OVERVIEW OF

TECHNOLOGICAL RESEARCH CENTERS

IN DEVELOPING COUNTRIES
OVERVIEW OF
TECHNOLOGICAL RESEARCH CENTERS
IN DEVELOPING COUNTRIES

Prepared for
Cooperative Programs Division
International Development Research Centre

by
Marcel A. Mercier & Associates

October, 1984
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PREFACE

In April of this year Mr. James Mullin, Vice-President, Collaborative Programs, requested that a project team be set-up to develop a Policy Paper for the establishment of a Technology for Local Enterprises Program within the Cooperative Programs Division. For this purpose he retained the consulting services of Marcel A. Mercier and two of his Associates: Professor Vikram Bhatt of the School of Architecture at McGill University, and Mr. Stuart Black.

The work of the project team was supplemented with the assistance of the Cooperative Programs Division (CPD) staff who provided valuable comment and feedback during the study.

In developing the policy paper it was necessary to develop an overview of the extent of the research infrastructure existing in developing countries for the proposed field. A summary of the information collected has been organized into the form of the listing of research institutions presented in this document.

Other important outputs resulting from the study are the following:

- A policy paper entitled Technology for Local Enterprises: A Proposal to Establish a New Program in the Cooperative Programs Division of the International Development Research Centre, September, 1983;
- A Guide to Canadian Technological Research Centers and Institutions, October, 1984;
- A Report of Visits to India conducted as a survey of that country's research infrastructure in this field and listing some two hundred technological research centers.

We wish to thank all people who provided input to the study and who made available valuable information and their time for visits and discussions with members of the project team. The work completed was made possible through their generous contributions.

Marcel A. Mercier

October, 1984
INTRODUCTION

The purpose of this report is to present a listing of developing countries research centers engaged in technological research whose outputs can be picked up by small and medium enterprises.

The listing was developed through desk-top review and information collection through correspondence and visits to a select number of institutions. During the first step of the desk-top review a large number of published and unpublished directories and listings were collected and reviewed to identify the names and addresses of research institutions working in the area proposed for the Technology for Local Enterprises Program. A sample of the principal directories, listings, and other sources consulted is included at the end of this introduction. This step resulted in the identification of over 50 institutions. These are presented in Section Two of this guide.

A letter was then sent to all institutions identified requesting copies of Annual Reports and any other information to describe their research activities. Replies were received for approximately 25% of the total mailing by the time this report was prepared (3-4 months after the mailing). The institutions from whom replies were received are listed in Section One of this report. This section also provides a highlight of the information received from each institution. Replies continue to arrive.

When possible we addressed our correspondence to the named director of the institute, rather than using only a position title. In cases where the person was no longer in the position our letter was usually forwarded to the individual and to the new person in the position identified. It was found, however, that in most cases there had been no staff turnover.

In reviewing the list of institutions identified and responses received it was found that the great majority had had no prior contact with IDRC.

Overall we were very pleased with the rate of response received for our mailing especially when considering the time allowed for responding, the distances involved (and the number of postal systems that must have been used), and the timeliness of much of our initial source information. It demonstrates a very strong interest on behalf of researchers in this field to make their research known and to collaborate with others.

All information collected was recorded in a computerized data base using a micro computer. The information was key-worded by title and country, and sorted according to IDRC region. A file number was assigned to each entry which corresponds to a physical file used to file the information received.
How the Directory is Organized

The directory is organized in two major sections. The first section lists the institutions from whom replies were received including a summary of the information provided and some of the ideas identified for collaborative research projects. Section Two lists all research institutions and groups identified during the project. Each section is geographically organized by IDRC region and within each region the institutions are grouped by country.

Sources of Information Consulted

The following sources were used to develop the basic list presented in Section Two of this guide. These are not the only sources. As institutions were identified during the project, e.g. through reports, studies, correspondence, etc., their names were added to the list.


Georgia Institute of Technology, Directory of Consultants to Small Rural Industries, 1975.


Liaison Bulletin.


World of Learning

*Yearbook of International Organizations*, Edited by the Union of International Associations, K.G. Saur, 1983/84.
SECTION ONE

RESPONDENTS AND REPLY HIGHLIGHTS

East Africa
South Asia
West Africa
Asia
Middle East
Latin America
East Africa
Director
Pelegano Village Industries
P.O. Box 464
Gaborone, BOTSWANA

Reply received from Mr. Frank Taylor who established PVI and who now operates a consulting company, Development Consultancies - listed as specialists in rural development and small scale enterprises. Will probably have to send a follow up letter to PVI to obtain the information.

Frank Taylor
Development Consultancies
P.O. Box 2020
Gaborone, Botswana
Tel. 59529  Tlx. 2299 BD

Reply received: Letter praised TLE as having the potential to provide a very practical and real impetus to development in the Third World, and expressed an interest in cooperation.

Promising ideas include an agricultural project utilizing simple forms of rainwater micro-catchment techniques.

SME Priority: high - listed as specialists in rural development and small and medium enterprises.
Dr. R.O. Arunga
Director
Kenya Industrial Research and Development Institute (KIRDI)
P.O. Box 30650
Nairobi, KENYA
Dr. Arunga

Reply received: Letter noted with interest Cooperative Program's inventory. To illicit cooperation they enclosed their Annual Report and Statement of Accounts (1980/81 and 1981/82).

SME Priority: high

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The Principal
College of Engineering
Mechanical Engineering Department
University of Nairobi
P.O. Box 30197
Nairobi, KENYA

Reply received: Enclosed with letter, Annual Reports for 1980/81, 1981/83 and Departmental Achievements since inception. Would like to hear from us once we identify areas of research cooperation.

=================================================================
Attention Dr. F. Wangatti
Secretary
National Council for Science
and Technology
P.O.B. 30623
Nairobi, KENYA

Reply received: Letter stated their inability to fund many research
applications in SMEs due to shortage of funds. Very interested
in developing projects with Cooperative Programs.

Enclosed a list of projects funded by the council and their

Also enclosed a very useful list of Kenyan institutions that
have a potential role in research for SME.

SME Priority: high

---------------------------------------------------------------

Dr. C. Ricaud
Director
Mauritius Sugar Industry
Research Institute (MSIRI)
Reduit, MAURITIUS


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Mr. P. Mpawenayo  
Centre d'etudes et d'Applications de l'energie au Rwanda  
Universite National du Rwanda  
B.P. 117  
Butare, RWANDA  
Mr. Mpawenayo

Reply received: Sent report of the activities for the academic year 1981/82.

Dr. A.L. Mtui  
Director  
Building Research Unit  
P.O. Box 1964  
Dar es Salaam, UNITED REP. OF TANZANIA  
Dr. Mtui

Reply received: (from the PMO) Very supportive of IDRC's efforts to stimulate scientific and technical research in developing countries.

- and list of publications by BRU
Eustace Gondwe  
Head
Department of Civil Engineering
University of Dar es Salaam
P.O. Box 35131
Dar es Salaam, UNITED REP. OF TANZANIA

Reply received: Letter informed us that Prof. Mawenta is on leave until July 1985, and stated their enthusiasm with the possibilities of cooperating with and sending proposals to CP in the future.

- Enclosed a summary of the Department's activities and a report on the Water Resources and Environmental Engineering program under UNESCO's African Network of Scientific and Technological Institutions (ANSTI project).

SME Priority: high

Dr. G.C. Mrema  
Director
Department of Agricultural Engineering and Land Planning
University of Dar es Salaam
Sub Post Office
Chuo Kikuu
Morogoro, UNITED REP. OF TANZANIA

Mr. Mrema

Reply received: Letter described the department's activities and resources
The Director General  
Small Industries Development Organization (SIDO) 
P.O. Box 988  
Dar es Salaam, UNITED REP. OF TANZANIA

Reply received from Ozzie Schmidt, AFNS Kenya, enclosing the SIDO publication "Small News", and suggesting that we ask to be put on their mailing list.

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Mr. C.L. Tarimu  
Director General  
Tanzania Industrial Research and Development Organization (TIRDO)  
P.O. Box 23235  
Dar es Salaam, UNITED REP. OF TANZANIA

Mr. Tarimu


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Mr. B.J. Chambaka
Director
Ubungo Farm Implements Limited
P.O. Box 20126
Dar es Salaam, UNITED REP. OF TANZANIA

Reply received: From the former director Mr. Kida informing us of the name of the new director.

Dr. W.T. Weerakoon
Director
Technology Development and Advisory Unit (TDAU)
P.O. Box 32379
University of Zambia
Lusaka, ZAMBIA
Dr. Weerakoon

Reply received: Letter noted the constraints placed on the Unit’s activities due to lack of funds, and also their willingness to collaborate with IDRC in its capacity as coordinator for the Network of Appropriate Technology Centres in Africa (NATCA).

- Enclosed the TDAU Handbook.

SME Priority: high
Prof. Keith A. Viewing 840612 DC0229
Director
Institute of Mining Research (IMR)
University of Zimbabwe (UZ)
P.O. Box MP 167
Mount Pleasant
Salisbury, ZIMBABWE
Prof. Viewing


Mr. E.R. Morrison 840612 DC0231
Director
Geological Survey of Zimbabwe
P.O.B. 8039
Causeway
Harare, ZIMBABWE
Mr. Morrison

Reply received: Letter noted that the department’s functions do not involve research, and that their annual report is confidential. Referred us to Prof. Viewing of the Institute of Mining Research, University of Zimbabwe.
Timber Engineering Research Centre
Department of Civil Engineering
University of Zimbabwe
Mount Pleasant
P.O.B. M.P. 167
Harare, ZIMBABWE

sir

Reply received: Letter stated that the Centre will not be operational until mid-1985. Will forward an annual report in due course.

Mr. V. Babikanyisa
School of Business and Industrial Studies
University of Zambia
P.O.B. 21692
Kitwe, ZAMBIA

Mr. Babikanyisa

Reply received: Letter welcomed any research funding, and since the School did not publish an Annual Report, Mr. Babikanyisa described the School's activities.
Mr. A.J. Spear  840612  DC0228
Director
Institute of Agricultural Engineering
Department of Research and Specialist Services
Ministry of Agriculture
P.O. Box BW. 330
Borrowdale
Salisbury, ZIMBABWE

- Informed us of the merger with the Extension and Training Section of the Engineering Branch of Agritex.

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Dr. E.H. Williams  840612  DC0233
Director
Standards Association of Central Africa (SACA)
17 Coventry Rd.
P.O. Box 2259
Harare, ZIMBABWE

Reply received: Letter stated that there is no organization in Zimbabwe responsible for industrial research, so SACA is sometimes entrusted with R & D activity of this nature.

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South Asia
Mr. Moniruzzaman
Director
Appropriate Agricultural Technology Cell (AATC)
Bangladesh Agricultural Research Council (BARC)
130-B, Road No. 1
Dhanmondi Residential Area
Dacca 5, BANGLADESH
Mr. Moniruzzaman

Reply received: Letter stated that neither BARC or AATC carry out research, rather they advise, coordinate and manage research.

- Enclosed an interesting chart of institutes and universities which do conduct agriculture research. Perhaps we could obtain a similar chart for industrial research institutes.
Mr. S.C. Sharma  
Director  
Central Control and Research  
Laboratory  
Cawnpore Sugar Works Limited  
Post Office Marhowrah  
Distt. Saran  
Bihar, INDIA  
Mr. Sharma

Reply received: Sent check list of the company's structure.

Dr. Nitya Nand  
Director  
Central Drug Research Institute (CDRI)  
Council of Scientific and Industrial Research (CSIR)  
Chattar Manzil Place  
Lucknow 226 001, INDIA  
Dr. Nand

Reply received: Letter informing us that the 1982-83 Annual Report is forthcoming.  
Enclosed 1981 Brochure.
Reply received: Letter outlined areas of direct interest to CEERI. Promising ideas included technology in such areas as solar heaters and cookers, electronic gadgets, rodent repellers, water pumps, hydro boilers and neem oil production.

Enclosed introductory pamphlet.

SME Priority: High

Dr. S. Kumar
Director
Central Glass and Ceramic Research Institute
Jadavpur
University P.O.
Calcutta 700032, INDIA

Reply received: Sent 1980-81 and 1981-82 Annual Reports.

SME Priority: High
Reply received: Letter outlined promising areas of collaboration.

- Enclosed technical information brochure on the Institute.

SME Priority: High

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Mr. P.C. Saxena
Director
Central Water and Power Research Station
P.O. Khadakwasla Research Station
Pune 411024, INDIA
Mr. Saxena

Reply received: Sent six topical brochures on CWPRS.

- Requested more information.

==============================================================================
M. Nawaz Sharif
Director
Regional Centre for Technology Transfer
Manickvelu Mansion
49 Palace Road
Bangalore 560 052, Karnataka, INDIA

(Affiliated with the Economic and Social Commission for Asia and the Pacific).

Reply received: Letter reminding us that they have a pending project proposal with IDRC on the packaging of technology information, and also that Vickram Bhatt will be visiting them. They state that they will look forward to greater collaboration in areas that could have immediate impact in transferring technology to SMEs.

Enclosed the Centre's introductory report.

SME Priority: high
Mr. Tarun Das  
Executive Director  
The Association of Indian Engineering Industry (AIEI)  
172, Jor Bagh  
New Delhi 110 003, INDIA  
Mr. Das

Reply received: No letter.  
Documents sent include 1983 Annual Report, R & D Capabilities and Facilities (1982 and 1983), and profile of 1984 seminar on Cooperative Research in Advanced Technologies Appropriate to Developing countries.

Shabbir A. Qureshi  
Member (Technology)  
Pakistan Council of Scientific and Industrial Research  
Shahra-E-Kamal Ataturk  
P.O. Box no. 672  
Karachi - 0109  
Pakistan

Reply Received: Letter welcoming assistance in various fields of scientific and industrial research.  
Dr. G.S. Sidhu  
Director  
Council of Scientific and Industrial Research (CSIR)  
Rafi Marg  
New Delhi 110001, INDIA  


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Mr. B.K. Mazumdar  
Director  
Central Fuel Research Institute  
Dhanbad, Bihar  
INDIA  

Reply received: No letter  
Sent 1982-83 Director's Report.
Mr. S.C. Sharma 840612  DC0405
Director
Central Control and Research Laboratory
Cawnpore Sugar Works Limited
Post Office Marhowrah
Distt. Saran
Bihar, INDIA
Mr. Sharma

Reply received: Sent check list of the company's structure.

Dr. Nitya Nand 840612  DC0406
Director
Central Drug Research Institute (CDRI)
Council of Scientific and Industrial Research (CSIR)
Chattar Manzil Place
Lucknow 226 001, INDIA
Dr. Nand

Reply received: Letter informing us that the 1982-83 Annual Report is forthcoming.

Enclosed 1981 Brochure.
Mr. M.V. Rajasekhran  
Coordinator  
Asian Institute for Rural Development  
7/A Rathavilasa Rd.  
Basavanagudi  
Banglore - 560 004, INDIA  
Mr. Rajasekhran

Reply received: Letter noted their interest in the new program at IDRC, and enclosed copies of monthly "AIRD News". They will forward their 1983 Annual Report after printing.

SME Priority: high

Dr. M.I. Mathews  
Director of Industries and Commerce  
Chemical Industries Wing  
Department of Industries and Commerce  
Guindy Industrial Estate  
Madras 600 032, INDIA  
Dr. Mathews

Reply received: Letter described activities of the Chemical Wing. - Enclosed 1976 brochure.
Mr. J.K. Shah  
Director  
Narottam Lalbhai Research Centre  
Arvind Mills Limited  
Naroda Road  
Ahmedabad 380 025, INDIA  
Mr. Shah

Reply received: Letter expressed appreciation of including them in our inventory. Also they request further information on IDRC, such as 'IDRC Reports', 'Searching' and a complete list of scientific and technical publications. These would be helpful in identifying possible areas of cooperation.

- Enclosed two brochures.

Dr. K. Nagarajan  
Director  
Research and Development Centre  
Searle (India) Limited  
25 MIDC Land  
Thane Belapur Road  
Thane 400 601, Maharashtra  
INDIA

Reply received: Letter updated the director’s name and the address of the Centre. It described the staff, facilities and activities of the Centre.
Rural and Urban Studies Division
Marga Institute
61 Isipathana Mawatha
P.O. Box 601
Colombo 5, SRI LANKA
Sir

Reply received: Letter reminding us of the long standing association between the Marga Institute and IDRC, dating back to 1973 and comprising 3 or 4 projects each year.

- Enclosed their 10th Anniversary Publication (1972-82).

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Dr. G.N. Acharya
Scientist
Central Electronics Engineering Research Institute
Pilani (Rajasthan)
333031, India

Reply received: Letter outlined areas of direct interest to CEERI.

- Promising ideas included technology in such areas as solar heaters and cookers, electronic gadgets, rodent repellers, water pumps, hydro boilers and neem oil production.

- Enclosed introductory pamphlet.

SME Priority: high

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Reply received: Letter outlined major areas of industrial design research.

Promising ideas include possible areas of collaboration between Canadian professionals working in such fields as educational material, service to SMEs, health and visual communication, energy, and extension training.

SME Priority: high

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Department of Small Industries
Hemas Buliding
Ministry of Rural Development
PO Box 578, Colombo 1.
SRI LANKA

Tel. 22781/2/3     Tlx. SMALLINDUS

Reply received: Letter outlined the responsibilities of the Department:

• workshops for the production of traditional textiles
• workshops for the production of Coir goods
• workshops for the production of non-traditional ceramics.

Also stated that they seek to link production facilities with organizations based overseas in twinning arrangements. Previous dealings with Australian leather workshops, Belgian lace, and Scandinavian hand-crafted silver.

SME Priority: high

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Dr. S. Kumar
Director
Central Glass and Ceramic Research Institute
Jadavpur University P.O.
Calcutta 700032, INDIA

Dr. Kumar:

Reply received: Sent 1980-81 and 1981-82 Annual Reports.

SME Priority: High

Prof. M.M. Taqui Khan
Director
Central Salt and Marine Chemicals Research Institute
Wagawadi Rd.
Bhavnagar 364002, INDIA

Prof. Khan:

Reply received: Letter outlined promising areas of collaboration.

- Enclosed technical information brochure on the Institute.

SME Priority: High
Dr. L.K. Doraiswamy
Director
National Chemical Laboratory of India
Pashan
Pune 8, INDIA
Dr. Doraiswamy:

Reply received: Sent booklet describing the Laboratory's activities.
- Also received Annual Report (1981-82) from Technical Services Division.

Prof. A. Rahman
Director
National Institute of Science, Technology and Development Studies
CSIR Complex
New Delhi, INDIA
Prof. Rahman:

Reply received: Enclosed Annual Report (1982-83) and brochure.
Dr. V.A. Altekar
Director
National Metallurgical Laboratory
Jamshedpur 831007
Singhbhum District
Bilhar, INDIA
Dr. Altekar:

Reply received: Sending latest Annual Report and brochure under separate cover.

Dr. P.K. Jena
Director
Regional Research Laboratory
Council of Scientific & Industrial Research
Bhubaneswar 4
Orissa, INDIA
Dr. Jena:


SME Priority: high
Dr. J.N. Baruah  
Director  
Regional Research Laboratory  
Jorhat, Assam, INDIA  
Dr. Baruah:

Reply received: Sent 1982 Annual Report.

SME Priority: high

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Prof. P.K. Rohtagi  
Director  
Regional Research Laboratory  
Library Building  
University of Bhopal  
Bhopal 462026, INDIA  
Prof. Rohtagi:

Reply received: Letter expressed desire to develop cooperative projects with CPD in the areas of simple technologies, and materials using local resources.  

SME Priority: High

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Dr. S.P. Sharma  
Acting Director  
Structural Engineering Research Centre  
Madras, INDIA  

Reply received: Enclosed 1982-83 Annual Report and brochure entitled 'Ferrocement Applications for rural Development'.  

SME Priority: high

Dr. T. Radhakrishnan  
Director  
Ahmedabad Textile Industry’s Research Association (ATIRA)  
P.C. Polytechnic  
Ahmedabad 380015, INDIA  
Dr. Radhakrishnan:

Reply received: Enclosed brochure.
Mr. K. Ramachandran  
Director  
Automotive Research Association of India  
P.O.B. 832  
Pune 411004, INDIA

Mr. Ramachandran:

Reply received: Letter outlined a number of promising areas for collaboration: fuel conversion, emission control, modernization of product designs and evaluation of products.

- Paid a visit to IDRC in July 1984.

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Mr. D.P. Mandelia  
President  
Birla Research Institute for Applied Sciences  
Birlagram 456 331  
Nagda (M.P.), INDIA

Mr. Mandelia:

Reply received: from D.K. Goyal, enclosing annual reports of three Companies.

- Central Indian Machinery Mfg.
- Gwalior Rayons
- J.C. Mills
Dr. H.C. Visvesvaraya
Director-General
Cement Research Institute of India
M-10, South Extension II
Ring Rd
Ballabgarh 121004, INDIA
Dr. Visvesvaraya:

Reply received: Sent 1983 Annual report.

SME Priority: High

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Mr. P.C. Saxena
Director
Central Water and Power Research Station
P.O. Khadakwasla Research Station
Pune 411024, INDIA
Mr. Saxena

Reply received: Sent six topical brochures on CWPRS.

- Requested more information.

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Reply received: Enclosed a brief review of the Laboratory's achievements.

Dr. W. Millns  
Director  
Indian Rubber Manufacturers Research Association  
Plot No. B-88, Rd. U-2  
Wagle Industrial Estate  
Thane 400 604  
Maharashtra, INDIA  
Dr. Millns

Reply received: Enclosed - a brochure  
- 1982/83 Annual Report  
Only too pleased to accept IDRC sponsorship for projects in their national research laboratory.

SME Priority: high
Mr. Santokh Singh  
Chief Engineer-Cum-Director  
Irrigation and Power  
Research Station  
Amritsar, INDIA  

Reply received: Enclosed Annual Research Memoirs (1982-83)!

Dr. Alim Biswas  
Director  
BCSIR Laboratory  
Dacca, BANGLADESH  

Director for BCSIR, Chittagong requested from Karl Smith of IDRC Health Sciences Division whether IDRC would support projects on medicinal plants. The answer was negative.
Mr. I. Azfal
Director
Pakistan Institute of Cotton
Research and Technology
New Queens Road
Karachi, PAKISTAN
Mr. Azfal:

Reply received: Letter stated appreciation for joint cooperative projects.

- Enclosed Cotton Handbook, Achievements of Cotton Committee,

Dr. O.S. Peries
Director
Rubber Research Institute of Sri Lanka
Agalawatta, SRI LANKA
Dr. Peries:

Reply received: Sent 1982 Annual Review.
West Africa
Dr. J.W. Powell
Technical Consultancy Center (TCC)
University of Science and Technology
Kumasi, GHANA
Dr. Powell

Reply received: Informed us that TCC has been working with IDRC for several years, and is sponsoring their Small Farm Equipment Project.
- Enclosed 1982/83 Annual Review

SME Priority: high

Mr. Cheickna Traore
Director
Laboratoire de l'Energie Solaire
B.P. 134
Bamako, MALI
Mr. Traore

Reply received: Letter enclosing pamphlet describing the Lab's activities.
Reply received: Detailed letter outlining the Department's involvement in designing promising prototype machinery for agriculture. Also included a list of their technical reports published in various journals.

- Currently negotiating a cooperative link with Agriculture Engineering Department of Technical University of Nova Scotia, and awaiting an answer to an AFNS project. Will be visiting Canada in November 1984.

SME Priority: high

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Prof. R.N. Kaul
Head
Department of Agricultural Engineering
Institute for Agricultural Research (IAR)
Ahmadu Bello University
P.M.B. 1044
Zaria, NIGERIA
Prof. Kaul

Reply recieved: Letter inviting us to communicate further with them on areas of possible collaboration, especially through their Agricultural Mechanization Research Program.

- Enclosed pamphlets.

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Dr. O.A. Koleoso
Research Director
Federal Institute of Industrial Research Oshodi (FIIRO)
P.M.B. 21023
Ikeja
Oshodi, Lagos State, NIGERIA
Dr. Koleoso

Reply received: 1982 Annual Report, 1981 information booklet and list of research reports.

- No letter.

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Mr. E.H. Hartmans
Director
International Institute of Tropical Agriculture (IITA)
P.M.B. 5320
Oyo Road
Ibadan, NIGERIA
Mr. Hartmans

Reply received: Letter reminded us that their Institute has worked very closely with IDRC since its inception. Noted that their Annual Report is on file in the IDRC Library.
Dr. E.K. Okaisabor
Director
Rubber Research Institute of Nigeria (RRIN)
Federal Ministry of Science and Technology (FMST)
P.M.B. 1049
Iyanomo
Benin City, NIGERIA
Dr. Okaisabor

Reply received: Sent two publications on their organization and activities:
- RRIN in Brief (pamphlet)
- Highlight of Achievements

SME Priority: High

Mr. Souleye Sall
Director
Centre Experimental de Recherches et d'etudes pour l'équipement (CEREEQ)
B.P. 189
Dakar, SENEGAL
Mr. Sall

Reply received: Letter describes the activities and objectives of CEREEQ.
Lt. Col. Sidy Bouya Ndiaye  
Director  
Ecole Polytechnique de Thies  
B.P. 10  
Thies, SENEGAL  
Lt. Col. Ndiaye

Reply received: Letter describes the objectives and activities of the centre.  
- Also enclosed a list of projects.

 replied received: No letter  
- Sent 1982-83 Director's Report.
Asia Region
Dr. C.S.O. Chan
Managing Director
Hong Kong Standards and
Testing Centre (HKSTC)
Dai Wang Street, Taipo Industrial Estate
Taipo, N.T., HONG KONG

Tel. 0-6530021 Tlx. 54652 STDS HX

Reply received: Letter outlined present activities, and enclosed a brief
description of the Centre. Seek support from IDRC for projects that may be beneficial to Hong Kong's manufacturing industry.

Mr. Santokh Singh
Director-General
Geological Survey of Malaysia
2nd Floor, Survey Building
Gurney Road
Kuala Lumpur, MALAYSIA

Reply received: Letter informed us that the GSM is currently carrying out a joint research project with IDRC.

Dr. Lim Teong Wah
Director
Institute for Medical Research (IMR)
Jalan Pahang
Kuala Lumpur 02-14, MALAYSIA
Tel. 03-986033

Reply received: Enclosed 1982 Annual report with letter.

SME Priority: Low - IMR is a medical research centre.

Melito S. Salazar, Jr.
Director
Institute for Small-scale Industries
University of the Philippines
Virata Hall
Emilio Jacinto St.
Diliman
Quezon City, PHILIPPINES

Sir


SME Priority: High
Reply received: Letter stated that they are willing to cooperate with IDRC, and that they would be sending their Annual Report.
- Received 1982 Annual Report.

SME Priority: High

Mr. Juanito C. Fernandez
Director
Bureau of Mines and Geosciences
P.O.B. 1595
Taft, Pedro Gil St.
Manila, PHILIPPINES

Reply received: No letter
- Received 1983 Annual Report
Mr. Florentino O. Tesoro
Director
Forest Products Research and Development Institute (FPRDI)
National Science and Technology Authority (NSTA)
College, Laguna 3720
PHILIPPINES


Dr. Emil Javier
Director-General
National Science and Technology Authority (NSTA)
General Santos Ave.
P.O. Box 3596
Bicutan
Taguig, Metro Manila, PHILIPPINES

Reply received: Enclosed 1983 annual report with letter.
Mr. Eduardo P. Villanueva  
Director 
Philippine Textile Research Institute  
General Santos Avenue  
Bicutan, Taguig, M.M.  
P.O. Box 1321  
MCC, Makati, PHILIPPINES  

Reply received: Sent 1983 Annual Report, Mid-year Report (January-June 1984), and a brochure.

Prof. Choo Seok Cheow  
Chairman  
Science Council of Singapore  
Singapore Science Centre Bldg.  
Science Centre Rd.  
Singapore 2260, SINGAPORE  

Reply received: Letter stated that they will forward a copy of Annual Report. 
- Received Annual Report (1982/83).
Balai Textil Jakarta  
Jl. Let. Jen. Suprapto Blok A 
Daerah V. – Cempaka Putih 
Jakarta, INDONESIA

Reply received: Letter outlined the areas of research for small-scale enterprises. Stated that the problem the face is lack of knowledge and experience in garment making technology.

SME Priority: High

Dr. Kamchad Mongkolkul  
Dean  
Faculty of Science  
Chulalongkorn University  
Phaya Thai Rd.  
Bangkok, 10500 THAILAND  
Dr. Mongkolkul

Reply received: Letter expressed their appreciation of IDRC's past financial support to the Faculty of Science.

- Enclosed 1982 and 1983 volumes of their "Journal of Scientific Research".
Prof. Alastair M. North
President
Asian Institute of Technology (AIT)
P.O. Box 2754
42 km, Phaholyothin Highway
Bangkok, THAILAND

Reply received: Letter stated that IDRC and AIT maintain close cooperation through our regional office in Singapore, but they say they are willing to strengthen the relationship further.


Food Processing Laboratory
Department of Agriculture
APIA
WESTERN SAMOA

Reply received: Letter described the department's research activities in food processing fruits and vegetables.

SME Priority: Low - Agricultural research.
Hong Kong Productivity Council  
Technical Director  
12th Floor, World Commerce Centre  
Harbour City  
11 Canton Road, Tsimshatsui  
Kowloon, HONG KONG

Reply received: Sent latest Annual Report.

- Mr. Taylor, the Technical Director, visited IDRC in September 1984.

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International Institution of  
Rural Reconstruction  
Silang, Cavite, PHILIPPINES

Reply received: Sent 1981 and 1982 Annual Reports, brochures and pamphlettes.

SME Priority: High

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Mr. Prapath Premani  
Director  
National Energy Administration  
Pibultham Villa  
Kasatsuk Bridge  
Bangkok 5, THAILAND

Reply received: From Mr. Pravit Ruyabhorn, the former director, informing us that he has forwarded the letter to Mr. Premani.

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Middle East
Mr. Nabil El-Nozahi  
General Manager  
Textile Consolidation Fund (TCF)  
El-Siouf  
Alexandria, EGYPT  
Mr. El-Nozahi

Reply received: Enclosed with letter, a collection of annual reports and cotton information bulletins (1982 and 1983).

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Mr. Mohamed Fetah  
Director  
Centre d'études et de Recherches des Phosphates Minéraux (CERPHOS)  
73/87 boulevard Moulay Ismail  
Casablanca, MOROCCO  
Mr. Fetah

Reply received: Sent letter describing CERPHOS's activities  
- Enclosed 1984 Bulletin (in two volumes).
Dr. Mohamed Lakhsassi  
Director  
Ecole Nationale de l'Industrie Minerale  
B.P. 753  
Agdal  
Rabat, MOROCCO  
Dr. Lakhsassi  


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Mr. T. Lajmi  
Chef du Department Geologie  
Office National des Mines (ONM)  
95 ave. Mohamed V  
Tunis, TUNISIA  
Mr. Lajmi  

Reply received: Letter described the activities of the Department.
Mr. Sitki Sancar
Director
Mineral Research and Exploitation Institute (MTA)
Ankara, TURKEY
Mr. Sancar

Reply received: Enclosed short description of MTA, giving its mandate, personnel, methodology, interest and activities.

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Latin America
Ing. Alfredo Octavio Russo
President
Instituto Nacional de Tecnologia Industrial (INTI)
Avda. Leandro N. Alem 1067
1001 Buenos Aires
ARGENTINA
Mr. Rodriguez

Reply received: Interested in establishing a permanent link with IDRC.
1983-84 Review Magazine

SME Priority: High

Mrs. Susana R.B. De Sucatte
Directora Tecnica
Centro de Investigacion de Celulosa y Papel (CICELPA)
Avenida Leandro N. Alem 1067
1001 Buenos Aires, ARGENTINA
Mrs. De Sucatte

Reply recieved: Letter decribed the Centre's activities, and expressed an interest in participating in cooperative programs. Have had previous contacts with PAPRICAN in Montreal.

- Enclosed Brochures of the Centre and of their Information Service, a list of tests offered to industry, a list of Technical papers, and their 1983 Annual Report.

SME Priority: High
Reply received: Letter enclosing the following -

1980-82 historical directory of personnel
1979 Review of the Academy

Reply received: Letter met request for information for inventory

- English brochure on CEPEL, 1982
- Annual Report 1982 (Portuguese)
- Regular publications of INFORME and TECHNICAL REPORT

Also sent us the first quarterly INFORME for 1984.
Mr. Wayne Sandvig
Director
Fundacion Chile
P.O. Box 773
Via Sur
Parque Institucional 6651, CHILE
Mr. Sandvig

Reply received: Letter outlining areas of activity (proven technology)

- Reports describing each field of specialization and facilities
- 1983 Annual Report

SME priority: High

Jose Castella Arguelles
President
Comision Nacional de Investigacion Cientifica y Tecnologica (CONICYT)
Casilla 297-V
Santiago, CHILE

Reply received: Letter expressed interest in CPD, and noted previous contact with James Mullin two years ago in Chile.

- Also enclosed a list of university groups and institutes that undertake research for small and medium enterprises in Chile.
Reply received: no letter

- Report prepared by Mr. Ladrach (Sept 1983) entitled "Growth Rates and Development of Planted and Natural Hardwood Forests in Colombia."

Reply received: From Dr. Rodriguez enclosing documentation from ESTRATEGIAS ENERGETICAS -- an organization committed to intensifying the search for solutions to energy-related problems.

- also enclosed a conference report on Using Renewable Energy Resources in Developing Countries, July 1980.

It appears Dr Rodriguez has left the Solar Energy Research Group, and is now working on his own. He is interested in working on refrigeration of fish for small Caribbean communities.

See file for address.
Augsto Cano
Director
Center for Economic Development Studies (CEDE)
Universidad de los Andes
Calle 1B con Carrera 1-E
Bogota, COLOMBIA
Sir

'Reply received': Very much interested in participating with CP, asked for further information on our priorities so they can present proposals.

- 1982-83 Report on CEDE's activities.
SME Priority: High

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Fundacion par el Fomento de la Investigacion Cientifica y Tecnologica (FICITEC)
Apartado Aereo 27872
Bogota, COLOMBIA
Sir

Reply received: No letter

- One page description of FICITEC, and list of projects

SME priority: High -- Provides technical assistance to small and medium industries

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Reply received: Sent 1983 Annual Report and brochures on principal staff and overview of activities.

SME Priority: Low (Agriculture)

Reply received: Updated the rector's name, enclosed a list of current projects and some information about their publications.

- Enclosed 1984 and 1982 brochures.
Dr. M. O. Hamilton
Scientific Research Council (SRC)
P.O.B. 350
Kingston 6
JAMAICA
Dr. Hamilton

- Seems to have had prior dealings with IDRC.

Luis Esteva
Director
Institute of Engineering
c/c Universidad Nacional Autonoma de Mexico (UNAM)
Ciudad Universitaria
Alvaro Obregon
04510 Mexico, D.F.

Reply received: Letter updated the Director's name.
Mr. Guillermo Fernandez de la Garza 840612  DC0063
Executive Director
Electric Research Institute (IIE)
Apartado Postal 5-849-5620
Mexico 5, D.F., MEXICO
Mr. de la Garza

Reply received: Letter and 1983 Annual Report, as well as a Catalogue of Technical Developments.

SME Priority:

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Mexican Institute of Appropriate Technology, 840612  DC0064
S.C. (IMETA)
Apdo. Postal 63
254 02000 Mexico, D.F., MEXICO

Head, Division of Technological Development: Eugenia Olguin

Reply Received: Letter stated interest in C.P Division, and outlined their new projects. Also stated their need for financial support for R & D activities related to appropriate technology.

- Sent promising proposal ideas for consideration:
  (1) Integrated systems for production of feedstock.
  (2) Anaerobic digestion to treat and recycle industrial effluents with UASB type reactors.

- Enclosed some information about IMETA and its activities.
  (up to 1983).

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Dr. Arturo Gomez-Pompa 840612 DC0068
Director
Instituto Nacional de Investigaciones
Sobre Recursos Bioticos (INIREB)
Km 3, Antigua Carretera a Coatepec
Xalapa, Veracruz, MEXICO
Dr. Gomez-Pompa

Reply received: Letter and newspaper supplement giving an overview of INIREB's activities;
- Also enclosed a document outlining the "Philosophy and Main Objectives".

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Mr. Hollis Charles 840612 DC0081
Director
Caribbean Industrial Research Institute (CARIRI)
Tunapuna Post Office
Tunapuna, TRINIDAD & TOBAGO
Mr. Charles

Reply received: Letter noted that CARIRI has had a long association with IDRC, and went on to describe the Institute's research activities and their interaction with small and medium enterprises.
- Enclosed a chart of research programs, and their 1981 and 1982 Annual Reports.

SME priority: High

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Mr. Henrique Bergamin Filho  
Director  
Instituto Nacional de Pesquisas da Amazonia  
Estrada do Aleixo, km. 3, 5  
C.P. 478  
67000 Manaus, BRASIL

Reply received: Letter described INPA’s research activities.  
- Enclosed CNPq Research Institute’s brochures, ACTA Amazonica Magazine (1982).

Mr. Yvan Barretto de Carvalho  
Director  
Departamento Nacional da Producao Mineral  
Setor de Autarquias Norte  
Quadra I  
Projecaao E, Bloco B  
Esplanada dos Ministerios  
Brazilia, DF, BRASIL  
Mr. Barretto:

Reply received: Sent the Department’s 1982 Annual Report, 1983 Program Report, and a document outlining the internal structure.

Erasto Boretti de Ameida  
Research Director  
Instituto de Pesquisas Tecnologicas  
Cidade Universitaria  
Armando de Salles Oliveira  
C.P. 7141  
01000 Sao Paulo  
S.P., BRASIL

Reply received: Enclosed some IPT publications describing their research activities and main interests.
Mr. Walter Jaffe  
Director 
Fundacion Centro de Investigaciones 
del Estado Para la Produccion Experimental Agroindustrial (CIEPE) 
Zona Industrial 
San Felipe, Yaracuy, VENEZUELA 
Mr. Jaffe

Reply received: Sent brochures describing the policies, strategy and activities of the Centre (1982) and 1983 Annual Report.

- Also Mr. Jaffe informed us that as a member of the WATRC Executive Committee, he received the TLE discussion paper prepared by Bhatt and Mercier, and found it very interesting.

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Mr. Miquel Nucete Hubner  
Director 
Fundacion para el Desarrollo 
de la Region Centro Occidental de Venezuela (FUDECO) 
Apartado de Correos No. 523 
Avenida Libertador 
Frente Complejo Ferial 
Barquisimeto, VENEZUELA 
Mr. Hubner

Reply received: Letter outlining FUDECO's activities

- Summary of studies completed 1980-83
- 1982 Report
- 1982 research supplement

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Mr. Jorge Barreto Soulier
Director
Instituto de Investigaciones Marinas de Punta de Betín (INVEMAR)
Apdo. Aereo 1016
Santa Marta, COLOMBIA
Mr. Barreto Soulier

Reply received: Letter stated that INVEMAR has been in contact with IDRC since 1977.

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Mr. Oscar Coddou Vivanco
Director
Instituto Nacional de Capacitacion Professional (INACAP)
Instituto Professional Centro de Formacion Tecnica
Avenida Chesterton 7028
Santiago, CHILE
Mr. Vivanco

Reply received: Enclosed 1982 Annual Report, a brochure and a sample questionnaire.

=================================================================================================
Mr. Antonio Fernandez Ibanez, S.J.  
Director  
Salvadorian Foundation for development  
and Minimum Housing  
18 Avenida Norte No. 7  
Apartado postal 421  
San Salvador, EL SALVADOR  
Mr. Ibanez  


Mr. Rafael Jesus Maria Hernandez Sanchez  
Director  
Dominican Institute of Industrial Technology (INDOTEC)  
Apartado Postal 329  
La Feria  
Santo Domingo, DOMINICAN REPUBLIC  
Mr. Sanchez  

Reply received: Letter informed us that they have been in contact with IDRC's regional office in the area, and that they wish to continue to develop close relations.  
- Will forward the necessary documentation.
Pages 76-78 are blank.
SECTION TWO

LIST OF ALL TECHNOLOGICAL RESEARCH CENTERS IDENTIFIED

East Africa
South Asia
West Africa
Asia
Middle East
Latin America
Mr. S.D. Turner
Applied Research Unit
Ministry of Local
Government and Lands
P.M.B. 006
Gaborone, BOTSWANA
Mr. Turner

Mr. Frank W. Taylor
Director
Pelegano Village Industries
P.O. Box 464
Gaborone, BOTSWANA
Mr. Taylor

Dr. Elias M. Dewah
Director
Rural Industries Innovation Centre (RIIC)
Private 11
Kanye, BOTSWANA
Dr. Dewah

Mr. J.-P. Trussart
Director
Centre de Recherche des Utilisations des energies Alternatives (CRUEA)
Faculte des Sciences
Universite du Burundi
B.P. 2700
Bujumbura, BURUNDI
Mr. Trussart
wr. Zawde Berhane  
Director  
Faculty of Technology  
Addis Ababa, ETHIOPIA  
Dr. Berhane

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Dr. P. Kitheka  
Director  
Agricultural Machinery Testing Unit  
P.O. Box 470  
Nakuru, KENYA  
Mr. Kitheka

===============================================================================

Mr. T.S. Chana  
Director  
Housing Research and Development Unit (HRDU)  
University of Nairobi  
P.O. Box 30197  
Nairobi, KENYA  
Mr. Chana

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Dr. G. Oduwo Nyangasi  
Director  
Industrial Research and Consultancy Unit  
University of Nairobi  
P.O. Box 30197  
Nairobi, KENYA  
Dr. Nyangasi
Dr. R.O. Arunga  
Director  
Kenya Industrial Research and Development Institute  
P.O. Box 30650  
Nairobi, KENYA  
Dr. Arunga  

Prof. Dr. P.M. Githinji  
Director  
Mechanical Engineering Department  
University of Nairobi  
P.O. Box 30197  
Nairobi, KENYA  
Dr. Githinji  

Mr. J.K. Moi  
Director  
Nakuru Oil Mills Limited (NOM)  
P.O. Box 15  
Nakuru, KENYA  
Mr. Moi  

Mr. T.S. Chana  
Housing Research and Development Unit (HRDU)  
University of Nairobi  
P.O.B. 30197  
Nairobi, KENYA  
Mr. Chana
Prof. P. Gacii  
Secretary  
National Council for Science and Technology  
P.O.B. 30623  
Nairobi, KENYA  
Prof. Gacii

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Mr. G. Bournat  
Director  
Bureau de Recherches Geologiques et Minieres  
B.P. 458  
Antananarivo, MADAGASCAR  
Mr. Bournat

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Mr. A.V. Kambalametore  
Director  
Polytechnic University of Malawi  
University of Malawi  
Private Bag 303  
Chichiri  
Blantyre 3, MALAWI  
Mr. Kambalametore

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Prof. Dr. G.T.G. Mohamedbhai  
Director  
School of Industrial Technology  
University of Mauritius  
Reduit, MAURITIUS  
Dr. Mohamedbhai
Mr. K. Hazareesingh
Mahatma Gandhi Institute (MGI)
Moka, MAURITIUS
Mr. Hazareesingh

Mr. Bernard Uzabakiliho
Director
Centre de Recherche Appliquée
Fondamentale et de Formation Permanente (CRAFOP)
Université Nationale du Rwanda (UNR)
B.P. 56
Campus de Ruhengeri
Butara, RWANDA
Mr. Uzabakiliho

Mr. J.B. Habyalimana
Director
Laboratoire de Resistance des Matériaux
Faculté des Sciences Appliquées
Université du Rwanda
B.P. 117
Butare, RWANDA
Mr. Habyalimana

Mr. P. Mpawenayo
Centre d'études et d'Applications
de l'énergie au Rwanda
Université National du Rwanda
B.P. 117
Butare, RWANDA
Mr. Mpawenayo
Ecole Industrielle
c/o Somali National University
P.O.B. 15
Mogadishu, SOMALIA
sir

Dr. A.L. Mtui
Director
Building Research Unit
P.O. Box 1964
Dar es Salaam, UNITED REP. OF TANZANIA
Dr. Mtui

Prof. A.S. Mawenya
Director
Civil Engineering Department
Faculty of Engineering
University of Dar es Salaam
P.O. Box 35131
Dar es Salaam, UNITED REP. OF TANZANIA
Prof. Mawenya

Mr. Boas C.M. Mbila
Director
Design and Prototype Development
Small Industries Development Organization (SIDO)
P.O. Box 988
Dar es Salaam, UNITED REP. OF TANZANIA
Mr. Mbila
Dr. P.J. Madati
Director
Government Chemical Laboratory
Ministry of Health
P.O. Box 164
29 Luthuli Road
Dar es Salaam, UNITED REP. OF TANZANIA
Dr. Madati

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Mr. L.M. Yindi
Director
Metal Engineering Industries
Development Association (MEIDA)
P.O. Box 5891
Dar es Salaam, UNITED REP. OF TANZANIA
Mr. Yindi

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Mr. F.K. Mujemula
Director
Tanzania Agricultural Machinery Testing Unit
Ministry of Industries
P.O. Box 1389
Arusha, UNITED REP. OF TANZANIA
Mr. Mujemula

==============================================================================

Mr. C.L. Tarimu
Director
Tanzania Industrial Research and Development Organization (TIRDO)
P.O. Box 23235
Dar es Salaam, UNITED REP. OF TANZANIA
Mr. Tarimu

==============================================================================
Mr. H.N. Kida
Director
Ubungo Farm Implements Limited
P.O. Box 20126
Dar es Salaam, UNITED REP. OF TANZANIA
Mr. Kida

Prof. A.C. Mascarenhas
Chairman
Tanzania National Scientific Research Council
P.O.B. 4302
Dar es Salaam, TANZANIA
Prof. Mascarenhas

R. Stanley and Steve Kitutu
Directors
Arusha Appropriate Technology Project
P.O. Box 764
Arusha, TANZANIA
Misters Stanley and Kitutu

Dr. H.L. Uppal
Director
Central Materials Laboratory
Ministry of Works and Housing
P.O. Box 7188
Kampala, UGANDA
Dr. Uppal
Mr. Nathan B. Balyamujura
Director
Uganda Technical College
P.O. Box 7181
Kampala, UGANDA
Mr. Balyamujura


I.E.O. Musokotwane
Chief Officer
Division of Forest Products Research
P.O.B. 20388
Kitwe, ZAMBIA
Mr. Musokotwane:


C. Meki
Chief Forest Research Officer
Division of Forest Research
P.O.B. 22099
Kitwe, ZAMBIA
Mr. Meki:
Dr. Ashok Lumb
Director
Environmental Research Laboratory (ERL)
National Council for Scientific Research (NCSR)
P.O. Box CH. 158
Chelston
Lusaka, ZAMBIA
Dr. Lumb

Mansa Batteries Limited
P.O. Box 380
Mansa, ZAMBIA
Sir

Mr. S.S. Sanghera
Director
Northern Technical College (NORTEC)
P.O. Box KJ 93
Ndola, ZAMBIA
Mr. Sanghera
Zambia

Mr. C. Kazakatira
Director
Textiles Technology Unit
National Council for Scientific Research (NCSR)
P.O. Box CH 158
Chelston
Lusaka, ZAMBIA
Mr. Kazakatira
Zambia
Prof. Keith A. Viewing  
Director  
Institute of Mining Research (IMR)  
University of Zimbabwe (UZ)  
P.O. Box MP 167  
Mount Pleasant  
Salisbury, ZIMBABWE  
Prof. Viewing  

Department of Metallurgy  
Ministry of Mines  
P.O.B. 8340  
Causeway  
Harare, ZIMBABWE  
sir  

Prof. W.R. Mackechnie  
Chairman  
Scientific Council of Zimbabwe  
P.O.B. 8510  
Causeway  
Harare, ZIMBABWE  
Prof. Mackechnie  

Prof. W.R. Mackechnie  
Chairman  
Standards Association of Central Africa  
17 Coventry Rd.  
Harare, ZIMBABWE  
Prof. Mackechnie
Zimbabwe Institute of Development Studies
Ministry of Manpower Planning and Development
Private Bag 7750
Causeway
Harare, ZIMBABWE

Mr. P. Van Hoffen
Regional and Urban Planning Centre
University of Zimbabwe
Mount Pleasant
P.O.B. M.P. 167
Harare, ZIMBABWE

Timber Engineering Research Centre
Department of Civil Engineering
University of Zimbabwe
Mount Pleasant
P.O.B. M.P. 167
Harare, ZIMBABWE

sir

sir
SOUTH ASIA
Dr. M. Hoda  
Director  
Appropriate Technology Development  
Association, Lucknow  
Gandhi Bhawan  
P.O. Box 311  
Lucknow 226 001, INDIA  
Dr. Hoda:

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Small Industry Extension Training  
Institute Hyderabad  
Ministry of Industry  
Government of India  
Hyderabad, INDIA  
Sir:

=========================================================================
Bangladesh Management Development Centre
Dacca, BANGLADESH

Integrated Rural Development Programme
24-25 Dilkusha Commercial Area
Dacca, BANGLADESH
Sir

Mr. M.U. Bhuiyan
Director General
Bangladesh Industrial Technical Assistance Centre (BITAC)
Tejgaon Industrial Area
Dacca-8, BANGLADESH
Mr. Bhuiyan

Mr. Tofalluddin Ahmed
Director
Central Testing Laboratories
Tejgaon
Industrial Area
Dacca, BANGLADESH
Mr. Ahmed
Mr. A.H. Mehta
President
Central Building Research Institute
Roorkee 24672
Uttar Pradesh, INDIA
Mr. Mehta:

Dr. Amarjit
Director
Central Electronics Engineering Research Institute
Pilani
Rajasthan, INDIA
Dr. Amarjit:

Dr. K.A. Kini
Director
Central Fuel Research Institute
P.O. Fuel Research Institute
Jealgora
Dhanbad 828108
Bihar, INDIA
Dr. Kini:

Dr. S. Kumar
Director
Central Glass and Ceramic Research Institute
Jadavpur
University P.O.
Calcutta 700032, INDIA
Dr. Kumar:
Dr. L.K. Doraiswamy
Director
National Chemical Laboratory of India
Pashan
Pune 8, INDIA
Dr. Doraiswamy:

Prof. A. Rahman
Director
National Institute of Science, Technology and Development Studies
CSIR Complex
New Delhi, INDIA
Prof. Rahman:

Dr. V.A. Altekar
Director
National Metallurgical Laboratory
Jamshedpur 831007
Singhbhum District
Bilhar, INDIA
Dr. Altekar:
Dr. S.P. Sharma
Acting Director
Structural Engineering
Research Centre
Madras, INDIA

Dr. S.P. Sharma
Director
Structural Engineering
Research Centre
Roorkee
U.P., INDIA
Dr. Sharma:

Mr. Ashoke Chatterjee
Executive Director
National Institute of Design
Paldi
Ahmedabad 380007, INDIA
Mr. Chatterjee:
Dr. T. Radhakrishnan
Director
Ahmedabad Textile Industry's Research Association (ATIRA)
P.O. Polytechnic
Ahmedabad 380015, INDIA
Dr. Radhakrishnan:

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Mr. K. Ramachandran
Director
Automotive Research Association of India
P.O.B. 832
Pune 411004, INDIA
Mr. Ramachandran:

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Mr. D.P. Mandelia
President
Birla Research Institute for Applied Sciences
Birlagram 456 331
Nagda (M.P.), INDIA
Mr. Mandelia:

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Dr. S.M. Betrabet  
Director  
Bombay Textile Research Association  
Lal Bahadur Shastri Marg  
Ghatkopar (West)  
Bombay 400 086, INDIA  
Dr. Betrabet:

Dr. H.C. Visvesvaraya  
Director-General  
Cement Research Institute of India  
M-10, South Extension II  
Ring Rd  
Ballabgarh 121004, INDIA  
Dr. Visvesvaraya:

Mr. P.C. Saxena  
Director  
Central Water and Power Research Station  
P.O. Khadakwasla Research Station  
Pune 411024, INDIA  
Mr. Saxena
Mr. T.S. Sivaraman
Director
Institute of Hydraulics and Hydrology
Poondi 602023
(Via) Trivellore
Chingleput District
Tamil Nadu, INDIA
Mr. Sivaraman:

Mr. Santokh Singh
Chief Engineer-Cum-Director
Irrigation and Power
Research Station
Amritsar, INDIA

Mr. R.M. Sambamoorthi
Director-General
Research Designs and Standards
Organization
Ministry of Railways
Government of India
Manak Nagar
Lucknow 226011, INDIA
Mr. Sambamoorthi
Mr. J.G. Parikh
Director
Silk and Art Silk Mills’ Research Association
Sasmira
Sasmira Marg
Worli
Bombay 400 025, INDIA
Mr. Parikh

Mr. Shri K. Swaminathan
Director
Telecommunications Research Centre
c/o Indian Posts and Telegraphs Dept.
New Delhi 110050, INDIA
Mr. Swaminathan

Regional Centre for Technology Transfer
Manickvelu Mansion
49 Palace Road
Bangalore 560 052, Karnataka, INDIA
Sir
Mr. Tarun Das
Executive Director
The Association of Indian Engineering Industry (AIEI)
172, Jor Bagh
New Delhi 110 003, INDIA
Mr. Das

Dr. G.S. Sidhu
Director-General
Council of Scientific and Industrial Research (CSIR)
Rafi Marg
New Delhi 110001, INDIA
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Reply received: Letter described INPA's research activities.
- Enclosed CNPq Research Institute's brochures, ACTA Amazonica
  Magazine (1982).

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Reply received: Sent the Department’s 1982 Annual Report, 1983 Program Report, and a document outlining the internal structure.

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Reply received: Sent a brief description of the Institute for Space Research -
INPE, and a brochure giving its main areas of interest.

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