service for the scientific work of the ICIPE.



65. CORE: ESTATES AND MAINTENANCE SERVICES

						MAN - YEARS					
(P R I N C I P A L)						Scientific Officer		Technical		Adminis-	
Research Scientists and above						Postdoctoral		Staff		trative and	
						Research Fellow				Support	
										Staff	
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
-	-	-	-	-	-	-	-	4	5½	20	19

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
89.4	130.0	194.3	200.4	210.0	225.0

The Estates and Maintenance Services replace the services that used to be provided under the Physical Plant Services (part of which are now catered for by the Workshops, para.54). The funds required to run these services in 1979 total U.S.\$194,300. These Services are absolutely essential to protect in good condition the assets of the Centre.

PROGRAMME COMMENTS

The Chiroco campus of the ICIPE in Nairobi consists of one temporary building (with an area of 175 sq.m.), one permanent building (with an area of 960 sq.m.), temporary structures in which certain experimental work is housed, and a four-bedroom house presently used for a number of support services (Library and Documentation, Financial and Accounting Services, and Purchasing and Stores). The present budgetary allocation can cope with the physical plant services now obtained at Chiroco.

It is hoped that the first phase of the new capital development programme in Nairobi (at Duduville) will be completed in the course of 1979 (mainly the International Guest Centre). A budgetary allocation to service this new physical plant is therefore provided for in 1979. Furthermore, the temporary buildings at Chiroco are beginning to demand heavy maintenance and attention, requiring a larger outlay.

66. CORE : TRANSPORT UNIT

						MAN - YEARS					
(PRINCIPAL) Research Scientists and above						Scientific Officer Postdoctoral Research Fellow	Technical Staff	Adminis- trative and Support Staff			
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
-	-	-	-	-	-	-	-	8	14½	-	-

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
37.4	102.4	160.9	175.0	180.0	180.0

A strong Transport Unit is planned to handle the Centre's Transport needs as a pool and to maintain the vehicles in use by the ICIPE and was established in a small way in late 1977. It has proved its worth during the course of 1978. The required funds for the Transport Unit for 1979 amount to U.S.\$ 160,900. Only major repairs will be referred to garages outside ICIPE when the Unit is in full operation.

PROGRAMME COMMENTS

The Transport Unit in terms of a pool of field vehicles is essential for the increased emphasis of ecological work at the same time. Because of the problems of servicing vehicles and obtaining spare-parts for them, pooling of services (both of trained maintenance staff as well of basic servicing equipment) is an essential need in the circumstances of a research institution located in Africa.

67. CORE : UTILITIES

						MAN - YEARS					
(P R I N C I P A L) Research Scientists and above						Scientific Officer Postdoctoral Research Fellow	Technical Staff	Adminis- trative and Support Staff			
1977	1978	1979	1980	1981	1982	1978	1979	1978	1979	1978	1979
-	-	-	-	-	-	-	-	-	-	-	-

FINANCIAL COMMENTS

U.S. \$ 000's					
Actual	Approved	BUDGET	PROJECTIONS		
1977	1978	1979	1980	1981	1982
32.9	55.9	38.8	65.0	32.4	90.0

Central Services of the Centre are budgeted under the heading Utilities. These are budgeted at U.S.\$ 38,800 net. The core programmes will contribute a fair share of the cost of these services annually in 1979, as in previous years.

PROGRAMME COMMENTS

The services include major items such as electricity and power, gas, water supplies and sewerage, printed stationery and similar supplies, postages, and telephone and telex.

XII. CAPITAL DEVELOPMENT PROGRAMME AND BUDGET

68. The ICIPE has an acute shortage of space for laboratories and offices both at the Headquarters and at the research stations. Staff housing is also a pressing problem. In determining our priorities for the Capital Development Programme of the Centre, account has been taken of the requisite physical facilities that need to be developed urgently to match the research and training programmes of the ICIPE. These facilities take FIRST PRIORITY in the ICIPE's Capital development needs. Staff housing for Nairobi takes a lower priority under this perspective; and has therefore been excluded from the capital development programme at this stage, although it had in fact been approved by the Governing Board last year.

69. The ICIPE's Capital Development Programme and Budget are itemised as follows over the plan period ending 1982:

<u>Project</u>	<u>Budget (in U.S.\$)</u>
1. Construction of the Mbita Point Field Station complex on the shores of Lake Victoria (including laboratories, farm buildings, maintenance facilities, amenities, offices, and staff housing)	4,500,000
2. Duduville International Guest Centre	675,000
3. Duduville Headquarters complex in Nairobi	10,500,000
4. Kajiado Field Station complex, at Kajiado	1,450,000
5. Coastal Field Station complex, at Muhaka forest, Mombasa South Coast	2,400,000
6. Heavy Equipment	<u>700,000</u>
Total	<u><u>20,225,000</u></u>

These projects are phased over a period of 5 years from 1978 to 1982, except for Equipment which is budgeted on a yearly basis (Refer to Section B, of the "Source of the Funds" at Table II).

70. Programme Funding

The greater part of the Centre's Capital Development Programme is not yet funded. The grants position on the total programme is as follows:

	<u>U.S.\$</u>
U.K. Government (ODM grant)	2,000,000
Netherlands Government (DITH grant)	422,000
UNDP	255,000
NORAD	<u>1,760,000</u>
	4,437,000
UNIDENTIFIED GRANTS	<u>15,788,000</u>
Total	<u><u>20,225,000</u></u>

71. The shortfall is therefore \$ 15.8 million in the capital development programme. Most of that is required for the construction of the Duduville Headquarters complex in Nairobi, and the Kajiado and Coastal Field Stations. The Mbita Point Field Station and Duduville International Guest Centre will be under construction from early 1979. The core programmes of the ICIPE, as well as the cooperative projects the ICIPE has entered into with a number of institutions (or those that are presently being negotiated), require substantial and new physical facilities. The needs are, therefore, of a crucial nature.

XIII. GOVERNING BOARD, JUNE 1978June 1979 Retiring Class

Professor Jan de Wilde (Chairman, GB)  
 Laboratorium voor Entomologie  
 Landbouwhogeschool  
 Binnenhaven 7 Postbus  
 WAGENINGEN  
The Netherlands

Mrs Ruth S. Adams  
 Executive Associate  
 American Academy of Arts & Sciences  
 Jamaica Plain Station  
 BOSTON, Mass 02130  
U.S.A.

Dr P.T. Haskell, Director  
 Centre for Overseas Pest Research  
 College House  
 Wrights Lane  
 LONDON, W8 5SJ  
England

Professor A.S. Msangi, Head  
 Department of Zoology  
 University of Dar es Salaam  
 P.O. Box 35064  
 DAR ES SALAAM  
Tanzania

Mr Daniel M. Thairu  
 Director of Research  
 Ministry of Agriculture  
 Kilimo House, Cathedral Road  
 P.O. Box 30028  
 NAIROBI  
Kenya

June 1980 Retiring Class

Dr Hussein Idris  
 c/o The Minister's Office  
 Ministry of Agriculture, Food, and  
 Natural Resources  
 P.O. Box 285  
 KHARTOUM  
Sudan

Professor Alf G. Johnels  
 Naturhistoriska Riksmusset  
 Sectionen for Vertebratzoologie  
 104 05 STOCKHOLM 50  
Sweden

Dr T.K. Arap Siongok  
 Director  
 Division of Communicable Diseases  
 Control and Epidemiology  
 P.O. Box 20781  
 NAIROBI  
Kenya

Dr Omond M. Solandt  
 The Wolfe Den, R.R.1  
 BOLTON  
 Ontario, LOP 1A0  
Canada

Professor T. Ajibola Taylor, Director  
 The Institute of Agricultural Research and Training  
 University of Ife  
 Moor Plantation  
 P.M.B. 5029  
 IBADAN  
Nigeria

June 1981 Retiring Class

Professor Harvey Brooks  
 Division of Engineering and Applied  
 Physics  
 Pierce Hall 217  
 Harvard University  
 CAMBRIDGE, Mass. 02138  
U.S.A.

Dr Guy Camus  
 Director-General  
 Office de la Recherche Scientifique  
 Technique d'Outre-Mer (ORSTOM)  
 24 Rue Bayard  
 75003 PARIS  
France

Mr P. Nderu  
 Ministry of Education  
 Jogoo House, Harambee Avenue  
 P.O. Box 30040  
 NAIROBI  
Kenya

Dr Friedrich Schneider  
 Max-Planck-Gesellschaft zur Forderung  
 der Wissenschaften E.V.  
 Residenzstrasse 1a  
 Postfach 647  
 8000 MUNCHEN 2,  
W. Germany

Mr R.B. Stedman  
 P.O. Box 24529  
NAIROBI

Ex-Officio Member

Professoer Thomas R. Odhiambo  
 Director, ICIPE

**THE INTERNATIONAL CENTRE OF INSECT PHYSIOLOGY AND ECOLOGY**  
**SUMMARY OF COSTS BY PROGRAM AND ACTIVITY**  
**1974 CORE BUDGET (U.S.\$'000)**

Budget Table 7

ACTIVITIES	ACTUAL				BUDGET 1974				PROJECTIONS					
	1973		1974		1974		1975		1976		1977			
	MY	COST	MY	COST	MY	COST	MY	COST	MY	COST	MY	COST		
<b>MAJOR ACTIVITIES</b>														
<b>1 (a) RESEARCH PROGRAMMES</b>														
Bases of Plant Resistance	-	-	7b	46.4	7b	174.1	2	210.8	2	243.8	2	291.6	2	311.6
Exp. Bases for Insect Mass-Rearing and Screening	-	-	-	16.9	-	66.7	-	82.1	-	104.5	-	120.4	-	141.7
Sorghum Shootfly	-	43.2	1	67.2	1	210.2	2	227.8	3	313.5	3	361.3	3	425.1
Borers	-	13.1	-	-	1	116.5	1	130.6	1	174.2	1	202.7	1	236.2
Tsetse	2	150.5	3	276.1	5b	500.6	6	545.7	6	627.0	6	722.6	6	850.0
Livestock Ticks	1	57.4	2	116.7	3	250.4	3	291.2	4	427.4	4	481.8	4	566.8
Medical Vectors	1	89.0	3	40.8	2	153.3	3	275.6	3	273.8	3	281.0	3	332.8
Harvester Termites	3	89.3	4	163.3	5	232.1	6	378.2	6	418.0	6	480.0	6	566.8
African Armyworm	2	78.7	7b	100.5	2	145.7	2	159.5	2	179.0	2	241.0	2	286.0
Sub-Total	7	521.2	15b	827.9	27	1849.6	25	2131.5	27	2751.2	27	3182.4	27	3746.0
<b>(b) RESEARCH UNITS</b>														
Chemistry and Biochemistry	1	76.8	1	80.9	1	146.6	2	208.8	2	243.7	2	283.0	2	339.6
Histology and Fine Structure	-	63.7	1	74.5	1	139.5	1	219.4	1	263.3	1	315.9	1	379.2
Sensory Physiology	-	31.5	1	53.8	1	107.0	2	147.9	2	174.0	2	201.0	2	236.2
Bioassay	-	6.4	-	22.9	1	39.4	1	78.3	1	95.5	1	107.5	1	120.0
Sub-Total	1	178.4	3	232.1	3	432.5	6	654.4	6	776.5	6	907.4	6	1075.0
<b>(c) RESEARCH AND TECHNICAL SUPPORT SERVICES</b>														
Insect and Animal Breeding	-	44.8	1	79.3	1	109.8	1	113.8	1	168.0	1	195.0	1	233.0
MDits Point Field Station	-	-	-	51.1	1	111.8	1	191.2	1	229.4	1	275.3	1	330.4
Coastal Field Station-Mombasa	-	-	-	22.5	-	10.8	-	70.9	-	65.0	-	82.0	-	106.6
Kajiado Field Station	-	-	-	-	-	-	-	61.1	-	40.6	-	57.6	-	80.0
Outreach Management	-	-	1	1.5	1	60.4	1	70.0	1	74.0	1	80.0	1	84.0
Workshop	-	59.3	-	50.9	-	126.1	-	103.5	-	96.8	-	102.6	-	107.1
Laboratory Management	-	-	-	-	-	-	-	46.8	-	56.2	-	67.4	-	80.9
Library and Documentation	-	23.0	-	60.6	-	84.5	-	90.4	-	94.0	-	106.7	-	115.0
Sub-Total	-	127.6	2	265.9	2	503.4	3	755.7	3	824.0	3	965.6	3	1137.2
<b>TOTAL RESEARCH ACTIVITIES</b>	10	827.2	20b	1325.9	26b	2785.5	34	3711.6	36	4361.7	36	5056.4	36	5958.2
<b>2. TRAINING AND COMMUNICATIONS</b>														
Training Programme	1	55.2	1	125.1	1	256.8	2	350.7	2	370.1	2	400.4	2	440.4
Communications and Information	-	27.9	1	67.3	1	135.0	2	216.9	2	225.0	2	247.0	2	290.0
Conferences	-	37.3	-	109.1	-	23.3	-	83.5	-	80.0	-	80.0	-	90.0
Sub-Total	1	120.4	2	301.5	2	415.1	4	651.1	4	675.1	4	727.4	4	780.4
<b>3. MANAGEMENT AND ADMINISTRATION</b>														
Board and Committees	-	35.5	-	91.4	-	111.8	-	101.1	-	120.0	-	125.0	-	150.0
Office of the Director	-	83.9	1	118.8	1	142.1	1	201.8	1	200.0	1	240.0	1	240.0
Accounting Services	-	62.5	1	91.6	1	142.5	1	253.7	1	230.0	1	250.0	1	270.0
Purchasing and Stores	-	10.9	-	18.6	-	28.7	-	45.2	-	50.0	-	55.0	-	70.0
Personnel & Office Management	-	61.8	1	90.3	1	162.1	1	264.8	1	270.5	1	284.2	1	336.6
Sub-Total	2	255.6	3	410.7	3	587.2	3	866.6	3	870.5	3	924.2	3	1046.0
<b>4. GENERAL OPERATIONS</b>														
Estates and Maintenance Services	-	31.8	-	89.4	-	130.0	-	194.3	-	200.4	-	240.0	-	225.0
Transport Unit	-	28.8	-	37.4	-	102.4	-	160.9	-	175.0	-	180.0	-	190.0
Utilities	-	53.1	-	32.9	-	55.9	-	38.8	-	65.0	-	82.0	-	100.0
Sub-Total	-	113.7	-	159.7	-	288.3	-	394.0	-	440.4	-	472.0	-	505.0
<b>5. ALL OTHERS</b>	-	-	-	9.5	-	74.3	-	78.9	-	100.0	-	120.0	-	100.0
<b>GRAND TOTAL - CORE BUDGET</b>	13	1316.9	25b	2207.3	31	4210.9	41	5039.2	43	6447.7	43	7300.0	43	8425.2
<b>CATEGORIES OF EXPENSES</b>														
Personnel Services		715.1		1282.0		2264.9		3660.2		3824.9		4508.8		5371.1
Supplies and Services		319.0		369.5		741.5		812.2		1147.5		1202.4		1369.1
Travel		53.1		30.6		156.0		114.1		262.3		290.0		342.3
Equipment		106.3		255.3		575.1		582.6		765.0		821.3		784.9
Other		123.4		269.9		398.6		454.2		339.0		349.0		421.3
Contingency		-		-		74.5		78.3		100.0		100.0		111.5
		1316.9		2207.3		4210.9		5039.2		6447.7		7300.0		8425.2
PROVISION FOR PRICE CHANGES 7% OF TOTAL EXPENSES EXCLUDING PERSONNEL COSTS						146.0		152.9		196.7		209.3		220.1
<b>TOTAL U.S. \$</b>						4356.9		5192.1		6644.4		7509.3		8645.3



**THE INTERNATIONAL CENTRE OF INHERIT PHYSIOLOGY AND ECOLOGY**  
**BUDGET AND FINANCIAL STATEMENTS FOR 1978**  
**SOURCES AND APPLICATION OF FUNDS**  
**(U.S. \$ 000'S)**

Budget Table II

A.	OPERATING BUDGET	ACTUAL 1976	ACTUAL 1977	REVISED BUDGET 1978	BUDGET 1979	P R O J E C T I O N S		
						1980	1981	1982
	<b>PROGRAMS AND ACTIVITIES</b>							
1.	United Nations Development Programme (UNDP)	834.4	1,025.2	752.0	850.6	906.2	953.7	-
2.	United Nations Environment Programme (UNEP)	26.9	83.3	344.0	138.0	-	-	-
3.	U.K. Ministry of Overseas Development (ODM)	59.5	46.3	75.0	70.0	20.3	-	-
4.	University of Notre-Dame (Acting for USAID)	15.4	-	-	-	-	-	-
5.	Rockefeller Foundation	124.7	62.0	-	-	-	-	-
6.	DITH - Netherlands	50.0	-	153.0	183.0	-	-	-
7.	OGRST - France	16.5	3.6	10.0	-	-	-	-
8.	DANIDA - Denmark	-	353.8	225.0	280.0	315.0	-	-
9.	Kenya Government, Ministry of Agriculture	5.0	10.0	35.0	-	-	-	-
10.	Japan Society for the Promotion of Sciences	4.5	5.3	4.7	-	-	-	-
11.	Max-Planck Society	3.0	-	-	-	-	-	-
12.	Swedish International Development Agency (SIDA)	105.4	-	-	-	-	-	-
13.	Swedish Agency for Res. Co-op. with Developing Countries	-	142.8	400.0	-	-	-	-
14.	Swiss Technical Cooperation Agency (STCA)	57.8	67.4	108.0	-	-	-	-
15.	Swiss Development Cooperation Agency (SOCA formerly STCA) (See 14 above)	-	-	-	139.0	125.4	115.1	82.5
16.	Swiss National Science Foundation (SNSF)	3.5	3.5	-	-	-	-	-
17.	Commonwealth Fund for Technical Cooperation	.8	-	-	-	-	-	-
18.	I D R C, Canada	-	100.6	205.0	17.0	-	-	-
19.	World Health Organization (WHO)	-	6.1	6.0	6.0	-	-	-
20.	U S A I D	-	-	284.0	286.2	286.2	-	-
21.	Australian Government	-	114.3	110.0	110.0	-	-	-
22.	International Atomic Energy Agency (IAEA)	-	5.1	5.0	5.0	-	-	-
23.	Food & Agricultural Organization of the United Nations (FAO)	-	4.1	4.0	4.0	-	-	-
24.	University of Ghana	-	.8	-	-	-	-	-
25.	Belgian Government	-	-	50.0	-	-	-	-
26.	Israel Academy	-	.5	-	-	-	-	-
27.	IITA/ICIPE Collaborative Programme	-	-	450.0	719.0	673.5	-	-
	Miscellaneous Income	89.8	61.7	60.0	50.0	50.0	50.0	50.0
	Balance from previous years	-	80.3	-	485.3	657.6	743.6	842.0
	UN-IDENTIFIED	-	28.6	1,561.5	3,166.6	4,351.3	6,462.6	8,651.6
	<b>TOTAL RECURRENT FUNDS REQUIRED</b>	<b>1,397.2</b>	<b>2,207.3</b>	<b>4,842.2</b>	<b>6,509.7</b>	<b>7,368.0</b>	<b>8,351.0</b>	<b>9,658.0</b>
	<b>APPLICATION OF FUNDS</b>							
	Research Activities	827.2	1,325.9	2,785.5	3,711.6	4,361.7	5,056.4	5,958.2
	Training and Communications (Research Support)	120.4	301.5	475.1	651.1	675.1	727.4	750.4
	Management and Administration	255.6	410.7	587.2	866.6	870.5	924.2	1,048.6
	General Operations	113.7	159.7	288.3	394.0	440.4	472.0	505.0
	Contingency	-	9.5	74.8	75.9	100.0	120.0	125.0
	<b>TOTAL - CORE BUDGET</b>	<b>1,316.9</b>	<b>2,207.3</b>	<b>4,210.9</b>	<b>5,699.2</b>	<b>6,447.7</b>	<b>7,300.0</b>	<b>8,405.2</b>
	PROVISION FOR PRICE CHANGES	-	-	146.0	152.9	195.7	209.0	229.1
	WORKING CAPITAL (EQUIVALENT TO SIX WEEKS EXPENDITURE)	-	-	485.3	657.6	743.6	842.0	971.7
	<b>GRAND TOTAL</b>	<b>1,316.9</b>	<b>2,207.3</b>	<b>4,842.2</b>	<b>6,509.7</b>	<b>7,368.0</b>	<b>8,351.0</b>	<b>9,658.0</b>
B.	<b>CAPITAL BUDGET</b>							
	<b>SOURCES OF FUNDS</b>							
	BALANCE FROM PREVIOUS YEAR:				796.4			
	DITH - Netherlands (NBITA) B/F			422.0				
	Max-Planck Society b/f	22.3		2,000.0				
	U.K. Government - ODM			255.0				
	U.N.D.P.			440.0	440.0	440.0	440.0	-
	N O R A O	-	9.4	-	3,413.6	6,760.0	5,660.0	2,600.0
	UN-IDENTIFIED							
	<b>TOTAL CAPITAL FUNDS REQUIRED</b>	<b>22.3</b>	<b>9.4</b>	<b>3,117.0</b>	<b>4,650.0</b>	<b>7,200.0</b>	<b>6,100.0</b>	<b>2,600.0</b>
	<b>APPLICATION OF CAPITAL FUNDS</b>							
	Workshop	22.3	-	-	-	-	-	-
	Replacement of Maresbee Building	-	-	45.6	-	-	-	-
	Mbits Point Field Station - Complex	-	9.4	1,000.0	2,500.0	1,000.0	-	-
	Duduville (Salcopia Farm) HQs. Labs. Complex	-	-	-	500.0	4,000.0	4,000.0	2,000.0
	Duduville International Guest Centre	-	-	675.0	-	-	-	-
	Kajiado Field Station Complex	-	-	-	550.0	400.0	500.0	-
	Coastal Field Station - Mombasa Complex	-	-	-	400.0	1,000.0	1,000.0	-
	Heavy Equipment/Motor Vehicles	-	-	600.0	700.0	800.0	600.0	600.0
	Unexpended Funds c/f	-	-	796.4	-	-	-	-
	<b>TOTAL CAPITAL EXPENDITURE</b>	<b>22.3</b>	<b>9.4</b>	<b>3,117.0</b>	<b>4,650.0</b>	<b>7,200.0</b>	<b>6,100.0</b>	<b>2,600.0</b>

Currency:

Currency conversion is taken at constant U.S. dollar value of U.S.\$1.00 = K.Shs. 8.00.

## SUMMARY OF FINANCIAL DATA 1976 - 1979

1979 BUDGET (U.S. \$ 000's)

Budget Table III

	1976	1977	1978	1979
	ACTUAL	ACTUAL	ESTIMATE	PROJECTIONS
<u>CURRENT ASSETS:</u>				
Bank and Cash balances	862.4	1,425.0	2,565.0	1,500.0
Sundry Debtors	1.1	43.8	100.0	150.0
Total Current Assets	863.5	1,468.8	2,665.0	1,650.0
<u>FIXED ASSETS (at Cost)</u>				
Leasehold Land and Buildings	343.6	350.5	600.5	3,475.0
Scientific Equipment	628.6	704.8	1,049.3	1,468.0
Office Equipment & Furniture	76.3	93.8	107.6	123.0
Vehicles	103.5	239.5	456.4	604.9
Total Fixed Assets at Cost	1,152.0	1,388.6	2,213.8	5,670.9
TOTAL ASSETS	2,015.5	2,857.4	4,878.8	7,320.9
<u>LIABILITIES</u>				
Creditors and Accruals	162.4	452.7	500.0	650.0
Total Current Liabilities	162.4	452.7	500.0	650.0
<u>Fund Balances:</u>				
Grants expended on Fixed Assets	1,152.0	1,388.6	2,213.8	5,670.9
Unspent Balances	701.1	1,016.1	2,165.0	1,000.0
Total Capital	1,853.1	2,404.7	4,378.8	6,670.9
TOTAL LIABILITIES & CAPITAL	2,015.5	2,857.4	4,878.8	7,320.9

NOTE: (i) Fixed Assets are depreciated at the rate of 100 per cent. In the published accounts of ICIPE they are reflected at a nominal value of K.Shs.20 as a result of this accounting policy.

(ii) Currency: The rate of conversion used is U.S. \$ 1 = K.Shs. 8.00; a constant dollar value has been assumed.

## THE INTERNATIONAL CENTRE OF INSECT PHYSIOLOGY AND ECOLOGY

TABLE OF POSITIONS AND MAN-YEARS 1977 - 1979

Budget Table IV

	PRINCIPAL STAFF						SCIENTIFIC OFFICERS, POSTDOCTORALS						TECHNICAL STAFF						ADMINISTRATIVE AND SUPPORT SERVICES								
	POSITIONS			MAN-YEARS			POSITIONS			MAN-YEARS			POSITIONS			MAN-YEARS			POSITIONS			MAN-YEARS					
	ACTUAL 1977	APPROVED 1978	PROPOSED 1979	ACTUAL 1977	APPROVED 1978	PROPOSED 1979	ACTUAL 1977	APPROVED 1978	PROPOSED 1979	ACTUAL 1977	APPROVED 1978	PROPOSED 1979	ACTUAL 1977	APPROVED 1978	PROPOSED 1979	ACTUAL 1977	APPROVED 1978	PROPOSED 1979	ACTUAL 1977	APPROVED 1978	PROPOSED 1979	ACTUAL 1977	APPROVED 1978	PROPOSED 1979			
<b>1(a) RESEARCH PROGRAMMES</b>																											
Bases of Plant Resistance	2	2	2	7%	7%	2	2	1	1	-	7%	3	2	6	6	1	3%	6	-	-	-	-	-	-	-	-	-
Exp. Bases of Insect Mass-Rearing	-	-	-	-	-	-	1	1	1	1	1	1	-	4	5	1	1%	4%	-	-	-	-	-	-	-	-	-
Sorghum Shootfly	1	2	3	1%	7%	2%	1	2	2	1%	7%	2	5	6	6	3	5%	6	-	-	-	-	-	-	-	-	-
Borers	-	1	1	-	1%	1	-	1	1	-	1%	1	-	4	7	-	1	4	-	-	-	-	-	-	-	-	-
Termites	3	6	6	3	5%	6	3	6	6	3	4%	6	10	16	16	10	15	16	-	-	-	-	-	-	-	-	-
Livestock Ticks	2	3	3	2	3	3	2	2	2	2	2	2	6	11	11	8	7%	11	-	-	-	-	-	-	-	-	-
Medical Vectors	3	3	3	3	2%	3	-	-	3	-	-	2%	1	5	7	1	2	5%	-	-	-	-	-	-	-	-	-
Termites	4	4	6	4	5%	6	1	1	2	-	1	2	11	12	12	9%	3%	12	-	-	-	-	-	-	-	-	-
African Armyworm	2	2	2	7%	2	2	1	1	1	1	1	1	7	9	9	7	8%	9	-	-	-	-	-	-	-	-	-
Sub-Total	17	23	26	15%	21%	25%	11	15	19	8%	13%	20%	42	73	79	40%	48%	74	-	-	-	-	-	-	-	-	-
<b>1(b) RESEARCH UNITS</b>																											
Chemistry & Biochemistry	1	2	2	1	7%	2	-	1	1	-	1	1	2	3	3	2	2%	3	-	-	-	-	-	-	-	-	-
Histology & Fine Structure	1	1	1	1	1%	1	2	2	2	2	2	2	2	4	4	2	2%	4	-	-	-	-	-	-	-	-	-
Sensory Physiology	-	1	2	1	1	2	2	2	2	2	2	2	1	2	2	1	7%	2	-	-	-	-	-	-	-	-	-
Bioassay	-	1	1	-	1	1	-	-	-	-	-	-	3	4	4	3	3%	4	-	-	-	-	-	-	-	-	-
Sub-Total	2	5	6	3	3%	6	4	5	5	4	5	5	8	13	13	8	10	13	-	-	-	-	-	-	-	-	-
<b>1(c) RESEARCH AND TECHNICAL SUPPORT SERVICES</b>																											
Insect and Animal Breeding	1	1	1	1	1	1	1	-	-	-	-	-	7	9	9	6	7%	9	-	-	-	-	-	-	-	-	-
Maita Point Field Station	1	1	1	-	1	1	-	-	-	-	-	-	-	4	7	-	3	7	-	6	8	-	6	8	-	6	8
Coastal Field Station-Mombasa	-	-	-	-	-	-	-	-	-	-	-	-	3	1	1	3	-	1	1	3	6	1	4	6	-	4	6
Majiado Field Station	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	12	-	-	12	-	-	6
Outreach Management	1	1	1	1	1	1	-	-	-	-	-	-	-	1	2	-	1	1	1	1	1	-	1	1	-	1	1
Workshop	-	-	-	-	-	-	-	-	2	-	-	-	6	8	8	6	9	8	-	-	-	-	-	-	-	-	-
Laboratory Management	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	2	-	-	-	-	-	-	-	-	-
Library and Documentation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	1	1	2	2	3	2	2	3	2	2	3
Sub-Total	3	3	3	2	2	3	1	-	2	-	-	-	16	23	23	15	20%	20	4	12	30	3	12	24	3	12	24
<b>TOTAL RESEARCH ACTIVITIES</b>	22	31	35	20%	25%	34%	16	20	26	12%	18%	25%	66	103	129	63%	79	117	4	12	30	3	12	24			
<b>2. TRAINING AND COMMUNICATIONS</b>																											
Training Programmes	1	1	2	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Communications & Information	-	1	2	1	1	2	-	-	-	-	-	-	1	2	4	1	2	3%	2	4	3	2	3%	4	2	3%	4
Conferences	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-Total	1	2	4	2	7%	4	-	-	-	-	-	-	1	2	4	1	2	3%	2	4	3	2	3%	4	2	3%	4
<b>3. MANAGEMENT &amp; ADMINISTRATION</b>																											
Board and Committees	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Office of the Director	1	1	1	1	1	1	-	-	-	-	-	-	-	2	2	-	7%	2	6	5	6	6	5%	6	6	5%	6
Accounting Services	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	11	6	8	11	6	8	13	6	8	13
Purchasing and Stores	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	1	1	2	3	3	2	2%	3	2	2%	3
Personnel and Office Management	1	1	1	1	1	1	-	-	-	-	-	-	-	1	1	-	1	1	9	14	19	9	10%	21	9	10%	21
Sub-Total	3	3	3	3	3	3	-	-	-	-	-	-	-	4	4	-	2	4	23	30	39	23	26	43	23	26	43
<b>4. GENERAL OPERATION</b>																											
Estates & Maintenance Services	-	-	-	-	-	-	-	-	-	-	-	-	2	2	6	2	4	5%	13	16	18	13	20	19	13	20	19
Services	-	-	-	-	-	-	-	-	-	-	-	-	4	4	15	3%	8	14%	-	-	-	-	-	-	-	-	-
Transport Unit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Utilities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-Total	-	-	-	-	-	-	-	-	-	-	-	-	6	6	21	5%	12	20	13	16	18	13	20	19	13	20	19
<b>GRAND TOTAL</b>	26	36	42	25%	31	41%	16	20	26	12%	18%	25%	73	121	154	67%	95	144	42	62	90	41	61%	90			

October 4, 1978

Dr. Ernst Friedheim  
c/o Smith Hall  
Rockefeller University  
1230 York Avenue  
NEW YORK, N.Y. 10021

Dear Dr. Friedheim:

As promised, I am enclosing our brochure on schistosomiasis control which I think will be of interest to you.

Praziquantel, or EMBAY 8440, is a new antihelminthic (cestocide and schistosomicide) presently being developed jointly by Merck and Bayer. In the veterinary field the drug is already marketed as an anti-helminthic for dogs under the trade name "DRONCIT." In the human field, praziquantel looks particularly promising as a schistosomocide. It seems to be equally effective against all human types of schistosomiasis, having evidenced to date only mild side effects. In addition, the drug seems to be well suited to mass application since it can be used orally as a single-dose treatment, which makes it even more attractive.

While, to my knowledge, there have been no publications thus far on the results of clinical studies, the pharmacological, toxicological and parasitological aspects are well documented.

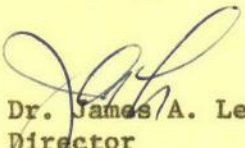
Your application for membership in The Explorers Club has now been sent to the Admissions Committee and you can expect to learn of its decision in the months immediately ahead.

I thank you again for preparing the solution in your laboratory and which I managed to bring safely back to Washington.

With regard to the lead poisoning problem in Kosovo, I will keep you informed of developments as they occur.

With kind regards,

Cordially,

  
Dr. James A. Lee  
Director  
Office of Environmental and  
Health Affairs

JAL:on  
Enc.

OFFICIAL FILE COPY

Your ref. 861209/CPR/SBH

October 3, 1978

Mr. Colin P. Rees  
Atkins Research and Development  
Woodcote Grove,  
Ashley Road,  
Epsom, Surrey, KT18 5BW  
England

Dear Mr. Rees,

Thank you for your letter of September 19, 1978, enclosing a summary outline of UNEP's project entitled: "Development of Guidelines for Assessing Industrial Environmental Impact and the Siting of Industry", plus other documents containing information about the various consulting services available from Atkins Research and Development.


It was, indeed, very nice to have the opportunity of meeting with you last month and learning about your activities. Personally, I have no further comments to add to those I made to you at that time. Mr. J. Tikhon, however, is presently away from the office on a Bank mission. Should he wish to convey additional comments to you on these matters we would then contact you.

In the meantime, may I wish you all the success in the satisfactory completion of your current assignment.

Cordially,

Hernan Reitze  
Office of Environmental  
& Health Affairs

cc. Dr. Lee, OEHA  
Mr. Tikhon (with incoming letter)

 HR:mfb

October 3, 1978

Ms. Serena Zwangobani  
Project Coordinator  
Environment Liaison Centre  
P.O. Box 72461  
Nairobi,  
Kenya

Dear Ms. Zwangobani:

This is to acknowledge receipt of your letter (not dated) to Dr. James A. Lee, together with a copy of a form for the "Survey of Environmental Activities of non-Governmental Organisations (NGO), and a circular letter by Mr. Peter Thacher on this subject.

I understand that the information to be collected by this survey is intended for NGOs exclusively and that your letter, therefore, was meant to keep us informed about the activities of the Environment Liaison Center. Furthermore, as you may know, the World Bank regularly supplies UNEP with official publications and other relevant information through various formal and informal channels.


Nevertheless, should you need any additional specific information about the Bank not contained in these sources, please let me know and I shall do my best to be of assistance to you.

In the meantime, I wish you success with the NGO survey.

Sincerely,

Hernan Reitze  
Office of Environmental  
& Health Affairs

cc. Dr. J.A. Lee, OEHA

 HR:mfb

OFFICIAL FILE COPY

**IIED** INTERNATIONAL INSTITUTE FOR ENVIRONMENT AND DEVELOPMENT

President: Barbara Ward (Baroness Jackson of Lodsworth, D.B.E.)

S- Environment & Health

Suite 501  
1302 Eighteenth Street, NW  
Washington, DC 20036  
(202) 462-0900  
Telex: IIEDWASH64414

September 27, 1978

Mr. Hernan C. Reitze  
World Bank  
1818 H Street, Room 1044 N.W.  
Washington D.C. 20433

Dear Mr. Reitze,

As my aide told you on the phone the other day, the IIED is currently preparing a book for publication in which a quote from an unpublished paper of Dr. James A. Lee appears. I have enclosed a publication permission request and a copy of the appropriate pages from our book Banking on the Biosphere? I would appreciate it a great deal if you could pass this on to Dr. Lee as soon as possible.

Thank you so much for your assistance.

Regards,



Robert E. Stein  
Director  
North American Office IIED



S. Environment & Health

**UNITED NATIONS ENVIRONMENT PROGRAMME**  
**PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT**



Télégrammes : UNITERRA, PARIS

Téléphone : 766.16.40  
227.45.12

Télex : 650273

INDUSTRY AND ENVIRONMENT OFFICE  
DEPARTEMENT INDUSTRIE ET ENVIRONNEMENT

17, rue Marguerite  
75017 PARIS - France

RÉF. N° : 2782

September 26, 1978

Dear Dr. LEE,

I hope you are happy and in excellent health.

I cherish the pleasant remembrance of our last year's meeting in Washington, and I do hope that another opportunity will arise for us to meet again in the not too distant future.

In the meantime, referring myself to the outstanding paper, which you delivered on October 14, 1976 at the International Briefing sponsored by the Centre for International Environment Information, on Environment and Development: The World Bank Experience, I would like to ask you the following four services :

- 1) You mention that "in each and every project . . . the environmental safeguards which may be indicated are the object of cost/benefit analysis". I would be most grateful if you could let me have several examples of such cost/benefit analysis, possibly spread between different industrial sectors. Let me stress that I am particularly interested in case-stories of industrial environmental investment.
- 2) You mention that occupational health and safety guidelines were under preparation. Have they been issued in the meantime and, if the answer is yes, could you let me have a set?

./....

Dr. James A. LEE  
Environmental & Health Adviser  
The World Bank  
1818 H Street  
WASHINGTON, D.C. 20433

U.S.A.





PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT  
 UNITED NATIONS ENVIRONMENT PROGRAMME



DEPARTMENT INDUSTRIE ET ENVIRONNEMENT  
 INDUSTRY AND ENVIRONMENT OFFICE

17, rue Mazarin  
 75017 PARIS - France

Télégrammes : UNITERA, PARIS  
 Téléphone : 266.16.40  
 227.42.12  
 Téléc : 620273

Réf. N° : 2782

September 26, 1978

Dear Dr. LEE,

I hope you are happy and in excellent health. I cherish the pleasant remembrance of our last year's meeting in Washington, and I do hope that another opportunity will arise for us to meet again in the not too distant future.

In the meantime, referring myself to the outstanding paper, which you delivered on October 14, 1976 at the International Briefing sponsored by the Centre for International Environment Information, on Environment and Development: The World Bank Experience, I would like to ask you the following four services:

- 1) You mention that "in each and every project . . . the environmental safeguards which may be indicated are the object of cost-benefit analysis". I would be most grateful if you could let me have several examples of such cost-benefit analysis, possibly spread between different industrial sectors. Let me stress that I am particularly interested in case-stories of industrial environmental investment.
- 2) You mention that occupational health and safety guidelines were under preparation. Have they been issued in the meantime and, if the answer is yes, could you let me have a set?

Yours truly,

Dr. James A. LEE  
 Environmental & Health Adviser  
 The World Bank  
 1818 H Street  
 WASHINGTON, D.C. 20433

U.S.A.

RECEIVED  
 OCT 23 AM 10 30  
 COMMUNICATIONS SECTION

Dr. James A. LEE  
September 26, 1978

---

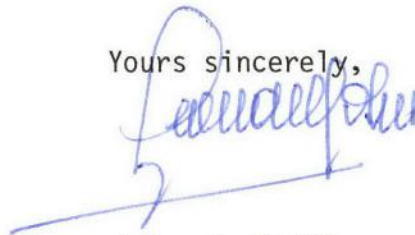
2.

..../....

- 3) You mention another publication designed to better prepare the Bank's Industrial Projects staff to handle the many and technically complex problems of pollution control, at that time in its final stage of production. I would be most grateful if you could let me have a copy of this publication.
- 4) Finally, may I ask you for one copy of your publication Environment and Development.

Thank you very much for your usual cooperation, and with warmest regards,

Yours sincerely,



Léon de ROSEN  
Director, Industry & Environment Office



IMATONG MOUNTAINS FORESTRY PROJECT  
c/o NORWEGIAN CHURCH AID (TORIT)  
P.O. BOX 52802  
NAIROBI:  
KENYA  
26th. SEPTEMBER, 1978.

R. Goodland Esq.  
Office of Environment and Health  
The World Bank  
1818 H Street, N.W.  
Washington D.C. 20433  
U. S. A.

Dear Mr. Goodland

Thank you for your letter dated 29 August about second generation pine ect; This has been forwarded to me from UK.

I am writing to the Land Resources Development Centre asking for a copy to be sent to you of a review of literature prepared in 1973 on productivity decline under successive rotations of forest monoculture. This may take some time to reach you as I am not sure whether we have copies in stock or whether a new copy will have to be prepared. You may find some of the references listed in the review useful.

For further information about pine in general and also about P. caribaea I suggest you contact Mr. P. Wood at the Tropical Silviculture Unit, Commonwealth Forestry Institute, South Parks Road, Oxford, England, OX1 3RB. You might also contact the Director, Royal Botanic Gardens, Kew, Richmond, Surrey, England TW9 3 AE.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'D.R. Chaffey', written over the typed name.

D.R. CHAFFEY

c.c. C. Griffin Esq.  
Land Resources Development Centre  
Tolworth Tower  
Surrey



THE UNIVERSITY OF ARIZONA

TUCSON, ARIZONA 85721

DEPARTMENT OF ELECTRICAL ENGINEERING

September 19, 1978

Dr. Jean Tixhon  
Central Project Staff  
The World Bank  
Building E, Room 1005  
1818 H Street, N.W.  
Washington, D.C. 20433

Dear Jean,

I was wondering if you had received my letter of August 18 and the copy of our latest report to the Environmental Protection Agency.

We feel that the control of diesel particulates is an important topic in mines all over the world and since the U.S. Auto Industry is going diesel it may be very important for the U.S.A. Any help you might provide in sending this stuff along to the proper parties would be most appreciated.

What, if anything, is developing in Jugoslavia? You were going to talk with Dr. Weiss about the idea of my looking at that lead smelter as part of my trip to Switzerland for the September 1979 Rock Mechanics Conference. Once again, any help you might provide would be most welcome.

Yours truly,

Stuart A. Hoenig  
Professor of Electrical Engineering

SAH:jc

RECEIVED  
SEP 21 1978

RECEIVED  
1978 SEP 22 PM 3:00  
INCOMING MAIL UNIT



UNITED NATIONS ENVIRONMENT PROGRAMME  
PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT



Télégrammes : UNITERRA, PARIS

Téléphone : 766.16.40  
227.45.12

Télex : 650273

INDUSTRY AND ENVIRONMENT OFFICE  
DEPARTEMENT INDUSTRIE ET ENVIRONNEMENT

17, rue Marguerite  
75017 PARIS - France

RÉF. N° : 1852

September 12, 1978

Dear Dr. LEE,

I would like to refer to the letters Reference PRO 150/34 of UNEP's Deputy Executive Director, Mr. P.S. THACHER, dated February 24, June 27 and July 14, 1978, to you concerning UNEP's in-depth reporting for the Seventh Session of its Governing Council in April, 1979 and preparations for Joint Thematic Programming.

The Industry and Environment Office has the responsibility of preparing the preliminary contribution for the GC 7 Programme Document on the subject of industry and environment. We have reviewed the documentation available in our office from your organization and drafted some very preliminary paragraphs attached covering (i) a summary of your organization's activities since the Stockholm Conference in relation to industry and environment, (ii) a summary of your organization's work plans in this area. We appreciate that these paragraphs are still very sketchy and we would like now to enlist your help in confirming the accuracy of the information available to us and expanding the relevant sections, as well as in preparing for the Thematic Joint Programming Meeting to be held in Geneva during the week October 23-27, 1978.

Additionally, we need your help in drawing up the section of the document dealing with budgetary implications in relation to industry and environment, which should cover the whole of the U.N. Family. This section has to be broken down into regular programme and extra budgetary sources (specified). The budgetary information should, where available, either be by year from 1979 to 1983 or by planning period (specified). We believe you have already received from UNEP headquarters the format, drawn up after the last Thematic Joint Programming on environmental education, which has been devised for providing this information. A copy is enclosed.

./.

Dr. James A. LEE  
Environmental & Health Adviser  
The World Bank  
1818 H. Street, N.W.  
WASHINGTON, D.C. 20433

U.S.A.

RECEIVED

1978 SEP 20 AM 10:45

INCOMING MAIL UNIT

Dr. James A. LEE (World Bank)

You will appreciate that the time frame is rather short if we are to complete a first draft of the Programme Document for distribution to the Agencies before the Thematic Joint Programming Meeting scheduled for October 23 to 27, 1978.

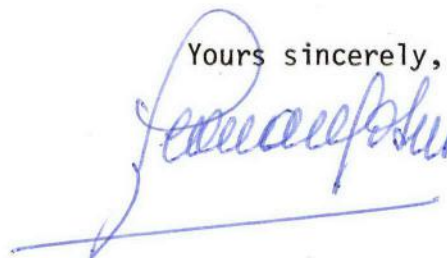
Consequently, I would be very grateful if you would kindly return by September 25, 1978 at the latest the appended paragraphs on past activities and future work plans, amended and expanded, as appropriate, as well as completed formats on the budgetary implications for the work plans. After receiving this information we would like to consider the possibility, if necessary, of one of our staff visiting you and your colleagues before the first draft of the programme is completed to clarify any particular points and discuss possible areas of joint programme activity.

Finally, in order that you may have an indication of the planned activities that this office intend to undertake during the period 1979 to 1982, enclosed please find the draft work plans.

Thanking you in advance for your cooperation and prompt action on this matter.

With kind regards,

Yours sincerely,



Léon de ROSEN  
Director, Industry & Environment Office

Encls : 3



on Agency Activities

WORLD BANK

Introduction : Objectives and work of the Bank in relation to funding industrial development projects. Environmental considerations are incorporated into each Bank project. 3-5% of total investment for a project is set aside for environmental impact assessment, environmental protection and associated training. Investment includes both installation costs and loan costs during construction period. The Bank's concerns cover, (i) siting of industrial activities in relation to conflicting land uses, e.g. tourism, agriculture, (ii) occupational health and safety of workers, (iii) appropriate technology and in-plant personnel training, including maintenance workers and monitoring equipment operators, (iv) guidelines for emission and effluent control, (v) energy and improve use of resources. (vi) indirect environmental impacts of industrialisation and the need for adequate infrastructure associated with any industrial activity. The Bank has a training component in all projects.

Up to GC 6

In 1974 the World Bank published a book giving guidelines on environmental health and human ecological considerations in economic development projects, which includes a check list of items required in estimating industrial environmental impact in the following sectors : fertiliser plants, iron and steel mills, mining operations, petroleum petrochemical industry, pulp and paper mills, smelting plants, textile mills and tourism. Whilst the book also includes certain air pollution standards as well as water quality criteria and standards for industrial effluents, it does not give detailed guidance in relation to each industrial sector.

In relation to its projects the Bank has issued a series of guidelines. Some of these guidelines deal with specific industrial sectors, such as open pit mining, underground mining, coal and oil fired power plants and extractive industries, and are concerned mainly with occupational health and safety, others give general guidelines on specific pollutants or nuisances, e.g. dust (February 1976), effluents (1975), liquid effluent temperature (June 1976), noise (April 1976), sulphur oxides emissions (November 1974). There is also a general guideline on occupational health and safety for industrial projects (January, 1977).

Examples of specific sector guidelines are as follows :

- occupational health and safety in the pulp and paper industry, (November, 1978), covering dust, safety, temperature and humidity, noise, chemical hazards
- for primary aluminium smelting, fluoride content and pH of effluents, gaseous and particulate fluoride emissions and total suspended particulate matter
- occupational health and safety for coke oven workers and coal chemical emissions
- occupational health and safety in non-ferrous mining, (February 1977)
- for certain agro-industries e.g. diarying, slaughterhouses, tanneries, cane sugar refining, fruit and vegetable processing

Guidelines have also been issued in relation to pesticide manufacture and use. In June, 1977 packaging and labelling, as well as occupational health and safety in transportation and distribution of pesticides, were the subjects of guidelines.

Future Work Plans (to be completed)

DRAFT

IEO PROGRAMME

1979 to GC of 1982

(with tentative examples of Level 2)

Sector : PULP AND PAPER

<u>Year</u>	<u>Activity</u>	
1979	Preparation of a Manual of Treatment of Pulp and Paper Mill Effluents and Emissions : coop. org. IVL/SIDA and ILO (for chapter on working environment). First Part. Meeting Consultative Committee (Paris). Consultant (Professor JENSEN)	UNEP SIDA ILO
1980	Second Part Preparation of Manual Guidelines for siting of pulp and paper mills under different regional conditions ; criteria for environment impact assessment applied to p.p. mills tested in a developing country. Meeting of Consultative Committee (LDC) Consultant	SIDA UNEP  Country
1981/82	Guidelines for re-afforestation and soil erosion prevention (with FAO) Consultants Meeting of Consultative Committee (Planned Econ.) Consultant	UNEP FAO  Country

DRAFT

Sector : ALUMINIUM

<u>Year</u>	<u>Activity</u>	
1979	Review of Environmental Aspects of Bauxite Mining and Alumina Extraction ; Use and Disposal of Red Mud. Preparation and holding of Workshop on above :(LDC or DC) Country Consultant	
1980	Guidelines on above in 1980 : coop. agency UNIDO Guidelines for siting of smelters and application of EIA criteria in an LDC (e.g. Gulf Area). Health and Occupational Criteria provided by WHO/ILO. Assessment of Technology for Control of F and HC Consultant Meeting Consultative Committee (LDC) (Bahrain ?) Country Consultant	UNIDO WHO ILO UNIDO IPAI
1981/82	Demonstration project on use of red mud under conditions in a developing country (e.g. PRC) Consultant Assessment of energy and resource use in Aluminium Production (CNRET, Industry(IPAI)). Consultant Meeting Consultative Committee (DC)	UN IPAI

DRAFT

Sector : MOTOR VEHICLE

Year      Activity

- 1979      Review in vehicle testing procedures, their costs and effectiveness, and especially applicability to developing countries. (CITA & UNATAC) UNDIESA (Dept Transportation), UNIDO.      UNIDO  
UN
- Work with UN/ECE on harmonisation of test procedures and measurement methods (ongoing through to 1982).      UN/ECE
- Consultant
- 1980/81      Prépare candidate strategies for control of air pollution from motor vehicles in urban areas based on case history of Mexico City. Adapt for application to another city with similar conditions. Meeting of experts.
- Meeting of Consultative Committee (Paris or LDC)
- Consultant
- 1981/82      Cost-effectiveness of emission and noise control technologies and safety measures for motor vehicles. Review. OECD/UN.ECE/UNIDO UNDIESA/WHO
- Consultants
- Meeting of Consultative Committee (Manufacturing country, e.g. UK, Germany, France, USA, Japan)
- Consultant

DRAFT

Sector : AGRO INDUSTRIES

<u>Year</u>	<u>Activity</u>	
1979	Technical Consultation with FAO on Environmental Aspects of PHL, fruits/veg, roots/tubers	UNEP/FAO UNEP FAO
	Regional Workshop on residue utilisation for specific crops (Bangkok, July) (UNEP Regional Office ESCAP/UNIDO FAO Regional Office)	ESCAP UNIDO UNEP
	Consultant	
1980	Demonstration project on residue utilisation in an LDC Regional Workshop on residue utilisation (Latin America) Consultant	Country
1981/82	Review of environmental aspects of use of pesticides (with FAO)	UNEP FAO
	Consultant	
	Regional Workshop (Africa)	Country

Sector : IRON & STEEL

<u>Year</u>	<u>Activity</u>	
1979	Two small working groups on selected issues (one in E. Europe other LDC). (Identified at workshop)	
	Consultants	Countries
1980	Two expert groups on selected issues, (DC) and (LDC). (Identified at workshop)	
	Consultants	Countries
1981/82	Guidelines for siting of integrated Iron & Steel works and application of EIA in a LDC (meeting)	
	Policy review of issues : recommendations to Governments (Seminar)	Country
	Consultants	

Sector : NON FERROUS METALS

<u>Year</u>	<u>Activity</u>	
1979	Initial review of available information on environmental aspects of Pb/Zn/Cd.	Industry/ILZRO
	Consultants	
1980	Meeting of experts to identify problems (Paris)	
	1 working group on selected issues (LDC) (Meeting of Consultative Committee ?)	Country
	Consultants	
1981	2 working groups (Planned econ. and DC) (Consultative Committee ?)	Countries
	Consultants	
1982	Siting criteria for NF metal industries and application of EIA in an LDC, integrate with Policy Review (Seminar)	Country
	Consultants	



Sector : CHEMICALS

<u>Year</u>	<u>Activity</u>
1979	Expert Meeting (Workshop) to assess and evaluate problems and issues (Paris)  1 working group on a cluster of selected issues (DC) (to be identified at Workshop) Country  Consultants
1980	2 working groups (LDC and Planned econ.) (subjects identified at Workshop)  Countries  Consultants
1981/82	Issue of Chemical Plants - working group (DC) Country  Policy Review of Issues (Paris)  Consultants

Sector : PETROLEUM

<u>Year</u>	<u>Activity</u>
1979	Activity Contingency Plans for Oil Spill Controls Guidelines , Consultants Meeting Consultative Committee (DC) (plus Expert Group) Start activity on long term effects (through 3 years) measurement, sampling ; definitions. IPIECA Other UN Agencies Country Consultants Consultant
1980/81	Criteria for Siting of Refineries esp. LDC's Consultants Consultant Meeting of Consultative Committee (LDC) Country Long term activity Consultants (Product Quality) Consultants
1981/82	Consultative Committee.Major review of long term impacts Consultants

Sector : E.I.A. & SITING

<u>Year</u>	<u>Activity</u>	
1979	Seminar in USSR to test EIA methodology	UNEP USSR UNIDO
1980	Regional Seminar Latin America (ibid)	UNEP Country UNIDO
	Regional Seminar Africa (ibid)	UNEP Country UNIDO
1981	Regional Seminar Pacific and Asia (ibid)	UNEP Country UNIDO
	Regional Seminar West Asia (ibid)	UNEP Country UNIDO

Sector : INDUSTRIAL LOW & NON WASTE TECHNOLOGY

<u>Year</u>	<u>Activity</u>	
1979	Sub-Project A Preparation of a Compendium	UNEP ECE
	Sub-Project B Methodologies	UNEP ECE
1980	Sub-Project A	UNEP ECE
	Sub-Project B	UNEP ECE
1981	Sub-Project A	UNEP ECE
	Sub-Project B	UNEP ECE
1982	Sub-Project A	UNEP ECE
	Sub-Project B	UNEP ECE

Sector : TRAINING PROGRAMME

Year      Activity

1979      1 month fellowship training for :

Pulp and Paper      1

Aluminium      1

Petroleum      1

1980      1 month fellowship training for :

Pulp and Paper      1

Aluminium      1

Petroleum      1

Sector : INFORMATION PROJECT

The Industry and Environment Office has established a Computerised Information Storage and Retrieval System for the industrial and environmental sector. This will be fully operational by 1979 and will provide possibilities to respond to request from Governments for information concerning industrial and environmental problems.

Besides operation of a computerised information data base, this activity will provide specific files on specified topics in relation to industry and environment. The information provided in these topic files will be evaluated by a network of information evaluating centres provided in part through the environmental Consultative Committees now established for specific industrial sectors, e.g. pulp and paper, aluminium, motor-vehicle and petroleum.

Additionally, this programme will be responsible for providing the regular bulletin of activities and publishing on a 3 month basis a newsletter which will contain typical information in the field of industry and the environment. Other publications as appropriate will be prepared for dissemination to countries.

FORMAT FOR PROVIDING INFORMATION FROM AGENCIES  
ON BUDGETARY IMPLICATIONS OF ACTIVITIES  
IN RELATION TO INDUSTRY AND THE ENVIRONMENT

1979 - 1982

General Action	Target Population	Proposed Activities	Cooperating Partners	Time Frame (refer to Agency planning period) e.g. UNESCO 1979-80(20C/5)	Financial Data (by year or by planning period, as specified) (U.S. \$)	
					Regular Programme	Extra-Budgetary Sources (specify)



UNITED NATIONS ENVIRONMENT PROGRAMME  
PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT



Télégrammes : UNITERRA, PARIS

Téléphone : 766.16.40  
227.45.12

Télex : 650273

INDUSTRY AND ENVIRONMENT OFFICE  
DEPARTEMENT INDUSTRIE ET ENVIRONNEMENT

17, rue Margueritte  
75017 PARIS - France

RÉF. N° : 2632

September 11, 1978

Dear Jean,

On my return to the office I read your letter of August 3, 1978 and the reply of my colleague John HAINES.

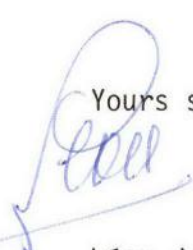
I fully agree with you that the need for training and indeed maintenance will have to be stressed in the manual. We do not think even this is sufficient and we have plans to organize regional training workshops to augment this important need.

I am very interested to hear of the manual which the Bank is preparing. From the chapters, you have kindly indicated to me, our respective work does seem complementary. To ensure that as our manuals develop they do not overlap unnecessarily, I would be grateful if you can keep us informed on the work being done. Likewise, I will do the same.

I hope you will be able to pass through Paris at the end of this month and I look forward with pleasure to meeting you again.

With best personal regards,

Yours sincerely,

  
Léon de Rosen  
Director, Industry & Environment Office

Mr. Jean M.H. TIXHON,  
Office of Environmental  
and Health Affairs,  
THE WORLD BANK,  
1818 H Street, N.W.,  
WASHINGTON, D.C. 20433

U.S.A.

INCOMING NY/IF 11/11  
1318 SEP 12 11:11:11  
RECEIVED





UNITED NATIONS ENVIRONMENT PROGRAMME  
PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT



INDUSTRY AND ENVIRONMENT OFFICE  
DEPARTMENT INDUSTRIE ET ENVIRONNEMENT

17, rue Marguerite  
75017 PARIS - France

Télégrammes : UNITERRA, PARIS  
Téléphone : 766.16.40  
222.42.12  
Télex : 620273

REF. N° : 2632

September 11, 1978

Dear Jean,

On my return to the office I read your letter of August 3, 1978 and the reply of my colleague John HAINES.

I fully agree with you that the need for training and indeed maintenance will have to be stressed in the manual. We do not think even this is sufficient and we have plans to organize regional training workshops to augment this important need.

I am very interested to hear of the manual which the Bank is preparing. From the chapters you have kindly indicated to me, our respective work does seem complementary. To ensure that as our manuals develop they do not overlap unnecessarily, I would be grateful if you can keep us informed on the work being done. Likewise, I will do the same.

I hope you will be able to pass through Paris at the end of this month and I look forward with pleasure to meeting you again.

With best personal regards,

Yours sincerely,

Léon de Rosen  
Director, Industry & Environment Office

Mr. Jean M.H. TIXON  
Office of Environmental  
and Health Affairs,  
THE WORLD BANK,  
1818 H Street, N.W.,  
WASHINGTON, D.C. 20433

RECEIVED  
1978 SEP 15 AM 11:41  
INCOMING MAIL UNIT

U.S.A.

**WORLD HEALTH ORGANIZATION**



**ORGANISATION MONDIALE DE LA SANTÉ**

1211 GENEVA 27 - SWITZERLAND  
Telegr.: UNISANTE-Geneva

1211 GENÈVE 27 - SUISSE  
Télégr.: UNISANTÉ-Genève

Tél. 34 60 61 Télex. 27821

In reply please refer to: TDR  
Prière de rappeler la référence:

8 September 1978

Dear Fred,

Re. Population & Development Courses

I have been reviewing my timetable and commitments and I wish to confirm that I could fit in the sessions just before the Conference on Pharmaceuticals for developing countries which starts on 28 November. A possible date is therefore Monday 27 November.

With regard to titles of the sessions, I wonder whether it might not be better to have the general title "The Control of Parasitic and Infectious Diseases". The first session could emphasize the ecological setting of infectious diseases in the tropics and the basic principles for their control. The first set of illustrations will deal with airborne infections and others in which the infectious agent spreads from person to person. The second set of illustrations will deal with vector borne diseases.

Is this an acceptable plan?

Yours sincerely,

Adetokunbo O. Lucas M.D.  
Director  
Special Programme for Research &  
Training in Tropical Diseases

Dr F. Golladay  
Office of Environmental and Health Affairs  
The World Bank  
1818 H Street NW  
Washington DC 20433  
United States of America

IMC 2017-11-14 10:11:01  
10 15 12 11 5 11



1211 GENEVE 27 - SUISSE  
Télégrammes: UNISANTÉ-Geneve

1211 GENEVA 27 - SWITZERLAND  
Telegrams: UNISANTÉ-Geneva

Tel. 34 80 81 Télec. 27821

8 September 1978

In reply please refer to: TDR  
Prise de rapport la référence:

Dear Fred,

Re. Population & Development Courses

I have been reviewing my timetable and commitments and I wish to confirm that I could fit in the sessions just before the Conference on Pharmaceuticals for developing countries which starts on 28 November. A possible date is therefore Monday 27 November.

With regard to titles of the sessions, I wonder whether it might not be better to have the general title "The Control of Parasitic and Infectious Diseases". The first session could emphasize the ecological setting of infectious diseases in the tropics and the basic principles for their control. The first set of illustrations will deal with airborne infections and others in which the infectious agent spreads from person to person. The second set of illustrations will deal with vector borne diseases.

Is this an acceptable plan?

Yours sincerely,

Abelokunbo O. Lucas M.D.  
Director

Special Programme for Research &  
Training in Tropical Diseases

Dr. F. Golladay  
Office of Environmental and Health Affairs  
The World Bank  
1818 H Street NW  
Washington DC 20433  
Etats-Unis d'Amérique

RECEIVED  
1978 SEP 15 PM 2:44  
INCOMING MAIL UNIT

September 8, 1978

Mr. Louis J. Churchville  
ERT International, Inc.  
696 Virginia Road  
Concord, Massachusetts 01742

Dear Mr. Churchville:

Thank you for your letter of August 22, 1978, enclosing ERT's brochure entitled "Total Environmental Services".

I am submitting these documents for the consideration of the staff of this office and subsequently forwarding them to the Bank's Consultant Services Officer, with a copy of this letter. Should he require additional information with regard to ERT International, Inc., he will contact you directly.

We appreciate your writing to us to inform us of your company's interests and expertise in this field.

Sincerely,

Hernan Reitze  
Office of Environmental  
& Health Affairs

cc. Dr. Lee, OEHA  
Mr. Dickerson, CPSVP - with copy of incoming letter  
& brochure

  
HR:mfb

~~ON-note!~~

S-Environment & Health

The World Bank

London Office: New Zealand House, Haymarket, London SW1Y-4TE, England  
Telephone-(01) 930-3886/3887 • Cable Address-INTBAFRAD LONDON

7th September, 1978.

Mr. James A. Lee  
Office of Environmental  
& Health Affairs  
Environmental & Health Adviser  
World Bank  
1818 H Street, N.W.  
Washington, D.C. 20433  
U. S. A.

Dear Mr. Lee,

*cl. Aug 16, 78 filed separately*  
For your information I enclose a copy of a letter from Mr. Donald Macmillan of the Nuffield Centre for Health Service Studies which is self-explanatory. I spoke to Mr. Macmillan's secretary on the telephone yesterday and explained that London is principally an administrative office and that your office would be able to advise them. They will be getting in touch with you.

Yours sincerely,

P.P.

(Miss) J.C.M. Cordery  
Administrative Assistant

Enclosure

RECEIVED

1978 SEP 13 PM 12:48

INCOMING MAIL UNIT

[Faint, illegible text and markings, possibly bleed-through from the reverse side of the page]

Mr. Isaac K. Sam, VPO

September 6, 1978

Ragnar Overby, Office of Environmental and Health Affairs (OEHA)

Environment and the 1978 Annual Meeting of  
Regional Banks with the World Bank:  
September 24, 1978

1. Your request of September 5 for an approximate two-page summary follows:

2.1 In 1970 the Bank established and filled the solo post of Environmental Adviser (Dr. J.A. Lee) with a strong mandate "..... to review and evaluate every investment project from the standpoint of its potential effects on the environment". Guidelines were produced and subsequently strengthened, becoming in 1972 - and again in 1974 - a Handbook, which was made widely available in French, Spanish and English.<sup>1</sup> In 1973 the solo post was strengthened by the addition of another position (Mr. R. Overby) and in 1974 a further position (Mr. J. Tixhon) was provided jointly by the Bank and IFC to concern itself with industrial projects. The last addition to the principal staff of the environmental unit of the OEHA was filled early in 1978 (Mr. R. Goodland).

2.2 There were 1,342 World Bank Group projects screened and assessed for their environmental/health dimensions during the period FY72-77. These assessments ranged from in-house determinations of problems likely to be encountered, and the appropriate countervailing measures to be taken, to on-site studies to identify and understand better the nature, scope, severity and timing of problems, thereby leading to the appropriate safeguard measures (BRAZIL, MBR Iron Ore Project, 1971) and to, on occasions, indepth studies of potentially very serious problems attributable to the proposed project's presence and/or operation (PERU, Cuajone Copper Mining Investment, 1971).

Such assessments and the formulation of control measures also take place in the case of projects being cofinanced with other institutions.

2.3 It is the policy of the Bank to finance "pure environmental projects" where and when appropriate (FINLAND, Water Pollution Control, 1975; YUGOSLAVIA, Sarajevo Air Pollution Control, 1976) and it can reasonably be expected that proposals for rehabilitation-type projects to stem the effects of environment and resource deterioration (including such areas as, for example, reafforestation, soil conservation, desert encroachment, flood control, wildlife protection, range management and pollution control) will increase. Resource management will necessarily be seen as good investment - and is increasingly reflected in the Bank's policies, as exemplified by its Forest Sector Policy Paper, published in February 1978.

2.4 The Bank has produced Occupational Health Guidelines (for the internal environment) and recently a document /2 covering environmental consideration for the entire industrial sector was published. Our environmental policy publication /3 (due to undergo revision) elaborates further on most of the above.

3. For an external evaluation of the Bank's environmental efforts and how it compares to those of other financing agencies (IDB, AsDB, CDB, ADB, BADEA, EDF, OAS and UNDP), a document published by the IIED represents the most recent and preferred choice /4 (attached).

Attachment

- 
- /1 Environmental, Health and Human Ecological Considerations in Economic Development Projects. World Bank/May 1974.
  - /2 Environmental Considerations for the Industrial Development Sector. World Bank/August 1978.
  - /3 Environment and Development. World Bank/June 1975.
  - /4 "Banking on the Biosphere?": A Study of the Environmental Procedures and Practices of Nine Development Financing Agencies. International Institution for Environment and Development/July 1978.

cc. Dr. Lee           OEHA  
    Mr. Tixhon       "  
    Mr. Goodland    "  
    Mr. Reitze       "



September 5, 1978

Dr. Toufiq A. Siddiqi  
1777 East-West Road  
Honolulu, Hawaii 96848

Dear Toufiq:

Thank you for your letter dated July 7, 1978, informing me of your research plan on the "Environmental Dimensions of Energy Policies".

I regret to inform you that the World Bank does not yet have a real "program" in rural energy, hence I have no paper to send you. At this stage the Bank is collecting information on the economics of alternative energy systems. Available information is fragmentary and is of variable reliability.

The document on "India - The Energy Sector" is now available as a publication of the Oxford University Press, New Delhi.

The other document "Mineral and Energy - The Developing Countries" is currently out of print. I am enclosing four reports by Bank staff members which should be of interest to you. These are on "Critical Factors in Economic Evaluation of Small Decentralized Energy Projects", "Developing country application of Photovoltaic Cells" and "Solar Photovoltaic Cells in Developing Countries", kindly supplied by Dr. Charles Weiss, the Bank's Science and Technology Adviser. The fourth is on "Ecological Development for Amazonia", which mentions Earl's excellent book on forest energy and economic development.

With best wishes,

Sincerely,

RG

Robert Goodland  
Office of Environmental  
and Health Affairs

cc. Mr. Weiss, PAS  
Mr. Hughart, EWT  
Mr. Armar, PAS

RG:mfb

OFFICIAL FILE COPY

NRIC - F-338

S- Environment

BC

**WORLD HEALTH ORGANIZATION**



**ORGANISATION MONDIALE DE LA SANTÉ**

1211 GENEVA 27 - SWITZERLAND  
Telegr.: UNISANTE-Geneva

Tél. 34 60 61 Télex. 27821

1211 GENÈVE 27 - SUISSE  
Télégr.: UNISANTÉ-Genève

In reply please refer to: ETS  
Prière de rappeler la référence:

31 August 1978

Dear Mr Tixon,

I should like to refer to our discussion in your office on 24 July during which we spoke of interests and activities of our organizations in environmental protection and management. Mr Reitze subsequently sent me a number of Bank documents dealing with environmental matters. Unfortunately the document entitled "Environmental Considerations" was not available at the time in English. I wonder if it would be possible to receive a copy in due course.

As promised, I am sending you under separate cover two copies of a number of WHO documents listed on the attached sheet. One set is meant for your own use and I would be grateful if you could pass the other set to Dr. Lee. I will also continue to send any other WHO documentation as it becomes available in the future.

Please let me know if you should have a need for further information.

Done  
med.  
11/15/78

Yours sincerely,

Dr H.W. de Koning  
Environmental Health Technology  
and Support  
Division of Environmental Health

Mr J.M.H. Tixon  
Office of Environmental and Health Affairs  
The World Bank  
1818 H Street, N.W.  
Washington, D.C. 20433  
United States of America

cc: Mr H. Reitze, Office of Environmental and Health Affairs  
The World Bank

RECEIVED  
1978 SEP -1 11:02

87/

ORGANISATION MONDIALE  
DE LA SANTÉ

1211 GENEVE 27 - SUISSE  
Télégr.: UNISANTE-Geneve



Tél. 34 80 81 Téléx. 27821

WORLD HEALTH  
ORGANIZATION

1211 GENEVA 27 - SWITZERLAND  
Téleg.: UNISANTE-Geneva

31 August 1978

In reply please refer to:  
ETS  
Prête de rapeler la référence:

Dear Mr. Tixon,

I should like to refer to our discussion in your office on 24 July during which we spoke of interests and activities of our organizations in environmental protection and management. Mr. Reitze subsequently sent me a number of Bank documents dealing with environmental matters. Unfortunately the document entitled "Environmental Considerations" was not available at the time in English. I wonder if it would be possible to receive a copy in due course.

As promised, I am sending you under separate cover two copies of a number of WHO documents listed on the attached sheet. One set is meant for your own use and I would be grateful if you could pass the other set to Dr. Lee. I will also continue to send any other WHO documentation as it becomes available in the future.

Please let me know if you should have need for further information.

Yours sincerely,

*Heide W. de Koning*  
Dr. H.W. de Koning  
Environmental Health Technology  
and Support  
Division of Environmental Health

Done  
11/2/78

Mr. J.M.H. Tixon  
Office of Environmental and Health Affairs  
The World Bank  
1818 H Street, N.W.  
Washington, D.C. 20433  
United States of America

cc: Mr. H. Reitze, Office of Environmental and Health Affairs  
The World Bank

RECEIVED  
1978 SEP -7 AM 11:05  
INCOMING MAIL UNIT

WHO Documentation

1. The WHO Environmental Health Criteria Programme (EHCP) EP/73.1 and EP/73.2.
2. Progress report of the EHCP dated 15 March, 1978.
3. Criteria documents 1-5 for Mercury, PCB's, Lead, Oxides of Nitrogen and Nitrates, Nitrites and N-Nitroso Compounds (also note the origin and objectives of EHCP in the Mercury document).
4. WHO catalogue and a smaller catalogue for WHO documents concerned with the environment (last up-date 1976).
5. Summaries of criteria documents for noise, DDT and derivatives, carbon monoxide, and photo chemical oxidants (the full documents are currently being prepared for publication).
6. Chapter 9 of the draft criteria document are sulfur oxides, smoke and suspended matter (the summary of the entire document will be issued later this year).

: : :

Mrs. H. Shanawany, POP

August 29, 1978

R. Goodland, Office of Environmental & Health Affairs

POPULATION/ENVIRONMENTAL EDUCATION RA

1. Further to our meeting of today, here is some of the information you requested: Bernard Woods (EDC, 477-5277, D316) is the main person I know interested in environmental education and with profound knowledge of West Africa.

2. The AID-sponsored environmental workshops mentioned arise from the office of Bill Roseboro and Molly Kux, AID, State Department, Washington (632-2418). They are frequently implemented worldwide by the group of Professors Dan Okun and Fred McJunkin as consultants (Department of Environmental Sciences and Engineering, School of Public Health, University of North Carolina, Chapel Hill, North Carolina). Okun has completed at least one of these workshops in Cairo. They are somewhat similar to our traveling EDI courses.

3. Lionel and Petronella Sylvester, Thabeng High School, P.O. Box MJ70, Morija, Lesotho -- the congenial long-term couple I mentioned. Professors Richard Forde and Len Berry, International Development Program, Clark University, Worcester, Massachusetts 01610 (617) 793-7453, also work on environmental education in Africa.

4. "African Environment" (a journal) of the "Environment Training Program" (ENDA) of BP 3370, Dakar, Senegal (Telex 579) might be a good vehicle for Population/Environmental Education progress.

5. The main Egyptian ecologist (apart from Mostafa Tolba, Executive Director UNEP Nairobi) is Professor M.A.F. Kassas, University of Cairo, recently decorated for environmental achievements. I expect you are familiar with the Institute for African Affairs in Cairo (Dr. Mostafa Miam Mahmoud).

cc: Dr. J. A. Lee, OEHA, Mr. R. Overby, OEHA, Mr. F. Lethem, PAS,  
Mr. B. Woods, EDC

RGoodland:rmq

August 24, 1978

Baron Leon de Rosen  
United Nations Environment Programme  
17 Rue Margueritte  
75017 Paris  
FRANCE

Re: Steel Industry Meeting October 17-20  
Geneva

Dear Leon:

I now find that it will be impossible for me to attend the UNEP Geneva meeting on the steel industry. Important project related work has arisen which, understandably, will require my attention.

I personally regret not to be able to participate in the discussions. I hope to see you in the not too distant future, and wish you all success at the October meeting.

Sincerely yours,

Jean M.H. Tixhon  
Office of Environmental and  
Health Affairs

cc: Dr. J. A. Lee

JTixhon/md

# ERT INTERNATIONAL, INC.

A SUBSIDIARY OF ENVIRONMENTAL RESEARCH & TECHNOLOGY, INC.

LOUIS J. CHURCHVILLE  
Vice President

August 22, 1978

Mr. Hernan Reitze  
The World Bank  
Room: E-1044  
1818 H Street, N.W.  
Washington, DC 20433

Dear Mr. Reitze:

Because of your participation in the Workshop in Environmental Investigation at Clark University, I thought you would be interested to know about ERT International, Inc., a subsidiary of Environmental Research & Technology, Inc.

ERT is the largest consulting firm devoted exclusively to environmental matters. We have more than a decade of experience in providing total environmental services to a broad range of industrial and governmental clients throughout the United States and in several other nations.

ERT provides expertise in every environmental discipline, ranging from environmental modeling and monitoring, through all ecological disciplines, to environmental engineering and law. Monitoring and modeling, land use planning, industrial siting, and consulting on matters of environmental planning and management represent some of the key areas of strength offered by our staff of over 700. Other areas include environmental, economic, social impact assessment, environmental data management, toxic substance testing, remote sensing and photointerpretation, and agricultural and climatic modeling. We also provide professional educational and technical training programs for clients interested in strengthening their capabilities to operate and manage their own environmental management and technological programs. This educational and training component facilitates the transfer of the technology and expertise necessary to accommodate the environmental management requirements in many developing countries.

U.S. DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
WASHINGTON, D.C. 20250

Mr. [Name]  
[Address]  
[City, State, Zip]

Dear Mr. [Name]:

I have your letter of [Date] regarding [Subject].

The [Subject] is currently being reviewed by [Department/Office].

We will contact you again once a final decision has been reached.

If you have any questions, please contact [Name] at [Phone Number].

Sincerely,  
[Signature]

RECEIVED

1978 SEP -1 PM 2:21  
INCOMING MAIL UNIT



Currently, two major programs are being undertaken by ERT International. The first is to design and implement a comprehensive hydrological monitoring system for Kuwait as part of the country's efforts to protect the marine environment in the Gulf during the process of industrialization. The second is designed to improve and expand the capabilities of the national meteorological monitoring system in the Kingdom of Saudi Arabia.

We are particularly concerned with the environmental issues and needs of the developing world. We would be happy to respond immediately to any requests or inquiries related to environmental needs that might come to your attention.

Dr. James R. Mahoney is President of ERT International, Inc., and co-founder and Vice President of Environmental Research & Technology, Inc. Dr. Mahoney has served extensively in an advisory and consultant capacity for many national and international agencies and organizations, including the U. S. Environmental Protection Agency, Organization for Economic Cooperation and Development, World Health Organization, World Meteorological Organization, United Nations Environment Program, and the Kingdom of Saudi Arabia.

Please do not hesitate to contact Dr. Mahoney or me if you would like more information on ERT International and the services we provide. Meanwhile, all best wishes.

Sincerely yours,

  
Louis J. Churchville

LJC/s



UNITED NATIONS ENVIRONMENT PROGRAMME  
PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT



Télégrammes : UNITERRA, PARIS

Téléphone : 766.16.40  
227.45.12

Télex : 650273

Get 10  
J

INDUSTRY AND ENVIRONMENT OFFICE  
DEPARTEMENT INDUSTRIE ET ENVIRONNEMENT

17, rue Marguerite  
75017 PARIS - France

RÉF. N° : 1734

August 21, 1978

Dear Mr. TIXHON,

On behalf of Mr. de ROSEN, presently away on vacation, I am pleased to acknowledge receipt of your letter dated August 3, 1978 and thank you for your valuable comments on the Manual on Pulp and Paper that we are going to publish.

I do agree with your suggestion of including a section on the need of training in this manual.

I am very interested to hear that the World Bank is also preparing a Manual on Pulp and Paper which, from the outline given in your letter, will not overlap with our own.

We would be very pleased to see you if you are able to pass through Paris at the end of September.

With warmest personal greetings,

Yours sincerely,

John A. HAINES  
Programme Management Officer  
Industry & Environment Office

Mr. Jean M.H. TIXHON  
Office of Environmental  
and Health Affairs  
THE WORLD BANK  
1818 H Street, N.W.  
WASHINGTON, D.C.20433

U.S.A.

INCOMING MAIL UNIT

1978 AUG 22 PM 15:20

RECEIVED

RECEIVED

1978 AUG 25 PM 12: 50

INCOMING MAIL UNIT

U.S.A.

WASHINGTON, D.C. 20543  
1818 H Street, N.W.  
THE WORLD BANK  
and Health Affairs  
Office of Environmental  
Mr. Jean M.H. TIXHOI

Industry & Environment Office  
Programs Management Officer  
John A. HAINES

*John A. Haines*

Yours sincerely,

With warmest personal greetings,

at the end of September.

We would be very pleased to see you if you are able to pass through Paris

will not overlap with our own.

Manual on pulp and paper which, from the outline given in your letter,  
I am very interested to hear that the World Bank is also preparing a

ning in this manual.

I do agree with your suggestion of including a section on the need of try-

to publish.

Your valuable comments on the Manual on pulp and paper that we are doing  
acknowledge receipt of your letter dated August 3, 1978 and thank you for  
on behalf of Mr. de ROZEM, presently away on vacation, I am pleased to

Dear Mr. TIXHOI,

August 21, 1978

REF. N° : 1134

Telex : 22023

21.24.78

Telephone : 04.21.221

Teletype : UNITENVA, PARIS

12017 PARIS - France  
11, rue Marguerite

DEPARTEMENT INDUSTRIE ET ENVIRONNEMENT  
INDUSTRY AND ENVIRONMENT OFFICE



PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT

UNITED NATIONS ENVIRONMENT PROGRAMME



21.24.78



# THE UNIVERSITY OF ARIZONA

TUCSON, ARIZONA 85721

DEPARTMENT OF ELECTRICAL ENGINEERING

August 18, 1978

Dr. Jean Tixhon  
Central Project Staff  
The World Bank  
Building E, Room 1005  
1818 H Street, N.W.  
Washington, DC 20433

Dear Dr. Tixhon,

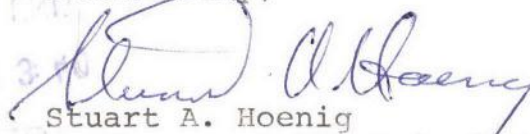
It was nice to hear from you on August 17, I had almost forgotten that someone at World Bank was interested in air pollution. At any rate the situation in the U.S. is that lead smelter pollution control has not received the attention it deserved because EPA and OSHA have been busy with other (more important??) topics. Another problem is that lead fumes are hard to control and EPA hesitates to get involved with an area where they might not be able to provide solutions to problems.

We have been working on SO<sub>2</sub> and dust control; you have the reports on that effort. The lead work will be picking up again as I have some new ideas on that topic. I will keep you informed of what happens.

On the trip to Switzerland, I have had a paper accepted for the Fourth International Congress on Rock Mechanics, to be held in September 1979 and naturally I would like to attend. The University will send me as far as Chicago and NSF has indicated that I can spend some of the contract funds but costs being what they are that would not allow me to do any traveling in Europe. I would like to see what is being done in pollution control and rock mechanics in Germany and Great Britain. If the World Bank could help with costs I could certainly visit Yugoslavia to look at the lead smelter.

I will appreciate any help you might provide in this area. Please give my regards to Dr. Weiss.

Yours truly,



Stuart A. Hoenig  
Professor of Electrical Engineering

SAH:jc

RECEIVED

1978 AUG 22 PM 3:40

INCOMING MAIL UNIT



UNITED NATIONS ENVIRONMENT PROGRAMME  
PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT



Télégrammes : UNITERRA, PARIS

Téléphone : 766.16.40  
227.45.12

Télex : 650273

INDUSTRY AND ENVIRONMENT OFFICE  
DEPARTEMENT INDUSTRIE ET ENVIRONNEMENT

17, rue Marguerite  
75017 PARIS - France

RÉF. N° : 1729

August 18, 1978

Dear Mr. TIXHON,

Mr. de ROSEN is away on vacation until the end of August and I would like on his behalf to thank you for your letter of August 7, to him and your information on bauxite mining site rehabilitation and residue disposal.

The problem of red-mud disposal is also meant to be included in our survey. The French member from Aluminium Pechiney objected to the use of the term red-mud and requested that bauxite residue be use. We would be very grateful for any information you could give us on this subject as well as guidelines the World Bank gives to countries.

You will certainly be interested to hear that I recently visited Jamaica to discuss the environmental aspects of the red-mud disposal problem. They have particularly difficult problems due to the limestone nature of the island and poor impoundment techniques used in the past.

With renewed thanks and warmest personal regards,

Yours sincerely,

John A. HAINES  
Programme Management Officer  
Industry & Environment Office

INCOMING MAIL UNIT  
1878 AVE S2 RM 5-01  
RECEIVED

Mr. Jean M.H. TIXHON  
Office of Environmental and  
Health Affairs  
THE WORLD BANK  
1818 H. Street, N.W.  
Washington, D.C. 20433

U.S.A.

U.S.A.

Washington, D.C. 20433  
1818 H Street, N.W.  
THE WORLD BANK  
Health Affairs  
Office of Environmental and  
Mr. Jean M.H. TIXHON

RECEIVED

1978 AUG 25 PM 2:07

INCOMING MAIL UNIT  
Programme Management Officer  
John A. HAINES

*John A. Haines*

Yours sincerely,

With renewed thanks and warmest personal regards,

island and poor impoundment techniques used in the past.  
have particularly difficult problems due to the limestone nature of the  
discuss the environmental aspects of the red-mud disposal problem. They  
you will certainly be interested to hear that I recently visited Jamaica to

the World Bank gives to countries.  
for any information you could give us on this subject as well as guidelines  
red-mud and requested that auxite residue be used. We would be very grateful  
The French member from Aluminium Pechiney objected to the use of the term  
the problem of red-mud disposal is also meant to be included in our survey.

information on auxite mining site rehabilitation and residue disposal.  
on his behalf to thank you for your letter of August 7, to him and your  
Mr. de ROZEN is away on vacation until the end of August and I would like

Dear Mr. TIXHON,

August 18, 1978

REF. No. : 11750

Telex : 620513

11.44.122

Telephone : 00.41.201

Telegammes : UNITEXX, PARIS

11, rue Marguerite  
75013 PARIS - France

DEPARTEMENT INDUSTRIE ET ENVIRONNEMENT  
INDUSTRY AND ENVIRONMENT OFFICE



PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT  
UNITED NATIONS ENVIRONMENT PROGRAMME



2. 8 11 1978

*yellow copy*

S - Environment & Health

Dr. James A. Lee, PAS

August 11, 1978

L. Vera, TFP

**The World Bank's Environmental Activities**

---

The draft paper presents a useful summary of the activities already carried out by the OEHA and offers a series of recommendations for the Bank to continue its efforts in fostering a dialogue on environment/development matters with member governments.

Among the recommendations, the paper suggests that the Bank continue to provide information to its borrowers through the publication of guidelines and handbooks. I would add that such an activity should be expanded not only in number but also in scope. For instance, the third edition under preparation of "Environmental, Health and Human Ecologic Considerations in Economic Development Projects", should balance its section on agricultural projects (2-1/2 pages compared with industrial projects' 27 pages) and expand its scope to include guidelines on resource management and conservation.

Since environmental concern is relatively recent, not all Bank staff and government officials recognize that "environmental considerations are part of project design". The paper's suggestion of organizing and carrying out training sessions, seminars and workshops on environmental matters at the Bank level and through EDI should be explored in more detail.

*lv.*

L Vera:caf

cc:Mr. S.M. Tolbert



*Mr. Lott*

UNION INTERNATIONALE POUR LA CONSERVATION DE LA NATURE ET DE SES RESSOURCES  
INTERNATIONAL UNION FOR CONSERVATION OF NATURE AND NATURAL RESOURCES

1110 MORGES, SUISSE (SWITZERLAND)

☎ (021) 7144 01

TELEGRAMMES: UNICORN MORGES

In your reply, please refer to:  
En répondant, veuillez rappeler:

B/4/6-2  
O/2/49

*S. Environment-*

Dr. Robert Goodland  
Office of Environmental and  
Health Affairs  
The World Bank  
1818 H Street, N.W.  
Washington, D.C. 20433  
U.S.A.

10 August 1978

Dear Dr. Goodland,

A short note to follow up my secretary's letter of 20 July to you. I enclose a copy of a letter on WEAP I have written to Teddy Goldsmith. I would be very interested to hear your comments on this proposal and whether you think the World Bank would be interested in working with governments on a special drive to safeguard genetic resources. ...

You may know that there <sup>was</sup> will be a UN conference, organized by WHO and UNICEF, at Alma Ata in the Soviet Union in early September 1978. This should accelerate support by developing countries for home-grown medicines, as opposed to the expensive brands of the international pharmaceutical companies, and for a merger of traditional medical practice with more sophisticated high technology forms. This move seems to me to be a very good way of demonstrating to governments the wisdom of safeguarding their genetic resources. Increasingly, they are likely to have recourse to the easily accessible pharmacological properties of their native plants and invertebrates, so I think that they are likely to be more receptive to programmes to conserve their genetic resources. Again, I would be grateful for your thoughts on this and what you think the World Bank's role might be.

Yours sincerely,



Robert Allen  
Head, Membership and  
External Affairs

Enclosure

RECEIVED  
1978 AUG 16 PM 2: 24  
INCOMING MAIL UNIT

UNION INTERNATIONALE POUR LA CONSERVATION DE LA NATURE ET DE SES RESSOURCES  
INTERNATIONAL UNION FOR CONSERVATION OF NATURE AND NATURAL RESOURCES

1110 MORGES, SUISSE (SWITZERLAND)

☎ (021) 7144 01

TELEGRAMMES: UNICORN MORGES

In your reply, please refer to:  
En répondant, veuillez rappeler:

B/4/6-2

Mr. Edward Goldsmith  
The ECOLOGIST  
73 Molesworth Street  
Wadebridge, Cornwall  
PL27 7DS  
England

10 August 1978

Dear Teddy,

Many thanks for your letter of 3 July asking me to comment on your letter of 19 May to Maurice Strong.

I am afraid I do not think Ashok's suggestion a particularly good one. Although reforestation programmes are necessary and important, we do not need a special organization to encourage governments to undertake them. Now that the World Bank is adopting a more sensible policy on forestry, it seems likely that reforestation will be regarded by multilateral and bilateral aid agencies as a valuable way of enabling countries to make better use of their natural resources.

We still need, I think, a modification of the original idea - which focussed on the need to preserve genetic resources in ways compatible with maintaining the ways of life of subsistence and semi-subsistence peoples (assuming they wish to have their ways of life maintained).

In the course of preparing A World Conservation Strategy we have come to the conclusion that preservation of genetic resources is still one of the most neglected issues to which the greatest amount of lip-service is paid. One of the Strategy's recommendations is that industry be encouraged to sponsor the establishment and maintenance of special conservation areas to protect the genetic resources of the crops and commodities on which they depend. Another recommendation is that locally domesticated varieties of plants and animals can be preserved in situ by establishing agricultural conservation areas in which the local farmers are paid to continue farming the plants and animals in the way they do now so that the varieties in question are maintained. We owe the latter recommendation to Michael Wright of The Nature Conservancy. Taken together, both recommendations seem to me to point the way to fulfilling the original idea of WEAP.

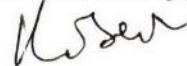
../..

Mr. Edward Goldsmith10 August 1978

It would surely be possible to put together a small programme to bring together government will, the business community's money and conservation expertise to start setting up the special and agricultural conservation areas. Please let me know what you think of this.

Under separate cover I am sending you a copy of the second draft of A World Conservation Strategy. This is being reviewed by IUCN's General Assembly from 26 September to 5 October. Once it has been amended accordingly, we expect to publish it, probably with a commercial paperback publisher, in early 1979. Please note, therefore, that the draft we are sending you is very much a draft and is not for publication in whole or in part. However, I would very much appreciate your comments (you can be as rude as you like!). Please see if you can get them to me by 22 September.

With best wishes,  
Yours sincerely,



Robert Allen  
Head, Membership and  
External Affairs

cc: Mr. Maurice F. Strong  
Dr. Ashok Khosla  
Dr. Robert Goodland

August 10, 1978

Mr. Keshava S. Murthy  
Senior Research Engineer  
Battelle  
Columbus Laboratories  
505 King Avenue  
Columbus, Ohio 43201

Dear Mr. Murthy:

Thank you for your letter, with attachments, of July 12, 1978.

Staff in this office has reviewed the material which you so kindly shared with us. Likewise, we acknowledge with appreciation Battelle's willingness to help in this field. Therefore, should the occasion arise we may wish to contact you in this regard.

In addition to the publications I already sent you, I am enclosing for your interest a copy of "Environmental Considerations for the Industrial Development Sector" just coming out from our print shop.

Best regards,

Sincerely,



Hernan Reitze  
Office of Environmental  
& Health Affairs

cc. Dr. Lee, OEHA (routed through Messrs. Overby, Tixhon and Goodland)

HR:mfb

**OFFICIAL FILE COPY**

August 10, 1978

Mr. Christopher Saleh  
Office of Development  
Overseas Private Investment Corporation  
1129 20th Street, N.W.  
Washington, D.C. 20527

Dear Mr. Saleh:


Thank you for your letter of August 1, 1978, enclosing the "environmental assessment guidelines" which OPIC's Office of Development is currently formulating.

I will circulate these documents to various staff in the Bank because I think that there is hardly a more sensible form of investment protection than environmental protection. Good management of the environment is in itself already a good management of any investment and, therefore, perhaps the least expensive form of investment insurance in the long run. Altogether, it is extremely satisfying to observe the consideration of such appropriate policy matters by the Overseas Private Investment Corporation.

As I promised, and in addition to the other World Bank publications which I sent you, I am now enclosing a copy of "Environmental Considerations for the Industrial Development Sector" fresh out of our print shop. I hope it will be of help to you while drafting ODIC's own environmental guidelines and checklists.

Please let me know if we can be of any further assistance on this subject.

Sincerely,

  
Hernan Reitze  
Office of Environmental  
& Health Affairs

cc. Dr. Lee (through Messrs. Overby, Tixhon and Goodland)

HR:mfb

OFFICIAL FILE COPY

August 10, 1978

Mr. John Buserud  
RESOLVE  
Center for Environmental Conflict Resolution  
2010 Massachusetts Avenue, N.W.  
Washington, D.C. 20036

Dear Mr. Buserud:

Thank you for your letter of July 12, 1978, to Mr. McNamara. We indeed appreciate your sending us the RESOLVE brochure entitled "Innovative Approaches in Settling Environmental and Resource Disputes", and a copy of the report of a conference jointly sponsored by the Center for Environmental Conflict Resolution, the Aspen Institute, and the Sierra Club Foundation, entitled "Environmental Mediation: An Effective Alternative?".

Both documents are currently being reviewed and evaluated by various Bank staff members. Upon receipt of their comments and assessment, we will determine the need for more information of the type you kindly volunteer in your letter and will be in touch with you again.

In the meantime, we thank you once more for sharing this information with us.

Sincerely yours,



Hernan Reitze  
Office of Environmental  
& Health Affairs

cc. Mr. Caio Koch-Wester, EXC  
Mr. A.L. Doud, LEG (with copy of incoming, and enclosures)  
Dr. Lee, OEHA (routed through Messrs. Overby, Tixhon and Goodland)

HR:mfb

~~H.R.~~  
S. Environment & Health

Columbia University in the City of New York | New York, N. Y. 10027

INSTITUTE OF WAR AND PEACE STUDIES

420 West 118th Street

8 August 1978

Mr. James Lee  
IBRD  
1818 H Street, NW  
Washington, D.C. 20433

Dear Mr. Lee:

You may have received a cable earlier this summer from the UN Environment Programme, stating that I would be in touch with you concerning a project that UNEP has asked me to do for them.

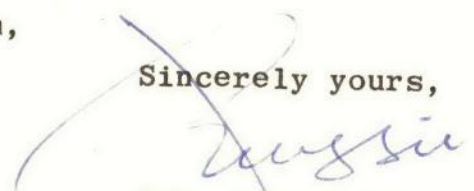
The UNEP Governing Council has requested the Secretariat to prepare an in-depth report on the program area of environment and development, to be considered at the Council's meetings next spring. My task is to survey the UN Agencies and related organizations, from the point of view of their activities in the environment-development field, what impact if any UNEP has had on those activities, and how UNEP can be helpful in this area in the future.

I wonder if it would be convenient for me to come to the Bank at the end of next week to discuss these issues with you and your colleagues. In addition to you, Messrs. Middleton, Dunnerly, Willoughby, Reitze and Mistorcelli were mentioned to me by UNEP.

I will call your office on Monday the 14th. If it is convenient for you and your colleagues -- either those I have listed or others whom you think I should meet -- I would come to Washington late on the 16th and spend the 17th and 18th at the Bank.

With thanks for your consideration, I am,

Sincerely yours,



John Gerard Ruggie  
Associate Professor

INCOME TAX UNIT  
AUG 14 1978 12  
RECEIVED



Columbia University in the City of New York

8 August 1978

Mr. James Lee  
IBRD  
1818 H Street, NW  
Washington, D.C. 20433

Dear Mr. Lee:

You may have received a cable earlier this summer from the UN Environment Programme, stating that I would be in touch with you concerning a project that UNEP has asked me to do for them.

The UNEP Governing Council has requested the Secretariat to prepare an in-depth report on the program area of environment and development, to be considered at the Council's meetings next spring. My task is to survey the UN Agencies and related organizations, from the point of view of their activities in the environment-development field, what impact if any UNEP has had on those activities, and how UNEP can be helpful in this area in the future.

I wonder if it would be convenient for me to come to the Bank at the end of next week to discuss these issues with you and your colleagues. In addition to you, Messrs. Middleton, Durney, Wiloughby, Reitze and Mistorcelli were mentioned to me by UNEP.

I will call your office on Monday the 14th. If it is convenient for you and your colleagues -- either those I have listed or others whom you think I should visit -- I would come to Washington late on the 18th and spend the 17th and 18th at the Bank.

With thanks for your consideration, I am,

Sincerely yours,

John Gerard Ruggie  
Associate Professor

RECEIVED  
1978 AUG 14 AM 11: 15  
INCOMING MAIL UNIT

August 7, 1978

Baron Leon de Rosen  
United Nations Environment Programme  
17 Rue Margueritte  
75017 Paris  
FRANCE

Re: Aluminum Industry

Dear Leon,

Thank you for your letter of June 16 and the annexed report. Listed below are the answers to the questions stated in the letter.

Use and Disposal of Bauxite Residues

I assume that by bauxite residues you mean mine tailings and not red muds. Depending on the location and the local conditions, we accept that mine tailings be either used as filling material or be discharged in a waterway, provided additional conditions are being met. For instance in the case of discharging the tailings in a lake, we make sure that no endangered species will disappear and that other users of the lake will not suffer from the new situation.

Rehabilitation

Before signing the loan the Bank will ask from the sponsor a complete program of reclaiming and reforestation (see annexed guidelines on Open Pit Mining). The program should begin at the latest, 3 years after the opening of the mine and, after it is completed, the situation should be similar or better than it was before the mine opening. I hope the preceding will be of help to you.

If you need additional information, please feel free to write. Best personal regards,

Cordially yours,

Jean M. H. Tixhon  
Office of Environmental and  
Health Affairs

Attachment

cc: Dr. J. A. Lee, OEHA  
Mr. H. Reitze, OEHA  
JTixhon/md

Dr. J. A. Lee, Office of Environmental and Health  
Affairs

August 4, 1978

J. Tixhon, Office of Environmental and Health Affairs X

The World Bank's Environmental Activities: A Program Report

1. After reviewing the July 26 draft, I feel that the sub-chapter III - D, Training and Guidelines is not complete, at least not for industrial projects.
2. We are giving guidelines and the equipment is designed in conformity with them. This is of little practical help, however, if the plant people have not been properly trained to operate, monitor and maintain both the process equipment and the pollution abatement equipment.
3. Examples illustrating this situation are not difficult to find. The Nickel-Copper Smelter in Pikwe, Botswana, the Ammonia Urea Plant in Nangal, India, and the best example is the Trepca Smelter. In this case, if the process equipment was run properly, 80% of lead pollution, 90% of particulates pollution, 99% of SO<sub>2</sub> pollution, 100% of H<sub>2</sub>S pollution, and probably 80% of fluorine pollution would disappear. In both Pikwe and Trepca the operating as well as the management personnel do not really know what is happening in the process and probably do not understand completely what the process is all about.
4. In conclusion, if the Bank wants to make sure that projects it finances really protect the environment and, at the same time, operate at a satisfactory economic level, it should introduce a major training component in any future industrial project under consideration.

JTixhon/md

August 3, 1978

Baron Leon de Rosen  
United Nations Environment Programme  
17 Rue Margueritte  
75017 Paris  
FRANCE

Re: Manual on Pulp and Paper - Ref. 2460

Dear Leon,

Thank you for your letter and its annexes telling us that you are going to publish a Manual on Pulp and Paper. I have reviewed the outline and have the following comment on it. Somewhere in the Manual a section on the need of training should be inserted. It has been our unhappy experience that giving guidelines is not sufficient. In most cases, the plant is designed properly but follow up missions discover that it is rarely operated the way it should. People in the plant often complain that equipment is poor or does not run. But a check of the operating conditions against the design specifications reveals that the equipment is not run according to design. The first problem is that no training has been provided to operate, monitor and maintain the pollution abatement equipment with the result that the process variables are fluctuating wildly, the controls are not used or poorly used, and the maintenance is poor. The only way to remedy the situation is by training all the people involved. The second problem is that, even if the pollution abatement equipment is run properly, the process equipment upstream is misoperated for similar reasons. The result is the same as far as pollution is concerned. The cleaning equipment is overloaded, breakdowns happen and effluents are only partially treated when they are treated at all. Here again the solution is proper training.

As I have probably already told you we are also, here at the Bank, preparing a Manual on Pulp and Paper. We were not happy with the first draft and we are now negotiating with BEAK (Vancouver) to write the final draft. I do not think the two manuals will be similar but rather complementary after I compared the respective contents. The chapters in the World Bank book will cover the following:

August 3, 1978

Overview of the Industry  
Environmental Input in Project Planning  
Environment Assessment Methodology  
Socio Economic Aspects of the Industry  
Water Pollution Control  
Air Pollution Control  
Land Pollution Control  
Environmental Laws and Regulations

As you can see this book will be much more general than your series of manuals. Our book will give a good general overview. Your book will be much more technical with the 13 different chapters in the technical section.

I will be in Europe the end of September and the beginning of October. If I go through Paris it will be a pleasure for me to get in touch with you.

Best personal regards,

Most cordially,

*J*

Jean M.H. Tixhon  
Office of Environmental and  
Health Affairs

cc: Dr. J. A. Lee, OEHA  
Mr. H. Reitze, OEHA

JTixhon/md

Dr. J. A. Lee, Office of Environmental and Health  
Affairs

August 3, 1978

J. Tixhon, Office of Environmental and Health Affairs *JT*

UNEP Workshop on Iron and Steel Industry

1. There will be an UNEP seminar at ILO in Geneva October 17-20. This seminar will conflict with the ECE Chemical Industry seminar in Szczecin Poland (my July 6 memo to you).
2. I would prefer to go to Geneva for the following reasons:
  - (a) We have had problems in the steel industry and we still have (Brazil - Venezuela)
  - (b) I have had previous experience and can make a contribution (OECD meetings, visit to Demag Duisburg and Danske Stoalvalsewerk - Frederistswaerk)
  - (c) This will be an opportunity to re-establish contact with ILO.
  - (d) We will show the flag at one UNEP meeting.

JTixhon/md

OVERSEAS  
PRIVATE  
INVESTMENT  
CORPORATION

1129 20th Street, N.W.  
Washington, D.C. 20527  
Telex-OPIC Wsh 89-2310



August 1, 1978

*Handwritten initials: H.*  
Mr. Herman Reitze  
World Bank, Room E-1044  
1818 H Street, N. W.  
Washington, D. C. 20433

Dear Mr. Reitze:

*enc.*  
Enclosed, as requested, is a rough draft of the environmental assessment guidelines which OPIC's Office of Development is currently formulating.

OPIC's consideration of the environmental effects of proposed investment projects is based upon OPIC's statute which requires that the corporation "develop and implement specific criteria intended to minimize the potential environmental implications of projects undertaken by investors abroad." The enclosed guidelines are to serve as a type of "checklist" to aid OPIC's finance and insurance officers in screening projects for related environmental and health problems.

I hope these materials are of some assistance to you, and urge you to contact me if you have further questions or concerns regarding OPIC's activities in the environmental realm. Also, any environmental assistance, publications, or materials your office could forward to us would be greatly appreciated. I would like to take this opportunity to specifically thank you for the past help OPIC has received from the World Bank.

Sincerely,

*Handwritten signature: Christopher Saleh*

Christopher Saleh  
Office of Development

Enclosure: as stated

*Retained by OEHA.*

*ack. Aug. 10/78*

*J.A.L.*  
*R.O.*  
*R.G.*  
*J.T.*  
S - Environment & Health

RECEIVED

1978 AUG -2 AM 11: 20

INCOMING MAIL UNIT



July 31, 1978

Dear Mr. Specker:

I wish to thank you for your letter of March 1 and its enclosure. I must also apologize for answering so late but since March I spent more time outside of Washington than in my office.

We have a Water Division here and I forward copy of your letter with the Bulletin 210 as well as specifications 210 and 215 to Mr. John Kalbermatten, Chief of this Division. I will keep the original.

As far as "emerging nations" are concerned, do you think that despite the cost of returning the empty cylinders for refilling at the chlorine manufacturing plant, chlorine is more economical than the different hypochlorites when the country itself does not manufacture chlorine?

We finance several types of industries, including fish processing, that could use your equipment. What is, in this case, the residual free chlorine advisable to make sure, on one side, that there is enough and that, on the other side, the remaining free chlorine will not be detrimental to life in the waterway or in the sea?

Your bulletin also mentions the use of chlorine to control slime and algae in recirculating cooling water. In this situation which is the best way to use chlorine: at a steady rate all the time or by slugs once a week or once a month?

Thank you for your help.

Very truly yours,



Jean Tixhon  
Office of Environmental and  
Health Affairs

Chlorinators Incorporated  
733 Northeast Dixie Highway  
Jensen Beach, Florida 33457

cc: Dr. J. A. Lee, PAS  
Mr. J. Kalbermatten, EWT  
Mr. M. V. Dehijia, CEN

JTixhon:dn

S - Environment & Health

ORGANISATION DES NATIONS UNIES POUR L'ALIMENTATION ET L'AGRICULTURE



ORGANIZACION DE LAS NACIONES UNIDAS PARA LA AGRICULTURA Y LA ALIMENTACION

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

Via delle Terme di Caracalla, 00100 - ROME

Cables: FOODAGRI ROME

Telex: 61181 FOODAGRI

Telephone: 5797

Ref. PR 6/4 **In reply please mention our subject code ref and date of this letter**

**JUL 28 1978**

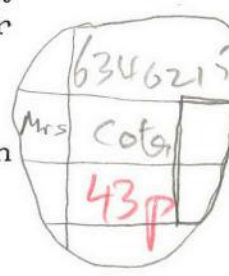
Dear Mr. Goodland,

Please refer to your kind letter of 22 June 1978 which was acknowledged by Mr. Eren on 5 July.

*retained by OEHA*

... I am now sending you the publication on "The Environmental Impact of Tsetse Control Operations" (FAO Animal Production and Health Paper No. 7) provided by Mr. J. Le Roux, Animal Health Officer.

I hope this will reach you in time and be useful for your work. However, please do not hesitate to contact us for any further information you may require.



Yours sincerely

*L. Huguet*

Louis Huguet  
Chairman  
Inter-Departmental Working Group  
on Natural Resources and the Human Environment

Mr. R. Goodland  
Office of Environmental and Health Affairs  
World Bank  
1818 H Street, N.W.  
Washington, D.C. 20433  
U.S.A.

RECEIVED  
1978 JUN -0 16  
INCOMING UNIT

ORGANIZACION DE LAS NACIONES UNIDAS  
PARA LA AGRICULTURA Y LA ALIMENTACION



ORGANISATION DES NATIONS UNIES POUR  
L'ALIMENTATION ET L'AGRICULTURE

FOOD AND AGRICULTURE ORGANIZATION  
OF THE UNITED NATIONS

Telephone: 5787

Telex: 81781 FOODAGRI

Caples: FOODAGRI ROME

Via delle Terme di Caracalla, 00100 - ROME

PR 674  
In reply please mention  
our subject code ref  
and date of this letter

JUL 28 1978

Dear Mr. Goodland,

Please refer to your kind letter of 22 June 1978 which was acknowledged by Mr. Eren on 5 July.

I am now sending you the publication on "The Environmental Impact of Tsetse Control Operations" (FAO Animal Production and Health Paper No. 7) provided by Mr. J. Le Roux, Animal Health Officer.

I hope this will reach you in time and be useful for your work. However, please do not hesitate to contact us for any further information you may require.

Yours sincerely

*L. Huguet*

Louis Huguet  
Chairman

RECEIVED

1978 AUG -9 PM 4: 19

INCOMING MAIL UNIT

Mr. R. Goodland  
Office of Environmental and  
Health Affairs  
World Bank  
1818 H Street, N.W.  
Washington, D.C. 20433  
U.S.A.

*Yellow copy*

*S - Environment & Health*

July 28, 1978

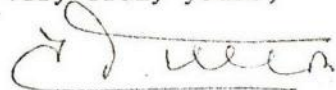
Dear Mr. McLaren:

Ref. 012.01

Thank you for your proposal of July 14, 1978 to draft a manual for environmental protection in the pulp and paper industry.

Dr. J. A. Lee is now outside the country but he should be back around August 10. A few days after this date, we will let you know our decision. In the meantime, I would like to make a preliminary comment. Somewhere in the book, probably in Chapter 5 in the control technology section, a paragraph or two on the importance of training should be added. It has been our experience that equipment sometimes runs poorly because the personnel does not really know how to run it. By running it, I include not only operating, but also monitoring (analyses and adjustment of instruments) and maintaining the equipment. I should also stress that it is imperative to have a training program including both environmental and the main process equipment. Several times, the pollution abatement step runs poorly because poor operation of the process overloads the downstream equipment.

Very truly yours,



Jean Tixhon  
Office of Environmental &  
Health Affairs

Beak Consultants Limited  
Suite 602  
1550 Alberni Street  
Vancouver, British Columbia  
CANADA V6G 1A5



UNITED NATIONS ENVIRONMENT PROGRAMME  
PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT



Télégrammes : UNITERRA, PARIS  
Téléphone : 766.16.40  
227.45.12  
Télex : 650273

INDUSTRY AND ENVIRONMENT OFFICE  
DEPARTEMENT INDUSTRIE ET ENVIRONNEMENT

17, rue Marguerite  
75017 PARIS - France

RÉF. N° : 2364

July 27, 1978

Dear Mr. TIXHON,

*Jean*

WORKSHOP ON ENVIRONMENTAL ASPECTS  
OF THE IRON AND STEEL INDUSTRY

I am writing to you concerning the preparation for the UNEP Workshop on the Environmental Aspects of the Iron and Steel Industry to be held in Geneva at ILO Headquarters, October 17-20, 1978. Please find enclosed the Provisional Draft Agenda UNEP/WS/IS.1 for this workshop.

Under separate cover you will be receiving the Report of the Secretariat (document UNEP/WS/IS.2) which gives in the preamble the purpose of the meeting and the methodology which will be employed. Additionally you will also receive the following background documents :

- "The Environmental Impact of the Steel Industry in Developed Nations", UNEP/WS/IS.3 by Julian SZEKELY.
- "The Environmental Impact of the Steel Industry in Developing Countries", UNEP/WS/IS.4, and "Iron and Steel Industry in Brazil and the Environmental Control", UNEP/WS/IS.5 by Hidehiro OBATA.
- "Impact on Environment of Various New Possible Methods to Produce Iron and Steel Materials", UNEP/WS/IS.6, by Jacques ASTIER.
- "Environmental Control in the Iron and Steel Industry", prepared by the International Iron and Steel Institute.

./.

Mr. Jean M.H. TIXHON  
Office of Environmental & Health Affairs  
THE WORLD BANK  
1818 H. Street N.W.  
WASHINGTON, D.C. 20433

U.S.A.

*Handwritten scribble*

RECEIVED

1978 AUG -1 PM 2: 39

INCOMING MAIL UNIT

2364

July 27, 1978

One month before the meeting, we will be sending you a note on the issues which, in our opinion, should be singled out for further subsequent international evaluation, as explained in the preamble of the Secretariat's Report.

Whilst the background documents will be presented at the time of the workshop, these documents will not be examined in detail. The main document for examination will be the Report by the Secretariat, UNEP/WS/IS.2. In order to streamline discussion of this document and further detailed examination of the main issues during the workshop, you are kindly requested to send comments, suggested amendments and items for discussion to the Secretariat beforehand and in any case not later than September 30, 1978. Your comments on the background documents would also be welcome.

Finally, please find enclosed, a guide, provided by ILO, for participants in meetings at the headquarters of the International Labour Organization.

As other meetings will be held in Geneva at the same time, may I suggest that hotel reservations be made directly as soon as possible.

We look forward to receiving your contribution to the workshop and to meeting you in October.

*With best regards,*

Yours sincerely,



Léon de ROSEN

Director, Industry & Environment Office

Encls : 2



DECLAS

MAY 26 2022

WBG ARCHIVES

INDUSTRY & ENVIRONMENT OFFICE

WORKSHOP ON THE ENVIRONMENTAL ASPECTS

OF THE

IRON AND STEEL INDUSTRY

(to be held at ILO Headquarters, Geneva, October 17 to 20, 1978)

PROVISIONAL DRAFT AGENDA

1. Opening Ceremony : Presentation by Secretariat on the Purpose of the Workshop.
2. Brief Presentation of the Background Papers.
3. Preliminary Examination of Secretariat's Report and Identification by Experts of the Major Issues.
4. Working Groups : (i) Detailed Examination of Secretariat's Report and Specific Identified Issues  
(ii) Planning of further subsequent evaluation of Issues (over a period of 1 or 2 years).
5. Concluding Discussions and Timetable for Follow-up Activities.
6. Closing Ceremony.



### CHANGES IN TELEPHONE NUMBERS

All the ILO internal telephone numbers and the number for direct dialling to the Palais des Nations from the ILO building which appear in the attached guide are now out of date.

For *internal telephone numbers*, the new number may be obtained by adding 4000 to the number shown in the guide, as follows:

2000s become 6000s (2823 for instance becomes 6823);  
3000s become 7000s (3131 for instance becomes 7131);  
4000s become 8000s (4682 for instance becomes 8682).

For *direct dialling to the Palais des Nations* dial 9 (instead of 7 as formerly) followed by the number of the internal extension desired.

As from 6 December 1977 calls to the ILO from outside the building may be made either by dialling 99 followed by the internal number required or, where the internal number is not known, by dialling number 99 61 11 (instead of 98 52 11 as previously).

## INTERNATIONAL LABOUR OFFICE

### Guide for participants in meetings at the headquarters of the International Labour Organisation

#### The ILO building

The ILO building is situated in a park of some 105,000 square metres overlooking the city of Geneva, close to the Office of the United Nations at Geneva (Palais des Nations) and other major international organisations.

The building is oriented roughly on a north-south axis. The meeting rooms are concentrated in a block located at the south end. A corresponding block at the north end contains various services. Over these an office structure of eleven storeys, sheathed in aluminium and glass, houses the secretariat of the International Labour Organisation (the International Labour Office).

The various levels in the building are numbered P.1, P.2, etc., for underground garages, S.1 and S.2 for basement levels, R.1, R.2 and R.3 for surface levels, M.2 and M.3 for mezzanines, and 1, 2, etc., for floors in the office block.

Simplified floor plans are attached showing surface levels R.2 and R.3, where the meeting rooms and a number of services are found.

#### Access to the building

##### By private car

The building is reached from the Place des Nations by the Route de Ferney. A road on the right at the top of the hill (Ancienne route), marked "BIT", leads to the entrance to the ILO grounds. Visitors and participants in meetings should follow the signs to garage P.1, where space is reserved for them.

The traffic regulations in the grounds are generally those in effect throughout Switzerland. In case of accident the park attendant, or in his absence the Control Centre on level R.3 at the north end of the building, should be notified.

##### By taxi

The building is inside the urban fare area. Taxis can be found at a number of stations in Geneva or called by telephone with no addition to the fare. The number of the central taxi service is 141; other services are listed under "Taxicab" and "Taxis" in the Geneva telephone directory. The address to be given to the driver is "BIT" (bay-ee-tay), and the most convenient place to stop is at the first (south) entrance, which is on level R.3 near the meetings sector.

In the building, taxis can be called through the attendants on duty at the reception desks.

The usual tip for taxi drivers is 15 per cent of the fare. Where baggage is transported by taxi there is a supplement to the fare. This supplement is not shown on the taxi meter.

##### By bus

The most convenient service is offered by the "O" bus (marked "OMS"), which stops on the east side of the building. This bus connects the Place du Molard, at the centre of Geneva, with the World Health Organisation via the Cornavin railway station and the Place des Nations, and vice versa. The stop for the ILO is called "BIT" and is in the Avenue Appia.

Another bus passing near the building is the "F", which connects the Cornavin station with Ferney-Voltaire (France), also via the Place des Nations, and vice versa. The stop for the ILO is called "Crêts du Morillon" and is at the top of the hill in the Route de Ferney.

The timetables, which are posted at the bus stops and on the bulletin board on level R.2 at the north end of the building, should be consulted on the scheduling of these buses, since their frequency and itinerary change at different times of the day and on weekends. For example, the "O" bus does not serve the ILO stop after about 7 p.m. on weekdays or at any time on Saturdays, and it does not operate on Sundays.

A note on the use of the Geneva bus service is attached.

#### Access outside normal working hours

The doors near the Control Centre at the north end of the building, at the R.3 (entrance) level and the P.1 level, are always open.

### Services in the building

#### Reception

The attendants at the two reception desks, on levels R.2 and R.3 at the south end of the building, will be pleased to provide information needed. Outside normal working hours, assistance can be obtained from the Control Centre, on level R.3 at the north end of the building.

#### Coatstands

These are placed at various points in the building, in particular on mezzanine level M.2 at the south end of the building near the meeting rooms and on level R.2 outside the restaurant. The coatstands are not guarded and property is left at the owner's risk.

#### Documents for meetings

Documents for meetings in progress will normally be found either in the meeting rooms or at the counter on the same level outside the meeting rooms.

Documents for ILO meetings may also be obtained from the Distribution Section, on level R.3 at the north end of the building.

#### Use of meeting rooms

If a room is needed for any meeting outside scheduled sittings, arrangements must be made in advance with the Internal Administration Branch. The Office representative at the meeting should be contacted for this purpose in the first instance.

#### Communications

##### Incoming

##### - Official

Postal address	International Labour Office CH 1211 GENEVE 22
Telegraphic address	INTERLAB GENEVA
Telex number	22 271

- Private

Postal address

Case postale No. 500  
CH 1211 GENEVE 22

The meeting being attended by the addressee, or his function, should be clearly mentioned in the address.

For telephone calls, the Geneva area code is 022. The ILO number is 98.52.11.

Outgoing

- Long-distance or international telephone calls can be made from the telephone booths in the Post Office through the Post Office clerk, through the telephonist who is stationed, when on duty, in front of the Governing Body room, or from coin-operated telephones on level R.2, both near the newsagent's shop and opposite the Post Office.
- Calls to extensions within the building and to numbers in the Geneva area can be made from any of the internal telephones in the building, as follows:

Calls to extensions within the building

When tone is heard, press the buttons corresponding to the extension required (four figures).

Calls to the Palais des Nations (when extension number is known)

When tone is heard, press button 7, and then buttons corresponding to the extension required (four figures) without waiting for a further tone. If this direct line is engaged, press button 0 as below, then 34.60.11, and ask the telephonist who replies for the extension required.

Other calls in the Geneva area

Press button 0, wait until a new tone is heard, and press the buttons corresponding to the number required (six figures).

For calls from coin operated machines, follow the instructions displayed.

Post Office

There is a Post Office (Genève 22) on level R.2 at the north end of the building. It is open from 8 a.m. to 1 p.m. and from 2 p.m. to 5 p.m., from Monday to Friday. In addition to ordinary Swiss stamps it sells ILO stamps, which may be used only for letters posted within the building. There is a separate letter-box, with a stamp machine and a change machine, at the south end of the building on level R.2 near the newsagent's shop.

Bank

There is a branch of the Union Bank of Switzerland (UBS) near the centre of the third floor of the office block. It is open from 8.30 a.m. to 4.30 p.m. from Monday to Friday and can handle all ordinary banking and exchange operations.

ILO financial service

Persons for whom the ILO pays travel and subsistence allowances should apply for any information needed, and for any reimbursements due to them, to office 4-122 on the fourth floor of the office block. For reimbursements they should bring their passport and travel tickets. Payments are made by the Cashier, whose office is on the third floor, near the south end of the office block. This office is open from 9 a.m. to 12 noon and from 2 p.m. to 4.30 p.m. from Monday to Friday.

### Travel agent

There is a branch of Danzas S.A. near the centre of the third floor of the office block. It handles tickets and bookings for travel, and rental of self-drive or chauffeur-driven cars, hotel reservations, passport and visa arrangements, etc. It is open from 8.30 a.m. to 11 a.m. and from 1.30 p.m. to 4.30 p.m. from Monday to Friday.

### ILO travel service

The ILO travel service, which deals with general administrative questions relating to travel, is on the sixth floor at the south end of the office block.

### Newsagent

Newspapers, magazines, books, postcards, tobacco, films, chocolate, biscuits, souvenirs, multiple bus tickets, and a few chemist's items are on sale at a branch of Naville S.A. on level R.2 at the south end of the building. This shop is open from 8.15 a.m. to 5.30 p.m. from Monday to Friday. A smaller kiosk is open from 8.30 a.m. to 10.30 a.m. and from 12.15 p.m. to 2 p.m. on level R.2 at the north end of the building, near the restaurant and cafeteria.

### Sale of ILO publications

ILO publications are on sale opposite the newsagent's shop on level R.2 at the south end of the building.

### ILO Library

The ILO Library contains material from official, commercial and other sources on labour questions and social and economic development. In this field its collections rank among the most comprehensive in the world.

It is located on level R.2, and mezzanine M.2 above at the south end of the building. A large plan near the R.2 entrance shows the arrangement of the collections and the location of the various service points. The R.2 reading room contains the catalogues, reference books, current periodicals, country information files, inquiry desks, and working space for readers. On the mezzanine level are the special collections of legislative, statistical and international organisation documents. Inquiries may be addressed to the reading room inquiry desks. The Library is open from Monday to Friday without interruption, from 8.30 a.m. to 5.30 p.m. (hours subject to possible extension).

### Rest rooms

Two quiet rooms furnished with divans and chairs are provided on level R.1, at the south end of the building, for persons feeling indisposed. The room numbers are 27, for women, and 31, for men. They are reached by the lift or the stairs between Rooms VII and VIII, on level R.2, and between Rooms III and IV, on level R.3.

### Medical Service (emergencies: telephone 3131)

The Medical Service is on the fifth floor at the south end of the office block. It can provide emergency treatment or be consulted by appointment. The staff nurse can attend to minor injuries, give injections or recommend doctors in Geneva.

### Handicapped people

A guide for handicapped people is available at the reception desk. It will help them to find their way about the building and indicates the special lavatory provided for them.

### Lift breakdowns

Lifts are equipped with telephones. Lift receiver and await reply by Control Centre. There is also an alarm bell.

### Lights in corridors

If a corridor is dark because the lights have been turned off (e.g. after working hours) the Control Centre (tel. 4015) will switch them on if requested.

### Catering services

The catering services in the building are as follows:

#### Restaurant with table service

The restaurant, on level R.2 at the north end of the building, serves set menus and à la carte dishes from 12 noon to 2 p.m. from Monday to Friday. It is preferable to reserve tables in advance.

#### Self-service cafeteria

This cafeteria is next to the restaurant on level R.2 at the north end of the building. It serves refreshments and a varied choice of lunch dishes. The farther of the two counters, known as "Self 2" serves grilled meats and dietary dishes. The cafeteria is open from 8 a.m. to 5.45 p.m. from Monday to Friday. Lunch is served from 11.45 a.m. to 2 p.m.

#### Snack bar

The snack bar, on level R.1 at the north end of the building, serves light snacks and coffee and other drinks from 8 a.m. to 5.45 p.m., from Monday to Friday.

#### Delegates' lounge

This bar, on level R.3 at the south end of the building, is specially intended for participants in meetings. It serves coffee and other drinks, rolls, biscuits, etc. It is open from 8.30 a.m. to 6.00 p.m. from Monday to Friday, and on occasion at other times when meetings are in progress.

As elsewhere in Switzerland, the price of all food and drinks served in the building includes service.

### Receptions

Receptions may be arranged in the building subject to the necessary approval. The premises normally made available are in the restaurant on level R.2. Persons wishing to organise receptions should consult the ILO Protocol Officer, Official Relations Branch, in the first instance.

The Protocol Officer should also be informed, for the purpose of co-ordination, when it is proposed to arrange a reception elsewhere.

### SAFI

(Service d'achats et de commandes des fonctionnaires internationaux)

The SAFI shop is located in the Palais des Nations. The entrance is by Door I. The shop sells various articles such as radios, watches, clocks, cameras, films, records, typewriters, cosmetics, wines, spirits and other items. It is not a duty-free shop, but a co-operative whose reduced prices are due to bulk purchasing. It is reserved for the staff of the United Nations family, for diplomatic personnel in Geneva and for those in possession of a special certificate, which in the ILO is issued to participants in meetings by the Official Relations Branch (office 2-125). The shop is open from 12.30 p.m. to 6.30 p.m. from Monday to Friday.

Use of Geneva bus service

Geneva buses are self-service. Passengers must obtain tickets before boarding and must open the doors by pressing the buttons by the doors.

The buses always stop at an "arrêt fixe" but must be requested to stop at an "arrêt sur demande".

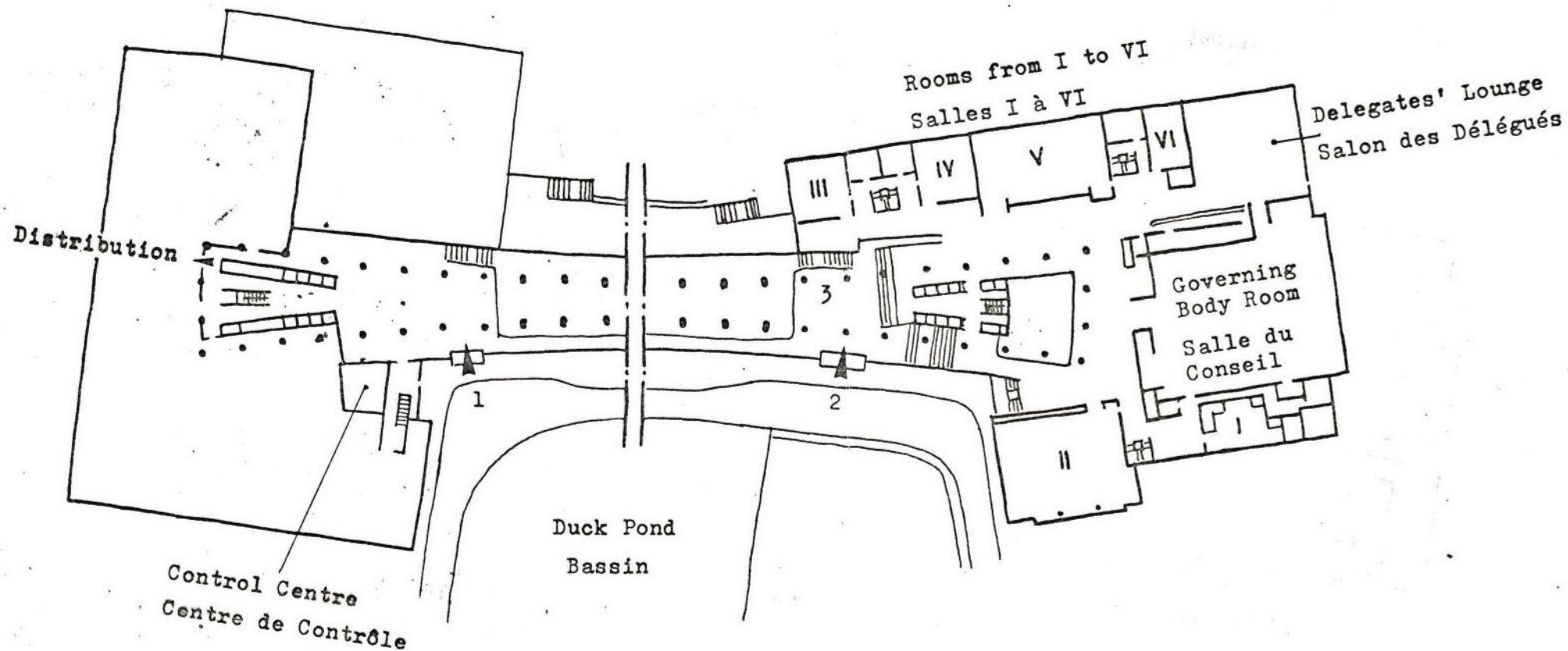
A reduced fare applies to trips of not more than three stops ("parcours limité"). The full fare applies to other trips ("libre circulation") and entitles the passenger to unlimited travel on the public transport network within the urban area for one hour. Multiple tickets of either type may be obtained at reduced rates from certain newsagents, including the newsagent at the ILO building. They must be validated for each trip by the ticket machine at a bus stop.

To obtain a ticket from the machine at a bus stop:

1. Press button corresponding to type of ticket desired.
2. Insert coins for cost of ticket (exact amount required).
3. Collect ticket from slot.

All tickets should be kept for the duration of the trip, since they must be shown on request.

---



- 1. North Entrance  
Entrée Nord
- 2. South Entrance  
Entrée Sud
- 3. Reception

FLOOR - R.3  
ETAGE - R.3

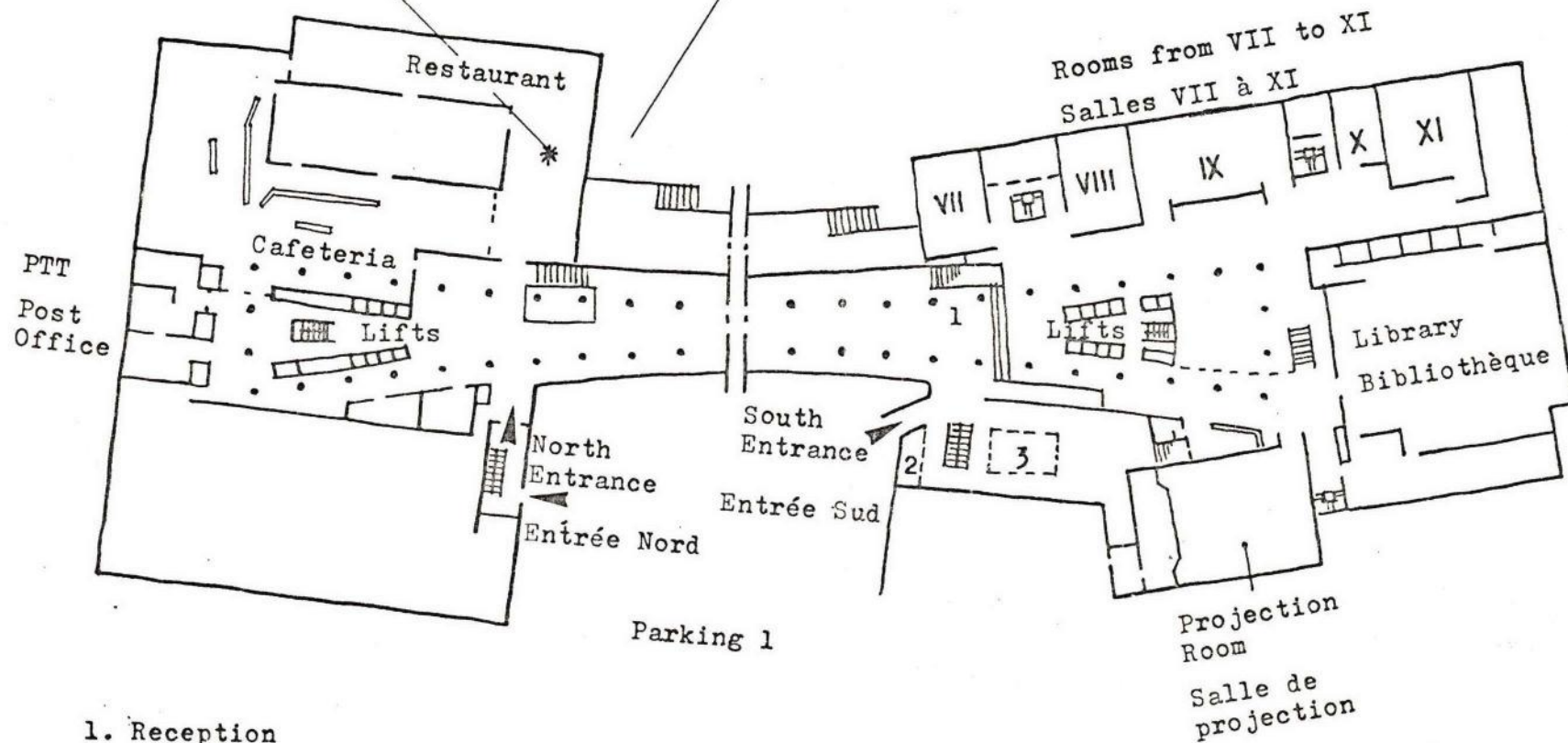


\* Snack Bar on R.1  
immediately  
below Restaurant

\* Snack-bar - Etage R.1  
au-dessous du Restaurant

Exit to Bus Stop  
from R.1 down stairs

Sortie pour le bus  
Etage R.1  
au-dessous du Restaurant



1. Reception

2. ILO Publications BIT

3. Newsagent  
Kiosque

FLOOR - R.2  
ETAGE - R.2

Useful telephone numbers

FIRE	2580
EMERGENCY MEDICAL SERVICE	3131
Bank	3536-37
Cashier (ILO)	3526-27
Catering services:	
Restaurant - reservations	4154
Control Centre	4015 (if engaged, 4014)
Distribution Section	4035 to 4038
Financial service (ILO)	3312
Internal Administration Branch (for use of meeting rooms)	2925
International Institute for Labour Studies (information)	2121
International organisations in Geneva:	
UN (United Nations Office at Geneva)	} Direct line 7 followed by extension number - or external line 0, followed by 34.60.11
ECE (Economic Commission for Europe)	
GATT (General Agreement on Tariffs and Trade)	
UNHCR (Office of the High Commissioner for Refugees)	
CERN (European Organization for Nuclear Research)	(0) 41.98.11
IBE (International Bureau of Education)	(0) 31.37.35
ICEM (Intergovernmental Committee for European Migration)	(0) 34.22.00
ITU (International Telecommunication Union)	(0) 34.60.21
WHO (World Health Organisation)	(0) 34.60.61
WIPO (World Intellectual Property Organisation)	(0) 34.63.00
WMO (World Meteorological Organisation)	(0) 34.64.00
Library - Reading Room	4661-62; 4681-82
Lost property	2977
Medical Service:	
Staff doctor and secretariat	3134
Staff nurse	3133
Outside normal working hours	Consult Control Centre: 4015
Newsagent (Naville S.A.)	4679
Post Office	4159

Protocol Officer (ILO)	3702
Publications - Sale (ILO)	4680
Reception:	
Level R.2	4017 to 4120
Level R.3	4136 to 4139
Technical services for the building	2930
Travel agent (Danzas S.A.)	3540-43 (on Saturday morning, office at 5 rue du Mont Blanc, (0) 32.07.17)
Travel service (ILO)	2972

---



united nations educational, scientific and cultural organization  
 organisation des nations unies pour l'éducation, la science et la culture

7, place de Fontenoy, 75700 Paris

téléphone : 577-16-10  
 câbles : Unesco Paris 205  
 télex : 204461 Paris  
 référence : SC/ECO/5864/533

*R. G.*  
 S. Environment & Health  
~~HERNAN~~

*Since you will be away during the date of this proposed visit... is there anything I can do for you when and if it comes? 12/11 the*

26 July 1978

Dear Dr. Goodland,

Thank you for your letter of July 11. I have finally assumed that the airline ticket stubs are irrevocably lost and I am doing my best to finalize your payment without them.

Although several of my colleagues and I have vague recollections of seeing something like "Country Environmental Profiles", no one can remember where or when. We are certainly not working on anything like that. I will keep looking, and let you know if and when I find something.

I would be very pleased to join you for lunch on Thursday, 19th of October, say at 12.30 p.m. It seems that I already have an appointment at that time on the 18th. I am afraid that my bank acquaintances are limited to Dr. Lee, whom I really do not know very well, and John Spears, the Forestry Adviser, who is a good friend. Otherwise, my main contacts in Washington are with the MAB Secretariat in the State Department, whom I will see anyway, and people in agencies such as Interior and Agriculture, whom I will also see. One of the main purposes of my trip is to talk to people whose organizations could possibly provide funds for MAB training courses, for students from developing countries, either in the U.S., or in these countries themselves, with U.S. and other professors. If you can think of people in this category, you could either let me know about them ahead of time, or invite them to join us on the 19th. *should see D.O*

I enclose a copy of some information on MAB training needs, which I have sent to a number of people. Perhaps this will remind you of some promising possibilities.

With best regards,

Yours sincerely,

*H.L. Teller*

H.L. Teller  
 Senior Programme Specialist  
 Division of Ecological Sciences

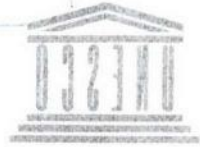
Dr. R. Goodland  
 Office of Environmental and Health Affairs  
 The World Bank  
 1818 H Street  
 NW, Washington D.C. 20433  
 U.S.A.

*Allegiance  
 ter Weede  
 X-73887  
 Educ. as to...  
 Mr. R. Goodland is interested.  
 Mr. Ken Zeman is head of mission*

INCOMING MAIL UNIT  
 1978 JUL -1 PM 1:08  
 RECEIVED

*HRT*  
very good

*man  
 if you can meet him  
 & get him with  
 Mr Spears good  
 or lunch  
 & apologies from*



United Nations Educational, Scientific and Cultural Organization  
Organisation des Nations Unies pour l'éducation, la science et la culture

7, place de Fontenoy, 75700 Paris

Telephone: 777-61-10  
Cable: United Nations  
Telex: 204461 Paris

205

Reference: SC/ECON/5864/533

Dear Dr. Goodland,

Thank you for your letter of July 11. I have finally assumed that the airline ticket stubs are irrevocably lost and I am doing my best to finalize your payment without them.

Although several of my colleagues and I have vague recollections of seeing something like "Country Environmental Profiles", no one can remember where or when. We are certainly not working on anything like that. I will keep looking, and let you know if and when I find something.

I would be very pleased to join you for lunch on Thursday, 19th of October, say at 12.30 p.m. It seems that I already have an appointment at that time on the 18th. I am afraid that my bank acquaintances are limited to Dr. Lee, whom I really do not know very well, and John Spears, the Forest-ry Adviser, who is a good friend. Otherwise, my main contacts in Washington are with the MAB Secretariat in the State Department, whom I will see anyway, and people in agencies such as Interior and Agriculture, whom I will also see. One of the main purposes of my trip is to talk to people whose organizations could possibly provide funds for MAB training courses, for students from developing countries, either in the U.S., or in these countries themselves, with U.S. and other professors. If you can think of people in this category, you could either let me know about them ahead of time, or invite them to join us on the 19th.

I enclose a copy of some information on MAB training needs, which I have sent to a number of people. Perhaps this will remind you of some promising possibilities.

With best regards,

Yours sincerely,

H.L. Teller  
Senior Programme Specialist  
Division of Ecological Sciences

Dr. R. Goodland  
Office of Environmental and  
Health Affairs  
The World Bank  
1818 H Street  
NW, Washington D.C. 20433  
U.S.A.

RECEIVED  
1978 AUG -1 PM 4: 08  
INCOMING MAIL UNIT

*Handwritten notes:*  
The main purpose of my trip is to talk to people whose organizations could possibly provide funds for MAB training courses, for students from developing countries, either in the U.S., or in these countries themselves, with U.S. and other professors. If you can think of people in this category, you could either let me know about them ahead of time, or invite them to join us on the 19th.

*Handwritten:* HE RYAN

*Handwritten:* Mr. Teller

MAB TRAINING NEEDS - SUGGESTIONS FOR POSSIBLE COOPERATION WITH THE  
UNITED STATES

(as expressed by Member States in MAB Regional Meetings between 1974  
and 1976, and by MAB Staff Members)

---

Several individuals and organizations in the United States have requested information on training needs within the MAB Programme, as perceived by the Secretariat and by Member States. This is a fairly brief compilation of such needs, which were expressed by member states at several regional MAB meetings. Suggestions from individual staff members of the MAB Secretariat are also included.

1. Suggestions of MAB Staff.

The following types of training courses could be envisaged in the United States:

- Quantitative techniques in ecology, such as modelling, systems analysis, data processing, etc.
- Support of a planned physiology course at Stanford University, under the responsibility of Prof. H. Mooney.
- Park and biosphere reserve management training at Michigan State University.
- Follow-up on proposal of the Rockefeller Foundation to launch a course in the field of tropical ecosystem management.
- Watershed management training.
- Courses on research methodology, advanced research techniques and instrumentation.
- Training in arid zone management and desertification monitoring.
- Training seminar on the multiple use of biosphere reserves, in particular for development schemes in one and/or the other of the two

biosphere reserves in Mexico (Mapimi and Michilia) based on existing cooperative arrangements between the University of Arizona and the Ecological Institute of Mexico City.

- Regular training courses and seminars in SE Asia and perhaps Latin America; e.g., the Philippines, Venezuela, by providing teaching staff, e.g. university professors who are available in summer.
  - Air quality, measurements and analysis, particularly in forest stands.
  - Water quality sampling and analysis.
  - Pesticide sampling and analysis.
  - Study of nutrient budgets in watersheds.
  - Multiple-use orientation for forest managers (for the more traditional forester in many developing countries).
  - Integrated pest control in forestry and agriculture.
  - Forest fire control and use of fire as a management tool.
  - Planning and establishment of forest hydrology experiments (small watersheds, plots, microcosms).
  - Establishment and management of fish breeding stations and fish ponds.
  - General limnology, or special aspects of limnological problems.
  - Assessment of air pollution effects in natural ecosystems.
2. Needs perceived by Member States.

#### LATIN AMERICA

Venezuela. Has requested assistance for general ecological seminars.

Peru. Asks international assistance to improve knowledge of their flora and fauna. In this context, a seminar might be helpful, or a consultant to help set up university and graduate level curricula on this subject. The secondment of a specialist for some time might be helpful.

They also request a series of short- or long-term courses to increase the number of specialized personnel, both professional and sub-professional. They offer to host these courses and to handle the logistics. They are very interested in the interrelation between man and tropical forests. For this they need more socio-economic research. They talk of setting up a Training Centre at Pucallpa-Iquitos. They could probably use financial assistance, instructor-loans, and audiovisual aids.

(Several countries who were very interested in training have requested audiovisual aids - or finances to buy them - as well as documentation in various languages.)

Chile. Would like to set up an integrated research and training programme in the Andean region for the study of human and animal reproductive biology at high altitudes.

Ecuador. Would like to establish a national programme for the study of seas, gulfs, and estuaries.

Panama. The Gorgas Institute has set up a section for the ecology of human diseases. Assistance modes could include loaning of instructors for methodology of research, instruction in data collecting and analysis, most recent techniques and equipment and their use.

Paraguay. Would like to use its 5 national parks and reserves for on-the-spot forestry training courses, but needs help in organizing them and the establishment of curricula.

Uruguay. Favours training courses for decision-makers, with emphasis on the compatibility of technological "development" with the conservation of the environment.



## SOUTH ASIA

A 1975 MAB regional meeting in India recommended that Unesco try to organize 6-9 month basic courses in general ecology as a basis for more advanced studies.

Specialized courses of about 6 months duration in such fields as mathematical systems analysis and modelling, interpretation of satellite imagery, data processing, etc. were also requested.

Another priority was the sensitization of senior-level decision-makers and administration personnel through short regional seminars. These would be aimed at fostering interchanges between environmental specialists, senior government officials and business executives.

Bangladesh. Has a small Forest College, but has no training facilities in forest ecology, which they consider an important gap. They have also requested audiovisual aids. The country needs elementary training programmes to educate shifting cultivators and others who damage the forest out of economic necessity.

India. Stressed the necessity of educating the people using various ecosystems, particularly with regard to the choice of technology available in the area. Universities need funds and teachers to provide a wide range of short courses on relevant topics and designed for a range of audiences, from research workers to villagers.

Nepal. A 1975 MAB regional meeting proposed a 6-month regional post-graduate training course on mountain ecology for Southern Asia to facilitate implementation of Project 6 research activities. This could be regularly repeated. Later, they would like to see advanced training courses in selected research fields, such as human biology or land classification.

The establishment of an international centre for advanced training in high altitude physiology and pathology (see Chile) for all southern Asian mountain region was also requested. They suggested "coupling" particular institutes and countries within the region to institutes and countries outside the region for in-situ training.

#### NORTH AFRICA

Tunisia. Would like to establish a regional centre for pastoral studies (in connection with rangelands development projects) which would offer further training and continuing education for administrative staff at all levels.

Algeria. Has invited up to five students per year from each country in the region to study ecology and to prepare the DES diploma, specializing in the management of arid and semi-arid rangelands. Financial assistance would be requested for travel and subsistence allowances for the students and for the services of two consultant teachers. Of particular pertinence to the U.S. was the request for assistance for the formulation of a training scheme for specialists in the mathematics and systems analysis of arid zone ecosystems for the five countries concerned (Algeria, Egypt, Libya, Morocco and Tunisia). Finally, financial and logistic support was requested for short or long courses for students specializing in pastoral studies or in arid land management.

#### CENTRAL AND WEST AFRICA

The region lacks most types of specialized training centers. Emphasis has been placed on scholarships for both undergraduate and technician training in the natural resources fields.

Nigeria. Is interested in holding training programmes on various aspects of ecology, e.g. methodology, setting up training courses in tropical ecology, leading to a higher academic degree. Would like help in holding workshops and seminars on topics to be determined.

Togo. Would like to have meetings and seminars for specialists in tropical ecology, entomology, medicine, applied veterinary science, forestry, urban and rural planning, and agricultural and forest economics.

Zaire. Would like help in organizing specialized training courses for foresters, botanists, zoologists, soil scientists, sociologists, etc., in addition to interdisciplinary courses in ecology and environmental management.

2.12.77

## CONCLUSION

The provision of ecological training, particularly at the university level, is one of the main aims of the MAB Programme. The needs of the developing countries are great, and very varied. The vast educational resources of the industrialized world undoubtedly contain much untapped potential for increased participation in ecologically oriented training programmes, from which both the trainer and the trainee can derive considerable benefit.

The following training modes have been used to date in the MAB Programme:

- Short term (1 to 3 week) specialist courses in the developing countries, conducted by one or a small group of foreign specialists, plus local teaching staff. (This type of course is cost effective, provides in-situ training, can accommodate relatively large numbers of students, and has been successful in the past.)

- Medium term (6-9 month) more generalized ecology courses in developing countries, with one or more full-time foreign specialists, plus short-term visiting foreign specialists, plus local teaching staff. (This mode requires complex organization and relatively large amounts of international funds. A number of such MAB courses have been organized in the past, with varying degrees of success.)

- Medium term (6-9 month) specialized post-graduate courses in an industrialized country, with 10 to 15 students, predominantly from developing countries. (Some eight courses of this type exist at present and are mostly considered to be very successful. This type of course is relatively expensive for the host country, costing between \$150,000 and \$200,000. Unesco inputs to such courses have generally been limited to the cost of the students' travel to and from the host country.)

- Support of individual developing-country students to participate in existing study programmes in an industrialized country. (Cost effectiveness rather low; has not been a generally favoured training mode in MAB to date.)

The MAB Secretariat would be pleased to hear from institutions that may be interested in participating in the MAB Training Programme. Enquiries and suggestions should be addressed to the Director, Division of Ecological Sciences, Unesco, 7, Place de Fontenoy, 75700 PARIS, France.



UNITED NATIONS ENVIRONMENT PROGRAMME  
PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT



Télégrammes : UNITERRA, PARIS

Téléphone : 766.16.40  
227.45.12

Télex : 650273

INDUSTRY AND ENVIRONMENT OFFICE  
DEPARTEMENT INDUSTRIE ET ENVIRONNEMENT

17, rue Margueritte  
75017 PARIS - France

RÉF. N° : 2460

July 24, 1978

Dear Jean,

As we informed you in the records of the Environmental Consultative Committee Meeting for the Pulp and Paper Industry, there is a consensus on the need for a comprehensive and practical manual on technology and costs for the control of effluents and emissions from pulp and paper mills. Our member Dr. Hans NORRSTROEM of IVL, has agreed to undertake the preparation of such a manual. We are also pleased to inform you that the Swedish International Development Authority has very generously decided to fund the first phase of this project.

Enclosed for your information, comments and suggestions, please find a copy of the document which describes the scope, content and work plan for the development of the manual.

As you will see from the work plan, the time schedule is very tight and we intend to initiate work on the project immediately.

To ensure that the manual is comprehensive, reflects and caters to the needs of developing countries, we would be most grateful if you could provide us with information, data and relevant experience, especially with regard to items C.1, C.3, C.4 and C.11 in the document, which are the contents for phase 1 of the work.

./..

Mr. Jean M.H. TIXHON,  
Office of Environmental and Health Affairs,  
World Bank,  
Room E 1005,  
1818 H Street, N.W.,  
WASHINGTON D.C. 20433

U.S.A.

RECEIVED  
1978 JUL 31 PM 5:04  
INCOMING MAIL UNIT

July 24, 1978

2.

./..

We have tentatively planned to hold the Second Environmental Consultative Committee Meeting on 27 - 28 March, 1979, and the project will be one of the major agenda items. We are planning to send you some first drafts of the manual for your critique and comments before the meeting. Hence, we would be grateful if you could let us have the information requested by 1 October, 1978, so that it can be incorporated into the project.

Should you have any suggestions and comments on the content of the work plan, please let us know as soon as possible.

Thanking you in advance for your cooperation and collaboration which is necessary for the success of this manual, and with best personal regards,

Yours sincerely,



Léon de Rosen  
Director, Industry & Environment Office

Encl. 2

c.c. Sida  
IVL

# IVL-CONSULTING Ltd.

IVL-KONSULT AB

---

For UNEP

UNEP MANUAL ON EFFLUENT AND  
EMISSION CONTROL

Assignment no: 034:51040

Report no: 9210:1/78

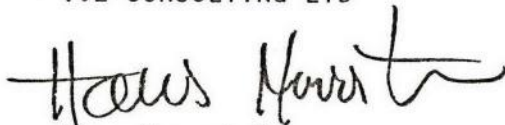
## SUMMARY

UNEP Industry and Environmental office plans "Manuals on treatment and disposal of pulp and paper mill effluents and emissions" as part of their responsibility for UNEP:s 21 goals to be carried out by 1982. The manuals shall be detailed, comprehensive and practical and describe technology and costs for the control of air and water emissions.

IVL-Consulting Ltd has on request by UNEP prepared a working and time plan and also a budget for the manuals. The work is suggested to be technically supervised by the UNEP Consultative Committee. IVL-Consulting Ltd assumes the responsibility for direction and technical work on the manuals.

The work will be done in technology blocs, i.e. "Kraft and Soda recovery systems", "Debarking", "Effluent Treatment" etc. Phase I will be carried out from 1978-07-01 to 1979-09-15 and include four major technology blocs.

Stockholm 1978-07-07  
IVL-CONSULTING LTD



Hans Norrström  
manager



CONTENTS	PAGE
1. Background	1
2. Objectives	1
3. Scope	1
4. Contents of the manuals	2
5. Working plan and time schedule	4
5.1 Overall project plan	4
5.2 Detailed plan and schedule for phase 1	4

1. Background

UNEP's Executive Director proposed 21 goals to the Fifth Governing Council in May 1977 to be carried out by 1982. These goals were approved by the Council and the Industry and Environment office has been assigned the responsibility of attaining the specific goal on "Guidelines for use by the Governments and Industry on reducing the adverse environmental impact of specific industries including advice on industrial location".

One main activity planned by the Industry and Environment for the pulp and paper sector is "Manuals on treatment and disposal of pulp and paper mill effluents and emissions". At the meeting with the "UNEP Environmental Consultative Committee for the Pulp and Paper Industry" in Paris 1978-02-07--08 it was recommended to compile the manuals and specific comments were also made on the format and contents of the manuals.

In the following a programme is given for the preparation of the manuals.

2. Objectives

To prepare a detailed, comprehensive and practical manual on technology and costs for the control of effluents and emissions from pulp and paper mills.

3. Scope

To describe internal process modifications and external treatment methods to reduce polluting discharges to air and water from the pulp and paper industry. The manuals shall be focussed on raw materials, processes and other relevant factors common for developing countries. The manuals shall include generalized process descriptions, mass and energy balances, economic data, data on discharge reductions etc. The manuals shall also be sufficiently detailed to enable the technical personell at the mills to select measures and treatment technologies suitable for their specific

4. Contents of the manuals

In the following a tentative table of contents for the manuals is given together with brief remarks and explanations. It must be emphasized that changes may be introduced in the subsequent work with the manuals. In the manuals the specific characteristics of non-wood fibres, their processing and the conditions that exist in developing countries will be taken into considerations and given special emphasis.

- A. Foreword
  - Scope of the manuals. Organization of the work. The rôle of UNEP, SIDA, IVL-Consulting Ltd etc.
- B. Introduction
  - The importance of the pulp and paper industry with special emphasis on the needs of developing countries. Trade and commerce. Environmental aspects including the importance of siting.
- C. Technical section
  - ✓ C.1 Specific discharges
    - Quantitative data on discharges to air and water from different operations and processes utilizing various raw materials e.g. wood fibres, bagasse, straw, bamboo, hems.
  - C.2 Debarking
    - Closure of debarking water systems. Mechanical solids removal systems. Sedimentation and Flocculation. Biological treatment.
  - ✓ C.3 In-plant measures for kraft and soda pulp mills
    - System closing. Modified technology. Operation strategies. Spills collection (incl. "good house keeping"). Pulping and bleaching.
  - ✓ C.4 Kraft and soda recovery
    - Recovery boiler operation for minimum emissions. Particulate and SO<sub>2</sub> removal. Collection and destruction of malodorous gases. Lime kiln operation. Condensate treatment.

- C.5 Mechanical, thermo- and chemimechanical pulping - Recycling and spills collection to reduce suspended solids. Modified technology to reduce COD. Bleaching.
- C.6 In-plant measures for sulphite mills - Systems closing and modified technology. Operation strategy. Spills collection. Pulping and bleaching.
- C.7 Sulphite recovery - Magnesium-, ammonium- and sodium-base recovery systems. Particulate and  $SO_2$ -control. NSSC-systems. Cross recovery. Condensate treatment.
- C.8 Paper making 1 - Packaging papers. System closure. White water cleaning. Buffer tank dimensioning.
- C.9 Paper making 2 - Writing and printing papers. Sanitary papers. Coating operations. Fillers, starch, dyes and other additives.
- C.10 Deinking and other secondary fibre systems - Mechanical and chemical separation of impurities from fibres. System closure. Treatment of the effluent.
- ✓ C.11 Effluent treatment 1 - Suspended solids removal (sedimentation, filtration, chemical flocculation). Biological treatment (oxidation ponds, aerated lagoons, activated sludge, trickling filters, RBS multi-stage treatment).
- C.12 Effluent treatment 2 - Colour removal (flocculation, membrane processes, adsorption methods). Detoxification (biological treatment, foam separation etc). Advanced treatment systems.
- C.13 Alternate uses of effluents - Irrigation and other uses.

## 5. Working plan and time schedule

### 5.1 Overall project plan

It is suggested that the work with the UNEP manuals should be carried out in a number of technology blocs. Each bloc can be planned, executed and reported as a separate unit. The blocs also roughly corresponds to subsections in the "Technical section" of the manual.

A tentative time schedule for the whole project is given in Figure 1. It is suggested that in a first phase of the work start with activities 1-3 and 11. This phase covers about 1 year of the project and is followed by technical phase 2. In phase 3 the results are disseminated by reports, seminars etc.

An organization plan for the work is given in Figure 2. The strategic technical supervision and responsibility is executed by the consultative committee of the Industry and Environment Office of UNEP. SIDA provides the funds and also approves of the technical plans.

IVL-Consulting Ltd has the responsibility of carrying out the project (project coordination and technical work). The full technical competence of IVL-Consulting Ltd and IVL will be used and where appropriate external expertise will also be utilized. The project leader will be Hans Norrström of IVL-Consulting Ltd.

### 5.2 Detailed plan and schedule for phase 1

Following the technical and economic approval of the project the project organization starts. The work in phase 1 will provide the technical and economic data outlined for items C.1, C.3, C.4 and C.11 in the "Contents" of the manuals. Much of the data for C.1 will be collected by surveys and selected fields visits.

Field visits will also be necessary for the other three technology blocs. The first draft manuscript (for bloc C.1) will be sent to the Consultative Committee early 1979.

FIGURE 1: TIME PLAN

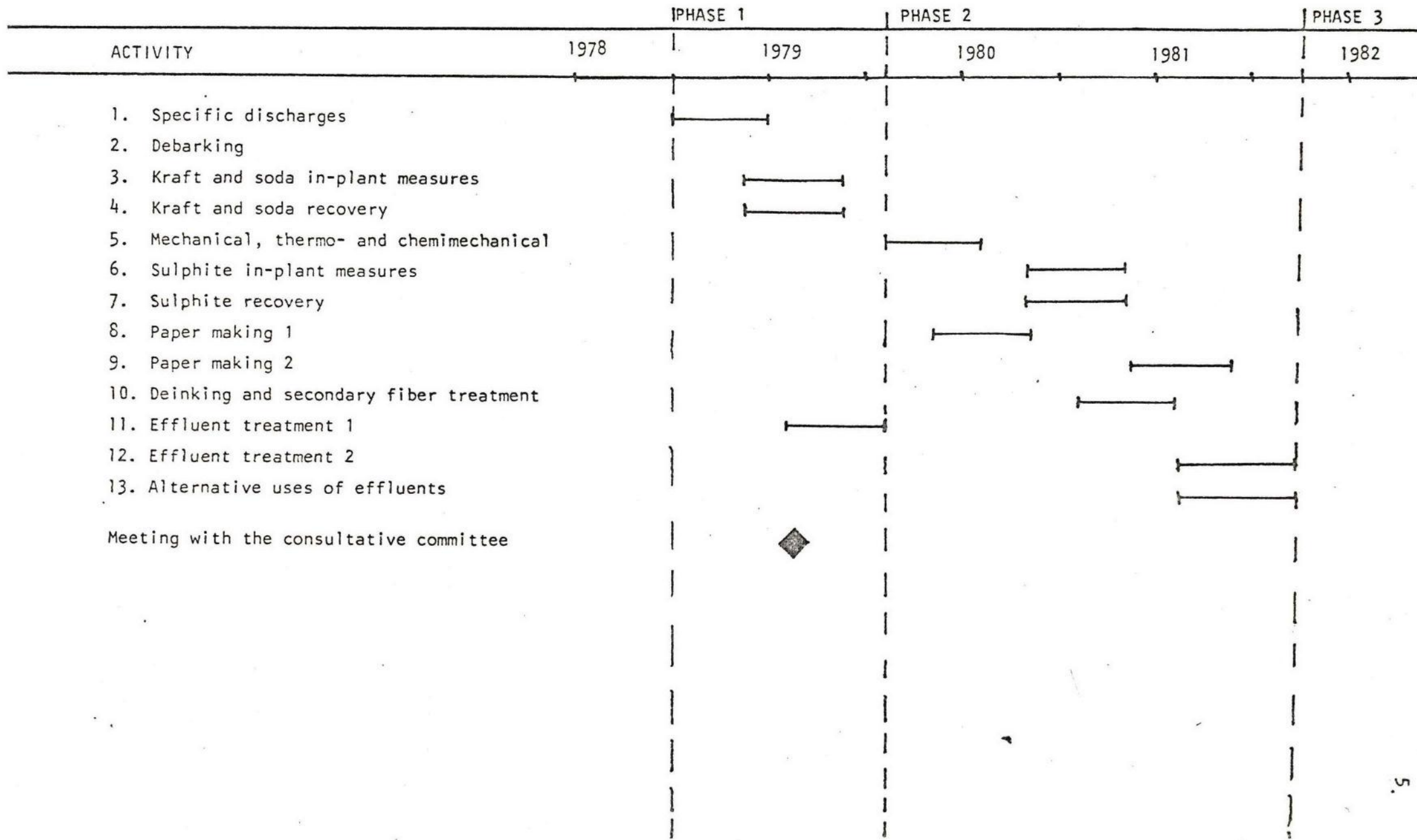
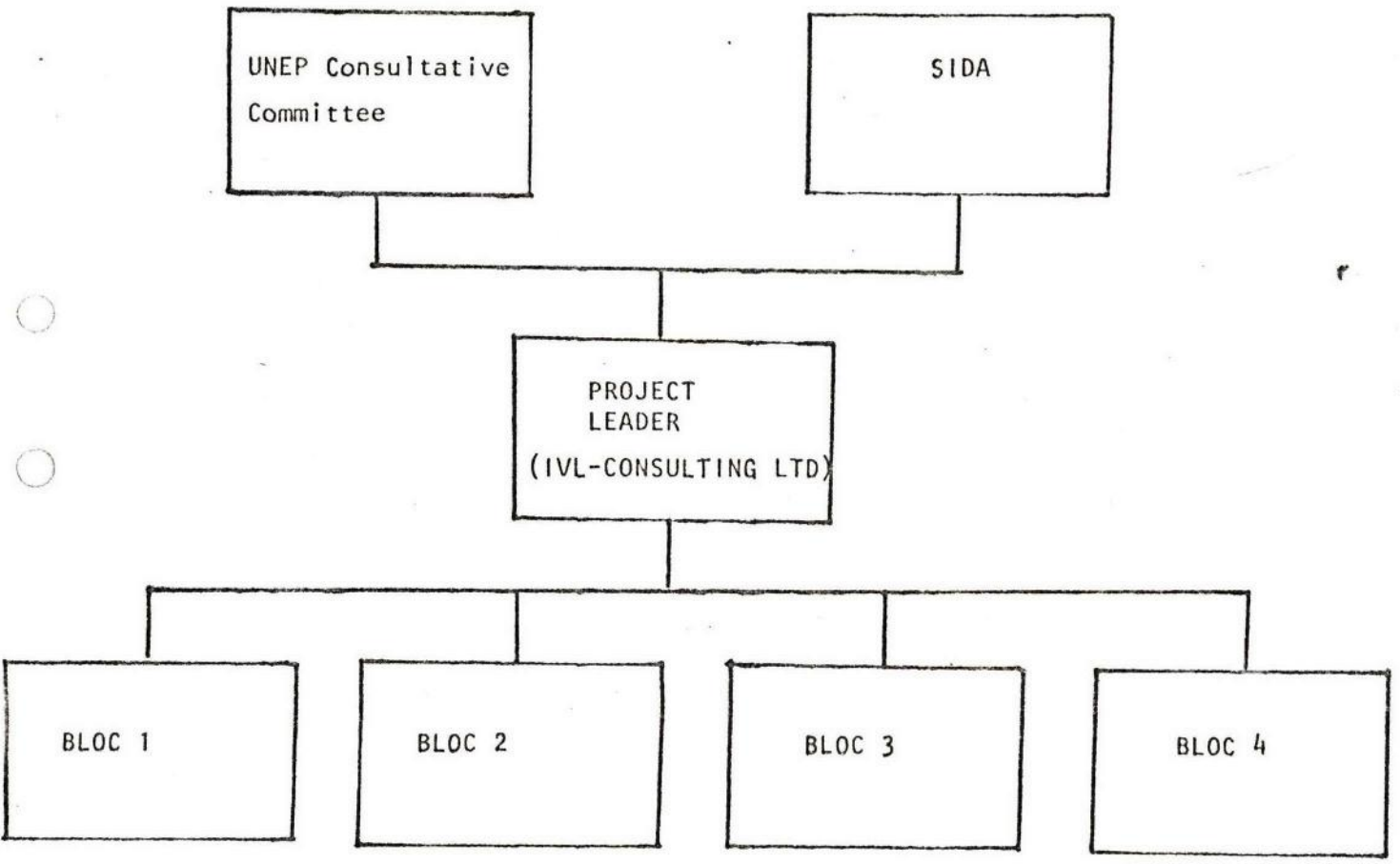


FIGURE 2



Effluent treatment

The effluent treatment bloc will be focussed on methods to remove suspended solids and dissolved, easily bio-degradable substances (causing the BOD-value of the effluent) from the effluent. A small section of the bloc will be devoted to an evaluation of external treatment methods to remove colour. Basic parameters in this bloc (as in all others) will be the wood raw material and the process used.

The following list indicates the treatment methods to be primarily considered.

- Sedimentation (with and without chemical flocculation)
- Flotation
- Aerated lagoons
- Biological Filters
- Biological Surfaces
- Colour Removal



UNION INTERNATIONALE POUR LA CONSERVATION DE LA NATURE ET DE SES RESSOURCES  
INTERNATIONAL UNION FOR CONSERVATION OF NATURE AND NATURAL RESOURCES

1110 MORGES, SUISSE (SWITZERLAND)

☎ (021) 7144 01

TELEGRAMMES: UNICORN MORGES

In your reply, please refer to:  
En répondant, veuillez rappeler:

S. Environment & Health

B/4/11

Dr. Robert Goodland  
Office of Environmental and  
Health Affairs  
The World Bank  
1818 H Street, N.W.  
Washington, D.C. 20433  
U.S.A.

20 July 1978

Dear Dr. Goodland,

I am sorry that you have not received a reply to your letter of 22 June to Robert Allen. Mr. Allen is at present occupied in finalizing the Second Draft of A World Conservation Strategy, but will write to you as soon as possible about WEAP and other matters.

In the meantime, I enclose <sup>enclosed</sup> some information about IUCN and a leaflet which explains how you may become a member and receive the IUCN Bulletin (sample enclosed). ...

With regard to your request for A World Conservation Strategy, since the Second Draft (which is very different from the January 1978 version which you have seen) should be available in about a month's time, I have noted to send you a copy. However, if you still wish to receive a copy of the First Draft, I will be pleased to send you one at the nominal charge of \$5 to cover airmail postage and handling.

Thank you for your letter, and for your interest in IUCN.

Yours sincerely,

*Margaret Smith*

Margaret Smith  
Secretary to  
Robert Allen

P.S. Duncan Poore has left IUCN and returned to the U.K., where his permanent address is: Evenlode, Stonesfield, Oxon OX7 2PX, England.

Enclosures not sent to NR11

INCOMING MAIL UNIT  
JUL 20 1978  
RECEIVED

In your reply, please refer to:  
En répondant, veuillez répondre:

B\4\11

Dr. Robert Goodland  
Office of Environmental and  
Health Affairs  
The World Bank  
1818 H Street, N.W.  
Washington, D.C. 20433  
U.S.A.

20 July 1978

Dear Dr. Goodland,

I am sorry that you have not received a reply to your letter of 22 June to Robert Allen. Mr. Allen is at present occupied in finalizing the second Draft of A World Conservation Strategy, but will write to you as soon as possible about WEAP and other matters.

In the meantime, I enclose some information about IUCN and a leaflet which explains how you may become a member and receive the IUCN Bulletin (sample enclosed).

With regard to your request for a World Conservation Strategy, since the second Draft (which is very different from the January 1978 version which you have seen) should be available in about a month's time, I have noted to send you a copy. However, if you still wish to receive a copy of the first Draft, I will be pleased to send you one at the nominal charge of \$5 to cover airmail postage and handling.

Thank you for your letter, and for your interest in IUCN.

Yours sincerely,

Margaret Smith  
Secretary to  
Robert Allen

P.S. Duncan Poore has left IUCN and returned to the U.K., where his permanent address is: Evenlode, Stonefield, Oxon OX7 2PX, England.

RECEIVED  
1978 JUL 25 AM 10:46  
INCOMING MAIL UNIT

Enclosures ref. sent in  
1978

2 - Environmental & Health Affairs

July 14, 1978

Mr. Yvonne de Treneman  
Naciones Unidas  
Centro de Information  
Avenida Arenales B15  
Lima, Peru

Dear Mr. de Treneman:

You wrote to our Vice-President, External Relations, Mr. W.D. Clark on 14 July 1978, and I am answering that letter.

Your request for a report on environmental pollution in Cuajone is not clear. There are two main reports:

1. R. D. Barbaro. "Qualitative Assessment of Environmental Impacts". July 13, 1973.
2. Dames & Moore. "Marine Environmental Studies. ITE, Peru". December 1975.

To obtain copies of either we urge you to write to the Southern Peru Copper Corporation, 120 Broadway, N.Y., N.Y. 10005, U.S.A.

You may also wish to contact Mr. Jose Lizarraga, R., Director General, Oficina Nacional de Evaluacion de Recursos Naturales (ONERN) Apartada 4992, Calle Diecisiete No. 355 Urb. El Palomar - San Jsidro, Lima, Peru.

On behalf of the Government, ONERN is studying pollution related matters in Peru generally, and in the Cuajone Project area specifically. ONERN is familiar with project related environmental reports and has in fact hired its own consultants to study the Dames & Moore report. Thus, ONERN may wish to share the report and any other information of interest, with you.

Should you have any difficulties in obtaining the document you need for your bibliographical reference, please share with me any explanation given. It is our standard practice to refer all requests for project environmental reports directly to our borrower.

Yours sincerely,

Ragnar Overby  
Office of Environmental and  
Health Affairs

cc: Dr. J. A. Lee, PAS

cc: Dr. J. A. Lee, PAS

Mr. W.D. Clark, VPE

RO:dn

OFFICIAL FILE COPY



united nations educational, scientific and cultural organization  
 organisation des nations unies pour l'éducation, la science et la culture

7, place de Fontenoy, 75700 Paris

téléphone : 577-16-10  
 câbles : Unesco Paris  
 télex : 204461 Paris

référence : SC/ECO/5864/205

6 July 1978

Dear Dr. Goodland,

Many thanks for your cable of 30 June, giving us all the necessary information to complete your travel claim. You should now receive the final payment in a few weeks.

It is indeed encouraging that you would like to make use of local MAB people to strengthen the Bank's environmental/development/resource management projects. We have, in fact, had a number of contacts with Dr. Lee on this subject, but to no avail so far. In any case, I am sending you under separate cover:

- Compilation II of the MAB Information System, which lists current national research projects with MAB affiliation;
- a list of national MAB Committees.

I hope these will help you to make some useful contacts. If we can be of assistance, we would be only too pleased to help.

As you were well able to see in Latin America, the energy and effectiveness of MAB committees varies considerably from one country to another, and in a few cases it may even be more effective to go directly to individual scientists. It may therefore be worthwhile to call or write to us first, when you have something concrete in mind.

Just a few words about your letter of March 21, 1978, in which you expressed your understandable dismay at our reply to Surinam. We are in the unfortunate position of being a 'catalyzing' and 'executing', rather than a "funding" agency, and we do try to spell this out very clearly when we send consultants such as you and Philip Mitrani to initiate something, or to raise interest within a country. When Dr. Cambridge suggested that "Study no 2 (effects of the project on river water use, river banks and fisheries) be fully subsidized by Unesco", we had no choice but to tell him that we could not come up with the \$246,000 for this item.

.../...

Dr. R. Goodland  
 Office of Environmental and  
 Health Affairs  
 The World Bank  
 1818 H St., NW  
 Washington, D.C. 20433  
 U.S.A.

RECEIVED  
 JUL 11 11 10 AM '78  
 WORLD BANK



United Nations Educational, Scientific and Cultural Organization  
Organisation des Nations Unies pour l'éducation, la science et la culture

7, place de Fontenay, 75700 Paris

Telephone : 277-18-10  
Cables : Unesco Paris  
Telex : 204401 Paris

SC/ECO/588#205

6 July 1978

Dear Dr. Goodland,

Many thanks for your cable of 30 June, giving us all the necessary information to complete your travel claim. You should now receive the final payment in a few weeks.

It is indeed encouraging that you would like to make use of local MAB People to strengthen the Bank's environmental/development/resource management projects. We have, in fact, had a number of contacts with Dr. Lee on this subject, but to no avail so far. In any case, I am sending you under separate cover:

- a list of national MAB Committees.
- a list of national research projects with MAB affiliation;
- compilation II of the MAB Information System, which lists current

I hope these will help you to make some useful contacts. If we can be of assistance, we would be only too pleased to help.

As you were well able to see in Latin America, the energy and effectiveness of MAB committees varies considerably from one country to another, and in a few cases it may even be more effective to go directly to individual scientists. It may therefore be worthwhile to call or write to us first, when you have something concrete in mind.

Just a few words about your letter of March 21, 1978, in which you expressed your understandable dismay at our reply to Suminam. We are in the unfortunate position of being a 'catalyzing' and 'executing', rather than a "funding" agency, and we do try to spell this out very clearly when we send consultants such as you and Philip Mitrani to initiate something, or to raise interest within a country. When Dr. Cambridge suggested that "study no 2 (effects of the project on river water use, river banks and fisheries) be fully subsidized by Unesco", we had no choice but to tell him that we could not come up with the \$246,000 for this item.

...

U.S.A.  
Washington, D.C. 20433  
1818 H St., NW  
The World Bank  
Health Affairs  
Office of Environmental and  
Dr. R. Goodland

RECEIVED  
1978 JUL 11 AM 10:49  
INCOMING MAIL UNIT

In the case of Guyana, we are, in fact trying to incorporate some of the environmental proposals in a UNDP project, but when John Celecia was there earlier this year, we didn't get the impression that the government would consider it important enough to put it into the current Country Programme. In spite of repeated queries, the Guyanese never acknowledged receipt of any of the books which you put so much time into, nor were they able to tell us where these books are. Under these circumstances, we were not prepared to send them any more.

I plan to be in Washington the week of October 16 and will certainly stop by the Bank. If you can give me a suitable day during that week, I will ask my U.S. colleagues to include it in my itinerary. Probably Wednesday or Thursday (18th or 19th) would be best. If you come through Paris before then, we will, of course, be pleased to see you.

With best regards,

Yours sincerely,



H.L. Teller  
Senior Programme Specialist  
Division of Ecological Sciences

July 6, 1978

Mr. Philip B. Wisman  
Business-Industry Liaison  
Office of Public Awareness  
Environmental Protection Agency  
Washington, D. C. 20460

Dear Mr. Wisman:

Thank you for letter of June 9, 1978 enclosing a sample package of EPA documents dealing with industry-related environmental issues.

Your letter addresses three different questions.

Question (1), asks for a "list of (our) environmental officers and committee heads". The Office of Environmental and Health Affairs has, in addition to its Director, Dr. James A. Lee, the following "environmental officers": Mr. Ragnar Overby, Mr. Jean Tixhon, and Mr. Robert Goodland.

Question (2) requests that we send you a copy of "environmental policy speeches or other public documents given by (Bank) officials since January 1977". Attached you will find a copy of each of the following Bank Publications: (a) Environmental, Health and Human Ecologic Considerations in Economic Development Projects, (b) Environment and Development, (c) Forestry, (d) Health, and, (e) The World Bank's Role in Schistosomiasis Control. In addition I am also sending a set of papers on the subject of the Environment and Health prepared by Dr. Lee.

Your question (3) seeks a "general appraisal of EPA's operations to date". In this regard, while we cannot comment on the merits of occasional criticisms addressed to the agency from within the United States, we can say, however, that we feel there is no other such organization in the world, that to our knowledge, has done so much to study and help tackle the problems associated with the industrial environment. Moreover, in the field of International Environmental Affairs we have found that EPA's office of International Activities has been always eager to cooperate with the environmental needs of less developed countries and the related economic development activities of multilateral financial institutions such as the World Bank. This international liaison has been extremely useful during the past years, and is indeed worthy of emulation by other similar national environmental agencies around the world. We

hope that it may be continued and further developed in the years to come.

We trust that the above provides an adequate reply to your queries.

Sincerely yours,

Hernan Reitze  
Interagency Liaison Officer  
Office of Environmental and  
Health Affairs

  
HR:dn

cc: Dr. J. A. Lee

Messrs. R. Overby  
R. Goodland  
J. Tixhon

Ms. D. Gregory  
Environmental Protection Agency (US/EPA)  
International Organizations / Western  
Hemisphere Division  
Office of International Activities  
A-106  
401 M Street, S. W.  
Washington, D. C. 20460





# Record Removal Notice



<b>File Title</b> Operational Sectors - S - Environment and Health - Volume 3		<b>Barcode No.</b>  30048909		
<b>Document Date</b> 7/14/1978	<b>Document Type</b> Letter			
<b>Correspondents / Participants</b> To: William D. Clard from: Yvonne de Treneman, United Nations				
<b>Subject / Title</b> Bank mission report on environmental pollution in Cuajone, Moquegua				
<b>Exception(s)</b> Information Provided by Member Countries or Third Parties in Confidence				
<b>Additional Comments</b>		The item(s) identified above has/have been removed in accordance with The World Bank Policy on Access to Information or other disclosure policies of the World Bank Group.		
		<table border="1"><tr><td><b>Withdrawn by</b> Bertha F. Wilson</td><td><b>Date</b> 6/5/2017</td></tr></table>	<b>Withdrawn by</b> Bertha F. Wilson	<b>Date</b> 6/5/2017
<b>Withdrawn by</b> Bertha F. Wilson	<b>Date</b> 6/5/2017			

# RESOLVE

Center for Environmental  
Conflict Resolution

360 Bryant Street  
Palo Alto, California 94301  
(415) 329-1525

## Washington Offices

2010 Massachusetts Avenue, N.W.  
Washington, D.C. 20036  
(202) 347-3767

July 12, 1978

Mr. Robert S. McNamara  
President  
World Bank  
1818 H Street, N.W.  
Washington, D.C. 20433

Dear Bob:

As concern about protecting the environment has grown over the past decade, litigation over environmental issues has increased dramatically. Although such litigation is often unavoidable, settling disputes in the courts can be protracted and costly to all parties.


In January of this year, RESOLVE, the Aspen Institute, and the Sierra Club Foundation joined in sponsoring a conference on "Environmental Mediation: An Effective Alternative?" The conference considered the potential of mediation and other new conflict resolution techniques in settling environmental disputes.

A report of the conference has just been published, and it is my pleasure to send you this copy.

RESOLVE is a new non-profit organization created to support the use of mediation and other alternatives to litigation in settling environmental disputes. Among its activities, RESOLVE will monitor and report on new conflict resolution techniques, support projects for settling specific disputes, and develop education and public information programs in environmental conflict resolution.

In fulfilling these roles, we want to work with others in government, industry, labor, and the environmental movement to find ways by which more equitable and environmentally sound decisions can be reached with less rancor and delay. If you would like to receive additional copies of the conference report or if you would like to know more about RESOLVE, please write me.

Sincerely yours,

  
John Busterud  
President

JAB:kn

enclosure

July 11, 1978

Dr. H. L. Teller  
Senior Programme Specialist  
Division of Ecological Sciences  
UNESCO  
7, place de Fontenoy, 75700 Paris

Dear Dr. Teller:

Thank you for your letter of 6 July. I hope the Millbrook has either sent the stubs or declared them irrevocably lost by now.

I look forward to the MAB material and thank you for sending it. Increasingly, we try to engage local environmental consultants, so these lists will be a great help to us. Where a local may be of unknown ability, we try to form a counterpart twinning, at least on the first go-around. This is working in Venezuela, Colombia, and Guyana at least. Now Suriname appears likely to join us, we hope to take advantage of their shadow-MAB group.

May I enquire if you work with UNEP on a topic such as "Country Environmental Profiles" or "Environmental Priorities per Country"? Vicente Sanchez, the dynamic neotropical head of UNEP is making a splendid start, but you may know of other Asian or African similar similar profiles.

Please say who in the Bank (or in Washington) I can invite for lunch on Oct. 18 or 19th on the topics or discipline you would like to broach.

Best wishes, sincerely,

RG

Robert Goodland  
Office of Environmental and  
Health Affairs

RG:dn

cc: Dr. J. A. Lee-PAS  
Mr. H. Reitze-CSVP  
Mr. M. A. Burney-IRD

NRIC

July 6, 1978

Professor Jose I Furtado  
Universiti Malaya  
Zoology Department  
Lembah Pantai  
Kuala Lumpur

Dear Jose:

Thank you very much for your kind invitation concerning the "Impact of major engineering works" session of the "Ecology and Development" theme at next April's symposium. Dr. Leo Teller (UNESCO, Paris) could supply you with a list he keeps of groups actively interested in this precise topic.

I regret that I must decline your invitation to convene this session. I append some addresses at your suggestion. I shall forward your letter to my colleague Ragnar Overby, leader of the World Bank's environmental mission to Malaysia. Although he is away at the moment, I am sure he would want me to convey his warm regards and very best wishes for your symposium.

Sincerely,

RG

Robert Goodland  
Office of Environmental and  
Health Affairs

Professor M. Ismail  
University Staff Quarter  
16 A Fuller Road  
Dacca, Bangladesh

Dr. Roy Panday  
Biology Department  
Technical University  
Paramaribo, Suriname

RG:dn

4 TREBLE HOUSE, BLEWBURY, DIDCOT, OXON. OX11 9NZ

Tel: (0235) 850298

S-Environment & Health

5 July 1978

Dear Hernan,

Many thanks for your letter of 29 June 1978 and for your very helpful comments on my draft report. I do not see any difficulty in making the necessary adjustments to the text.

As you ~~did~~ did not reply to the questions raised in my letter of 5 June 1978, I am wondering whether it has gone astray. In any case I am sending you herewith a copy of the letter in the hopes of receiving your views concerning the proposed additional section on "environment and development".

With best wishes,

Yours sincerely,

*Oliver*

Oliver M. Ashford

Mr. Hernan Reitze  
Office of Environmental and Health Affairs  
The World Bank  
1818H Street, N.W.,  
Washington, D.C. 20433,  
U.S.A.

XEROX

July 5, 1978

Professor Daniel A. Okun  
Environmental Engineering  
The University of North Carolina at Chapel Hill  
Rosenau Hall 201 H  
Chapel Hill, NC 27514

RG

Dear Dan:

Thank you for your letter of June 23. In principle, your kind invitation is accepted primarily because this would strengthen environmental aspects of the Bank's Black Bush Polder Rice and Demerara Forestry projects. Nearer the date we will have to check priorities since something urgent may arise before October.

Should it be possible for me to contribute to Guyana's "environmental aspects of development" project, some field work with major participants would be highly desirable. Black Bush, MMA, Demerara Forestry, and Linden Bauxite are easily accessible as a minimum. NRC can make the arrangements and Bob Otto may be able to find local participants travel.

All best wishes, sincerely,

Robert Goodland  
Office of Environmental and  
Health Affairs

cc: Dr. J. A. Lee

RG:dn