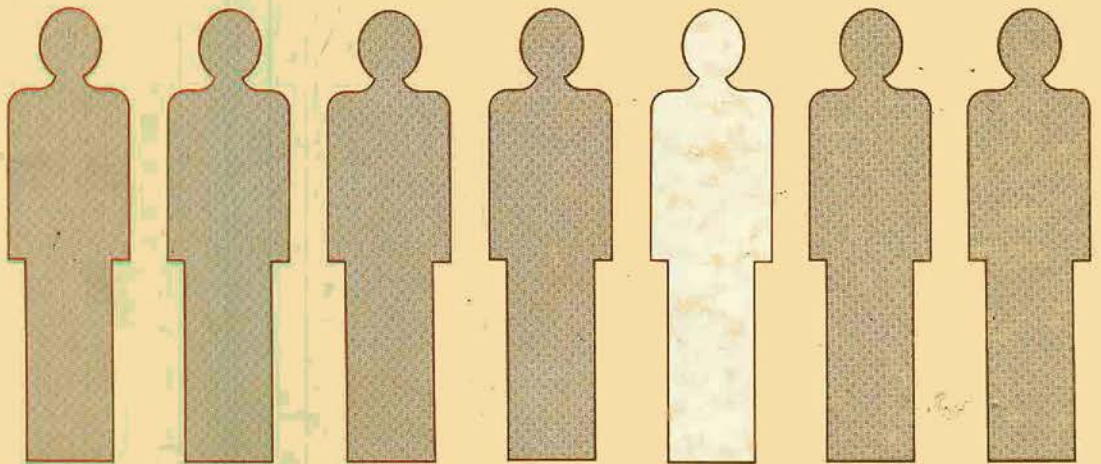


1080

Reference Series **Volume 1**

Directory of Institutions & Individuals Active in Environmentally-Sound & Appropriate Technologies



Published for the UNITED NATIONS ENVIRONMENT PROGRAMME
by PERGAMON PRESS

UNEP Reference Series

Volume 1

**Directory of Institutions and Individuals
Active in Environmentally-Sound
and Appropriate Technologies**

UNEP Reference Series

NY
Dir
Env
Tech/2
c.2

-
- Volume 1 Directory of Institutions and Individuals Active in Environmentally-Sound
and Appropriate Technologies
- Forthcoming Bibliography of Publications on the Environment Issued by UNEP
or Under its Auspices (1973-1978)
- Register of International Conventions and Protocols Relevant to
the Environment

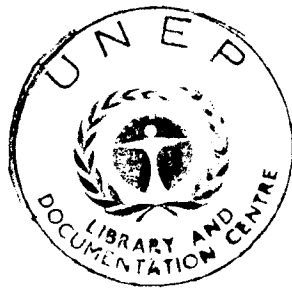
NOTICE TO READERS

Dear Reader

If your library is not already a standing order customer or subscriber to this UNEP series may we recommend that you place a standing or subscription order to receive immediately upon publication all new volumes published in this valuable series. Should you find that these volumes no longer serve your needs your order can be cancelled at any time without notice.

ROBERT MAXWELL
Publisher at Pergamon Press

Directory of Institutions and Individuals Active in Environmentally- Sound and Appropriate Technologies



Published for the

United Nations Environment Programme

by

PERGAMON PRESS

OXFORD · NEW YORK · TORONTO · SYDNEY · PARIS · FRANKFURT

U.K.	Pergamon Press Ltd., Headington Hill Hall, Oxford OX3 0BW, England
U.S.A.	Pergamon Press Inc., Maxwell House, Fairview Park, Elmsford, New York 10523, U.S.A.
CANADA	Pergamon of Canada, Suite 104, 150 Consumers Road, Willowdale, Ontario M2J 1P9, Canada
AUSTRALIA	Pergamon Press (Aust.) Pty. Ltd., P.O. Box 544, Potts Point, N.S.W. 2011, Australia
FRANCE	Pergamon Press SARL, 24 rue des Ecoles, 75240 Paris, Cedex 05, France
FEDERAL REPUBLIC OF GERMANY	Pergamon Press GmbH, 6242 Kronberg-Taunus, Pferdstasse 1, Federal Republic of Germany

Copyright © 1979 UNEP

All Rights Reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means: electronic, electrostatic, magnetic tape, mechanical, photocopying, recording or otherwise, without permission in writing from the copyright holders.

First edition 1979

British Library Cataloguing in Publication Data

Directory of institutions and individuals
active in environmentally-sound and
appropriate technologies. - (United Nations
Environment Programme. UNEP reference series).

1. Technology - Directories

I. Series

602'.5 T12 79-41204

ISBN 0 08 025658 9

The designations used in this publication have been provided by the competent authorities of the countries concerned. Those designations and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the secretariat of the United Nations Environment Programme concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delineation of frontiers or boundaries.

v
CONTENTS

Introduction	ix
Explanatory Notes	xiii
Subject Attributes in Numerical Sequence	xv
Subject Attributes in Alphabetical Sequence	xvii
Country Listings	1
Argentina	1
Australia	1
Austria	4
Bangladesh	5
Barbados	7
Belgium	7
Benin	8
Bolivia	8
Botswana	9
Brazil	10
Burundi	11
Cameroon, United Republic of	11
Canada	12
Central African Republic	15
Chad	15
Chile	15
Colombia	16
Congo	18
Costa Rica	18
Cuba	19
Denmark	19
Dominican Republic	21
Ecuador	21
Egypt	22
El Salvador	23
Ethiopia	23
Fiji	25
Finland	25
France	25
Gambia	30
German Democratic Republic	30
Germany, Federal Republic of	30
Ghana	33
Gilbert Islands	35
Guatemala	35
Guinea	36
Guyana	36
Honduras	36

India	37
Indonesia	46
Iran	48
Iraq	48
Ireland	48
Israel	49
Italy	49
Ivory Coast	50
Jamaica	51
Japan	51
Jordan	51
Kenya	51
Korea, Republic of	54
Kuwait	54
Lebanon	54
Lesotho	54
Liberia	55
Libyan Arab Jamahiriya	55
Malawi	55
Malaysia	56
Mali	56
Mauritius	57
Mexico	57
Mongolia	58
Morocco	58
Mozambique	59
Nepal	59
Netherlands	60
New Caledonia	61
New Hebrides	61
New Zealand	62
Nicaragua	62
Niger	62
Nigeria	63
Norway	65
Oman	66
Pakistan	66
Panama	67
Papua New Guinea	67
Peru	68
Philippines	69
Portugal	71
Rwanda	71
Saudi Arabia	71
Senegal	71
Sierra Leone	73
South Africa	73
Sri Lanka	74

Sudan	75
Surinam	75
Swaziland	76
Sweden	76
Switzerland	78
Syrian Arab Republic	80
Tanzania, United Republic of	80
Thailand	81
Togo	82
Trinidad and Tobago	83
Tunisia	83
Uganda	83
United Kingdom	83
United States of America	94
Upper Volta	120
Uruguay	122
Venezuela	122
Zaire	122
Zambia	124
Zimbabwe	125
Index	126
Appendices:	
Appendix I. Index of United Nations Agencies with Appropriate Technology Programmes	151
Appendix II. Selected Institutions with International Programmes	152

INTRODUCTION

TECHNOLOGY AND ENVIRONMENT

Development must be viewed as a comprehensive and global process, embracing all aspects of the social system and its inter-relationship with the natural environment. In this dynamic inter-relationship, technology is the fundamental link between the social system and the natural system and, at the same time, it is the essential instrument for the achievement of sustainable and environmentally sound development. In fact, each technological pattern implies specific approaches to management of resources and is associated with a given value system and lifestyle. Thus it is through improved technology that development can be achieved but it is also through the application of such technology that man has most impact on the environment.

The last 50 years have witnessed the most impressive technological development in human history. Our natural habitat is in great measure a man-made environment, resulting from the transformation of nature by practical and systematic application of scientific and technological knowledge. But it is not only the natural system which has been modified. Society and its institutions, cultural values, patterns of development and life styles, also reflect the characteristics of technological development.

However, it seems that uncontrolled introduction of technology, the lack of consideration for its adaptability to specific situations, and especially the unawareness of its impact have produced negative effects. Thus, technology application has on the one hand created new opportunities and fostered development and on the other hand created new problems. Technological development is originated in highly industrialized countries, according to their needs, to solve their particular problems. Those technologies are frequently ill adapted to the specific environment and development problems of the Third World, which feels left out from technological development. So it is natural that criticism of technology is arising in countries where a large part of the population is excluded from the benefits of technological development, but suffers from the negative effects of its application. Criticism of certain technological approaches is also arising in developed countries, but here the criticism is more specific, and directed towards concrete environmental problems.

One of the most interesting features of the recent "environmental revolution" which has taken place in developing countries is the search for new and original approaches to development whether they be technological, social or political. Another is the growing recognition that the environment itself should be regarded as a resource, and used for the benefit of mankind rather than as a constraint to economic development. In this context, the development of technologies which are appropriate to each society's specific requirements and resources offers rich possibilities for self-reliant and sustainable growth.

The 1970's have witnessed the emergence of thousands of "appropriate technologies", designed to bring the benefits of science to nations eager to achieve a more developed and productive society.

INFORMATION SYSTEMS

Information plays a crucial role in modern society. Sectoral activities such as industry, agriculture, transportation and rural development require accurate and timely information for the achievement of their goals. In an era characterized by the rapid emergence and multiplication of complex scientific, technological, and social problems important activities, including technological innovation, education and government, cannot be carried out without relevant and available information.

In the 1980's and beyond, development will increasingly be concerned with environmental factors. Environmentally sound development choices are of critical importance to all nations in their efforts to satisfy the basic requirements of their people, to make rational and effective use of their resources, to develop and expand their economies, and to improve the quality of life of their people. The following are but a few of the environmental problems confronting mankind — desertification; soil loss and degradation; deforestation, flooding and siltation; pollution, resource depletion, noise and congestion; changes in climate; inadequate shelter and water supply; environment related diseases.

Achievement of the broad objectives of environmentally sound development is a complex endeavour. The approaches to be developed, the types of solutions to be sought and the kinds of techniques to be applied, by definition, vary with time and from country to country. They are influenced by many factors, including societal goals and patterns of development, the ecological and physical context and the state of the environment, and the means and resources available. Ultimately they depend on the quality and relevance of the information accessed.

The rapid development and increased use of appropriate technologies in the field depends almost entirely on improving the mechanisms for exchange of information on their design and application, between those who have the designs and knowledge for their implementation and those who wish to make use of them. The challenge is therefore to find the appropriate sources of this technology.

Much of the knowledge needed already exists, often unknown to those who need it, accumulated in a vast store of development-related experience all over the world.

UNEP AND APPROPRIATE TECHNOLOGY

The Task Force on Environmentally Sound and Appropriate Technology was organized in October 1977 as part of the UNEP Division of Environmental Management, with the objective of promoting the development and application of technologies that foster development on an ecologically sound basis.

In the accomplishment of this task, UNEP is promoting research and development in technology with due consideration to environmental, social and economic factors. But development of technology by itself is not sufficient; technology must always be seen in relation to the social and environmental context. Thus, an educated choice of technologies is essential for development policy. For this reason, the development of criteria, methodologies and guidelines for the selection and development of environmentally-sound and appropriate technologies is an additional purpose of UNEP. Technological assessment, choice and application rest on the critical use of existing and available knowledge.

The UNEP programme on environmentally sound and appropriate technology aims at developing practical projects and activities based on the cooperative efforts of a number of institutions throughout the world. This network of projects has as its main objectives the undertaking of collaborative research and development on technologies of common interest, promotion and application of these and the improvement of information flow about them.

The UNEP approach on technology and environment is, in particular, consistent with the internationally agreed objective of strengthening and amplifying the efforts of the community to promote technical cooperation among developing countries.

INFOTERRA

INFOTERRA is a component of EARTHWATCH, UNEP's programme for the critical assessment of the global environment. One of the first major activities of UNEP, initiated shortly after its establishment following the Stockholm Conference on the Human Environment (1972), INFOTERRA was set up to facilitate the exchange of environmental information within and between nations.

INFOTERRA is a decentralized international network incorporating diverse environmental information systems; its operation relies on a grid of government-designated national focal points. INFOTERRA operations are based on the concept of referral. All INFOTERRA national focal points are equipped to refer an enquirer to the sources best able to provide the information sought. In other words, they act as switchboards to connect users with appropriate sources of environmental information.

Seventy developing countries constitute almost two-thirds of the total INFOTERRA partnership, providing between them nearly 25% of the total 7000 sources of environmental information registered in the INFOTERRA International Directory. Developing countries are valuable sources of information on such topics as renewable energy sources, biological control of certain diseases and other appropriate technological approaches, and their increased participation therefore makes a vast store of information and experience available. Since these same nations often lack well-established information channels, any tool for improving their ability to locate reliable sources and collect valid information can be of great value to them and promote the sharing of such information.

Moreover, through an international network like INFOTERRA, the developing world can profit from "no strings attached" information exchange with industrialized nations and hopefully avoid some of the technological errors of the more affluent societies. At the same time, INFOTERRA stimulates communication between countries at similar levels of development thus enabling developing countries to cooperate in solving common environmental problems and to avoid an unhealthy dependence on industrialized nations for their information needs.

THE DIRECTORY

This directory is a joint effort of INFOTERRA and the Environmentally-Sound and Appropriate Technology Task Force. It consists of a listing of some 2000 institutions world-wide which are able to supply information to enquirers, on request and under mutually agreed terms, on one aspect or another of environmentally sound technology. The listing is international and representative, but makes no attempt to include all such sources throughout the world. However, it is believed that the directory will be of considerable interest and value to workers in this field.

For further information, contact:

INFOTERRA
P.O. Box 30552
Nairobi (Kenya)

EXPLANATORY NOTES

The entries have been divided into five categories.

- Group 1:* Organisations which have some amount of experience and expertise on their staff, whose name appears repeatedly on lists and as referrals, and which engage in research.
- Group 2:* Organisations which express an interest in appropriate technology and which have relevant activities but which are not necessarily research-oriented.
- Group 3:* Organisations which express interest in appropriate technology, but not as their main focus.
- Group 4:* Organisations for which only an address and an occasional attribute has been supplied, activities and publications are unknown.
- Group 5:* Individuals involved in appropriate technology regardless of the extent of their involvement.

Source Code

Each organisation in Groups 1, 2 and 3 has been assigned a letter code which indicates from where information about the organisation has been taken. Where the organisation's name and activities were found in several places, the source which provided the most information is indicated.

- A Information provided by the organisation.
- B List of organisations distributed by the Future Studies Centre, UK.
- C Directory of organisations printed by Undercurrents, UK.
- D Organisations found in book, *Radtech*.
- E List of participants at UNEP conference.
- F Newsletter from the Federal Energy Administration, USA.
- G List of organisations found in newsletter published by Tranet, USA.
- H List provided by International Council for Building Research Studies and Documentation.
- I Newsletters obtained from the Environment Liaison Centre, Nairobi.
- J Information obtained from *Appropriate Technology Sourcebook*.
- K Information found in various sources at UNEP, Nairobi.
- L List of organisations whose representatives attended a workshop in Bangladesh concerning appropriate technology and rural industry.
- M Information about organisations found in TAICH newsletter, USA.
- N Information obtained from the profile forms from the Environment Liaison Centre NGO Profile Study.
- O Directory of organisations found in *A Handbook on Appropriate Technology*, published by the Canadian Hunger Foundation and the Brace Research Institute.
- P Address list supplied by UNEP.
- R Directory of Institutions in *Appropriate Technology in the Commonwealth*, published by the Commonwealth Secretariat.
- S Directory of activities and projects published by the National Science Foundation, Research Applied to National Needs.

- T Directory of Organisations Dealing With Environmentally-Sound and Appropriate Technologies, prepared by ITDG, UK.
- V Information obtained from ENDA, "Environment Training" Programme, Dakar, Senegal.
- W International Directory of Infoterra Sources.
- X Appropriate Technology for Health Directory (WHO, 1978)
- Y Referred by an individual or organization.

Subject Codes

These are attributes which describe the subject of concern to the sources, and thus serve to match the Users' requirements to sources' characteristics. The codes are listed in numerical and alphabetic sequence in the following pages.

SUBJECT ATTRIBUTES IN NUMERICAL SEQUENCE

- | | | | |
|------|-----------------------------------|------|---------------------------------------|
| 1000 | Quality of Life | 2826 | Conservation and Collection of Water |
| 1010 | Natural Resources | 2860 | Drinking Water |
| 1011 | Resource Development | 2861 | Drinking Water Treatment |
| 1013 | Resource Exploitation | 2910 | Irrigation |
| 1015 | Renewable Resources | 2970 | Coastal Development and Protection |
| 1020 | Non-renewable Resources | 3011 | Aquaculture |
| 1030 | Long-term Global Trends | 3092 | Hydraulics |
| 1040 | Resource Management | 3100 | Architecture |
| 1060 | Environmental Impact | 3110 | Civil Engineering |
| 1120 | Social Surveys | 3120 | Mechanical Engineering |
| 1165 | Status of Women | 3140 | Construction and Building Materials |
| 1180 | Under-privileged Peoples | 3150 | Local Materials for Building |
| 1300 | Manpower and Employment | 3210 | Heating |
| 1320 | Local Labour | 3215 | Solar Heating |
| 1340 | Low-income Groups | 3230 | Building Component Design |
| 1540 | Disasters Preparedness and Relief | 3260 | Housing Needs |
| 1580 | Health and Wellbeing | 3300 | Low-cost Housing |
| 1590 | Medicine | 3330 | Housing Programmes |
| 1620 | Environmental Health | 3340 | Housing Standards |
| 1640 | Sanitation and Public Health | 3360 | Housing Associations and Cooperatives |
| 1642 | Hospitals, etc. | 3410 | Housing Improvements |
| 1701 | Ecological Balance | 3480 | Handicapped People |
| 1890 | Soil Science | 3490 | Household Equipment |
| 1921 | Soil Conservation | 3551 | Agricultural Buildings |
| 1930 | Soil Improvement | 3580 | Roads and Bridges |
| 1940 | Erosion | 3630 | Pipelines |
| 1970 | Planning and Development | 3681 | Coal |
| 2015 | Rural Areas | 3683 | Natural Gas |
| 2030 | Land Use | 3690 | Mineral Extraction and Processing |
| 2155 | Urban Development | 3720 | Energy Sources and Fuels |
| 2170 | Neighbourhood Improvement Schemes | 3723 | Carbon and Charcoal |
| 2180 | New Communities | 3724 | Animal Dung as Fuel |
| 2190 | Human Settlements | 3741 | Hydro Electric Power Generation |
| 2300 | Land Reclamation | 3742 | Steam Electric Power Generation |
| 2420 | Nature Conservation | 3743 | Nuclear Electric Power Generation |
| 2480 | Deserts | 3744 | Geothermal Electric Power Generation |
| 2481 | Arid Lands | 3745 | Tidal Electric Power Generation |
| 2482 | Semi-arid Lands | 3746 | Wind Electric Power Generation |
| 2521 | Domestic Cattle Breeding | 3747 | Solar Electric Power Generation |
| 2620 | Agriculture | 3820 | Glass Manufacture |
| 2630 | Agricultural Machinery | 3830 | Ceramics Manufacture |
| 2640 | Agricultural Practices | 3840 | Bricks and Cement Manufacture |
| 2650 | Agriculture, Harvesting | 3850 | Iron and Steel Manufacture |
| 2660 | Agricultural Production | 3880 | Metalworking |
| 2673 | Fish Farming | 3920 | Soap and Detergent Manufacture |
| 2674 | Hydroponics | 3960 | Food Processing Industry |
| 2690 | Horticulture | 3961 | Food Preservation Techniques |
| 2700 | Forestry and Silviculture | 3980 | High Protein Foods |
| 2760 | Animal Husbandry | 3982 | Basic Food Requirements |
| 2790 | Pest Control | 3984 | Edible Fats and Oils |
| 2810 | Veterinary Medicine | 3990 | Food Science and Technology |
| 2820 | Water Resources | 4000 | Applied Nutrition |
| 2821 | Subterranean Water | 4020 | Forest Products |
| 2822 | Dams and Reservoirs | 4021 | Wood Products |

- | | | | |
|------|-------------------------------------|------|--|
| 4024 | Sawdust | 6300 | Industrial Effluents |
| 4040 | Animal Glue and Gelatin Manufacture | 6470 | Waste Heat |
| 4070 | Leather Tanning | 6471 | Thermal Insulation Techniques |
| 4091 | Pulp and Paper Products | 6473 | Thermodynamics |
| 4110 | Engineering Industries | 6530 | Desalination |
| 4111 | Chemical Engineering | 6620 | Pumps and Compressors |
| 4113 | Agricultural Engineering | 6650 | Boilers and Burners |
| 4130 | Industry | 6670 | Fire Precautions |
| 4131 | Agricultural Industry – Food | 6671 | Fire Retardants |
| 4132 | Clothing and Textile Industry | 6700 | Recycling Processes |
| 4165 | Transportation | 6785 | Technology |
| 4250 | Road Construction and Maintenance | 6790 | Technology Transfer |
| 4710 | Pollution Control | 6800 | Alternative Technologies |
| 4940 | Air Pollution | 6810 | Low-level Technologies |
| 4960 | Water Pollution and Contamination | 6840 | Technological Development |
| 5151 | Design Considerations | 6850 | Demonstration Projects |
| 5341 | Combustion Engines | 6860 | Pilot Studies |
| 5360 | Wastes | 6870 | Self Help Programmes |
| 5362 | Industrial Solid Wastes | 6880 | International Cooperation |
| 5363 | Industrial Liquid Wastes | 6900 | Technical Assistance |
| 5364 | Waste Water Treatment | 6920 | Financial Assistance |
| 5366 | Municipal Waste Disposal | 6930 | Stimulation Funds |
| 5440 | Solid Wastes | 6941 | Industrial Development |
| 5441 | Solid Waste Disposal Techniques | 6950 | Less Industrialized Countries |
| 5443 | Liquid Waste Disposal Techniques | 6960 | Economic and Technical Advancement |
| 5480 | Recycled Materials | 6980 | Environmental Information |
| 5481 | Waste Conversion Techniques | 6990 | Scientific and Technical Information |
| 5482 | Waste Recovery | 7000 | Information for the Public |
| 5830 | Asbestos | 7002 | Public Information Media |
| 6120 | Fertilizers | 7010 | Legislative Information |
| 6150 | Drugs and Food Additives | 7021 | Environmental Policy |
| 6271 | Agricultural Wastes | 7040 | Environmental Research and Development Programmes and Policy |
| 6272 | Composts and Natural Fertilizers | 7050 | Environmental Education and Training |
| 6283 | Human Excrement – Disposal and Use | | |

SUBJECT ATTRIBUTES IN ALPHABETICAL SEQUENCE

Agricultural Buildings	3551	Energy, Wind Electric Power Generation	3746
Agricultural Engineering	4113	Engineering, Agricultural	4113
Agricultural Industry – Food	4131	Engineering, Chemical	4111
Agricultural Machinery	2630	Engineering, Civil	3110
Agricultural Practices	2640	Engineering Industries	4110
Agricultural Production	2660	Engineering, Mechanical	3120
Agricultural Wastes	6271	Engines, Combustion	5341
Agriculture	2620	Environmental Education and Training	7050
Agriculture, Harvesting	2650	Environmental Impact	1060
Air Pollution	4940	Environmental Policy	7021
Animal Glue and Gelatin Manufacture	4040	Environmental Research and Development	
Animal Husbandry	2760	Programmes and Policy	7040
Aquaculture	3011	Erosion	1940
Architecture	3100	Farming, Fish	2673
Asbestos	5830	Fats, Oils and Edible	3984
Assistance, Financial	6920	Fertilizers	6120
Assistance, Technical	6900	Fertilizers, Composts and Natural	6272
Boilers and Burners	6650	Fire Precautions	6670
Bricks and Cement Manufacture	3840	Fire Retardents	6671
Building Component Design	3230	Fish Farming	2673
Building, Construction and Materials	3140	Food, Basic Requirements	3982
Building, Local Materials	3150	Food, High Protein	3980
Carbon and Charcoal	3723	Food Preservation Techniques	3961
Cattle Breeding, Domestic	2521	Food Processing Industry	3960
Ceramics Manufacture	3830	Food Science and Technology	3990
Clothing and Textile Industry	4132	Forest Products	4020
Coal	3681	Forestry and Silviculture	2700
Coastal Development and Protection	2970	Fuel, Animal Dung	3724
Composts and Natural Fertilizers	6272	Fuels and Energy Sources	3720
Cooperation, International	6880	Funds, Stimulation	6930
Cooperation, Self Help Programmes	6870	Global Trends, Long-term	1030
Countries, Less Industrialized	6950	Glue and Gelatin Manufacture, Animal	4040
Dams and Reservoirs	2822	Glass Manufacture	3820
Desalination	6530	Handicapped People	3480
Deserts	2480	Health and Wellbeing	1580
Design Considerations	5151	Health, Environmental	1620
Disasters and Preparedness and Relief	1540	Health, Sanitation and Public	1640
Drugs and Food Additives	6150	Heating	3210
Ecological Balance	1701	Horticulture	2690
Economic and Technical Advancement	6960	Hospitals, etc.	1642
Employment and Manpower	1300	Household Equipment	3490
Energy, Geothermal Electric Power		Housing Associations and Cooperatives	3360
Generation	3744	Housing Improvements	3410
Energy, Hydroelectric Power Generation	3742	Housing, Low-cost	3300
Energy, Nuclear Power Generation	3743	Housing Needs	3260
Energy, Solar Electric Power Generation	3747	Housing Programmes	3330
Energy, Sources and Fuels	3720	Housing Standards	3340
Energy, Steam Electric Power		Human Excrement, Disposal and Use	6283
Generation	3741	Hydraulics	3092
Energy, Tidal Electric Power Generation	3745	Hydroponics	2674
		Industrial Development	6941

Industrial Effluents	6300	Resources, Renewable	1015
Industry	4130	Road Construction and Maintenance	4250
Information, Environmental	6980	Roads and Bridges	3580
Information for the Public	7000	Rural Areas	2015
Information, Public Media	7002		
Information, Scientific and Technical	6990	Sanitation and Public Health	1640
Iron and Steel Manufacture	3850	Sawdust	4024
Irrigation	2910	Settlements, Human	2190
		Settlements, New Communities	2180
Labour, Local	1320	Silviculture, Forestry and	2700
Land Reclamation	2300	Soap and Detergent Manufacture	3920
Land Use	2030	Social Surveys	1120
Lands, Arid	2481	Soil Conservation	1921
Lands, Semi-arid	2482	Soil Improvement	1930
Leather Tanning	4070	Soil Science	1890
Legislative Information	7010	Solar Heating	3215
		Studies, Pilot	6860
Manpower and Employment	1300		
Medicine	1590	Technological Development	6840
Metalworking	3880	Technologies, Alternative	6800
Mineral Extraction and Processing	3690	Technologies, Low-level	6810
		Technology	6785
Natural Gas	3683	Technology Transfer	6790
Nature Conservation	2420	Thermal Insulation Techniques	6471
Neighbourhood Improvement Schemes	2170	Thermodynamics	6473
Nutrition, Applied	4000	Transportation	4165
Oils, Edible Fats and	3984	Urban Development	2155
Peoples, Low-income Groups	1340	Veterinary Medicine	2810
Peoples, Under-privileged	1180		
Pest Control	2790	Waste Conversion Techniques	5481
Pipelines	3630	Waste Disposal, Municipal	5366
Projects, Demonstration	6850	Waste Heat	6470
Pollution, Air	4940	Waste, Liquid Disposal Techniques	5443
Pollution Control	4710	Waste Recovery	5482
Planning and Development	1970	Waste, Solid Disposal Techniques	5441
Protein, Foods High in	3980	Waste Water Treatment	5364
Pulp and Paper Products	4091	Wastes	5360
Pumps and Compressors	6620	Wastes, Agricultural	6271
		Wastes, Industrial Liquid	5363
Quality of Life	1000	Wastes, Industrial Solid	5362
		Wastes, Solid	5440
Recycled Materials	5480	Water, Conservation and Collection	2862
Recycling Processes	6700	Water, Drinking	2860
Resource Development	1011	Water Pollution and Contamination	4960
Resource Exploitation	1013	Water, Subterranean	2821
Resource Management	1040	Water, Treatment for Drinking	2861
Resources, Natural	1010	Water Resources	2820
Resources, Non-renewable	1020	Women, Status of	1165
		Wood Products	4021

COUNTRY LISTINGS

ARGENTINA

- 1.01 Laboratorio de Ambiente Humano y Vivienda (A)**
 Instituto Argentino de Investigaciones de las Zonas Aridas
 Casilla de Correo 507
 (5500) Mendoza
 Contact: Arch. Gustavo Lelio
- | | | | |
|------------|------|------|------|
| INFOTERRA: | 1010 | 2481 | 2482 |
| | 3100 | 3150 | 3210 |
| | 3215 | 3300 | 3330 |
| | 3410 | 3551 | 3747 |
| | 6471 | 6800 | 6950 |
- Undertakes research on solar energy applications and its special utilization in rural and urban dwellings located in arid and semi-arid zones, using appropriate technologies for developing countries. Water and building heating and cooling.
- 3.01 Centro de Estudios Urbanos y Regionales (CEUR) (G)**
 Bartolome Mitre 2212
 1039 Buenos Aires
- | | | | |
|------------|------|------|------|
| INFOTERRA: | 1970 | 2015 | 2155 |
| | 6900 | 7000 | 7040 |
| | 7050 | | |
- Involved in research and development on urban and regional planning, training professionals, providing advisory services and in diffusing knowledge in Argentina and Latin America.
- 3.02 Universidad Nacional de La Pampa (G)**
 Instituto de Estudios Regionales
 Mansilla 178, Santa Rosa
 La Pampa
- | | | | |
|------------|------|--|--|
| INFOTERRA: | 3747 | | |
|------------|------|--|--|
- Conducts research on solar stills for local communities.
- 3.03 Universidad Nacional de Salta (G)**
 Departamento de Ciencias Exactas
 Buenos Aires 177, Salta
- | | | | |
|------------|------|------|--|
| INFOTERRA: | 3215 | 3747 | |
|------------|------|------|--|

Works with solar crop dryers, heaters, collectors and selective surfaces.

- 4.01 Andre Voisin Nature Conservation Institute**
 Reconquista 336
 3er piso GG
 Buenos Aires
 INFOTERRA: 2420

AUSTRALIA

- 1.01 Appropriate Technology and Community Environment (APACE) (R)**
 P.O. Box 770
 North Sydney
 New South Wales 2060
- | | | | |
|------------|------|------|------|
| INFOTERRA: | 1015 | 2630 | 3215 |
| | 3410 | 3720 | 3724 |
| | 3746 | 3747 | 5481 |
| | 6271 | 6800 | 6860 |
| | 7040 | | |
- Designed a prototype housing complex to be powered by the sun, wind and methane biogas. Also designs tools, windmills; carries out research and testing and provides free advice. Publishes quarterly newspapers.
- 1.02 Appropriate Technology Development Group (T)**
 20 Holdsworth Street
 Woollahara
 New South Wales 2025
 Contact: Dr. Gordon Innes
- | | | | |
|------------|------|------|------|
| INFOTERRA: | 1015 | 1640 | 2620 |
| | 2673 | 3720 | 3724 |
| | 3746 | 3747 | 5441 |
| | 5481 | 6700 | 6800 |
| | 6810 | 6880 | 6900 |
| | 6941 | 6950 | 7150 |
- Provides a technical service on appropriate technologies for low-income communities in developed or developing countries. Areas of specialization are: engineering, public health, environmental sciences. Areas of interest are: agriculture, fertilizer production and use; rural health (water

supply, sanitation); waste disposal and recycling; wind, water, solar and biogas systems; building technology; fish culture; small scale industries and market research. Leaflet available.

1.03 Alternative Technology Unit (ATU) (T)

Department of Agriculture
Sydney University
Sydney

INFOTERRA:	1015	3410	3720
	3746	3747	6800
	6990	7000	7002

Involved in research and development on the applications of solar and wind power as a source of energy supply for residential housing. In 1976 completed Australia's first power self-sufficient house, and is now currently planning a decentralized community energy system with linked units to share the more complex energy systems, while maintaining individual home units using the sun and wind to reduce power load.

ATU is compiling an information network.

A number of news sheets are available.

2.01 Autonomous House Group (N)

c/o School of Architecture
Sydney
New South Wales 2006

Contact: Colin James

INFOTERRA:	1000	1015	3340
	3410	3720	5151
	5480		

Aims to promote energy conservation and environmental responsibility in housing. Demonstrates through an autonomous house that was built with recycled wastes from the city, independent of reticulated services, and able to recycle its own wastes. Design is to facilitate the chosen lifestyles of the occupants and to help them live in greater ecological harmony with the earth.

2.02 Intermediate Technology Development Party Limited (T)

87 Riawena Road
Rose Bay
Hobart
Tasmania 7015

Contact: John McKean

INFOTERRA:	6800	6810	6900
	6941	6960	7000

Aims to stimulate small industries through information dissemination and consultancy on appropriate technologies for an island economy. Organized with the assistance of ITDG, to counter unemployment and out-migration trends.

3.01 Commonwealth Scientific and Industrial Research Organization (CSIRO) (R)

Box 225
Dickson
A.C.T. 2602

INFOTERRA:	3215	3747
------------	------	------

Undertakes research on all aspects of solar energy including water and building heating, distillation, fruit-drying, etc.

3.02 Department of Chemical Engineering (W)

University of Sydney
Sydney
New South Wales 2006

INFOTERRA:	1060	2220	3720
	3724	3746	6840
	6860	4111	

Undertakes research into solar energy absorbers and their utilization in an absorbent-refrigerant cycle capable of providing domestic hot water, refrigeration and air conditioning, as well as energy storage at ambient temperature.

3.03 Department of Civil and Aeronautical Engineering (W)

R.M.I.T. Box 2476V G.P.O.
Melbourne
Victoria 3001

Contact: Mr. P. A. Campbell

INFOTERRA:	1150	3150	3170
	3300	6790	6810
	6900	6950	

Offers expertise in two areas: low level technology transfer in less industrialized countries, technology selection and its social consequences; and low cost housing in less industrialized countries, local materials, social and cultural factors.

3.04 Department of Transport (W)

General Post Office Box 1599
Adelaide
South Australia 5001

Contact: Director-General of Transports
Office

INFOTERRA:	1970	2030	2125
	2150	2155	4220
	4240	4560	5151
	6800	6840	6900

Involved in research, development, policy advice and planning on transport in South Australia. Main activities in urban public transport planning and research.

3.05 Division of Process Technology, C.S.I.R.O. (W)

Post Office Box 136
North Ryde
New South Wales 2113

Contact: Mr. A. V. Bradshaw

INFOTERRA:	3681	3690	3720
	3721	5443	5481
	6800		

Involved in the development of new mineral processing techniques including methods of deriving alternative fuels from coal and iron ore processing and in studies of chemistry of industrial and urban pollution and disposal of industrial wastes.

3.06 Energy Conversion Group (T)

Department of Engineering Physics
Research School of Physical Sciences
Australian National University
Canberra

Contact: Dr. Peter Carden

INFOTERRA:	3720	6800	6830
	6990		

Undertakes research and development on large scale storage of solar energy for commercial use.

3.07 Friends of the Earth (Townsville) (N)

Post Office Box 5115
Townsville
Queensland

INFOTERRA:	1015	3720	6800
------------	------	------	------

Campaigns for alternative energy technology.

3.08 Friends of the Earth (Victoria) (N)

51 Nicholson Street
Carlton
Victoria 3053

INFOTERRA:	1015	3720	3724
	3746	3747	6800

Involved in projects and publications on solar energy and radical energy alternatives.

3.09 International Solar Energy Society (ISES) (T)

P.O. Box 52
Parkville
Victoria 3052

Contact: Mr. F. G. Hogg, Secretary-Treasurer

INFOTERRA:	3720	3747	6790
	6880	6990	7000

Promotes applied solar energy research, with an extensive network worldwide (14 'sections', over 7,000 members) gathering and disseminating information. Publishes *Journal of Solar Energy*, and *Sun at Work in Britain* magazine.

3.10 School of Architecture and Building, S.A.I.T. (W)

North Terrace
Adelaide
South Australia 5000

Contact: Chairman of School

INFOTERRA:	1970	2030	2151
	2155	3140	3150
	3210	3230	3740
	6910		

Specializes in the fields of architecture, building technology, town and country planning, landscape and interior design. Offers consultation in these fields.

3.11 School of Physical Sciences (P)

The Flinders University
South Australia 5042

INFOTERRA:	3720
------------	------

Undertakes research on energy.

3.12 Sci-Tec Information Consultants (W)

301 Preston Point Road
Bicton
Western Australia 6157

Contact: Dr. John E. D. Barker

INFOTERRA: 1011 3120 3215
3720 6471 6800
6840 7040

Involved in scientific and industrial research, engineering projects and development, energy analysis (conventional solar and nuclear), architecture, environmental science, agriculture and forensic science.

4.01 Action for World Development

Gertrude Street
Fitzroy
Victoria 3065

INFOTERRA: 6880 6950 6960

4.02 Australian Council for Overseas Aid

P.O. Box 1563
Canberra City
ACT 2061

INFOTERRA: 6880 6950 6960

4.03 Davey Dunlite Company

Adelaide

INFOTERRA: 3746

Interested in wind power utilization.

4.04 Freedom From Hunger Campaign

69 Clarence Street
Sydney 2001

INFOTERRA: 1000 6960

4.05 Soil Association of South Australia

9 Cotham Avenue
Kensington Park

INFOTERRA: 1930

4.06 Sydney University Eco-Tech Workshop

Sydney
New South Wales

INFOTERRA: 6800

4.07 World Christian Action

100 Flanders Street
Melbourne
Victoria

INFOTERRA: 6880 6950

AUSTRIA

2.01 Transnational Research Centre (P)

Schloss Eichbühl
A-2801 Katzeldorf

INFOTERRA: 1015 3720 6800
7040

Undertakes research in alternative sources of energy and low waste technology.

2.02 United Nations Industrial Development Organisation (UNIDO) (T)

P.O. Box 707
A-1010 Vienna

Contact: Gangadhar, S. Gouri, Deputy
Director, Industrial Operations
Development Section

INFOTERRA: 6785 6790 6800
6810 6840 6941
6950 6980 6990
7000

Offers technical enquiry, information and referral service, including details of small-scale industrial techniques. Recently launched a research and development programme on specific industrial technologies. Collaborates with ITDG Industrial Liaison Unit. Published UNIDO Newsletter which describes current 'Appropriate Technology' evolution or adaptation globally, along with news of industrial opportunities.

2.03 (UNIDO-ICIS) International Centre for Industrial Studies (P)

P.O. Box 837
Vienna A-1070

Contact: Director

INFOTERRA: 4130 4160 6880
6941 6950

Assists developing countries in measuring and forecasting industrial development and international industrial co-operation; analyzes structural changes in industry, industrial production and statistics, regional industrial co-operation and developing of institutional infrastructure for industry.

2.04 (UNIDO-ICIS) Development and Transfer of Technology Section (P)

P.O. Box 837
Vienna A-1070

INFOTERRA:	6785	6790	6800
	6810	6840	6900
	6941	6950	6960
	6990		

Assists the developing countries to facilitate the adaptation and use of industrial technology appropriate to specific local conditions; also analyzes and evaluates policies on industrial technology and its interlinkage with overall industrial development; works on adaptation of indigenous technologies.

3.01 Institute for Educational and Development Research (N)

Schottenbastei 6
A-1010 Wein

INFOTERRA:	1000	6880	6900
	6950	6960	

Involved with several projects in Africa and the Middle East.

3.02 Institute for Environmental Research (N)

Hilmteichstrasse 75A
A-8010 Graz

INFOTERRA:	1015	3215	3747
	6800		

Undertakes research on utilizing solar energy for heating swimming pools and for drying tobacco.

3.03 The International Institute for Applied Systems Analysis (IIASA) (A)

A-2361 Laxenburg

INFOTERRA:	1000	1015	1030
	2190	3720	3982
	6880	7021	

Aims to utilize science and technology for the benefit of all mankind through international co-operation between national institutions. Institutional members are involved in wide-ranging projects concerned with global issues, including energy, food global development, resources and environment, human settlements and services. Systems analysis and policy-making figure prominently in the activities of IIASA.

3.04 Vienna Institute for Development (N)

Kartner Strasse 25/6
A-1010 Vienna

INFOTERRA:	1000	1030	6800
	6880	6950	6960

Involved in activities on appropriate technology, the new economic order, world development; some papers published.

5.01 J. B. Carmichael

UNIDO
Lerchenfelderstrasse 1
A-1070 Vienna

INFOTERRA: 6800

Interested in methodology of selection of environmentally-sound and appropriate technologies.

BANGLADESH

1.01 Appropriate Agricultural Technology Cell (AATC) (T)

Bangladesh Agricultural Research Council (BARC)

130-C, Road 1
Dhanmondi
Dacca 5

Contact: Dr. Islam (BARC)

INFOTERRA:	2630	2640	3720
	6790	6800	6840
	6920	6980	6990

Collects and disseminates information on appropriate agricultural technology for all interested parties through a documentation, the development of links with similar institutions elsewhere, surveys of existing technologies (to identify gaps) and workshops; initiates and promotes research on appropriate agricultural technologies; finances, co-ordinates and evaluates such research. Currently working on bullock drawn seed drills, local manufacture of small diesels, rice husk hull use for fuel, rodent resistant grain storage and other activities.

2.01 Bangladesh Council for Scientific and Industrial Research (L)

Dacca

INFOTERRA:	1015	3724	3747
	7040		

Involved in setting up 500 biogas plants in schools and colleges; also undertakes research on solar energy and biogas.

2.02 Bangladesh University of Engineering and Technology (L)

Dacca 2

INFOTERRA: 1015 3724 3747
6810

Involved with research on solar energy utilization, biogas generation, and was the site of a Regional Workshop on Regional Technology, January 1978.

2.03 International Voluntary Service (IVS) (T)

549F, Road 14
Dhanmondi
Dacca 5

INFOTERRA: 2015 2620 2640
3110 4000 6790
6800 6810 7000
7050

Provides technical assistance in transferring appropriate technologies for agriculture. Also involved with co-operatives, health and nutrition programmes, education and engineering for rural development. Published *The Chinese Rice-husk Incubation System* by James Archer (1975).

3.01 Agricultural Development Agencies in Bangladesh (ADAB) (T)

P.O. Box 5045
Dhanmondi
Dacca

Contact: Dr. R. W. Timm

INFOTERRA: 2620 2640 2673
3746 3747 6800
7000

Offers village training and education programmes on agriculture and fish farming and forums on Appropriate Technology. Publishes experiments on solar and wind energy as well as a monthly newsletter, *ADAB News*.

3.02 Bangladesh Council for Scientific and Industrial Research (W)

Mirpur Road
Dhanmondi
Dacca

Contact: Dr. G. K. Jourder

INFOTERRA: 1060 6300 6810
6840

Undertakes research on environmental effects of industry.

3.03 Bangladesh Inland Water Transport Authority (L)

Dacca

INFOTERRA: 3120 5341 6790
6810

Mechanizes country boats using old diesel truck engines.

3.04 Bangladesh Volunteer Service (N)

55 Diilkusha
Dacca 2

Contact: Mamoon-al-Rasheed, Executive Director

INFOTERRA: 1320 2015 6810
6960

Involved in integrated rural development schemes and promotion of low level village technologies.

3.05 CORR Grain Storage Project (T)

Jalchatra P.O.
Tangail District

Contact: Harley L. Snyder, Director,
Section for Economic and Labour
Intensive Development

INFOTERRA: 2620 2630 2640
2650 6810 6850

Develops small-scale storage techniques and simple crop dryers. Publishes reports.

3.06 Peoples Health Centre (T)

via Dhamrai
Dacca District

Contact: Dr. Zafrullah Chowdury, M.D.;
Gono Shasthaya Kendra

INFOTERRA: 1580 1640 1642
6800

Concerned with alternative medical care, with local people (often lacking formal education) trained as medical auxiliaries.

BARBADOS

2.01 Appropriate Technology Resource Service (R)

Christian Action for Development in the Caribbean
P.O. Box 616
Bridgetown

INFOTERRA: 6800 6980 6990

Collects and disseminates materials to regional centres.

3.01 Caribbean Development Bank (T)

P.O. Box 408
Willey
St. Michael

INFOTERRA: 3300 6800 6990
7000

Promotes low cost housing technological development and is currently in the process of setting up an appropriate technology service.

3.02 Christian Action for Development in the Caribbean (CADEC) (T)

P.O. Box 616
Bridgetown

Contact: Rev. Andrew Hatch

INFOTERRA: 2015 2620 3330
3720 6800 6870
6960 7000

Through an appropriate technology and development centre, assists an extensive rural development programme, focusing on housing, energy and agriculture.

BELGIUM

2.01 Aangepaste Techniek voor Ontwikkelingslanden (ATOL) (T)

(Applied Technology for Developing Countries)
Blijde Inkomststraat 9
3000 Leuven

Contact: Leni Creuwels, Secretary

INFOTERRA: 1000 1015 1300
1320 3150 6800
6870 6900 6960
7000

Involved in research and development on

applications for local materials and energy sources to promote local employment for low-income communities. Disseminates information on appropriate technologies and acts as a liaison service for technical enquiries. Solutions offered must be directed to self-help, promote local employment, use local materials and energy, and consider the local life and conditions in which the problem arises.

3.01 International Association for Rural Development (N)

rue de Commerce 20, Bte 9
B 1040 Brussels

INFOTERRA: 1270 1970 2015
2190 2640 2700
2820 3011 3150
3300 3720 5481
6271 6350 6800
6880 6910 6920
6950 6960

Involved in rural development projects, rural habitat and water supply, building construction using local materials (BURUNDI), agricultural methods and forestry.

3.02 Internationale Bouworde (T)

(Building Companions)
Naamsesteenweg 573
3030 Hervelee

INFOTERRA: 6800 6870 6880
6900 6960

Supervises overseas volunteer programmes which utilize appropriate technologies. Headquarters acts as an information source.

4.01 Departement de Technologie Agro Alimentaire et Forestiere (V)

Faculte des Sciences Agronomiques de l'Etat
5800 Gambloux

INFOTERRA: 2700 6800

4.02 European Environmental Bureau

Vautierstraat 31
B-1040 Brussels

INFOTERRA: 6980

4.03 Vereniging Ecologische Land – en Tuinbouw

Lage weg 20
B-2241 Halle – Kempen

BOLIVIA

5.01 Hugo Houben

50 Av. I. Geyskens
B 1160 Brussels

INFOTERRA: 3140 3150 3840

Consultant on clay materials and construction.

5.02 Paul Willot

Avenue Francois André 39
B 7310 Jemappes

INFOTERRA: 6800 6960

Consultant in community development using appropriate technologies.

BENIN

3.01 Centre d'Etudes et de Promotion des Entreprises Beninoises (T)

B.P. 2022
Cotonou

Contact: Monsieur B. Bindouzo

INFOTERRA: 6800 6810 6840

Promotes small-scale industry with a research and development programme incorporating appropriate technology concepts.

3.02 Co-operative Beninoise de Materiel Agricole (COBEMAG) (V)

B.P. 161
Pavaleau

Contact: Ababoucar Alassani

INFOTERRA: 2630 6810

Produces animal drawn agricultural machinery within craft co-operative centres.

3.03 Faculté des Sciences Agronomiques (V)

Université Populaire du Benin
B.P. 526
Cotonou

Contact: Patrice Gnacadja

INFOTERRA: 2720 3980 4000

Involved in research on improved nutrition with soya and local plants.

2.01 Centro para el Desarrollo Social y Económico (DESEC) (T)

Casilla 1420
Cochambamba

Contact: Juan Demeure V, Director

INFOTERRA: 1300 1320 1580
2015 3260 3300
3330 3360 3982
4000 6800 6810
6870 6960 7000

Promotes rural based institutions and rural assistance agencies which sponsor income-generating projects by small farmers. Operates through four service agencies: Association of Popular Housing, Institute of Peasant Education, Institute of Popular Health, and Association of Artisan and Rural Services.

2.02 Centro de Investigación y Promoción del Campesinado (CIPA) (T)

Oruro

Contact: Javier Albo, SJ, Director

INFOTERRA: 2620 2660 3360
6800 6810 6870
6960

Involved in agricultural and co-operative projects. Formed by Quechua and Aymara Indians in the Yungas district.

2.03 National Community Development Service (NCDS) (T)

La Paz

INFOTERRA: 1640 2630 2640
2820 2821 2860
2910 3300 3551
4250 6900 6960
7000

Involved in self-help projects for rural communities such as schools, clinics, bridges, potable water systems, sheep dips, livestock shelters, silos and irrigation infrastructure.

2.04 Voluntarios en Acción (VEA) (T)

Apartado Postal 3556
La Paz

Contact: Marco Adelio Guzman

INFOTERRA: 2015 6870 6900

Operating in six of the country's nine territorial departments, organizes work-camps enabling professionals and students to work with peasants in rural development projects.

2690	6790	6800
6870	6960	

3.01 Centro Boliviano de Investigación y Acción Educativa (CEBIAE) (Y)

Casilla 1479
La Paz

Contact: Jesús Durán

INFOTERRA: 6800 6980

Developed a network of appropriate technology organizations in Bolivia.

4.01 Agrobiológica

Centro Pedagógico y Cultural de Portales
Casilla 544
Cochobamba

INFOTERRA: 2620

BOTSWANA

1.01 Botswana Enterprises Development Unit (BEDU) (T)

P.O. 438
Gaborone

Contact: M. Mbaakanya, Director

INFOTERRA:	2630	2650	2821
	3150	3720	3724
	3746	3747	3961
	3990	5441	6790
	6800	6840	

Involved in the establishment of the Appropriate Technology Centre of Botswana in collaboration with the Botswana Development Corporation (BDC). The Appropriate Technology Centre will research and develop alternative building materials; low-cost methods of water supply and storage; small-scale sewerage and the pumping and heating of water; and post-harvest agricultural processes.

1.02 Kgatleng Development Board (Mochudi Brigades) (T)

P.O. Box 208
Mochudi

Contact: Doug Everingham

INFOTERRA: 1300 2015 2630

Promotes the social and economic development and the advancement of the peoples, institutions, agencies and organizations of Kgatleng district. There are several *brigades* that run three year vocational training cum production programmes: two of them, the Builder's and the Farmer's Brigade have focused their training programmes upon the development and the evaluation of appropriate technology equipment. The Mochudi Farmer's Brigade has developed and commenced the manufacture of a multi-purpose Tool-Bar, the Makgonatsotlhe, "the machine which can do everything". The Brigade has also developed a "net-house" for intensive horticultural cultivation.

1.03 Rural Industries Innovation Centre (T)

P.O. Box 18
Gaborone

Contact: Ulrich Dehler-Grimm

INFOTERRA:	1015	2015	3150
	3490	3720	3724
	3746	6790	6800
	6960		

Actively promotes the adaptation, development and application of technologies appropriate for rural development. Has undertaken work on windmills, sand-cement building blocks, the production of chain link fencing, cooking stoves, ovens and methane digesters. The Centre is located in Kanye.

2.01 Kweneng Rural Development Association (A)

Private Bag 7
Molepolole

INFOTERRA:	1000	1010	1300
	2420	2640	2690
	3140	6810	6870
	6960	7050	

Community organization that aims to promote human development by self-sufficiency and making the community aware of the need to conserve natural resources. Activities involve training in various fields such as in handicrafts, building and forestry, horticultural production, retailing of building materials and gas, maintenance of services, operation of a hotel, dam project, bee-keeping project and others.

2.02 Pelegano Village Industries (T)

P.O. Box 464
Gaborone

Contact: Managing Director

INFOTERRA:	1300	2630	2826
	3961	6800	6810
	6870	6900	6941
	6960	7000	

Promotes appropriate technologies in small-scale village industries. Projects include the production of diamond mesh fencing, backyard poultry units, wild fruit jams and handicrafts. Provides technical advice on water systems implementation and entrepreneurial assistance.

2.03 Serowe Brigades Development Trust (T)

P.O. Box 121
Serowe

Contact: Patrick van Rensburg,
M. Kopano

INFOTERRA:	1300	2015	2620
	2822	3300	3724
	6620	6810	6870
	6960		

Uses extensive experience in rural development and training programmes, including small industries, agriculture and building, windmill pump, methane biogas plants, earth dam building.

3.01 National Institute of Development and Cultural Research (A)

University College of Botswana
Bag 0022
Gaborone

Contact: Bernard Weimar

INFOTERRA:	2015	6790	6800
	6950	6980	7000

Collects, analyzes and disseminates information and material concerning aspects of development in African countries. Produced paper on *Technology for Rural Development* which examines the impact appropriate technology could make on the development of rural areas in Botswana.

4.01 Lentswe La Odi Weavers

c/o CUSO
Box 252
Gaborone

INFOTERRA: 4132

BRAZIL

2.01 Technological Research Institute (N)

Cidado Universitaria
P.O. Box 7141
Sao Paulo

INFOTERRA:	3140	3150	3300
	6785	6790	6800

Involved with transfer of new technology to industry and to private citizens; building research on materials and processes.

3.01 Agromax Agricultura e Pecuária Ltda (N)

Caixa Postal 6479 ou Av. 23
de Maio 3041
Sao Paulo 04008

INFOTERRA:	1930	1940	2420
	5480	6271	

Works to restore the natural environment and to control erosion by soil recovery using jasmin seed and legumes, and others. Utilizes residues from dried water hyacinth and coconut fibres.

3.02 Centro de Pesquisas do CACAU (G)

Agricultural Engineering Division
Caixa Postal 7
Itabuna - B.A.

Contact: Dr. Biswa Nath Ghosh

INFOTERRA: 3960 4113

Interested in crop dryers.

3.03 Centro de Tecnologia Promon (G)

Praia do Flamengo 154
20000 Rio de Janeiro

INFOTERRA: 3720 6271

Undertakes projects concerning the derivation of alcohol fuels from cassava and sugar cane.

3.04 Fundacao Estadual de Engenharia de Meio Ambiente (A)
(State Foundation for Environmental Engineering)

Rio de Janeiro

INFOTERRA:	1010	1040	1060
	4560	4710	7021

Involved in appropriate environmental impact assessment and development and in application of management methodologies in Latin America. Promotes comprehensive approaches to the utilization of natural resources and pollution control. Aims to implement the environmental control policy in Rio de Janeiro State.

3.05 Laboratorio de Energia Solar de Universidade Federal de Paraiba (T)

Joao Pessoa
Paraiba

INFOTERRA: 3720 3747 6800
6990

Involved in research and development on solar energy applications.

3.06 Secretaria de Economia e Planejamento Sao Paulo (P)

INFOTERRA: 3960 3990 6271

Studies the use of molasses in alcohol production.

3.07 Servicio Publico Federal (T)

Ministerio do Interior
Superintendencia do Desenvolvimento de Nordeste (SUDENE)
Recife
Pernambuco

INFOTERRA: 3746 6960

In conjunction with ELECTROBRAS (public utility) plans to utilize wind energy to produce electricity (5 to 50Kw, 220 V, 60 Hertz).

3.08 Superintendencia do Desenvolvimento do Nordeste (G)

Ministerio do Interior
Recife
Pernambuco

INFOTERRA: 3746

Develops small scale wind generators.

BURUNDI

5.01 Geoff Bishop

Hopital de Buhiga
D.S. 127
Bujumbura

INFOTERRA: 1642 2820 3140
3150 3230 5151
6620 6800

Works with the hospital on appropriate technologies for dwelling construction and water supplies.

CAMEROON, UNITED REPUBLIC OF

3.01 Association Suisse D'Assistance Technique (SATEC) (T)

B.P. 32
Buea

INFOTERRA: 3150 6800

Concerned with appropriate technology applications, particularly for building construction.

3.02 Centre of Applied Research (T)

Pan-African Institute for Development
P.O. Box 133
Buea

Contact: Dzikama; C. Dahna

INFOTERRA: 1300 1970 2015
6800 6960 6990
7050

Trains development staff and is promoting an integrated rural development action which will use appropriate technology.

3.03 Commission pour le Developpement (T)

Fédération des Eglises et Missions
Evangeliques du Cameroun (FEEMEC)
B.P. 790
Yaoundé

INFOTERRA: 6800 6870 6900

4.01 Centre National d'Assistance aux Petites et Moyennes Entreprises (CAPME)

B.P. 1132
Yaoundé

Contact: George Miller

INFOTERRA: 6800 6810

4.02 Centre National d'Etudes et de Machinisme Agricole (CENEEMA) (V)

B.P. 1040
Yaoundé

Contact: Elvina Ernest Roaland

INFOTERRA: 2630 6810 7050

Invents and develops small scale machinery, works with craftsmen.

5.01 Maria Laffitte (V)

B.P. 4078
Douala

INFOTERRA: 1300 2155 3724
6810

Promotes small scale urban workshops; involved in experiments on methane.

5.02 A. M. Mvaa (V)

B.P. 33
Okolu

INFOTERRA: 1620 1640 2640
6350 7002

Compiled a series of slides on bilharzia and water.

CANADA

1.01 Brace Research Institute (V)

Macdonald College
McGill University
Ste. Anne de Bellevue 800
Quebec HOA ICO

Contact: T. A. Lawland, Director

INFOTERRA: 2300 2481 2620
2630 2861 2910
3720 3746 3747
6530 6800 6840
6990

Involved in research and development of economic and effective methods of water desalination, irrigation and other means of making arid land productive. Work has included windmills for water pumping and electricity generation, solar heaters, solar crop dryers, solar distillation and greenhouses, concentrating on simple, low-cost methods using local resources. Publications include a newsletter along with a publications list which includes details of solar stills, windmills, and crop dryers. Produced a *Handbook on Appropriate Technology*, in conjunction with the Canadian Hunger Foundation.

1.02 Canadian Hunger Foundation (T)

75 Sparks Street
Ottawa
Ontario K1P 5A5

Contact: Jol Ghadially

INFOTERRA: 2620 2673 2700
3960 3961 4000
4131 6800 6870
6880 6920

Supports self-help projects in agriculture, forestry, fisheries and nutrition, with a focus on food production, preservation and processing. The Foundation has had an Appropriate Technology programme since the early 1970's which complements four other programmes: Food Technology and Applied Nutrition; Agriculture and Food Production; Rural Development Training; Assistance to Non-Government Organizations in Developing Countries. Co-producer of *A Handbook on Appropriate Technology* with the Brace Institute.

1.03 International Development Research Centre (IDRC) (T)

P.O. Box 8500
Ottawa
Ontario K1G 3H9

Contact: Mr. Ivan Head, President

INFOTERRA: 1640 6790 6810
6840 6880 6900
6920 6960 6990

Provides extensive support of research in developing countries, with plans to concentrate on technology inventories and technology adaptation research by national organizations. An Asian based project to set up Regional Adaptive Technology Centres in non-metropolitan universities has been established to encourage technical change in local production centres. Extensive listings, including reports on food and post-harvest technology. 1978 publication, *Low-Cost Technology Options for Sanitation*, review and annotated bibliography (with World Bank).

2.01 Bakavi (R)

P.O. Box 2011, Station D
Ottawa
Ontario

INFOTERRA:	1020	1060	3720
	3746	3747	6271
	6800	6840	6880

Through the use of wind and solar energy and the use of agricultural wastes, aims to develop technologies that do not have a cumulatively degrading impact on the environment, or require more material than would be available if world resources were distributed equally.

2.02 Minimum Cost Housing (T)

School of Architecture
McGill University
P.O. Box 6070
Montreal

Contact: Prof. Withold Rybezynski

INFOTERRA:	3100	3140	3150
	3300	3330	5443
	6990		

Involved in research and development of low-cost, integrated housing units, and the use of sulphur blocks as a building material. Published; *Stop the Five Gallon Flush - A survey of Alternative Waste Disposal Systems* by Prof. Rybezynski (c.1973).

3.01 Association of Geoscientists for International Development (AGID) (T)

c/o Department of Geology
Memorial University
Saint John's
Newfoundland AIC 5S7

Contact: Dr. A. R. Berger

INFOTERRA:	1880	1890	1930
	3672	3690	3820

The 700 geoscientists in 80 countries who compose the Association volunteer to provide information on mineral exploration, mining, soil testing, fertilizing, and other geo-science problems. Among successful projects to date are: the use of silica sands in West Africa for glass manufacture, foundry and filtering; design of a cheap ultra-violet light for turquoise and lapis lazuli prospecting in Chile; a training programme for gold place-mining in South America; and the use of carbonate mineral as soil conditioners in the Malagasy Republic. Newsletter and Reports.

3.02 Canadian International Development Agency (CIDA) (T)

122 Banks Street
Ottawa
Ontario K1A 0G4

Contact: Michele Robichaud,
International NGO Division

INFOTERRA:	1015	6790	6840
	6920	6990	

Created a Task Force on Food and Renewable Resources in 1974. Supports technology research in the Caribbean and India.

3.03 Canadian University Services Overseas (N)

151 Slater Street
Ottawa
Ontario K1P 5H5

INFOTERRA:	6800	6880	6900
	6950	6960	

Encourages volunteers overseas to be more involved in projects appropriate to the social and economic structures in which they work.

3.04 Manitoba Department of Northern Affairs (T)

405 Broadway
Winnipeg
Manitoba R3C 3L6

Contact: Brian Hill

INFOTERRA:	2015	3150	6800
	6810	6900	7000

Aims at the development of rural areas and small communities of Northern Manitoba, with an emphasis on use of local materials and small-scale technologies.

3.05 National Research Council of Canada (R)

National Aeronautical Establishment
Montreal Road
Ottawa
Ontario K1A 0R6

INFOTERRA: 3746

Engaged in the development of large vertical-axis wind turbines.

3.06 Pollution Probe, Ottawa (N)

53 Queen Street Suite 54
Ottawa
Ontario K1P 5C5

Contact: G. G. Payne, Chairman

INFOTERRA: 1015 3720 5440
6700 6800 6850
6980 6990 7000

Constructed display on appropriate technology for use by the national museum; produces alternative energy books and public information documents. Completed reports on low-technology solid waste management and on recycling solid waste.

3.07 United Church of Canada, Division of World Outreach (A)

Room 417
85 Street
Clair Avenue East
Toronto
Ontario M4T 1M8

INFOTERRA: 2015 2420 6790
6800 6810 6870
6880 6900 6960

Establishes rural development programmes, especially in Indonesia, to promote self-help at the village level; provides counseling on conservation, marketing and management and intermediate technology.

3.08 University of Saskatchewan (W)

Saskatoon
Saskatchewan S7N 0W0

Contact: Jim Pepper

INFOTERRA: 1015 3720 4021
5481 6800

Work involves waste wood and cereal straws, chemistry of the lignin component and potential uses for them as alternative renewable energy sources and as chemical feedstock.

4.01 Department of the Environment: Advanced Concepts Centre

Ottawa
Ontario

INFOTERRA: 6980

4.02 Mouvement Pour l'Agriculture Biologique

340 Willowdale
Apartment 2
Montreal
Quebec

INFOTERRA: 2620

4.03 Mylora Organic Farms

960 Apartment 5
Richmond
British Columbia

INFOTERRA: 6272

4.04 North-South Institute

Suite 402
60 Queen
Ottawa K1P 547

INFOTERRA:

5.01 Erick Brunet

Brace Research Institute
MacDonald College of McGill University
Ste. Anne de Bellevue
Quebec

INFOTERRA: 2630

Interested in small-scale agricultural equipment.

5.02 E. Coxworth

Chemistry Division
Saskatchewan Research Council
30 Campus Drive
Saskatoon
Saskatchewan S7N 0X1

INFOTERRA: 4070 6810

Interested in leather tanning, small-scale technologies.

5.03 Joe Ghadially

Canadian Hunger Foundation
75 Sparks Street
Ottawa
Ontario K1P 5A5

INFOTERRA: 4130 6810

Interested in small-scale industry.

5.04 T. A. Lawand

Brace Research Institute
MacDonald College of McGill University
Ste. Anne de Bellevue
Quebec

INFOTERRA: 1015 3746 3747
6530

Interested in solar and wind energy, desalination.

- 5.05 T. R. McCoy**
Canadian Hunger Foundation
75 Sparks Street
Ottawa
Ontario K1P 5A5
INFOTERRA: 6800
Interested in appropriate technology applications.
- 5.06 David Merriman**
518-180 Cherry Hill Circle
London
Ontario
- 5.07 Jack Pearpoint**
Director
Frontier College
33 Jackes Street
Toronto
Ontario
- 5.08 C. M. Williams**
Animal Science Department
University of Saskatchewan
Saskatoon
Saskatchewan
INFOTERRA: 2015 6810 6960
Interested in rural development.
- 5.09 Penny Williams**
Oxfam Quebec
169 Street Paul East
Montreal, P.Q.
INFOTERRA: 6810
Interested in small-scale technologies.

CENTRAL AFRICAN REPUBLIC

- 2.01 Centres Ruraux d'Education et de Formation (V)**
B.P. 1022
Bangui
Contact: Michel Cartier
INFOTERRA: 6800 6810
Promotes projects using appropriate technology. Linked to Maisons Familiales in Senegal.
- 3.01 Inter-African Bureau for Soils (P)**

OAU/STRC
B.P. 1352
Bangui
INFOTERRA: 1930 2030
Concerned with soil improvement and land use.

- 3.02 Projet de Developpement Communicataire (V)**
B.P. 872
Bangui
Contact: Odile Verny, Dlie Didier
Louango
INFOTERRA: 2820 3300 3410
6810 6980 7002
7050
Activities involve silk screen printing, workshops for making flip charts and posters, training in home economics, water supply, sanitation, and housing improvements.

- 3.03 Projet Pis (V)**
s/c FAO
B.P. 872,
Bangui
Contact: Petit Jean, James Miller
INFOTERRA: 2673
Training and extension services in fish farming.

CHAD

- 4.01 Bureau de Promotion Industrielle du Tchad (V)**
B.P. 478
N'Djamena
INFOTERRA: 6810 6941

CHILE

- 1.01 Estudio Elaboración Ejecución (ETRES) (T)**
Santo Domingo 573, OF.85
Santiago
Contact: Pablo Daniel Palma, Director

INFOTERRA:	1000	1040	1130
	2420	2673	2826
	2910	3150	3720
	3723	3746	4000
	6620	6800	6840
	6900	6960	7000

Concerned with appropriate technology, conservation and the maintenance of cultural integrity. Involved in a wide range of projects including charcoal production, water conservation for irrigation and stock, construction using local materials, wind power applications for electricity generation and water pumping, development of salmon fishing co-operatives to improve nutrition, and the establishment of bee-keeping centres.

3.01 Corporación Industrial Para el Desarrollo Metropolitano (S)

Merced 136
Depto 31
3 er piso
Santiago

Contact: Gonzalo Diaz Albonico

INFOTERRA:	1180	3960	6700
	6810	6960	

Works with the urban poor. Projects include: making and marketing hand crafts, processing and selling preserved fruits, collecting and sorting waste papers.

3.02 Corporación Industrial para el Desarrollo Regional (CIDERE) (T)

Anibal Quinto 372
Concepcion

INFOTERRA:	1013	1015	1300
	3720	4024	6800
	6810	6840	6941
	6960		

Promotes regional maximization of natural resources to generate employment for campesinos. One project undertaken involves utilizing sawdust as a fuel.

3.03 SELAVIP Latin American and Asian Grassroots Housing Service (G)

Casilla 871
Santiago

Contact: Julio Stragier

INFOTERRA:	2015	3140	3150
	5151		

Worldwide church group which promotes new concepts of construction in remote villages and shanty towns.

4.01 Thermodynamics Laboratory (G)

Universidad Tecnica Federico
Santa Maria
Casillas 110-V 132-V
Valparaiso

INFOTERRA:	3720	6473
------------	------	------

Publishes a journal and carries out a number of different research projects on stills, horticulture and water distillation.

COLOMBIA

1.01 Centro de Desarrollo Integrado "Las Gaviotas" (T)

Apartado Aereo 18261
Bogota

Contact: Sr. Paulo Lugari Castrillon,
Director General

INFOTERRA:	1011	1300	1320
	1970	2620	2630
	2820	2822	3140
	3150	3300	3330
	6620	6790	6800
	6870		

Promotes many activities including research and development on equipment for local needs by a self-supporting unit (Las Gaviotas) based on appropriate techniques. The unit supplies its housing, food, and basic raw materials from the local communities, and provides integrated services such as a hospital, out-clinics, food storage facilities, multi-purpose classrooms for training (120 engineers a year) and technical advisory services for farmers. Appropriate Technology equipment and techniques so far devised include: — a low cost Mitchell/Banki turbine — building blocks using sulphur and bamboo fibre — water conduits and dams incorporating plastic tubing filled with sterilized earth. Prototype testing is done by the farmers themselves. A separate but associated factory, which also trains local people in the maintenance and repair of its products, operates on a commercial basis, producing: — 1kw turbines — windmills — hydraulic ram pumps — induction pumps — solar water

heaters. The Centre hopes to encourage settlement in the region (500 km ENE of Bogota) and slow out-migration of the local population to the urban areas. Articles in *Appropriate Technology* journal, and Spanish translations of ITDG publications.

1.02 Centro Internacional de Agricultura Tropical (CIAT) (T)

Apartado Aereo 67-13
Cali

Contact: James Spain

INFOTERRA:	1921	2620	2630
	2660	3150	3300
	3720	6620	6800
	6900	6960	

Interested in the development of prototype small-farm units employing animal traction equipment, indigenous construction materials, *savonoious* rotor windmills for water pumping, and local flora for pasturage.

1.03 Fundación para el Fomento de la Investigación Científica y Tecnológica (FICITEC) (T)

Apartado Aereo 27872
Bogota

Contact: Guillermo Llinas

INFOTERRA:	2630	6800	6900
	6941		

Provides a small industry consulting service. Projects include windmill installation, development of a bicycle powered generator, a cloth cutting machine, and a continuous grain dryer.

2.01 Centro de Investigaciones Multidisciplinarias en Tecnología y Empleo (CIMTE) (Y)

Universidad del Valle
División de Ingeniería
Apartado Aereo 2188
Cali

Contact: Aixa María Becerra de Lloreda

INFOTERRA:	6790	6800	
------------	------	------	--

Undertakes research concerning appropriate technology and the transfer of technology.

2.02 Servicio Nacional de Aprendizaje (SENA) (T)

Division for Technological Development
Apartado Aereo 9801
Bogota

Contact: Dr. Raul Gomes, Director

INFOTERRA:	1300	2620	3880
	6790	6800	6810
	6990	7000	

National apprentice training organization that promotes appropriate technologies through assimilation of *Appropriate Technology* in national level projects, training programmes, research and development, and information inventories and dissemination. Concentration is in national development priority sectors – crafts, metal working, small-scale farming and industries.

3.01 Centro de Investigaciones Multidisciplinarias en Desarrollo Rural (CIMDER) (X)

Apartado Aereo 3708
Cali

INFOTERRA:	1640	2860	2861
	3330	3720	6800

Involved in appropriate technology activities in the areas of alternative forms of energy, housing, sanitation, waste disposal, water storage, water supply and treatment.

3.02 Fundación Investigación de Vivienda (N)

Housing Research Foundation
Apartado Aereo 50604
Medellin

INFOTERRA:	3140	3150	3230
	3300	5440	5480
	5481		

Undertakes research on recoverable materials from solid waste to be used as building materials for very low income housing projects.

3.03 Fundación Para La Aplicación y La Enseñanza de las Ciencias (FUNDAEC) (G)

Apartado Aereo 555
Cali

INFOTERRA:	1180	6960	
------------	------	------	--

Develops wide range of programmes which are aimed at direct assistance to the poor.

3.04 Grupo Ecológico de la Universidad Del Tolima
(The Ecological Group of the University of Tolima) (N)

Apartado Aereo 1013
Ibague
Tolima

INFOTERRA: 1060 2620 2640
3747 6272 6800

Among other projects, works to find a new technology to replace the imported agrochemical system, which would be based on tropical ecosystems. Also tries to encourage industries to use appropriate and non-wasteful apparatus. Solar energy is another topic of interest.

3.05 Inderena (Office 505) (W)

Carrera 14 No. 25-A-66
Bogota

INFOTERRA: 3150 3960 3990
4000 4131 6841
6900 6990 6941

Contributes to improving and modernizing the level of technology in industry particularly in the field of processing of agricultural produce.

3.06 National Association of Manufacturers (Asociación Nacional de Industriales) (N)

Apartado 997
Medellin

INFOTERRA: 1015 3720 6800
6980

One area of concern is in searching for and diffusing technologies which permit the use of alternative sources of energy in industry and in the home.

5.01 J. T. Glauser

Universidad de Los Andes
Calle 18 A Carrera 1E
Apartado Aereo 4976
Bogota

INFOTERRA: 2630 3746

Interested in wind power, wood treatment, small machinery.

5.02 J. Lobo-Guerrero

Universidad de Los Andes
Calle 18 A carrera 1E
Apartado Aereo 4976
Bogota

INFOTERRA: 2630 3746

Interested in wind power, wood treatment, small machinery.

CONGO

3.01 OMS, Bureau Regional de l'Afrique

B.P. 6
Brazzaville

Contact: Sam Street

INFOTERRA: 1620 3982 4000
6800

Concerned with appropriate technology as it applies to health, preparing book on appropriate technology for health.

COSTA RICA

2.01 Instituto de Fomento y Asesoría Municipal (IFAM) (T)

Calle 1
Avenida 3
San José

INFOTERRA: 2015 6790 6800
6870 6960 7000

Promotes emphasis on appropriate technology for an integrated rural development project, sponsored in conjunction with Accion International/AITEC.

3.01 Food Technology Research Centre (G)

Universidad de Costa Rica
San José

INFOTERRA: 3960 3990

Involved in various activities on food technology including vegetable and fruit processing, fermentation and dehydration for home and small-scale use.

**3.02 Centro de Investigación Capacitación
R.L. (CIC) (T)**

Apartado Postal 2753
San José

Contact: Tito Quirós,
Athenia Montejo M.

INFOTERRA: 6790 6800 6900
6960

Provides leadership training for urban and rural groups. A strong interest in appropriate technology applications.

CUBA

4.01 Centro de Investigación y Experimentación de la Construcción

Apartado 6180
La Habana

INFOTERRA: 3140 3230 3330

DENMARK

2.01 Skovgardsvej 8 (P)

3460 - Birkerød

INFOTERRA: 1015 3720 3724
3746 3747

Developed a comprehensive energy town using solar, wind and biogas sources.

2.02 The Thy Project (V)

P.O. Box 13
7770 Vestorvig

Contact: Preben Mægaard

INFOTERRA: 1015 3720 6800

Promotes popular action for appropriate technology, alternative energy sources.

3.01 Akademiet F. de Tekniske (P)

Videnskaber
Launtoftevej 266
2800-Lyngby

INFOTERRA: 3746 3747

Works on wind and solar energy.

3.02 Bioteknisk Institut (N)

Holbergsvej
10 Kolding 6000

INFOTERRA: 1015 3215 3960
5362 5363 6271

Engaged in activities that involve energy saving dehydration systems, industrial processing of industrial waste, transportation, storage, processing of potatoes, utilizing straw for production of particle boards, cattle feed, single cell protein and cellulose.

3.03 Brandstrup Maskinverkssted (P)

Vindumvej 174
Brandstrup
8840 - Rødekaersbro

INFOTERRA: 3746

Interested in windmills that pump water.

3.04 Byggeteknisk Højskole (P)

Drejervej 17 1957 KBH V
Karlslunde

INFOTERRA: 1015 3720 3747

Interested in solar energy and other sources of energy.

3.05 Christoph Ullmans Maskinfabrik

Herlev Hovedgade 213
2730 - Herlev

INFOTERRA: 3747

Works on solar energy collectors.

3.06 Danish National Institute of Building Research (H)

7 Lundtoftevej
2800 Lyngby

Contact: Dr. P. Becher

INFOTERRA: 3140 3215 3230
3410

Studies aspects of building such as insulation, moisture, thermal capacity, solar radiation, engineering of heating and ventilation equipment.

3.07 F. L. Schmidt Concern (P)

SCT Klemensvej 69
5260 Hjallesø

INFOTERRA: 3746

Undertakes research in windpower.

- 3.08 Foreningen Folkets Okoteket (T)**
 Biblioteksgruppen
 Dronningensgade 14
 Dk. - 1420
 Copenhagen
 INFOTERRA: 1040 3720 3747
 6800 6980 7000
 Acts as information and coordination centre for ecology and alternative energy projects. Built solar collector, provides activities and bibliographics. A branch of Scandinavian Okoteket.
- 3.09 Institute for Development Studies (V)**
 104 Vestest Volgade
 Dk 1552
 Copenhagen V
 INFOTERRA: 1320 6810 6880
 6950
 Studies on promotion of small scale and craft industries in Kenya.
- 3.10 International Solar Powerco Ltd. (P)**
 Rosekaeret 22b
 2860 Soborg
 INFOTERRA: 3215 3747
 Develops flat plate collectors for home and industrial use.
- 3.11 Institute F. Samfundsfag (P)**
 Rosenborggd 15
 1130 KBH
 Contact: Mr. Dagmar Petersen
 INFOTERRA: 3720 6800
 Interested in alternative forms of energy.
- 3.12 Laboratoriet for Energiteknik (T)**
 Danmarks Tekniske Højskole
 Bygning 403
 Lyngby 2800
 INFOTERRA: 3720 3747 6990
 Developed an IT solar pump.
- 3.13 Niehls Bohrs Institute (P)**
 Blegdamsvej 17
 2100 KBH Ø
 Contact: Mr. Bengt Sorensen
 INFOTERRA: 1015 3720 3724
 3746 3747
- Interested in wind, solar energy and biogas, and creating an integrated system to serve Denmark's energy needs.
- 3.14 Nyborgvej (P)**
 5863 - Fjerritslen
 Fyn
 INFOTERRA: 3746
 Manufactures windmills.
- 3.15 Okoteket (X)**
 Vendersgade 8
 DK-1363
 Copenhagen K
 INFOTERRA: 1015 3720 4710
 5366 6800
 Involved in appropriate technology activities relating to energy biogas, biomass and alternative forms of energy, pollution and waste disposal.
- 3.16 Organisation en For Vedvarende Energi (Organisation for Continuing Sources of Energy) (P)**
 Arendalsgade 3 KLD
 2100 Copenhagen
 INFOTERRA: 3720 6980 6990
 7000 7021
 Provides information to the public on do-it-yourself activities, general policy; undertakes research and planning for local energy use; makes official contacts.
- 3.17 Peter Jensen and Sonner (P)**
 Kalkvaerksvej 12 B
 9900 Fredrikshavn
 Contact: Mr. Svend Jensen
 INFOTERRA: 3746
 Manufactures windmills.
- 3.18 Roskilde Universitet (P)**
 Senteret
 4000 Roskilde
 Contact: Mr. Oluf Danielsen
 INFOTERRA: 1015 3746 3747
 Interested in wind and solar energy.
- 3.19 SPARCO (P)**
 A/S Naesbjerg Maskinsenter
 6800 Varde

- INFOTERRA: 3746 6620
Works on windmills for pumping water.
- 3.20 **Tvindskilerne** (P)
Box 10
6990 Ulfborg
INFOTERRA: 3746
Interested in windmills.
- 3.21 **ŪNIMAY** (P)
De Forenede Maskinfabrikerne
Nakskov
Tolderlundsvej 2
5000 Odense
INFOTERRA: 3746
Works on windmills for pumping water.
- 3.22 **Vaerlose Gruppen** (P)
Christians Minde Vej 11
2100 KBH Ø
Contact: Mr. Erik Hannerik
INFOTERRA: 6810
Interested in low technology projects.
- 3.23 **Vester Hassing Strand** (P)
Alborg
Contact: Mr. Per Alling
INFOTERRA: 3215 3410
Interested in solar heating systems for houses.
- 3.24 **The Zero-Energy House** (K)
The Thermal Insulation Laboratory
Technical University of Denmark
2800 Lyngby
INFOTERRA: 3215 3270 3410
Designed a one family home with reference to energy conservation.
- 4.01 **Danish Building Research Institute**
Housing Department
SBI Postboks 119
DK-2970 Hørsholm
INFOTERRA: 3140 3230

4.02 **NOAH**

Radhusstraede 13
1466 Copenhagen K

4.03 **ØKO-RA**

Rebslagervej 11
2400 Copenhagen NV

4.04 **OOA**

Worsaaesvej 5
1972 Copenhagen V

4.05 **OVE**

Arendalsgade 3
2100 Copenhagen Ø

5.01 **Hans Kristensen**

Institute for Development Research
104 Vesten Voldgade
DK-1SS2
Copenhagen V

DOMINICAN REPUBLIC2.01 **VITA Dominicana** (T)

Apartado 227-2
Centro de los Héroes
Santo Domingo

Contact: Jose F. Bencosme

INFOTERRA: 2630 2640 2760
6800 6870 6960

Involved in projects using appropriate, locally made equipment for small-scale rabbit production and bee-keeping.

3.01 **Fundación Dominicana de Desarrollo** (T)

Calle Mercedes, Apt. 4
Apartado Postal 857
Santo Domingo

Contact: Mr. Bolivar Beez Ortiz,
Executive Director

INFOTERRA: 1180 1340 2630
6790 6800 6810
6840 6930 6941
6961

Provides credit to low-income groups to promote small-scale industries, such as crafts production and agricultural implement manufacturing.

ECUADOR2.01 **Centro de Capacitación Integrál del Campesino de Pastaza** (T)

Casilla 757
Puvo
Oriente

Contact: Guillermo Prentice

INFOTERRA: 2630 3960 6800
6900 6960

Promotes Appropriate Technology applications for animal drawn farm machinery, drainage techniques, and grain drying.

2.02 Servicio de Información Técnica (G)

P.O. Box 7198
Guayaquil

Contact: Victor Martinez

INFOTERRA: 4130 6790 6810
6990

Collects and disseminates information dealing with the small and medium size industrial sector; trains personnel in techniques of correct adaptation to local needs and implementation of technologies transferred from other countries.

2.03 Centro de Desarrollo Industrial Del Ecuador (S)

P.O. Box 7198
Guayaquil

Contact: Victor Martinez

INFOTERRA: 2015 4130 6800
6941

Works to develop industries in rural areas.

3.01 Programa de Promoción de Empresas Agropecuarias (PPEA) (T)

Guayaquil

INFOTERRA: 2620 2970 6960

Promotes modernization of coastal region farming through initiation and support of cooperatives.

EGYPT

1.01 National Research Centre/Office of the Transfer of Technology (T)

El-Tahrir Street
Dokki
Cairo

Contact: Prof. Mahmoud Abdel Halim Saleh

INFOTERRA: 1180 2910 3720
3840 3984 4091
6620 6790 6800

Undertakes research, development and application of Appropriate Technology projects for low-income communities, including small windmills and Humphrey pumps for irrigation (in consultation with ITDG), solar refrigerator prototypes, pulp and paper production, oil extraction from plants, and brick production.

2.01 Engineering and Industrial Design Development Centre (T)

P.O. Box 2767
Cairo

Contact: Dr. Yusef Mazhar, Director

INFOTERRA: 3120 4110 4115
6790 6800 6810
6840 6900 6941
6960

Offers mechanical, electrical and electronic engineering design service for industrial equipment and products, including indigenous technology improvement, prototype testing, general promotion and training. Publishes Brochures (Arabic and English), process sheets, field and progress reports, and magazine, *Industrial Development*, in Arabic.

3.01 Faculty of Arts (V)

Ain Shams University
Abbasiyah
Cairo

Contact: Mahmoud Auda

INFOTERRA: 6800 6810

Interested in traditional technology.

3.02 Systems Analysis of Mediterranean Desert Ecosystems of Northern Egypt (SAMDENE) (N)

P.O. Box 589
Alexandria 43855

Contact: Prof. M. A. Ayyad

INFOTERRA: 2640 2030

Work concerns dry farming and grazing rotation to improve the land.

4.01 Building Research Institute

Dokki
Cairo

4.02 City and Regional Planning Research

Azhar University
Cairo

4.03 Land and Water Development Office

Regional Office for the Near East
Cairo

4.04 National Research Centre

Agriculture Division
Plant Water Relation Unit
El Tahrir
Cairo

EL SALVADOR**2.01 VITA El Salvador (T)**

Apartado 421
San Salvador

Contact: Cesar Valle, Director

INFOTERRA: 1016 2630 3720
3742 3746 3747
6800

Proposes to start a small-scale Appropriate Technology centre with a focus on farm implements and alternative energy source development.

3.01 Fundación Salvadoreña de Desarrollo y Vivienda Mínima (T)

18 Avenida Norte 633
Apartado Postal (06) 421
San Salvador

Contact: José Roberto Castillo Paredes

INFOTERRA: 2155 3300 3330
6920

Constructs low-cost housing units in and around San Salvador.

3.02 Instituto De Vivienda Urbana (Institute of Urban Housing) (N)

Colonia Libertad
San Salvador

INFOTERRA: 3140 3150 3260
3300 3340 3410

Provides safe and economic housing to as many families as possible by utilizing soap stone, volcanic rock, clay and white sand for construction, and utilizing human resources in making mud and cement bricks and adobe structures.

4.01 The Institute of Urban Housing

San Salvador

5.01 F.A. Lara-Harrison

Universidad Centro-Americana
José Siméon Canas
San Salvador

INFOTERRA: 3120

ETHIOPIA**1.01 Appropriate Technology Unit (ATU)**

Institute of Agricultural Research (T)
P.O. Box 2003
Addis Ababa

INFOTERRA: 1015 2015 2790
2860 3630 3746
3980 4250 6620
6790 6800 7000

Produces an inventory and disseminates information on technologies appropriate to rural development in Ethiopia. Published Reports on the development of the Polomo Windmills in the Omo River valley for pumping water (an adaptation of the Crete sail windmill); bamboo piping; termite control; an oil barrel water filter; simple earth road construction; and soy bean use in traditional Ethiopian dishes.

1.02 Intermediate Technology Centre (S)

P.O. Box 10417
Addis Ababa

Contact: Tesea Negussie

INFOTERRA: 1015 2015 2630
3490 3746 6800
6810

Introduces simple technologies into rural areas; develops prototypes from other sources including smokeless stove, block press, electrical generator, windmill and bamboo boat.

2.01 Appropriate Technology for Farmers

P.O. Box 2003 (S)
Addis Ababa

Contact: E. S. Pearson

INFOTERRA: 2640 3746 6620

Works with local farmers on low-cost irrigation, hand pumps, animal wind and water powered pumps.

2.02 Chilago Agricultural Development Unit (C.A.D.U.) (N)

P.O. Box 3376
Addis Ababa

INFOTERRA: 2015 2630 4113
4130 6810

Works to improve farm implements and small-scale industries in rural settings.

2.03 Department of Engineering (T)

Faculty of Technology
National University
Addis Ababa

Contact: The Department Head

INFOTERRA: 2015 6620 6810

Experiments on small-scale technologies applicable to rural Ethiopia, particularly with regard to water lifting devices.

2.04 Village Technology Innovation Experiment (N)

P.O. Box 31
Goat Hill
Addis Ababa

INFOTERRA: 2015 2700 2760
3746 4130 6800
6810

Involved in many aspects of rural technologies including windmills, forestry, animal husbandry and cottage industries.

3.01 African Rural Housing Association (G)

P.O. Box 2240
Addis Ababa

INFOTERRA: 2015 3150 3230
6980 6990 7000

Acts as a clearing house for information on housing in rural areas, using local materials.

3.02 African Training and Research Centre for Women (ATRCW) (T)

UN Economic Commission for Africa
(UNECA)

P.O. Box 3001
Addis Ababa

Contact: Dr. Marilyn Carr, Dr. Margret Snyder

INFOTERRA: 1165 2015 6790
6800

Identifies major needs and difficulties of rural women in Africa, and suggests ways to counter these problems, frequently including a strong Appropriate Technology component. Field and project reports available upon request.

3.03 Economic Commission for Africa, Science and Technology Unit (V)

P.O. Box 3001
Addis Ababa

Contact: Professor Lartey

INFOTERRA: 2015 6800 6980

Publishes *Rural Progress*.

3.04 Institute of Development Research (G)

P.O. Box 1176
Addis Ababa University
Addis Ababa

INFOTERRA: 1180 1580 1640
2015 2640 3260
3300 6960

Develops agricultural, housing and health delivery systems for the poor.

3.05 Service of Documentation and Communication for Development (V)

P.O. Box 5788
Addis Ababa

INFOTERRA: 2015 6960 6980
6990

Publishes *Ethiopia's Development, Current Abstracts*.

4.01 Institute of Agricultural Research

Addis Ababa

INFOTERRA: 2620

5.01 Dr. A. Banjo

Science and Technology Section
UN Economic Commission for Africa
P.O. Box 3005
Addis Ababa

INFOTERRA: 2015 6800 6810

Interested in rural technology.

5.02 T. H. Jackson

F.A.O. Horticulturist
Institute of Agricultural Research
P.O. Box 103
Nazareth

INFOTERRA: 2620

Interested in agriculture and dehydration.

5.03 Gerard Saunier

ECA
P.O. Box 3005
Addis Ababa

INFOTERRA: 1015 3747

Regional advisor on solar energy.

5.04 Demeke Tekle-Wold

Small-scale and Handicraft Industries
Ministry of Commerce, Industry and
Tourism
P.O. Box 1769

INFOTERRA: 2015 6800 6810

Interested in rural technology.

FIJI

2.01 School of Natural Resources (T)

University of the South Pacific
Lavcala Bay
P.O. Box 1168
Suva

Contact: Prof. A. J. Dandy

INFOTERRA: 1010 1011 1013
1015 1040 6790
6800 6900 6990
7000

Advocates improved utilization of local natural resources through the application of appropriate technologies.

FINLAND

4.01 BIOS r.y.

Mannerheim 56 B 15
SF-0026 Helsinki 26

FRANCE

2.01 Centre d'Etudes et d'Experimentation du
Machinisme Agricole Tropical (CEEMAT) (T)

Parc de Tourvoie
92 Antony
Hauts de Seine

Contact: Monsieur Henri Bichat

INFOTERRA: 1011 2630 3724
3746 4113 6790
6800 6880 6900
6990 7000

Provides research and advisory services on agricultural mechanization in tropical zones, with a strong, appropriate application of technology. Also collects documentation on animal traction, wind energy and methane gas production. Publishes a quarterly and a number of specialist, non-periodical studies on agricultural mechanization in tropical countries.

2.02 Centre International de Recherche Sur
l'Environnement et le Developpement
(CIRED) (N)

54, Boulevard Raspail
75270 Paris Cedex 06

Contact: Ignacy Sachs, Daniel Thery

INFOTERRA: 1015 1060 1701
3150 3720 3740
3746 3747 6800
6810 6941 6950
7040

Concerned with development and growth impact on environment in Third World countries, alternative energy in the Third World, development projects derived from ecological surroundings, eco-development, soft technology, appropriate technology, housing using local materials. Publishes *Ecodevelopment Newsletter*.

2.03 CINAM (A)

Etudes Industrielles et d'Aménagement
du Territoire
3, Place des Victoires
75001 Paris

INFOTERRA: 1165 1300 1640
2015 2630 3150
4000 6800 6810
6870 6950

Involved in development activities in over forty countries, usually in conjunction

with national governments or international organizations. Aims to promote self-development within the Third World through utilization of appropriate technologies and practices. Sponsors small workshops to help manufacture prototype materials for local development and to maintain them and provide employment and training for rural labourers. Activities include an integrated development programme for children, youth and women with UNICEF, development of a versatile tractor in Ivory Coast, health and nutrition seminars and programmes in several Third World countries, research to identify useful traditional technologies in Mali, and many others.

2.04 Group de Recherches et d'Echanges sur les Techniques (T)

34 rue Dumont d'Urville
75116 Paris

Contact: Monsieur Jean Collombon

INFOTERRA: 2015 6790 6800
6810 6960 6990
7000

Maintains an encyclopedic information system on rural development technology, much of which is not available in orthodox literature. Data is constantly updated and circulated to individuals and organizations involved in the rural development field.

2.05 International Federation of Organic Agricultural Movements (A)

c/o Nature et Progrès
3 Chemin de la Bergerie
91700 Ste. Geneviève-Bois

INFOTERRA: 1000 1010 1921
1930 2030 2620
2640 6271 6880
6980 6990 7002

Links up the various currents of development toward agricultural alternatives: Land-use patterns, conserving soil fertility and other natural resources and eliminating energy abuses associated with industrial agriculture. Presents the work of its 50 affiliated organizations to the world through a quarterly newsletter to alert people about the agricultural options in social development available to them.

3.01 Action Spécifique Energie Solaire (T)

Centre National de la Recherche
Scientifique
27 rue Paulbert
94200 Iury

INFOTERRA: 1015 3747 6990

Interested in research and development on solar energy applications.

3.02 ARES, Application de Recherches Sur L'Energie Et La Société (A)

1, Rue des Nobles
31420 Aurignac

INFOTERRA: 1015 3011 3720
4960 6900 7040
7050

Involved in research, application and implementation of research in the field of energy and its relationship to society. Undertakes such studies as socio-economy of energy, market studies, also initiates and organizes training sessions, workshops and exhibits and offers consultancy in various fields of energy, pollution, aquaculture and others.

3.03 Association des Amis des Moulins a Vent (T)

Musee des Arts et des Traditions
Populaires
6 route du Mahatma Gandhi
75016 Paris

INFOTERRA: 3746 6790 6800

Promotes existing and innovative wind-mill technologies.

3.04 Association Francaise de Cooperation et de Promotion d'Entreprises Artisanales (V)

12 rue Marceau
75008, Paris

INFOTERRA: 6810 6900

Provides assistance for craft industries.

3.05 Association pour le Developpement et l'Experimentation des Techniques et Energies Nouvelles (V)

Rue Lesdignieres
Grenoble

Contact: Francois Vitoux

INFOTERRA: 1015 3720

- 3.06 Association Francaise pour l'Etude et le Developpement des Applications de l'Energie Solaire (T)**
28 rue de la Source
75016 Paris
INFOTERRA: 1015 3747 6800
Interested in research and development on solar energy applications.
- 3.07 Bureau Central d'Etudes pour les Equipements d'Outre-Mer (Y)**
15, Square Max Hymans
75015 Paris
INFOTERRA: 1060 1640 1970
2155 2820 2826
2910 3110 3215
3300 3580 4113
4165 4250 5360
5440 6880 6950
Undertakes activities with the purpose of helping the development of emerging countries. It has special departments of Transport, Housing and Urban Development, Rural Development and Water Management, Environmental Problems and Training of Training officers.
- 3.08 Centre d'Echanges et Promotion des Artisans en Zones à Equiper (CEPAZ) (G)**
2 rue d'Hauteville
75010 Paris
Contact: B. Clamagirand
INFOTERRA: 2620 2640 2820
3982 4131 6790
6810 6900 6950
6960
Volunteer organization which offers expertise on wood and metal working, agricultural techniques, food industries, solar energy and water supplies to local entrepreneurs in developing countries during one week to three month assignments. Working on educational film concerning solar ovens for villagers in developing countries.
- 3.09 Centre International Pour Le Developpement Agricole (N)**
19 Rue Dufrenoy
75116 Paris
INFOTERRA: 2300 2620 6271
Carries out studies on agricultural development, land reclamation, waste utilization.
- 3.10 Centre National de Recherche Scientifique (CNRS) (C)**
Solar Energy Laboratory
Odeillo, Pyrenées
INFOTERRA: 3215
Built solar wall and solar furnace.
- 3.11 Centre Technique Forestier Tropical (V)**
45 bis Avenue de la Belle Gabrielle
94130 Nogent-sur-Marne
INFOTERRA: 2673 2700 4021
Publishes fish farming handbook and offers advice and assistance on production and use of wood products.
- 3.12 Compagnie Internationale de Developpement Regional (CIDR) (I)**
33 rue Marbeuf
Paris 75008
Contact: Monsieur Pierre Garrigues
INFOTERRA: 1540 1563 2015
3260 3360 4130
4150 6790 6800
6900
Involved in rural and regional development, industry, commerce and marketing, cooperatives, savings and credit, housing and town planning, social welfare (including medicine), general training and disaster relief. Strong commitment to an Appropriate Technology component in programme, technically supported by a workshop in Autrechtes.
- 3.13 Coopération Méditerranéenne pour l'Energie Solaire (COMPLES) (T)**
32 Course Pierre Paquet
13006 Marseille
INFOTERRA: 1015 3215 3747
6980 6990 7002
Collects and disseminates information on theoretical and practical applications for solar energy. Publishes *Bulletin de la Complex*.
- 3.14 Délégation aux Energies Nouvelles (T)**
13 rue de Bourgogne
75007 Paris

- INFOTERRA: 3720 6790 6800
6900
- Promotes applications for new energy sources.
- 3.15 Ecole Nationale Supérieure des Industries Alimentaires (ENSIA) (V)**
- Avenue des Olympiades
91305, Massy
- Contact: Bernard Guerin, Joseph Hosenlop
- INFOTERRA: 3960
- Interested in small-scale pressing and in sugar processing.
- 3.16 Groupe d'Etude de la Maison Ecologique (T)**
- 84 bis, rue de Grenelle
75207 Paris
- INFOTERRA: 3100 3140 3300
6800 6990 7000
- Promotes research and development on low cost, environmentally integrated housing.
- 3.17 Hydro M Bureau d'étude et d'aménagement des eaux et de l'environnement (A)**
- 39 rue Croix Baragnon
31000 Toulouse
- INFOTERRA: 1011 2673 2910
2970 3011 4960
6860 7040
- Offers consultancy in: management of aquatic ecosystems, water pollution and control, fish farming and aquaculture, inland and coastal fisheries, applied research on water, irrigation and drainage, environmental studies. Conceives and organizes training sessions and conferences, undertakes many studies, development projects, experiments and pilot researches. Operates laboratory and experimental farm.
- 3.18 Institut d'Elevage et de Médecine Vétérinaire des Pays Tropicaux (V)**
- 10, rue Pierre Curie
Maisons Alfort
- Contact: M. Boudet
- INFOTERRA: 2521 2810 6900
6950
- Produces handbooks on livestock raising and pastureland management and offers advice and assistance on projects.
- 3.19 Institut International de Recherche et de Formation (IRFED) (V)**
- 49, rue de la Glacière
75013 Paris
- Contact: Antoine Richard
- INFOTERRA: 6800 7050
- Established training centre and involved in various aspects of appropriate technology.
- 3.20 Laboratoire de la Roquette (Laboratory of Roquette) (N)**
- 34190 Saint Bazuille de Putois
- INFOTERRA: 3724 3980 4000
6880 6950
- Developed and is now promoting the use of blue seaweed, rich in protein, to supplement the diet of Third World villagers suffering from malnutrition. The algae basin is integrated to the sanitary system and to a biogas generator which helps ensure both health and supply of fuel.
- 3.21 Nature et Vie (N)**
- 13 rue du Village Kervénanec
5600 Lorient
Bretagne
- INFOTERRA: 2620 2640 6800
6810
- Interested in village technology and agriculture.
- 3.22 Secrétariat des Missions d'Urbanisme et d'Habitat (V)**
- Secteur Formation
80, rue de Turenne
Paris
- INFOTERRA: 1640 1970 2155
2820 6880 6950
- Trains Third World staff in urban problem solving, especially in water supply, sanitation, ward planning. Publishes instruction manuals.
- 3.23 Société Française d'Etudes Thermiques et d'Energie Solaire (SOFRETES) (T)**
- Zone Industrielle d'Amilly
B.P. 163
45203 Montargis

INFOTERRA: 3747 6990

Promotes research and development on solar energy applications in regard to heat production for pumping water for irrigation.

3.24 United Nations Educational, Scientific and Cultural Organization (UNESCO) (T)

7 Place de Fontenoy
75007 Paris

INFOTERRA: 6790 6880 6900
6920 6950 7000

Provides funds for educational programmes including an Appropriate Technology component. Publishes *Bulletin of the Regional Office of Science and Technology for Africa; Impact of Science and Technology on Society* (quarterly); *Appropriate Technology – Problems and Promises* by Nicholas Jequier.

3.25 World Federation of Engineering Organizations (WFEO) (Y)

19, rue Blanche
75009 Paris

INFOTERRA: 6790 6800 6840
6880 6900 6950
6990

Works through permanent committees in the following areas: transfer of appropriate technologies, training and education of engineers, and technical information.

4.01 Alternative et Technologie

BP 51
75861 Paris – Cedex 18
INFOTERRA: 6800

4.02 The European Centre for Environmental Problems

141 Boulevard Saint Germain
75006 Paris

4.03 CINAM – Cellule de Recherche en Technologies (CERTA)

La Pierre
01730 Bregnier – Cordon

Contact: Marc Ogier
INFOTERRA: 6785 6800

4.04 Institute for Ecodevelopment Studies (I. Sachs Institute)

Paris

5.01 Phillipe Arreteau

Pazanam 07230
Lablachère

INFOTERRA: 2015 6960
Interested in rural development.

5.02 Paul Bourrieres

28, Avenue de Saxe
75007 Paris

INFOTERRA: 1011 1970 2820
6790 6840

Interested in transfer of appropriate technologies and water resource development.

5.03 René Bovet

Université de Paris Val de Marne
Ave. Charles de Gaulle
94010 – Créteil

INFOTERRA: 1015 3720 6800

Involved in research on alternative energies and ecosystems.

5.04 J. M. Collombon

54 rue de Varenne 75007
Paris

INFOTERRA: 2015 6960

Interested in rural development.

5.05 Genevieve Dean

OECD Development Centre
94, rue Chardon-Lagache
75016 Paris

5.06 Monsieur Daniel Fargeas

“Fiches Ecologiques”
Village de Vingrau
66600 Rivesaltes

INFOTERRA: 6800

Produces a wide range of ecology information sheets, many concerning low-cost, non-violent technologies.

5.07 A. Grelin

73 Arbin par Montmelian
Lyon

INFOTERRA: 2630

Interested in agricultural tools.

5.08 Pompes Guinard

Dept. Energie Solaire
79 Bld. St. Denis
92400 - Courbevoie

INFOTERRA: 3747

5.09 Jacques Michel

14 rue des Poissoniers
92204 Neuilly sur Seine

INFOTERRA: 3215

Originator of the passive solar wall.

5.10 Jean Nolle

19 Ave. du General Leclerc
Paris

INFOTERRA: 2630

Interested in agricultural equipment.

5.11 Francois de Ravignan

Ecussols
St. Pierre le Vieux
71520

INFOTERRA: 6810

An agronomist who proposes the use of improved endogenous technologies.

5.12 Jean Sahores

64160 - Burres

INFOTERRA: 1015 3746 6880

Builds windmills now in use in the Sahel.

GAMBIA

3.01 Department of Agriculture (R)

The Quadrangle
Banjul

INFOTERRA: 2630

Determines what kind of agricultural tools should be used during the policy of phased agricultural mechanization.

3.02 Indigenous Enterprises Advisory Scheme (R)

c/o Ministry of Economic Planning and Industrial Development
Marina
Banjul

INFOTERRA:	6790	6800	6810
	6840	6900	6941
	6960	7000	

Provides managerial and technical advice to local small-scale entrepreneurs and promotes labour intensity and appropriate technology.

GERMAN DEMOCRATIC REPUBLIC

3.01 Ministry for Environment Protection and Water Management

Schellerstrasse 140
Berlin 119

Contact: Director, Institute of Water Management

INFOTERRA:	1015	3990	4940
	5480	5481	6500
	6800	6840	7050

Higher educational institute which maintains information on the development of low-waste technologies in the field of material and energy transformation, the reduction of pollutant emission by further and new development of technological processes, production of re-usable waste material.

FEDERAL REPUBLIC OF GERMANY

1.01 Technology Transfer Coordination Centre (T)

c/o IPA
Holzgartnerstrasse 17
D-7000 Stuttgart 1

Contact: Gotz F. Pflieger

INFOTERRA:	6790	6800	6810
	6840	6880	6950
	6990	7000	

Promotes technology research and development and keeps up-to-date inventories to increase the level of technology transfer to lesser developed countries. Matches project requirements in developing countries with technical resources in the Federal Republic, stimulating research

and development where gaps occur. Also encourages research and development efforts in the developing countries themselves, acting in a consultant capacity when required. Developed a low-cost motorcycle, of which study details are available.

1.02 German Appropriate Technology Exchange (GATE) (A)

Dag-Hammarskjold-Weg 1, 6236
Eschborn 1

INFOTERRA: 4130 6800 6810
6840 6880 6950

Offers information on appropriate technologies to all public and private development institutions, especially those institutions in developing countries. When the technological requirement relates to industrial expertise which can best be transferred through cooperation with industrial enterprises, promotes cooperation between entrepreneurs in developing and industrialized countries.

2.01 Consultants for Appropriate Technologies (CAT) (T)

Etzenbach 16
D-7813 Staufen

Contact: M. Zipperer/Gmbtt., Director,
Ingenieurburo

INFOTERRA: 6790 6800 6880
6900

Offers technical advisory service to organizations involved in Third World development.

2.02 Freework (C)

6501 Ober-Olm
Obergasse 30

Contact: Peter Meyer

INFOTERRA: 6800

Develops alternative technologies.

3.01 Forschungsinstitut für Internationale Technische-Wirtschaftliche Zusammenarbeit (T)

(Research Institute for International
Techno-Economic Cooperation)
Technischen Hochschule Aachen
Henricistr. 50
5100 Aachen
Vereinsstrasse 305

Contact: Prof. Dr. -Ing. H. A. Hauemann,
Director

INFOTERRA: 3720 6272 6880
6900 6960 6990
7000

Researches documents and disseminates material relating to economic aspects of technology transfer. Study of the control of the water hyacinth and converting it for fuel, food, fertilizer and energy production.

3.02 German Development Assistance for Social Housing (G)

Bismarckstrasse 7
D-500 Koln 1

INFOTERRA: 3300 6880 6950
6980

Promotes low-cost housing for developing countries and produces a bi-monthly newsletter obtained free of charge.

3.03 Information and Consultation (G)

6111 Heubach Embergerstrasse 16
Bundesrepublik

INFOTERRA: 2480 2640 6800
6880

In conjunction with the Hebrew University of Jerusalem, analyzes the ancient technologies used in the Negev Desert. The techniques of "run-off" farming have been tested.

3.04 Initiativgruppe Atomkraftwerk Wyhl Gegen Umweltgefahrung (W)

Hauptstr. 16
Wyhl A.K. D-7831

Contact: Jurgen Nossler, President

INFOTERRA: 1010 1015 2030
2190 2820 3720
3743 3747 4130
6800

Carries out scientific studies on dangers and risks of nuclear energy, mobilizes public opinion against the construction of an atomic energy plant at Wyhl, advocates the use of solar energy as an alternative source of power.

3.05 Institute for Building in the Tropics (Institut für Tropenbau) (N)

Waldschmiedstr. 6A

Starnberg 8130

Contact: Mr. Mukerji

INFOTERRA: 1015 1300 3140
3150 5151 6900
6950

Undertakes research on all aspects of planning and building in the tropics. Also undertakes technical aid projects with a view to local labour capacity and expertise, minimizing unnecessary technical installations by appropriate planning (for example cross-ventilation, sun-shading, utilization of non-polluting energy sources).

3.06 Katalyse Technikerguppe (C)

Karl Barth Haus
43 Essen 1
Wittenberg Str 14-16

INFOTERRA: 6800 6980 6990
7000

Organized large conference on Alternative Technology.

3.07 Phillips Forschungslaboratorium (P)

Aachen
Weissshausstrasse

Contact: Dr. Hoester

INFOTERRA: 3215 3410 3747

Interested in solar houses.

3.08 Scientific Research Institute for Wind Energy Techniques (T)

Institute of Applied Science
University of Stuttgart
E.U., Pfaffenwaldring 31
D-7000 Stuttgart 80

INFOTERRA: 3720 6990

Undertakes research and development on wind energy technology applications.

3.09 World Association for Element Building and Prefabrication (G)

Schlueterstrasse 6
D-2000 Hamburg 13

INFOTERRA: 1300 3290 3300
6800 6810 6880
6950

Holds conferences on prefabrication as a low-cost, labour intensive technology for developing countries.

4.01 Boden und Gesundheit

Postfach 19
D-7183 Langenburg
Wurttemberg

5.01 J. Beckel

Research Institute for International
Techno-Economic Cooperation
Technical University Aachen
Theatinerstrasse 88
D-5100 Aachen

INFOTERRA: 6785 6800 6840

5.02 Hans-Christoph Scharpf

Dorfstrasse 18
D-3012 Langenhagen 8

INFOTERRA: 2620 6272

Interested in organic farming.

5.03 M.F. Ziemek

Planungsgruppe ritter
Development Consultants
Wiesbadenerstrasse 92
D-6240 Konigstein im Taunus

2.03 German Foundation for International Development (N)

1 Berlin 27
Reiherwerder,
Berlin

INFOTERRA: 2015 6800

Funds seminars on Appropriate Technology and rural development.

2.04 Interdisziplinare Projektgruppe fur Angepasste Technologie (T)

Technische Universitat
Str. des 17 Juni 135
D-1000 Berlin 12

Contact: Herr Peter Bade, Dipl. Ing.

INFOTERRA: 1015 3720 6620
6990

Undertakes research and development on wind-power applications for deep well pumping, alternative forms of energy, waste treatment.

2.05 Prokol Group (C)

c/o Peter Owsianowski
1 Berlin 12
Syuelstrasse 46

INFOTERRA: 1000 6800 6880
6950

Develops alternative technologies for the first and third world. Published *The Gentle Way*, a book about technology in a new society.

5.04 Mr. Merchert

German Foundation for International Development
1 Berlin 27
Reiherwerder
Berlin

INFOTERRA: 6800

Organizes Appropriate Technology seminars.

The interests of Berlin (West) are represented in UNEP by the Federal Republic of Germany.

GHANA

1.01 Technology Consultancy Centre (TCC) (T)

University of Science and Technology
University Post Office
Kumasi

Contact: Dr. Ben Ntim

INFOTERRA: 1300 3820 4021
4070 4132 6790
6800 6810 6840
6860 6900 6990
7000

Performs a number of inter-related functions directed primarily towards local craftsmen, entrepreneurs and small-scale industries: (a) it provides technical and commercial consulting services for small-scale industries and government agencies and departments; (b) develops and tests new products and processes; (c) implements pilot production units to prove new processes. Village industry products assisted include woodworking, textile, pottery, brass casting, glass bead production, leather bags, rubber moulding, coconut by-products, cosmetic powder, oil and citrus plantations. The largest single project is a pilot soap plant producing 200-250 bars a day. Publishes a quarterly newsletter and occasional reports on specific projects.

2.01 Centre for Research and Development in Housing, Planning and Building (N)

Faculty of Architecture
University of Science and Technology
Kumasi

INFOTERRA: 3140 3150 3230
3260 3300 3330
4021 6980 6990

Involved in urban and rural housing development; develops alternative materials and components, tools and techniques; interested in timber utilization; disseminates information.

2.02 Ghana Rural Reconstruction Movement (V)

Yensi Centre
Box 14
Mampong-Akwapa

Contact: Isaiah Koffi Appials

INFOTERRA: 2015 6790 6800
6840 6870 6960

Voluntary group with an interest in appropriate technology applications for rural development.

2.03 Operation Help Nima (N)

P.O. Box 37
Nima

INFOTERRA: 3150 3230 3260
3300 3330

Undertakes research on housing design and low-cost construction techniques and technology.

3.01 Agricultural Engineers Limited (V)

P.O. Box 3707
Accra

INFOTERRA: 2630

Designs and produces small-scale oil processing equipment and modern animal drawn equipment.

3.02 Building and Roads Research Institute (V)

U.S.T.
P.O. Box 40
Kumasi

Contact: J. W. S. de Graft Johnson

INFOTERRA: 3140 3150 3580
3840

- Involved with prototype brick works, building materials and roads.
- 3.03 Centre for Research into Plant Medicine (V)**
Mampong Akwapim Community Centre
Mampong Akwapim
Contact: Oku Ampofo
INFOTERRA: 1590
Researches and tests medicinal plants.
- 3.04 FAO Regional Office (V)**
P.O. Box 1628
Accra
INFOTERRA: 2630 3723 3960
Involved in food processing, charcoal production and animal drawn equipment.
- 3.05 Ghanaian-German Agricultural Development Project (V)**
P.O. Box 171
Tamale
INFOTERRA: 2630
Produces animal drawn equipment; works to popularize the equipment and bullock training.
- 3.06 Volta River Authority (V)**
P.O. Box 88
Akonsombo
Contact: M. Mensalo
INFOTERRA: 3961 3990 7150
Interested in methods of fish drying and smoking.
- 4.01 Crops Research Institute (V)**
Kumasi
Contact: Dr. W. K. Agble
INFOTERRA: 2640 2660
- 4.02 Food Research Institute**
Box M20
Accra
Contact: S. E. M. Bartels
- 4.03 Forest Products Research Institute**
University of Science and Technology
Kumasi
- Contact: F. W. Addo-Ashong
- 5.01 J. K. Amoah**
Faculty of Art
University of Science and Technology
Kumasi
INFOTERRA: 2015 4130 6810
Interested in village industries.
- 5.02 D. B. Ampratwum**
Faculty of Agriculture
University of Ghana
Legon
INFOTERRA: 2620
- 5.03 J. Bech**
Department of Housing and Planning
Research
Faculty of Architecture
University of Science and Technology
Kumasi
INFOTERRA: 3140 3150 3230
3300
- 5.04 A. K. N. Berkoh**
Department of Industrial Art
College of Art
University of Science and Technology
Kumasi
INFOTERRA: 2015 4130 6810
Interested in village industries.
- 5.05 E. Bortei-Doku**
Faculty of Architecture
University of Ghana
Legon
INFOTERRA: 3140 3150 3230
3300
- 5.06 Prof. L. Christians**
Department of Architecture
University of Science and Technology
Kumasi
INFOTERRA: 3140 3150 3230
3300
- 5.07 G. H. Eckel**
Ministry of Industries
P.O. Box M 39
Accra
INFOTERRA: 4130 6800 6810

5.08 Prof. G. J. J. Hunt

Department of Building Technology
Faculty of Architecture
University of Science and Technology
Kumasi

INFOTERRA: 3140 3150 3230
3300

Interested in building and housing.

5.09 B. Teichert

Evangelical Presbyterian Church
Social Centre
P.O. Box 224
Ho, Volta Region

5.10 Dr. Gracca Tetteh

Department of Nutrition
University of Ghana
Legon

INFOTERRA: 2640 2660 3980
6800

Develops appropriate techniques for nut grinding and researches applications for nut protein.

GILBERT ISLANDS (U.K.)

3.01 The Tungavalu Society (N)

P.O. Box 231
Bikenibeu, Tarawa
The Gilbert Islands
Central Pacific (U.K.)

INFOTERRA: 1130 3230 6810
6990 7000

Promotes the knowledge and use of traditional skills such as in building houses and canoes; produced booklet on Gilbertese recipes and skills (making fishing nets and weaving mats, e.g.).

GUATEMALA

1.01 Centro Mesoamericano de Estudios Sobre Tecnología Apropriada (CEMAT) (A)

8a Calle 6-06 Z
1 Edificio Elma Apto 602
Aptdo Postal 1160

INFOTERRA: 1180 1540 1590
3140 3724 6790
6800 6810 6840
6960 7000 7002

Aims to help the economic development and the technical cooperation and social progress of Guatemala and other Central American countries participating in the task of national reconstruction following the 1976 earthquake. Also aims to promote and systematize the transfer of appropriate technology and scientific investigations, to develop and implement appropriate technology projects and to promote communication about appropriate technology throughout the country. Activities include establishment of a centre in alternative medicine, work on building materials, study of alternative energy, biogas, establishment of a documentation centre, organization of seminars and many more.

1.02 Estación Experimental Choqui (T)

Apartado Postal 159
Quezaltenago

Contact: Hugo Pineda, Manuel Tay

INFOTERRA: 1015 2510 2640
3215 3490 3551
3720 3724 3746
3747 6790 6800
6840 6860 6900
6990

Appropriate Technology workshop which develops and tests solar water heaters, methane digesters, green houses, wind generator, mud stoves, and uses of indigenous plants. Aims to promote the rational use of natural resources.

Publishes: Leaflets on the *Lorena Mud Stove*, available in English and Spanish.

3.01 Diocese of New Uhm (T)

San Lucas Toliman
Solola

INFOTERRA: 2673 6800 6810
6870

Interested in community development, applying low-cost technology particularly in regard to land terracing and fish-farming.

3.02 Instituto Centroamericano de Investigación y Tecnología Industrial (ICAITI) (A)

Avenida La Reforma, Zona 10
Apartado Postal 1552
Guatemala

INFOTERRA: 1010 4130 6800
6840 6950 6960

3.03 Producciones Carlos Campesino (PCC) (M)

Apartado 2444
Guatemala City

INFOTERRA: 6810

Produces two inexpensive projectors that run on batteries to be used in rural areas.

impact of large engineering works, delicate and endangered wild life species of Guyana, bio-spheres, national parks, wildlife sanctuaries.

3.02 Small Industry Corporation (O)

229 South Street
Lacytown
Georgetown

INFOTERRA: 2015 4130 6810

Works with small non-agricultural industries.

GUINEA

3.01 AGRIMA (V)

B.P. 309
Conakry

Contact: Kerfala Cisse Mandemory

INFOTERRA: 2630

Imports, distributes and maintains small-scale agricultural and processing machinery.

3.02 Faculté des Sciences Techniques (V)

Conakry

Contact: Almamy Diaby

INFOTERRA: 2630 6810

Designs and produces maize shelling and grinding machines and has produced a concrete block press.

4.01 Institut National de la Médecine Traditionnelle (V)

Conakry

Contact: Dr. Gbanasse

INFOTERRA: 1590

GUYANA

3.01 National Science Research Council (A)

Man and Biosphere Committee (MAB)
44 Pere Street
Kitty Greater Georgetown

INFOTERRA: 1060 2015 2190
2450 3300

Actively involved in work in the areas of: rural settlement schemes, environmental

HONDURAS

1.01 Centro Cooperativo Técnico Industrial (CCTI) (T)

Av. La Paz 407
Apartado Postal 938
Tegucigalpa

Contact: Sra. Dorcas Canterero de Gonzales, Director

INFOTERRA: 3723 4024 6790
6800 6941 6960
6990 7000

Advises cooperatives on low-cost lime kilns, the utilization of sawdust, the manufacture of charcoal, and salt extraction through the use of solar energy.

2.01 VITA Honduras

Apartado Postal 786
Altos de la Urbana
Tegucigalpa

Contact: Hector Mindence, Director

INFOTERRA: 2015 2630 6790
6800 6840 6900
7000

A VITA counterpart, active in Appropriate Technology development and applications for local needs (including experimental farm equipment for peasants).

3.01 Centro de Información Industrial (T)

Universidad Nacional Autónoma de Honduras (UNAH)
Tegucigalpa, D

Contact: Tito Hernandez Iglesias, Sub-Director

INFOTERRA:	2015	3747	6790
	6800	6810	6900
	6941	6960	6990
	7000		

Promotes low-cost technology applications for rural industries through information dissemination; interested in utilization of solar energy.

INDIA

1.01 Appropriate Technology Cell (ATC) (T)

Ministry of Industry and Civil Supplies
Udyog Bhavan
New Delhi

INFOTERRA:	2015	2620	2630
	2672	3300	3960
	3961	4021	4070
	4250	6790	6800
	6810	6840	6850

Develops and promotes appropriate technologies to improve productivity and profitability of rural artisan and small-scale industrial units. The Cell constituted working groups for in-depth study of the following areas: agricultural implements and tools; food processing and fruit preservation; small-scale dairy plants; carpentry, wood seasoning and furniture production; tanning, footwear and leather goods. The Cell has identified three improved agricultural implements of which prototypes are being fabricated for demonstration in collaboration with the Indian Agricultural Research Institute and a private firm: a single-row, manually operated seed-with-fertilizer drill; a three-row bullock-drawn plough attachment; and a three-row multi-grain drill. Appropriate Technology Cell is also promoting a more efficient "sigree" (Stove) design, simple electrification of the potter's wheel, efficient house and road construction techniques using locally available materials and skills, and oil-extraction machinery.

1.02 Appropriate Technology Development Association (ATDA) (T)

Post Box 311
Gandhi Bhavan
Lucknow 226 001
Uttar Pradesh

Contact: Shri M. M. Hoda,
Executive Director

INFOTERRA:	1890	2015	2630
	3150	3724	3746
	3747	3820	3840
	4132	6620	6790
	6800	6830	6840
	6850	6900	6941
	6990	7000	

Identifies needs for improved rural technologies. Promotes research and development, field testing and demonstrations and disseminates results. Work concerns seed drills, soil testing kits, cycle rickshaws, solar collectors, windmill pumps, and a casuarina oil expeller. Current small-scale industry projects include: ceramics, portland cement manufacture (20-30 tons per day); cotton-spinning; sugar refining plants. Published *Appropriate Technology: A Directory of Machines, Tools, Plant Equipment, Processes and Industries* (1977), *Directory of Indian Appropriate Technology Institutions*; guides to proven rural technologies in India; and guides to areas for further research.

1.03 Cell for the Application of Science and Technology to Rural Areas (ASTRA) (T)

Indian Institute of Science
Bangalore 560 012

Contact: Prof. K. K. Prasad,
Acting Director

INFOTERRA:	1015	2015	2630
	3150	3300	3720
	3724	3746	3747
	3840	6620	6790
	6800	6840	6900
	6990	7000	

Students and senior faculty members use a multi-disciplinary approach to research, develop and test low-cost technology as applied to rural areas. Work undertaken includes: windmills; hand-pumps; bullock-carts; bicycles; rural housing; biogas plants; small-scale lime pozzolana cement plants; sodium silicate extraction from rice husks; solar air-conditioning; vapour pulse pumps; Fluidyne engines and Humphrey pumps. An extension centre has been established in Ungra village (115 km from Bangalore) to help identify needs, field-test new technologies, and promote Appropriate Technology.

1.04 Shahdol Appropriate Technology Unit

(R)
Vidushak Karkhana
Anuppur
District Shahdol
Madya Pradesh 484 224

INFOTERRA: 2630 3840 5481
6271 6620 6800
6810

Designs prototypes of bullock carts, seed drills, mobile pump-sets, rice-husk-ash cement units; repairs and maintains agricultural and small industrial equipment.

2.01 Agricultural Tool Research Centre (G)

P.O. Box 4
Bardoli 394 601
Gujarat

Contact: Mohan Parikh

INFOTERRA: 2630 3215 3720
3724 6800 6810

Technical School which designs agricultural hand tools. Also concerned with appropriate production of methane gas from organic waste and new designs of solar ovens.

2.02 All India Khadi and Village Industries Commission (KVIC) (T)

Gramodaya
3 Irla Road
Vile Parle (West)
Bombay 400 056

Contact: Som Dutt, Chairman

INFOTERRA: 2015 3490 3720
3724 6790 6800
6810 6840

Work covers 21 different village industries, including ball mills for white and red clay, agitator and filter presses, fly presses, a jigger jolly, lime kiln designs, match making and charkha spinning equipment. Installs gobargas plants, works on utilization of manure and gas; developed a 60% efficiency cooking burner, lamps and engines.

2.03 Appropriate Technology Development Unit (P)

Gandhian Institute of Studies
Box 116, Rajghat
Varanasi 221001

INFOTERRA: 2015 2170 2630
2640 4113 6960

Develops and adapts equipment, tools, plants and processes for rural development in India.

2.04 Appropriate Technology Unit (T)

Indian Institute of Technology
Pawai
Bombay 400 076

Contact: Prof. Anil Date

INFOTERRA: 1015 2630 3215
3746 6620 6790
6800 6840

Works with windmill powered pumps, solar collectors, hydrants, a casuarina oil expeller and pond evaporation problems.

2.05 Central Arid Zone Research Institute (R)

Jodhpur
Rajasthan

INFOTERRA: 2481 3215 3747
6620 7040

Designs, builds and tests equipment such as simple solar water heaters, low-cost simple solar cabinet dryers, solar cookers, solar water stills and solar pumps.

2.06 Central Building Research Institute (T)

Roorkee
Uttar Pradesh

Contact: Prof. Dinesh Mohan, Director

INFOTERRA: 3140 3150 3300
3840 6670 6790
6800 6840 6870
6900 6960 6990
7000

Develops and promotes low-cost construction materials for low-income communities, including coconut husk roofing boards, lime pozzolana mortars, improved brick firing techniques, and fire-retardants produced from indigenous resources.

2.07 Central Food Technology Research Institute (L)

Mysore, 570013

INFOTERRA: 2640 2790 3960
3990 4113 4230
6271 6800 6840
6941

Develops appropriate technology for food industry; pest control, bamboo containers for storage and transport of fruits and vegetables, processing of paddy, starch from tamarind seed.

2.08 Central Mechanical Engineering Research Institute (L)

Mahatma Gandhi Avenue
Durgapur 713209
West Bengal

INFOTERRA: 2015 2630 3120
3490 4113 6620

Develops appropriate machinery for rural areas such as domestic ovens, a groundnut digger, a shallow well hand pump, and a tractor with ancillary equipment.

2.09 Centre for Development Studies (T)

Aakulam Road
Ulloor
Trivandrum 695 011
Kerala

Contact: Mr. Laurie Baker, Architect

INFOTERRA: 3140 3150 3300
6790

Constructs low-cost dwellings based on traditional designs and techniques and using indigenous materials.

2.10 Centre for Environmental Studies (T)

Auroville
Pondicherry 605002

Contact: Dr. C. L. Gupta

INFOTERRA: 2300 2673 2820
3720 3746 3747
3840 6620 6800

Undertakes experiments on an ecological house, wind and solar power, algae farming, land reclamation, low-cost water supplies, solar pumps, fish farming, lime manufacture, and ferro cement boats.

2.11 Committee on Science and Technology in Developing Countries (COSTED) (N)

Indian Institute of Science
Bangalore
Mysore 560 012

INFOTERRA: 6950 6960 6800
6810 6880 7000
7002 7050

Promotes the use of science and technology in developing countries, organizes meetings and seminars with a particular interest in education. A new Appropriate Technology Information Service publishes a periodical newsletter which focuses attention on urgent problems of developing countries and possible methods of solving them.

2.12 Garg Consultants (G)

C-10/1, River Bank Colony
Lucknow

Contact: Sri M. K. Garg

INFOTERRA: 2630 3720 3724
3840 4113 6840

Offers consultancy in areas such as sugar plants, cottage mechanized spinning units, mini cement technology, and improved methods of methane gas production.

2.13 Gobar Gas Experimental Station (T)

Ajitmal
Etawah
Uttar Pradesh

Contact: Ram Bux Singh

INFOTERRA: 3720 3724

Undertakes research and development on methane digesters for small-scale production.

2.14 Indian Institute of Technology (R)

Kharagpur
West Bengal

INFOTERRA: 2015 2640 2821
2826 3150 3230
3840 5151 6271
6810 6840

Department of Architecture undertakes research on building materials and techniques and design work on warehouses, housing, using local materials. The Department of Geology and Geophysics has designed indigenous equipment for the selection of well-sites and advises villagers on the selection of sites. The Rice Processing Centre has done research on parboiling techniques, milling processes, utilization of husk for cement; many other activities.

2.15 Indian National Buildings Organization (T)

Nirman Bhavan
New Delhi 1

Contact: Dr. A. V. R. Rao

INFOTERRA: 3150 5830 6271
6670 6790

Undertakes pioneering work on low-cost, moderately fire-resistant, light-weight asphaltic roofing sheets made from waste materials (scrap paper, bagasse, jute waste, coconut fibre, rejected asbestos fibre and rags).

2.16 International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) (R)

1-11-256, Begumpet
Hyderabad 500 006
Andra Pradesh

INFOTERRA: 2482 2620 2630
2640 2660

Develops seeds and agricultural practices for the semi-arid tropics; tests and adapts agricultural equipment including multi-purpose tool-bars and crop sprayers. Publishes annual reports.

2.17 Jannalal Bajaj Central Research Institute for Village Industries (N)

Maganwadi
Post Box 4
Wardha, Maharashtra

INFOTERRA: 2015 2630 2640
2660 3960 6271
6810 6840

Aims at technological development of village industries, utilization of available but non-utilized technical knowledge, improving existing traditional methods, tools and techniques – cereal processing, utilization of non-edible oilseeds, utilization of unpolished rice; honey research, utilization of bones and fleshings.

2.19 Mechanical Engineering Research and Development Organization (MERADO) (T)

Madras

INFOTERRA: 5151 6620 6790
6900 6990

Developed the sturdy, reliable and efficient Bangalore hand pump whose principal features are: the use of cheap, non-metallic raw materials that minimize damage due to corrosion; standardized

components designed for mass manufacture and easy interchangeability; an efficiently designed pump head provision of a non-ferrous cylinder for deep well operation and reduced maintenance costs.

2.20 Murugappa Chettiar Research Centre (R)

Tiam House
11/12, North Beach Road
Madras 600 001

INFOTERRA: 2820 3215 3720
6272

Published a monograph (on the use of algal cultures for the production of bio-fertilizers and gas); has fabricated prototype solar cookers and dryers.

2.21 NOVA 2000, Consultants and Designers (N)

D16 Kailash Colony
New Delhi 110048

INFOTERRA: 2015 2820 3300
5366 6800 6810
6900 7040

Undertakes research and consultancy in low-cost housing; researches and experiments on applications of appropriate community technology; assists small rural and urban settlements in using environmentally sound water supply and waste disposal systems.

2.22 Regional Research Laboratory (L)

Jorhat-785006
Assam

INFOTERRA: 3140 3230 3300
3681 3840 3984
4111 5830 6271
6300 6670 6700
6800 6810 7040

Undertakes research on fire resistant thatch, bamboo-crete roofing element and walls for low-cost houses, "cement-like" products from rice husk ash, flooring tiles from clay or waste obtained from asbestos cement factories; production of proteolytic enzyme from pineapple waste.

2.23 Small Industry Extension Training Institute (R)

Yousufguda
Hyderabad 500045

INFOTERRA: 2015 4130 6800
6810 6980 6990

- Promotes commercial exploitation of products and processes; produces bi-monthly digest on Appropriate Technology.
- 2.24 Sri Aurobindo Society (N)**
Society House
Pondicherry 605002
- | | | | |
|------------|------|------|------|
| INFOTERRA: | 1015 | 3410 | 3746 |
| | 3747 | 6272 | |
- Undertakes research on the cultivation of algae on urine for use as fertilizer, wind-mills, solar energy, eco-houses.
- 2.25 Vigyan Shiksha Kendra (Science Education Centre) (R)**
Attara
Banda 210201
- | | | | |
|------------|------|------|------|
| INFOTERRA: | 1580 | 2015 | 2620 |
| | 3724 | 3840 | 6271 |
| | 6790 | 6800 | 6810 |
| | 6850 | 6980 | 7002 |
- Promotes the transfer of appropriate technologies to the rural areas, works on changes in the school science curriculum, sets up demonstration projects, trains village youth in appropriate techniques.
- 2.26 Village Reconstruction Organization (R)**
6/9, Brodipet
Guntur - 522002
U.P.
- | | | | |
|------------|------|------|------|
| INFOTERRA: | 1180 | 2015 | 3300 |
| | 6800 | 6810 | |
- Concerned with low-cost housing, helping to set up Appropriate Technology workshop at Kakani.
- 3.01 Action for Agricultural Renewal in Maharashtra (AFARM) (R)**
3 Victoria Road
Poona 1
Maharashtra
- | | | | |
|------------|------|------|------|
| INFOTERRA: | 2015 | 2620 | 6620 |
| | 6900 | | |
- Designs, develops and installs handpumps; acts as a technical service agency for a number of development organizations.
- 3.02 Action for Food Production (AFPRO) (G)**
Community Centre
C-17, Safdarjung Development Area
New Delhi 110016
- INFOTERRA:** 4131 6800 6880
6900 6960
- Links voluntary agencies with international assistance agencies in many development areas; distributes and helps promote appropriate technologies.
- 3.03 Ahmedabad Textile Industries Research Association (L)**
Polytechnic
Ahmedabad-15
Gujarat 380015
- | | | | |
|------------|------|------|------|
| INFOTERRA: | 4132 | 5151 | 5482 |
| | 6271 | 6800 | 6840 |
| | 6941 | 6960 | |
- Involved in many activities related to the textile industry such as the design of miniature power driven spinning wheels, utilization of tamarind kernel powder in textiles, design of sizing machines. Also concerned with low waste extraction, waste utilization recovery waste heat, reduction of water consumption by eliminating avoidable waste.
- 3.04 Anand Niketan Ashram (N)**
P.O. Rangpur via Kosendra
District Baroda, Gujarat
- | | | | |
|------------|------|------|------|
| INFOTERRA: | 2015 | 3330 | 3724 |
| | 6960 | | |
- Involved with utilization of biogas plants in reconstructed villages.
- 3.05 Association of Scientific Workers of India (N)**
10 Rajendra Park
New Delhi 110060
- | | | | |
|------------|------|------|------|
| INFOTERRA: | 2015 | 6790 | 6800 |
| | 6810 | 6840 | 6941 |
- Works to encourage industrial infrastructure and technological centres to be developed for technology transfer in backward areas.
- 3.06 Association of Voluntary Agencies for Rural Development (N)**
C-6 Community Centre
Safdarjung Development Area
New Delhi 110016
- | | | | |
|------------|------|------|------|
| INFOTERRA: | 1970 | 2015 | 3724 |
| | 6960 | | |

Undertakes surveys of experiments in biogas plants and undertakes micro-level planning studies.

3.08 Central Glass and Ceramic Research Institute (L)

Jadavpur
Calcutta 32

INFOTERRA: 3830 6810

Develops low-cost village potteries, low temperature red clay glazes.

3.09 Central Leather Research Institute (L)

Adyar
Madras-20

INFOTERRA: 4040 4070 6271
6800 6810

Work involves the technology of utilizing fallen carcasses, preserving hides and evaluating vegetable tanning materials. Also manufactures glue using local raw materials and vegetable tanning extracts from tamarind seed husks.

3.10 Central Road Research Institute (L)

Delhi-Mathura Road
P.O. Central Road Research Institute
New Delhi 110020

INFOTERRA: 3215

Designs solar stills.

3.11 Central Soil Salinity Research Institute (T)

Karnal

INFOTERRA: 1890 1921 1930
2910 6790 6810
6900 6990

Involved in research and development on low-cost irrigation techniques involving burying porous jars of water.

3.12 Center for Community Medicine (F)

All India Institute of Medical Sciences
Ansari Nagar
New Delhi 110016

INFOTERRA: 1580 1620 1640
2820 2861 6800

Concerned with appropriate technology as it relates to health, sanitation, water storage, supply and treatment.

3.13 Centre of Science for the Villages (N)

Magan, Sangrahalaya
P.O. Maganwadi, Wardha
Maharashtra 442001

INFOTERRA: 2015 6800 6850
6960 6980 7000

Collects information and exhibits in model forms in museums, new techniques and technologies which would help in rural development.

3.14 Department of Metallurgical Engineering (R)

Indian Institute of Technology
Kanpur 208016

INFOTERRA: 3120 3840 6271

Carries out research and design of tools and processes such as the manufacture of hydraulic setting cement from rice husk ash.

3.15 Department of Science and Technology (F)

Technology Bhavan
New Mehrauli Road
New Delhi 110029

INFOTERRA: 1015 1620 1640
2820 2861 3340
3720

Appropriate technology activities are concerned with alternative forms of energy, environmental health, housing, sanitation, waste disposal, water storage, supply and treatment.

3.16 Forest Products Research Institute (R)

Dahradum
Uttar Pradesh

INFOTERRA: 2700 3215 4020
6800 6810

Undertakes research in various fields; proved a process of using bamboo as a reinforcement for concrete and a solar powered timber drying cabinet.

3.17 Foundation for Research in Community Health (T)

Dhekawade
P.O. Awas
Alibag Taluk
District Kolaba
Maharashtra

Contact: Arun Makijani

INFOTERRA: 1015 1180 1580
3720 6800 6870
6960

Promotes community development through intermediate techniques using renewable sources of energy appropriate for low-income groups. Published *Energy and Agriculture in the Third World* by Arjun Makijani.

3.18 Grain Storage Research and Training Centre (T)

Indian Grain Storage Institute
Hapur
Uttar Pradesh

INFOTERRA: 3551 3961 6790
6900

Involved in significant work on low-cost grain storage.

3.19 Gram Seva Samti (N)

Taronda, Nitaya
P.O. Raisalpur
District Hoshangabad
Madhya Pradesh

INFOTERRA: 1640 3724

Activities involve utilization of water-seal latrine gober gas plant, cement ring wells.

3.20 Indian Agricultural Research Institute (L)
New Delhi

INFOTERRA: 2630

Designed and developed "pusa reaper" which harvests cereal crops on rugged fields and can be driven by a tractor or bullock.

3.21 Indian Institute of Petroleum (W)

P.O. 11P
Dehradun
Uttar Pradesh 248005

INFOTERRA: 3120 3683 3721
3724 4111 5341

Activities involve processing and utilizing crude petroleum and its products; natural gas and petro-chemicals, standards, petroleum products and petro-chemicals, vehicular emissions and control, biogas as fuel.

3.22 Indian Institute of Technology (G)

Department of Chemical Engineering
Kanpur 208016
Uttar Pradesh

INFOTERRA: 3724 4111

Conducts research on the cultivation and use of algae for cattle feed and on the production of biogas.

3.23 Indian National Buildings Organizations (G)
New Delhi 11

INFOTERRA: 3140 3150 4091
5830 6271

Undertakes many projects such as making corrugated asphalt sheets using waste paper, asbestos, bagasse, coconut fibre or other materials to form "board" or "paper felt" impregnated with paving asphalt and surfaced with aluminium foil, paint or granules.

3.24 Jute Technology Research Institute (L)

Calcutta

INFOTERRA: 4091 6271 6790
6800

Designs technologies to produce paper from jute waste and to blend jute and wool for carpets.

3.25 Kerala Sastra Sahithya Parishad (A)

Parishad Bhavan
Chirakulam Road
Trivandrum - 695001

INFOTERRA: 1500 2015 6800
6980 7000 7002
7040 7050

Aims to utilize science and scientific principles to bring about social progress by taking science to the people. Mass education programmes feature significantly. Produces books/pamphlets on appropriate technology, ecological aspects of development. Conducts study classes, seminars and conferences for people in rural areas; sponsors technical courses, exhibitions, competitions and offers scholarships.

- 3.26 The Learners Center (A)**
 Casa Leao
 Cobro Vaddo
 Calangute
 P.O. Goa
 INFOTERRA: 2015 6790 6800
 6810 6960
 Concerned with rural problems and technology.
- 3.27 Mandya National Paper Mills (P)**
 Belagula-Karnataka
 Contact: K. Gopalsnami
 INFOTERRA: 4091 6271 6700
 Undertakes research in use of sugar industry by-products.
- 3.28 Mechanical Engineering Department (W)**
 Malaviya Regional Engineering College
 Jaipur Rajasthan 302004
 Contact: Dr. K. S. Shah,
 Senior Professor and Head
 INFOTERRA: 4180 4710 5341
 Concerned with engine exhaust, emission and control.
- 3.29 Mir Pur Ceramic Industry (W)**
 Mirpur
 Dacca
 INFOTERRA: 3140 3830 3840
 6800
 Manufactures special kinds of bricks/tiles using modern methods of technology.
- 3.30 Mitraniketan (P)**
 Vellanadu
 Nedumangad, District Trivandrum
 Kerala, 695543
 INFOTERRA: 1015 2015 2420
 3724
 Concerned with rural development with emphasis on environmental conservation and usage of gobar gas plants.
- 3.31 Mysore Acetate and Chemicals (P)**
 Mandya-Karnataka
 INFOTERRA: 4111 6271
- Undertakes research in use of sugar industry by-products.
- 3.32 National Research Development Corporation (G)**
 61 Ring Road
 New Delhi 110024
 INFOTERRA: 4024 5830
 Involved in research concerning utilization of sawdust, dolomite powder and magnesium oxide. Also, making asbestos waste floor tiles from asbestos cement sludge, recuperator waste, marbledust and pigment.
- 3.33 Population-Environment-Development-Education Programme (PEDEP) (N)**
 A116 Amaravati
 Durgapur 14
 West Bengal 713214
 Contact: S. Subramaniam, Director
 INFOTERRA: 2015 6800 6840
 7050
 Aims to establish appropriate technology cells in rural areas, encourage local/suitable appropriate technology and establish training/production centres using such technologies.
- 3.34 Punjab Agricultural University (N)**
 Ludhia-na
 INFOTERRA: 3215 3747 5360
 6700
 Designs, fabricates and tests solar equipment; project in waste utilization.
- 3.35 Saghan Kshetra Vikas Samiti (R)**
 Sewapuri
 Varanasi
 Uttar Pradesh
 INFOTERRA: 1180 1300 4130
 6790 6810 6960
 Uses technologies developed by other organizations to help provide employment in small-scale industries.
- 3.36 Structural Engineering Research Centre (L)**
 CSIR Campus
 Adyar, Madras 600 020
 INFOTERRA: 2630 3140 3150
 4113 5151 6840

Designs outdoor bins for storage of food grains. Develops appropriate technologies for the design and construction of various structures, bridges, industrial sheds. Efforts are also made to utilize waste material such as flyash and blast furnace slag.

3.37 Tata Energy Research Institute (A)

Bombay House, 24 Homi Mody St.
Bombay
Maharashtra 400023

INFOTERRA: 1015 1020 3681
3720 3723 3724
3746 3747 6800
6980 7000

Concerned with depletion of earth's non-renewable energy resources; undertakes research on solar energy, works to achieve fuller and less-polluting utilization of fossil fuel. Publishes *Energy Update* which lists and describes new energy technology from all over the world.

3.38 UNICEF (V)

GPO Box 58
Dacca 5

Contact: Renee Gerard

INFOTERRA: 1165 1300 2015

Involved in programme on gainful activities for women; edited manual on technology for rural women.

3.39 Utkal Navajivan Mandal (N)

Angul P.O. District Dhenkanal
Orissa 759122

INFOTERRA: 2015 3960 4130
4132 6810

Concerned with rural industry, spinning, weaving and processing agricultural products.

3.40 Voluntary Health Association of India (N)

C-14 Community Centre
Safdarjang Development Area
New Delhi 110 016

Contact: Information Officer

INFOTERRA: 1640 6810 7000
7002 7050

Works in fields of environmental sanitation and use of low-cost indigenous

technology. Documentation centre has educational material on many forms of environmentally-sound appropriate technology.

3.41 Water Development Section (R)

P.O. Vadal Mission
Tal. Newasa District
Maharashtra

INFOTERRA: 6620

Produces unique hand pumps made from sheet steel which has been cut and welded.

3.42 Water Development Society (T)

C-2 and C-5 Industrial Estate
Moula Ali
Hyderabad 500 040

Contact: J. Rajan Alexander

INFOTERRA: 2820 6620

Manufactures Indian designed, low-cost water supply equipment.

4.01 Dryland Agricultural Institute

P.O. Kanke
Ranchi, Bihar

INFOTERRA: 2481 2620

4.02 Indian Plywood Industries Research Institute

Bangalore

INFOTERRA: 2630 4020

Designs low-cost indoor grain storage bins.

4.03 National Botanic Gardens

Lucknow

4.04 National Environmental Engineering Research Institute

Nagpur

5.01 Rajan J. Alexander

Water Development Society
C-2 and C-5 Industrial Estate
Moula Ali
Hyderabad 500040

INFOTERRA: 2820

Interested in water supply.

5.02 B. Behari

Appropriate Technology Cell
Ministry of Industrial Development
268 Udyog Bhavan
New Delhi 110011

INFOTERRA: 2015 6800 6810

Interested in rural technology.

5.03 Kishore Bharati

Post Malhanvada via Bankhedi
District Hoshangabad
Madhya Pradesh 461990

INFOTERRA: 2620 2910 4130
6800 6810

Concerned with farming, small-scale cottage industries, appropriate village-level technology, inexpensive appropriate technology for wells and irrigation.

5.04 R. D. Deshpande

Technology Bhavan
New Mehrauli Road
New Delhi 110029

INFOTERRA: 6800

Involved in methodology of selection of environmentally-sound and appropriate technologicis.

5.05 J. A. Gilmore

Action for Food Production
C-52 N.D. South Extension 11
New Delhi 110049

INFOTERRA: 3960 4131

Interested in food technology.

5.06 Ashok Sharma

c/o Kamla Nehru Institute of Science
and Technology
Sultanpur U.P.

INFOTERRA: 2620

Interested in agriculture.

5.07 Matthias von Oppen

International Crops Research Institute
for the Semi-Arid Tropics (ICRISAT)
1-11-256 Begumpet
Hyderabad 500 016

INFOTERRA: 3215

Developed a low-cost solar cooker called

a Sun Basket, which has a parabolic mirror made from papier-mâché, reinforced by a layer of jute fabric stabilized by a bamboo frame.

INDONESIA**1.01 Development Technology Centre (DTC) (T)**

Institute of Technology Bandung (ITB)
Jalan Ganesha 10
P.O. Box 276
Bandung

Contact: Dr. Ir. Filino Harahap, Director

INFOTERRA: 1015 1300 2015
2630 3490 3720
3742 3746 3747
3960 6790 6800
6840

Involved in extensive research and development, primarily by ITB staff, on appropriate rural development technology to encourage employment in Indonesia. Work is in progress on the development of autonomous power sources for rural areas using solar, wind, biogas, micro-hydro and integrated systems. Appropriate technology hardware projects include a non-electric ice-maker, an agricultural product dryer, a stone cutter for the cottage jewellery industry, and food processing equipment, such as a kimiri nut shelling machine and coconut processing machine. Regional Development Technology Centres are planned to facilitate technical needs assessment and studies in technology transfer. The Development Technology Centre operates a field station for research, development and demonstration of appropriate technologies in and around Jogjakarta, Central Java.

1.02 DIAN-DESA, Appropriate Technology Group (A)

Kerto Muja-Muju, No. 8
Yogyakarta

INFOTERRA: 1180 2015 2620
2630 2660 2820
2826 2860 3724
3747 3961 6790
6800 6810 6960

Aims to assist in problems of development, especially in rural areas by creating

conditions where communities and individuals have greater control over their situations. DIAN-DESA accomplishes this task by using technologies adapted to local conditions and promoting self confidence among people in rural areas. Activities include eleven water projects, the introduction of high egg production commercial chickens into villages, development of a method for preserving eggs for a long time, methane gas production, studies of traditional technologies, introduction of new plant varieties and new farm equipment, development of rain water storage tanks, testing of solar energy devices, and many more.

1.03 Village Technology Unit, Butsi (S)

Jalan Halimum 4
Jakarta

Contact: Dr. W. P. Napitupulu

INFOTERRA:	2630	2640	3215
	3490	3961	6790
	6800	6810	6870
	7002		

Network of several thousand village-level workers that publishes easy to read picture books in Indonesian on technologies easily used by villagers. Projects include: simple solar stoves, a treadle grinder for removing coconut meat, evaporation food coolers, twine from coconut fibres, care of cash crop nutmeg and clove trees.

2.01 Institute Pertanian Bogor (T)

Department of Agricultural Engineering
Bogor Agricultural University
Fatemeta Jalan Gunung Gede
TLP BOT 571
Bogor

INFOTERRA:	2630	4113	6800
------------	------	------	------

Involved in research and development of appropriate technologies.

2.02 Proyek Teknologi Tepat (PTT) (T)

Dian Desa
Jalan Kerto Muja Muju 8
Yogyakarta

Contact: Anton Soedjarwo

INFOTERRA:	3630	6790	6800
	6870		

Promotes a variety of low-cost appropriate technologies, including a scheme

employing bamboo piping for water transmission.

2.03 Voluntary Agencies for Rural Development (N)

Badan Urusan Tenaga Keya Sukatela
Indonesia (Indonesia Board for
Volunteer Service)
Jalan Halimum 4
Jakarta

INFOTERRA:	2015	6800	6850
	6980	6990	

Created a Village Technology Unit to disseminate ideas, methods and equipment; prints leaflets on aspects of appropriate technology.

2.04 Regional Adaptive Technology Center (G)

Hasanuddin University RATC
Kampus Baraya
Ujungpandang

INFOTERRA:	2673	3960	4130
	6800	6810	6941

Small industry consultative centre that works on motorizing sailships, improving the local silk industry and developing fishing and fish processing techniques.

3.01 Institute for Development Studies (Lembaga Studi Pembangunan) (N)

Arthaloka Building, Floor 17
Jalan Sudirman 2
Jakarta

Contact:	2015	6800	6810
----------	------	------	------

Presently initiating documentation of existing appropriate technology in rural Indonesia to help expand the use of appropriate technology.

3.02 Institute of Ecology (A)

Padjadjaran University
Jalan Banda 40
Bandung

Contact: Otto Soemarwoto, Director,
Institute of Ecology and Professor of
Biomangement

INFOTERRA:	1701	1940	2015
	6700	6960	7050

Undertakes research in rural ecology with the aim to discover the ecological wisdom of the village people, to systematize it into

science and to use this science as a basis for rural development. Research includes: ecology of village home gardens, traditional recycling systems, studies of pesticides residues, erosion, relationship of villages, farm-fields, forests and rivers.

3.03 Strategi Perancangan Perencanaan and Pembangunan (Strategy for Planning, Design and Development Study Group)

Department of Architecture
Bandung Institute of Architecture
Bandung

INFOTERRA: 1120 2190 3300

Develops low-cost aerial survey techniques for monitoring human settlement; developed concept of rationalized traditional building systems for mass housing in urban areas.

5.01 Anton Soedjarwo

Jalan Pacar A 67
Jogjakarta

INFOTERRA: 2015 6810

Interested in village technology.

IRAN

2.01 Development Workshop (T)

224 Saba Shomali
Tehran

Contact: Farroukh Afshar, Allan Cain,
Mohammed Reza Daraie,
John Norton

INFOTERRA: 1701 2015 2030
2155 2190 3100
3140 3150 3300
3330 3840 6790
6800 6840 6900
6950 7050

Carries out research and development work on indigenous methods of building, planning and environmental control in third world countries. Adapted and promoted Nubian mud brick, vault/dome construction devices. Organized a builders training programme in early 1977, and presently involved as architects for the integrated Selseleh Regional Development Project in Lorestan, Iran. Published *Indigenous Building*, a book based on material used for a North American Exhibition of their work.

2.02 Ecodevelopment Cluster (T)

Bu-Ali Sina University
Hamadan

Contact: Dr. M. T. Faruar

INFOTERRA: 2820 3720 3724
3742 3746 3747
6272 6790 6800
6870 6960

Assists self-help projects in promoting the use of solar energy, wind and water power, biogas, fertilizer production, and low-cost water supply and construction. Research documentation available.

5.01 Dr. Tangi Farvar (Centre for Endogenous Development Studies)

Alashtar
Lorestan

INFOTERRA: 2015 6960

Head of new centre on indigenous rural development.

IRAQ

4.01 Building and Construction Research Centre

Foundation for Scientific Research
Baghdad

INFOTERRA: 3140 3150

IRELAND

2.01 Gathering Together (B)

33 Wilson Road
Mount Merrion
County Dublin

INFOTERRA: 6800

Interested in many aspects of alternative technology.

2.02 Low Energy Systems (C)

3 Brighton Road
Dublin 6

Contact: Brian Hurley

INFOTERRA: 3720 3724 3746
6800

Investigates novel vertical axis sailing windmills, pit greenhouses, methane and other forms of Appropriate Technology.

ISRAEL

3.01 Ben-Gurion University of the Negev (G)

Department of Mechanical Engineering
P.O. Box 1025
Beer-Sheva 84110

INFOTERRA: 3746

Interested in shrouded windmills for pumping water and generating electricity.

3.02 Settlement Study Centre (W)

P.O. Box 555
Rehovot

Contact: Devoira Auerback,
Projects Co-ordinator

INFOTERRA: 1970 2015 2155
2190 6790 6840
6950 6960

Aims are to locate and disseminate non-conventional documentation on rural regional development, plans and projects; to prepare a bibliography on regional development projects annotated according to indicative and descriptive criteria; and to provide information on projects and implementing institutions.

ITALY

3.01 United Nations Food and Agriculture Organization (FAO) (T)

Via Delle Terme di Caracalla
00100 Rome

INFOTERRA: 1921 2620 2700
2820 2910 6790
6800 6990 7000
7040

Promotes the development and management of basic resources for food and agricultural production and improves nutritional standards through project implementation and technical assistance. Nutrition, agricultural development, irrigation, animal disease control, and fish farming are focal points. Extensive listings on appropriate technology, some available only on micro-fiche.

3.02 The Italian Centre for Cooperation with the Building Development of Emerging Nations (C.I.C.S.E.N.E.) (G)

via Borgosesia 30
10145 Torino

Contact: Nuccia Comoglio, Coordinator

INFOTERRA: 1300 2015 3140
3150 3260 3330
6271 6870 6880
6950

Supplies information and provides assistance to African nations in areas such as rice husk bricks, coconut panels, sulphur concrete, and plaster finishes as well as the social aspects of habitat including ecology saving factors, self-help techniques and labour intensive processes.

3.03 Mondo Quisto (V)

Via Zanella S
22053 Lecco

Contact: Domenico Colombo

INFOTERRA: 6800 6900 6950

Offers voluntary assistance to projects often using appropriate technology.

3.04 Solar Energy Laboratory (T)

University of Naples
Via F. Crispi 72
Napoli

INFOTERRA: 3747 6790 6800
6990

Undertakes research and development on solar energy applications.

4.01 Agrobiologia: Centro Studi di Biologia del Suolo

Via San Stefano 84
40125 Bologna

INFOTERRA: 1930

4.02 Suolo E Salute

48 Via Sacchi
10128 Torino

INFOTERRA: 1930

5.01 Professor Umberto Colombo

Montedison
 Research and Development Division
 Largo Donegani 1/2
 20121 Milano

INFOTERRA: 6800

Trying to establish an appropriate technology centre in northern Italy using Montedison research and development facilities and finance.

IVORY COAST**2.01 Institut Africain pour le Developpement Economique et Social (INADES) (T)**

B.P. 8008
 Abidjan

INFOTERRA: 2015 6870 6960
 7000

Promotes rural development through a medium of very carefully designed correspondence with an appropriate technology orientation. Branches in most Francophone African countries. Quarterly *Agri-promo*.

3.01 Centre de Recherches Architecturales et Urbaines (V)

B.P. 8892
 Abidjan

Contact: Kwame Nguessan

INFOTERRA: 3140 3410

Makes proposals for building and improving housing.

3.02 Compagnie Industrielle d'Aménagement (CINAM-Abidjan) (V)

B.P. 8389
 Abidjan

Contact: Francois Venot

INFOTERRA: 1970 2015 2630

Plans, researches and develops agricultural machinery for rural areas.

3.03 INSET-ITI (V)

B.P. v. 79
 Abidjan

INFOTERRA: 2630

Designs and tests small-scale agricultural machinery.

3.04 Ministère de la Condition Feminine (V)

Abidjan

Contact: Mme. T. Traore

INFOTERRA: 1165 1320 6810

Provides assistance to women's craft activities.

3.05 Office National de la Promotion Rural (ONPR) (V)

B.P. 20225

Abidjan

Contact: Ricardo Fireman

INFOTERRA: 2015 2820 3720
 6800 6980 7000

Involved with appropriate technology, energy, water. Disseminates information.

3.06 Société Ivoirienne d'Expansion Touristique et Hotelière (T)

B.P. 4375

Abidjan

Contact: Monsieur Dao Oumar

INFOTERRA: 3150 6790

Constructs village hotels almost entirely with skills and materials available in the vicinity. In 1973 the Dala Hotel in Boundiali was opened with 24 beds in 12 "Rondavels" constructed from locally made brick and thatch.

4.01 Institut pour la Technologie et l'Industrialization des Produits Agricoles Tropicales

B.P. 4549

Abidjan

INFOTERRA: 2640 2660 3990
 4131

4.02 UNICEF

West African Regional Office

B.P. 4443

Abidjan

Contact: Ahmed Mostefaoni

5.01 Jean-Paul Nicolau

B.P. V. 79

Abidjan

JAMAICA

3.01 Knox College (T)

Spaldings

Contact: Rev. Lewis Davidson

INFOTERRA:	6790	6800	6840
	6850	6960	

Trains artisans with a view toward appropriate technology application.

3.02 Natural Resources Conservation Department (W)

P.O. Box 367
Kingston 6

Contact: The Principal Director

INFOTERRA:	1011	3720	3724
	3840	3990	6300
	6790	6800	6840

The Scientific Research Council's library is the coordinating body for the storage and dissemination of information in the area of science and technology.

JAPAN

2.01 CECOGO (P)

Chuo Boeki Goshi Kaisha
P.O. Box 8
Ibaraki City

INFOTERRA:	2630	2660	3990
	6810	7040	

Interested in commercial food production, cottage industries, manual and auto drawn agricultural equipment; maintains farm for testing innovations and training personnel.

3.01 United Nations University (A)

29th Floor, Toho Semei Building
15-1, Shibuya 2-chome,
Shibuya-ku
Tokyo

INFOTERRA:	1011	1040	1180
	3961	3982	4000

Involved in threefold programme – concerns in world hunger, human and social development, and use and management of natural resources. World hunger programme established worldwide network of communication. Deals with post-harvest technology, human nutritional

requirements and food and nutrition policy.

JORDAN

4.01 Building Research Centre

Royal Scientific Society
Amman

KENYA

1.01 Village Technology Unit (T)

c/o UNICEF
P.O. 44145

Contact: James McDowell

INFOTERRA:	1165	2630	2860
	3300	3490	3960
	3961	3990	4131
	6620	6790	6800
	6840	6850	6990
	7000		

Develops and demonstrates village level technology for: home improvement and means of reducing the work load on mothers; food production, conservation, preparation and use; improvement of water supplies. The unit also has a simple workshop of the type used in Village Polytechnics in Kenya, together with a simple laboratory to evaluate and test devices. Provides practical training regarding use of village technology devices.

2.01 Agricultural Machinery Coordinating Office (R)

East African Agricultural and Forestry
Research Organization
P.O. Box 30148
Nairobi

INFOTERRA:	2630	6800	6990
	7000		

Disseminates information about and promotes the use of appropriate technology in East Africa.

2.02 Farm Machinery Testing Unit (R)

Ministry of Agriculture
Nakuru

INFOTERRA:	2630
------------	------

Tests small-scale and ox-drawn equipment and evaluates tools.

- 3.01 Bukura Farm Training Centre (T)**
 P.O. Box 92
 Bukura
 Kakamega
 INFOTERRA: 2620 2630 2640
 2650 2760 2790
 6810 6840
 Mechanization section specializes in producing ox-drawn implements and ox-harnesses. Offers courses in ox management.
- 3.02 Bungoma Farm Training Centre (R)**
 P.O. Box 46
 Bungoma
 Western Province
 INFOTERRA: 2630 4113
 Specializes in the management of oxen and ox-drawn implements, evaluating different harnesses.
- 3.03 Department of Agricultural Engineering (T)**
 Faculty of Agriculture
 University of Nairobi
 P.O. Box 30197
 Nairobi
 Contact: G. Muchiri
 INFOTERRA: 1921 1940 2630
 2910 4113 6790
 6800 6990
 Evaluates Appropriate Technology equipment, particularly with regard to irrigation and cultivation. Researches into energy requirements, mechanization problems of small farmers and problems of irrigation, soil erosion, and soil and water conservation.
- 3.04 Department of Civil Engineering (T)**
 The University of Nairobi
 P.O. Box 30197
 Nairobi
 Contact: Dr. Seraphim M. Kaburu
 INFOTERRA: 3150 3300 6790
 6810 6840 6990
 Interested in appropriate technology with regard to construction with indigenous materials.
- 3.05 Department of Mechanical Engineering (R)**
 University of Nairobi
 Box 30197
 Nairobi
 Contact: Dr. David Hilton
 INFOTERRA: 2630 3120 3746
 6810
 Involved in the design, production and testing of two types of windmills for pumping water and of a manual maize-sheller.
- 3.06 East Africa Agricultural and Forestry Research Organization (EAAFRO) (T)**
 Agricultural Machinery Coordinating Office
 P.O. Box 30148
 Nairobi
 Contact: Mr. Richard Pinto
 INFOTERRA: 2630 6790 6990
 Promotes varieties of appropriate agricultural equipment available in Kenya, Uganda and Tanzania. Publishes *East Africa Agricultural Journal*.
- 3.07 East African Industrial Research Organization (R)**
 P.O. Box 30650
 Nairobi
 INFOTERRA: 2630 3830 3960
 4111 4130 6900
 Provides technical advice to entrepreneurs, does chemical analysis for testing and quality control and applied research on food processing, ceramics, clay technology and natural fibres. Developed a sorghum thresher and coffee huller.
- 3.08 Egerton Agricultural College (T)**
 Njoro
 INFOTERRA: 2620 2630 6990
 Engineering Department evaluates ox-drawn equipment.
- 3.09 Housing Research and Development Unit (H.R.D.U.) (N)**
 University of Nairobi
 Box 30197
 Nairobi

Contact: T. S. Channa, Director

INFOTERRA:	3150	3300	3330
	3746	3747	5151
	6800	6810	6990

Produces prototype designs, assists in construction of experimental low-cost housing projects. Also interested in utilization of solar and wind energy, appropriate technologies for the production of local building materials and waste management. Publications on housing and related fields.

3.10 International Centre for Industry and Environment (ICIE) (W)

P.O. Box 30643
Nairobi

Contact: C. A. Cochrane, Chief Executive

INFOTERRA:	1060	3690	4091
	4131	6800	6941

Concerned with problems of maintenance and improvement of environmental quality and conservation of resources in relation to industry and manufacture.

3.11 Kenya Industrial Estates (KIE) (T)

P.O. Box 18282
Nairobi

Contact: Bo Kikvi, Head,
Project Department

INFOTERRA:	2630	3746	6620
	6790	6800	6810
	6840	6900	

Promotes small-scale industry development through technical assistance and provides subsidized working premises with common facility workshops. Supports research and development of windmill pumps and threshing equipment.

3.12 Kinna and Rapsu Irrigation Schemes (T)

P.O. Box 596
Meru

Contact: Bob Dixon, Manager

INFOTERRA:	1015	1180	2190
	2861	2910	6800

Applies a wide range of appropriate technologies in a settlement project for the Boran people. Also works on solar energy, water storage supply and treatment.

3.13 Lugari Extension Programme (T)

P.O. Box 24
Soy

Contact: Rev. Shadrack W. Opoti,
Programme Director

INFOTERRA:	2015	6790	6800
	6810	6840	6870
	6960		

Interested in rural development utilizing a wide range of appropriate technologies.

3.14 National Christian Council of Kenya (R)

P.O. Box 45009
Nairobi

INFOTERRA:	2630	6790	6810
	6980	7000	

An Ad Hoc Committee on Rural Mechanization organized a large seminar on rural mechanization in 1975. Coordinates the import of machinery from abroad and the local manufacture of prototypes for testing in Kenya.

3.15 Timber Industries Project (T)

P.O. Box 30513
Nairobi

INFOTERRA:	3150	3300	4020
	5151		

Designs bridges, houses and other low-cost, self-help structures to demonstrate a rational approach to utilizing timber products.

3.16 Tunnel Company Limited (T)

Tunnel Estate
Fort Ternan

Contact: Timothy H. Hutchinson,
Managing Director

INFOTERRA:	3215	3724	3747
------------	------	------	------

Designs, manufactures and markets four types of methane plants and ready-made do-it-yourself kits. Also designs and manufactures solar units for heating water and swimming pools.

3.17 Ukamba Agricultural Institute (T)

P.O. Box 30267
Nairobi

INFOTERRA:	2482	2620	6790
	6800		

Concentrates on appropriate technologies for dryland farming.

3.18 Village Polytechnics (V)

P.O. Box 45009
Nairobi

INFOTERRA: 2015 6810 6941
7050

Supports village polytechnics run by village communities.

3.19 *United Nations Centre for Human Settlements (see p. 150)*

5.01 Dr. David Hilton

Department of Mechanical Engineering
University of Nairobi
P.O. Box 30197
Nairobi

INFOTERRA: 3746 6800

With assistance from students, designing a low-cost, simple windmill. Active promoter of Appropriate Technology.

5.02 Mrs. T. J. Kantai

Head, Women's Bureau
Ministry of Housing and Social Services
P.O. Box 30276
Nairobi

INFOTERRA: 6800

Interested in homestead technologies.

5.03 Raphael Kaplinsky

Institute of Development Studies
University of Nairobi
P.O. Box 30197
Nairobi

INFOTERRA: 6800

Interested in methodology of selection of environmentally-sound and appropriate technologies.

KOREA, REPUBLIC OF

2.01 Technology Transfer Centre (T)

Korea Institute of Science and
Technology
P.O. Box 131
Dongdae-Mun
Seoul

Contact: Dr. H. W. Pack, Director

INFOTERRA: 6790 6800 6840

Undertakes research and development and promotes dissemination of information on appropriate technologies.

3.01 Sung Jun University (G)

135 Sand-do Dong
Seoul

INFOTERRA: 4130 6800 6810

Works to develop small-scale metal industry.

KUWAIT

3.01 Kuwait Institute for Scientific Research (G)

Kuwait

INFOTERRA: 3747 6530

Involved in research and development in the areas of desalination, cooling, green houses, electricity generation. Recently completed qualitative assessment of the potential for using solar energy as a source of power and heat.

3.02 Planning Board (T)

P.O. Box 15

Contact: Adnan Al-Abdulmuhsen

INFOTERRA: 1970 6790

Plans projects with a strong Appropriate Technology component.

LEBANON

4.01 Faculty of Architecture

American University of Beirut
Beirut

LESOTHO

2.01 Village Technology Development Unit (T)

Lesotho Agricultural College
P.O. Box 829
Maseru

Contact: Keith Younger, Vice Principal

INFOTERRA: 2015 2620 2630
2640 2660 6790
6800 6810

Trains extension agents, introducing a strong village technology element.

3.01 Basotho Enterprises Development Corporation (BEDCO) (T)

P.O. Box 1216
Maseru

Contact: Ben Sebatane

INFOTERRA:	1300	2015	6800
	6810	6840	6860
	6900	6960	6990

Considering setting up a subsidiary concerned with the promotion of Lesotho technology, employment-creating rural development projects, advice on technological alternatives, and the upgrading of indigenous capabilities and technologies.

3.02 CARE Lesotho (T)

P.O. Box 682
Maseru

Contact: Brice Atkinson, Director

INFOTERRA:	1642	3580	4132
	6790	6800	6840
	6860	6870	6880
	6900	6920	6941
	6960		

Provides financial, material and/or technical assistance for development projects including: community development (schools, clinics); a workshop at the Leretholi Training Institute (for production of school furniture); bridging and culvert materials and hand tools for the Department of Community and Rural Development (COMRUDEV); and a labour-intensive, low-cost technology mohair production and marketing scheme.

3.03 Thaba-Kupa Ecumenical Farm Institute (T)

P.O. Box 929
Maseru

INFOTERRA:	2630	6790	6800
------------	------	------	------

Established an intermediate technology workshop.

LIBERIA

3.01 Department of Home Economics (T)

Ministry of Agriculture
Monrovia

Contact: Mrs. Dinah Barr

INFOTERRA:	3490	6790	6800
------------	------	------	------

Promotes applications for appropriate homestead technologies for women.

LIBYAN ARAB JAMAHIRIYA

5.01 Professor Y. M. El Sayed

Department of Mechanical Engineering
Tripoli

INFOTERRA:	3120
------------	------

MALAWI

2.01 Christian Service Committee of the Churches in Malawi (T)

P.O. Box 949
Blantyre

INFOTERRA:	1180	1340	6790
	6800	6870	6960

Promotes development programmes for low-income communities with a strong Appropriate Technology component.

2.02 Diocese of Southern Malawi (T)

P/A Malindi
P.O. Mangochi

Contact: W. P. Bays, Engineering
Department

INFOTERRA:	4165	6790	6800
	6840		

Promotes Appropriate Technology development, with special interest in bicycle transport.

3.01 Lilongwe Land Development Programme (V)

Lilongwe

INFOTERRA:	2015	2030	6800
------------	------	------	------

Involved in rural development projects and in many areas of appropriate technology.

3.02 Oxfam Field Office (V)

P.O. Box 1363
Blantyre

Contact: Martyn Young

INFOTERRA:	2015	4132	6870
------------	------	------	------

Promotes the use of the Oxfam spinning wheel, supports grass roots progress.

MALAYSIA

3.01 Malaysian Agricultural Research and Development Institute (T)

P.O. Box 208
Sungai Besi
Serdang
Selangor

INFOTERRA: 3746 3960 6620
6790 6800 6900
6960

Works on sail rotors and peristaltic pumps, food processing and packaging.

4.01 National Scientific Research and Development Council

Ministry of Science, Technology and Development
Tingket-14
Bangunan, Oriental Plaza
Jalandarry,
Jula Lumpur 0401

INFOTERRA: 6840 7040

5.01 Swee Lin Choa

University Pertanian Malaysia
P.O. Box 203
Sungai Besi
Selangor
West Malaysia

INFOTERRA: 6785 6800

MALI

3.01 Centre National de Developpement Communautaire (CNPC) (V)

B.P. 1607
Bamako

Contact: B. Zimmerman

INFOTERRA: 6800 6810 7050

Trains rural craftsmen and community development staff to use appropriate technology.

3.02 Centre de Recherche pour l'Utilization de l'Energie Solaire (V)

Ecole Normale Supérieure
B.P. 134
Bamako

Contact: Cheikh Touré

INFOTERRA: 3215 3747

Involved with various aspects of solar energy utilization.

3.03 Compagnie Malienne des Textiles (CMDT) (V)

B.P. 487
Bamako

Contact: M. Grimal, Directeur Service Formation

INFOTERRA: 2630 4132 6810
6900

Helps set up blacksmithing equipment for the cotton industry and other agricultural equipment for rural artisans.

3.04 Division du Machinisme Agricole (V)

B.P. 155
Bamako

Contact: M. Zerbo Dramane

INFOTERRA: 2630

Works with agricultural implements and tools.

3.05 Société Malienne d'Etude et de Construction du Materiel Agricole (SMECMA) (V)

B.P. 1707
Bamako

Contact: M. Guy de la Brosse

INFOTERRA: 2630

Concerned with agricultural tools and implements.

4.01 Institut d'Economie Rurale (V)

Ministère du Developpement Rural
Bamako

Contact: Ngolo Traore

INFOTERRA: 1970 2015

4.02 Institut de Recherche sur la Medecine Traditionnelle

Ministère de la Sante
Bamako

Contact: Dr. Koumare

5.01 Bernard Chuzeville

Ecole National des Ingenieurs
 Departement Hydraulique
 B.P. 242
 Bamako

INFOTERRA: 2820

Interested in small-scale waterworks.

MAURITIUS**3.01 School of Industrial Technology (R)**

University of Mauritius
 Reduit

INFOTERRA: 3215 3724 3747
 3840 6800 6810

Works on such activities as reinforcing concrete with bamboo and with aloe fibre, producing methane from cowdung and from bagasse, manufacturing milk carrying cans and developing solar energy.

3.02 Société du Technologie Agricole et Sucrière de Maurice (Mauritius Society for Agricultural and Sugar Industry Technology) (N)

c/o M.S.I.R.I.
 Reduit

Contact: The Secretary

INFOTERRA: 2620 2640 4131
 6785 6990

Aims to develop the agricultural sciences and technology with particular emphasis on the sugar industry. Organizes conferences and seminars.

3.03 University of Mauritius (W)

Reduit

INFOTERRA: 4113 4131 6785
 6810

Through its various schools, offers expertise and courses that are concerned with aspects of development and administration. Sugar technology is a major priority.

MEXICO**2.01 Centro de Coordinación y Promoción Agropecuaria (CECOPA) (T)**

Instituto Tecnológico y de Estudios Superiores de Occidente (ITESO)
 Avenida La Paz 1250
 Guadalajara
 Estado de Jalisco

Contact: Sr. Miguel Bazdresch, Director

INFOTERRA: 1300 2620 2630
 3150 6272 6800
 6870

Develops and promotes low-cost, labour intensive technologies, including ovens for drying fodder, hand threshers, ploughs, building materials and organic fertilizers.

2.02 Centro de Estudios Económicos y Sociales del Tercer Mundo (T)

A.C., Cor. Porfirio Díaz 50
 San Jerónimo Lídice
 México 20, D.F.

Contact: Dr. B. F. Osorio-Tafall,
 Director General

INFOTERRA: 6790 6800 6990
 7000

The Appropriate Technology Unit of the Centre (Ing. Julio A. Cortés, Coordinator) concentrates on: collection and dissemination of information concerning indigenous technology levels and their social role in the Third World; research, development and promotion of new appropriate technologies; liaison with institutions and practitioners active in promoting Appropriate Technology concepts; training and orientation programmes to stimulate the introduction of Appropriate Technology into project planning.

2.03 Consejo Nacional de Ciencia y Tecnología (CONACYT) (T)

Insurgentes Sur 1677 Z 20
 Apartado 20-033
 Mexico, D.F.

Contact: Dr. Ivan Restrepo,
 Ecodesarrollo Section

INFOTERRA: 1010 6800 7040

Ecodesarrollo Section researches, develops and promotes technologies for environmental preservation applications.

2.04 Programa de las Naciones Unidas Para El Medio Ambiente (A)

President Masaryk 29
 Mexico 5 D.F.

INFOTERRA: 6800 6980 7000

Co-ordinates environmental activities, acts as a network of alternative technology information. Produced bulletin concerning Xochicalli, La Casa Ecologica Autosuficiente (The Ecologically Self-Sufficient House).

3.01 Centro de Ecodesarrollo, A.C. (G)

Altadena No. 8
Col. Napoles 18, D.F.

INFOTERRA: 2015 3720 7000
7002

Works in the area of small-scale energy generation such as oil barrel biodigestion. Produces a bulletin which provides information about projects in Mexican villages.

3.02 Centro De Estudios Generales, A.C. (G)

Apartado 732
Chihuahua
Estado de Chihuahua

INFOTERRA: 1580 1640 3140
3150 3230 6980
7000

Implements educational models in such areas as health, construction, and community service. One housing project used ferrocement in construction.

3.03 Instituto de Investigaciones Sobre Recursos Bióticos (A)

Ave. Revolución No. 1209 3er piso
Mexico 20 DF

Contact: Dr. Arturo Gómez-Pompa

INFOTERRA: 1010 1015 2430
2620 2625 2640
2660 6272 6800
6980

Interested in promoting agriculture throughout the country using appropriate technologies, new practices and techniques. Also concerned with the dissemination of information and transfer of agricultural technology from region to region. Publishes newsletter *Informa*.

4.01 El Colegio De Mexico

Apartado Postal 20-671
Mexico 2 DF

4.02 The Environment Foundation

Apartado Postal 6-1088
Mexico 6

5.01 Julio Boltvinik

c/o CONACYT
Insurgentes Sur 1814
Piso 9, Mexico D.F.

INFOTERRA: 6800

Interested in methodology of selection of environmentally-sound and appropriate technology.

5.02 Jose Giral

Department de Ingenieria Química
Grupo de Desarrollo de Tecnologia
Facultad de Química
Universidad Nacional Autonoma de
Mexico
Mexico, D.F.

INFOTERRA: 4111 6790 6800

Author of book on the development of appropriate chemical technology in Mexico: *Manual para el Desarrollo, Transferencia y Adaptación de Tecnologia Química Appropriada*.

MONGOLIA

5.01 B. Damminyama

Dean of Faculty, Civil Engineering
Mongolian State University

INFOTERRA: 3150 3230 3300

Interested in indigenous housing.

MOROCCO

3.01 Institute Agronomique et Veterinaire

B.P. 704
Rabat (Agdal)

Contact: Paul Pascon or Fawzi Senhaji

INFOTERRA: 2630 2810 3990
6810 6840

Concerned with various aspects of food technology and with the application of endogenous technology.

4.01 Industrial Development Centre

Rabat

MOZAMBIQUE

5.01 Carlos Alberto Caridad Monteiro e Couto

Head of Department
Curso de Engenharia Electrotecnica
Universidade de Maputo
C.P. 257
Maputo

INFOTERRA: 6800

Acts as a contact for information on appropriate technologies in Mozambique.

5.02 Doctor F. J. Pereira

Departamento de Engenharia Quimica
Universidade de Maputo
Av. de Mocambique
KM.2
Maputo

INFOTERRA: 6800

Acts as a contact for information on appropriate technologies in Mozambique.

NEPAL

2.01 Butwal Technical Institute

Butwal
Nepal

Contact: Mr. D. P. Upadhaya

INFOTERRA: 2630 3724 3742
6790 6800

Workshops (Butwal Engineering Works and Butwal Wood Industries) produce small water turbines, biogas storage drums, suspension bridges, agricultural tools, electrical supply systems and furniture. BTI involved in training of apprentices.

2.02 United Mission to Nepal

Development and Consulting Services
HQ, P.O. Box 126
Thapathali
Kathmandu

Contact: Tor Mogedal

INFOTERRA: 2630 2910 3110
3720 3724 3742
6620 6790

Engaged in research and development and extension work in: biogas systems, small turbines for driving grain and oil

mills etc., small turbines for driving electric generators (7-90kW), small agricultural tools, foot and Humphrey pump. Offers consultancy services in: small-scale hydro-electric power (100-1,000kW), irrigation schemes and general civil engineering.

3.01 Balaju Yantra Shala (P) Ltd. (BYS) (T)

P.O. Box 209
Balaju
Kathmandu

INFOTERRA: 1015 2630 2910
3120 3215 3720
3724 6800 6810

Works in three distinct areas to promote development in Nepal. The mechanical division produces suspension bridges, turbines, roof frames, water tanks, steel towers, tools and spare parts, as well as furniture and aluminium containers. The electro division produces high and low tension electrical systems. The plumbing division produces sanitary installations for hotels and offices, irrigation equipment, and is considering production of alternative energy sources, including methane plants, solar water heaters, cross-flow water turbines and hydraulic rams.

3.02 British Gurkha Ex-Servicemen Reintegration Training Scheme (T)

Lumle Agricultural Centre
c/o P.O. Box 1
Pokhara
Gandaki Anchal

INFOTERRA: 2630 2640 6790
6800 6840 6900
6960

Involved in agricultural training, including product development and testing, with a strong Appropriate Technology component.

3.03 Swiss Association for Technical Assistance (SATA) (T)

P.O. Box 113
Kathmandu

Contact: Andreas Bachmann

INFOTERRA: 1620 1640 2015
2620 2700 2860
3580 6790 6800
6880 6900 6920

Provides technical, financial and administrative assistance in a wide range of projects, including the development of standardized elements for suspension bridges, integrated regional development (agriculture, afforestation, education, health, village water supplies), and the organization of cheese producing plants (including training of apprentices) – all of which include a strong appropriate, intermediate technology component.

NETHERLANDS

1.01 Stichting Technische Ontwikkeling Ontwikkelings Landen (TOOL) (Technical Development for Developing Countries) (T)

Mauritskade 61a
Amsterdam

Contact: Pauline van Tets

INFOTERRA:	1640	2760	3140
	3724	3746	3920
	3961	6790	6800
	6840	6880	6950
	6990	7000	

Processes technical enquiries from any developing country. Undertakes studies on various subjects, including animal husbandry, grain storage, soap preparation, latrines, bamboo in construction, wind energy and methane gas. Sponsors the Appropriate Technology Group in Sri Lanka. TOOL is a collective body representing a number of cooperating groups, mostly in Dutch Universities. Publishes *Lectures on Socially Appropriate Technology*, as well as extensive listings including manuals on building in tropical countries (latrines, septic tanks, etc.).

2.01 Appropriate Technology Group (X)

Delft University of Technology
Mijnbouwplein 11 (tuinhuus)
Delft

INFOTERRA:	1640	2861	3330
	3720	6800	

Involved in various aspects of appropriate technology, particularly in the areas of energy, housing, traditional medicine, sanitation and waste disposal, water storage, supply and treatment.

2.02 Projekt de Kleine Aarde (The Small Earth Project) (C)

Munsel 17
Boxtel, NB

Contact: Sietz Leeftang

INFOTERRA:	2640	3230	3410
	6272	6860	7000
	7050		

Operates an experimental organic farm, site of autonomous dome; runs educational courses and publishes magazine.

2.03 Steering Committee on Wind Energy in Developing Countries, Wind Energy Group (T)

Department of Physics
Technische Hogeschool
Postbus 513
Eindhoven

INFOTERRA:	3720	3746	6620
------------	------	------	------

Involved in research and development of a variety of water lifting windmills, and water pumps.

3.01 Delft University of Technology (A)

Julianalaan 136
Delft

Contact: Dr. J. van Brakel

INFOTERRA:	2015	2620	3724
	4111	6800	6810
	6880		

Interested in many areas of chemical technology, including traditional chemical technology. Studies also include distillation apparatus for rural application, small-scale low-cost digesters, drying mechanisms for agricultural products. Initiated research project on Chemical Technology for Appropriate Development which concerned appropriate technology in developing countries and the role of organizations active in this field.

3.02 Foundation for Applied Ecology (Y)

2 Oorgot
Edam

Contact: Wouter van Dieren

INFOTERRA:	1000	1020	6800
------------	------	------	------

Concerned with appropriate technology as related to over-development and over-consumption.

**3.03 International Reference Centre for
Community Water Supply (Y)**

P.O. Box 140
2260 AC Leidschendam
The Netherlands

INFOTERRA: 1620 1640 6980
7002

Concerned with community health and
water supply.

3.04 Technische Hogeschool (P)

Naturkunde Afdeling Solidstate Physics
NC 0110

INFOTERRA: 3215 3747

Undertakes research on solar energy.

3.05 Technische Physische Dienst tnoth (P)

Stieltjerwegi
Delft PB 155

Contact: Mr. C. den Ouden

INFOTERRA: 3215 3747

Interested in solar houses.

3.06 University Wageningen (P)

Landbouwhoeschool
Wageningen

INFOTERRA: 3724

Interested in biogas and methane pro-
duction.

3.07 Windmill Group Wot (G)

Vrijhof 152
T.H. Twente
Postbus 217
Enschede

INFOTERRA: 2630 3746

Responds to queries about windmill con-
struction and use.

**3.08 Workgroup on Development Techniques
(WOT) (X)**

Vrijhof 152
Postbus 217
Enschede

INFOTERRA: 1015 3720 6800

Interested in appropriate technology
relating to alternative forms of energy.

**3.09 World Information Service on Energy
(WISE) (G)**

2 E Weteringsplantsoen 9
Amsterdam

INFOTERRA: 3720 6980 7000
7002

Recently formed group whose aim is to
disseminate energy information through-
out the world.

4.01 The Energy Centre of the Netherlands

Petten

INFOTERRA: 3746

Interested in applied windpower.

**4.02 Nederlandse Vereniging Tot Bevordering
Der Biologisch-Dynamische**

Landbouw-Methode
Voorweg 26
Nieuwe Wetering

4.03 RIO Foundation

P.O. Box 299
Rotterdam

NEW CALEDONIA

2.01 South Pacific Commission (SPC) (I)

Post Box D5
Noumea CEDEX

INFOTERRA: 2015 3720 3724
6810 6960 6990

Acts as consultative and advisory body to
governments in the South Pacific.
Promotes activities in rural management
and technology. Develops waste digesters.
Publishes quarterly bulletin.

NEW HEBRIDES

**2.01 Kristian Institute of Technology
(KITOW) (T)**

Presbyterian Mission
P.O. Box 16
Isaugel
Tanna
via Villa

Contact: Rev. K. C. Calvert,
Executive Secretary

INFOTERRA: 3140 3150 3300
4024 6471 6790
6800 6870

An association of village cooperatives which supports small-scale technology village workshops run by village councils. Currently implementing a programme to develop low-cost housing incorporating cement composed of coral and volcanic ash, split bamboo wallboard, insulating material produced from coconut fibre and sawdust, and "kitset" knockdown wooden furniture.

NEW ZEALAND

3.01 Department of Scientific and Industrial Research (R)

Physics and Engineering Laboratory
Private Bag
Lower Hutt

INFOTERRA: 3215 3720

Carries out research on efficient wood-burners, the gasification of wood for the production of methanol, and on a solar water heater.

NICARAGUA

2.01 Clearinghouse of Peace Corps Intermediate Technology (COPCIT) (T)

Cuerpo de Paz
Apartado 2355
Managua

Contact: Stephen J. Lyon

INFOTERRA: 6790 6800 6990
7000

Acts as appropriate technology information resource centre.

2.02 National Basic Rural Development Project (PLANSAR) (T)

Department of Public Health
Managua

Contact: Sr. Adan Cajina,
Minister of Public Health

INFOTERRA: 3746 6620 6790
6800 6960

Develops various low-cost appropriate technologies, including hand-pumps and windmills.

3.01 Center for Regional Development (Y)

Puerto Cabezas
Nicaragua

Contact: James Corven

INFOTERRA: 1620 6800

Involved in many aspects of appropriate technology for health.

3.02 Fundación Nicaraguense de Desarrollo (T)

Colonia Mantica
Calle Colón
Apartado Postal 2598
Managua

Contact: William Baez, Executive Director

INFOTERRA: 3150 3300 6790
6900

Interested in low-cost housing development.

3.03 Servicio De Documentación Y Comunicación Rural (SEDOC) (N)

C.E.P.A.
Ap. 2929
Managua

INFOTERRA: 2015 6790 6800
6810 6980 6990
7000

Serves as a documentation centre on rural technologies.

NIGER

3.01 Euro-Action Sahel (T)

B.P. 624
Niamey

INFOTERRA: 2630 6790 6941

Established a blacksmiths training programme for the manufacture of animal-traction agricultural equipment.

3.02 Office de l'Energie Solaire (ONERSOL) (V)

B.P. 621
Niamey

Contact: M. A. Moumouni

INFOTERRA: 3215 3747

Involved with many aspects of solar energy utilization.

NIGERIA

2.01 Institute for Agricultural Research (R)

Ahmadu Bello University
Samaru
PMB 1044
Zaria

INFOTERRA: 2630 2640 2660
6990 7000

The Agricultural Mechanization Programme tests and implements tools, undertakes studies on technical and economic costs and benefits of different implements, practices and processes, develops agricultural tools such as threshing machines. Produces reports and extension guides.

2.02 Intermediate Technology Workshop (R)

P.O. Box 401
Waff Road
Zaria
N.C. State

INFOTERRA: 1642 3150 5151
6800 6810

Designs and produces wide range of cheap hospital equipment made from local materials with local labour. Booklet containing designs is available.

2.03 International Institute of Tropical Agriculture (IITA) (T)

PMB 5320
Ibadan

Contact: Dr. Ray Wijewardene,
Systems Engineer

INFOTERRA: 1640 2630 2640
2660 3330 4113
6790 6800

Develops techniques and tools to serve the small farmer of the humid tropics such as a no-till technique using a low-growing legume mulch; a jab planter for maize which may increase production from two crops per year to five; controlled droplet application of herbicides reducing the amount used from 500 litres to two, and a modified hand tractor. There are proposals to expand

the appropriate technology work to encompass housing, schools, water, power and sanitation. Publishes several research reports on the use of appropriate equipment in relation to West African food crops.

3.01 African Rural Storage Centre (R)

c/o International Institute of Tropical Agriculture
PMB 5320
Ibadan

INFOTERRA: 2620 2630 2790
3960 3961 6980
6990

Undertakes research on maize storage, moisture content and losses due to insects and effects of these on crib design and use of certain insecticides; results and recommendations disseminated to African countries.

3.02 Department of Agricultural Engineering (V)

IAR
PMB 1044
Zaria

INFOTERRA: 2630

Undertakes research and development of animal drawn equipment, water drawing, etc.

3.03 Department of Agricultural Engineering (R)

University of Ife
Ife

INFOTERRA: 6800 6980 6990
7000

Established an Appropriate Technology Information Centre at the University Library.

3.04 Department of Civil Engineering (V)

Ahmadu Bello University
Zaria

Contact: B. Z. Dramant

INFOTERRA: 1620 3110

Interested in environmental health engineering.

3.05 Department of Community Medicine (V)

Ahmadu Bello University
Zaria

INFOTERRA: 1620 1640

Interested in simple preventive health care.

3.06 Department of Food Science and Technology (T)

University of Ife
Ile-Ife

Contact: Dr. P. O. Ngoddy, Senior Lecturer, Food Engineering and Processing

INFOTERRA: 3960 3961 6990

Undertakes research and development of food processing and preservation techniques, including a low-cost incubator with accuracy identical to comparable commercial units.

3.07 Department of Mechanical Engineering (X)

University of Nigeria
Nsukka

INFOTERRA: 1015 3720 3747
5366 6800

Involved in appropriate technology activities relating to solar and other types of alternative energy, refrigeration equipment, waste disposal, crop drying.

3.08 Department of Preventative and Social Medicine (T)

University of Ibadan
Ibadan

Contact: Dr. P. A. Oluwande, Senior Lecturer

INFOTERRA: 1620 1640 5441
6283 6790 6980

Disseminates appropriate preventative health techniques. Has developed a simplified approach to aqua privy construction, intermediate between the pit latrine and the septic tank, which, if properly constructed and maintained, is odourless and does not attract flies.

3.09 Federal Institute of Industrial Research (R)

PMB 1023
Murtala Muhammed Airport
Ikeja
Lagos State

INFOTERRA: 2620 2630 2640
2660 6810

Undertakes various projects which have included: fabrication of a still, small-scale mechanized gari plant, improved dyeing jig to make dyes from vegetable sources, hot-air fish drying equipment, plant for production of vinegar from fermented palm-wine.

3.10 Nigerian Stored Products Research Institute (N)

Harvey Road, Yaba
PMB 12543
Lagos

INFOTERRA: 2630 2660 4131

Undertakes research concerned with storage and transport of agricultural products.

3.11 OAU/STRC (V)

P.O. Box 2359
Lagos

Contact: A. H. Abdel Razik

INFOTERRA: 1011 5151 6840
6960

Involved in technological research and encouragement of natural design capacity.

3.12 Projects Development Agency (R)

3 Independence Layout
P.O. Box 609
Enugu

INFOTERRA: 2630 3140 3150
3215 3830 3960
6271 6850 6941
7040

Carries out research, development and limited production (for demonstration purposes) in areas such as analysis of clays, ores and sands; adaptation of foundry, machining, forging and fabricating processes and production of building moulds; development of food processing equipment; development of agricultural equipment; development of processes for manufacture of school chalk; pulp from straw, building and fire bricks, solar water heaters and many more.

4.01 Groupe d'Assistance au Stockage des Graines en Afrique (GASGA)

c/o IITA, PMB 5320
Ibadan

Contact: Dr. W. H. Boshoff

INFOTERRA: 3961

5.01 A. A. Afonja

P.O. Box 1912
Ibadan

INFOTERRA: 1015 3720 5443
6271

Promotes alternative systems for energy use and waste disposal.

5.02 Dr. Alex Animalu

Department of Physics
University of Nigeria
Nsukka

INFOTERRA: 1015 3720 6800

Interested in alternative energy sources and technologies; planning an energy development programme for the University of Nigeria.

5.03 Dr. Abd-El-Hamid H. Awad

Department of Mechanical Engineering
University of Nigeria
Nsukka

INFOTERRA: 2630 3960

Interested in low-cost, appropriate equipment for food and crop drying.

5.04 S. W. Eaves

P.O. Box 401
Zaria
N-C State

INFOTERRA: 1642 6800

Works on low-cost hospital equipment.

5.05 Professor G. A. Makanjuola

Department of Agricultural Engineering
University of Ife
Ile-Ife

INFOTERRA: 2630

Developed a number of appropriate agricultural devices including small-scale, locally made equipment for pounding yam and similar foods. Has also developed a low-cost portable hand planter for grains.

5.06 Segun Oke

Chemistry Department
University of Ife
16-Ife

INFOTERRA: 3960 3980 3990
6800 6810

Interested in endogenous technology, fermentation processes, leaf protein.

5.07 Dupe Olatunbosun, Deputy Director

NISER
University of Ibadan
Ibadan

INFOTERRA: 6800 6960

Interested in the economic role of appropriate technology.

5.08 F. D. Olatunji

Federal Institute of Industrial Research
P.O. Box 1023
Ikeja
Lagos

5.09 Comfort Olayiwole

Home Economics Section
School of Agriculture
Samaru - Zaria

INFOTERRA: 3410 6850 7050

Interested in homestead improvement; started a "model" village for training.

5.10 Pere Bernard Verspieren

Mission Catholique
San BP1

INFOTERRA: 2820 6620

Works on water supply project in San region, also involved in hand and solar pumps.

NORWAY

3.01 Fulkeaksjonen Fremtiden I Vare Hender (FIVH) (W)

P.O. Box 5304
Majorstua
Oslo

Contact: Jacob Bomann-Larsen,
Information Secretary

INFOTERRA:	1000	1010	1120
	1580	2030	2620
	3743	3980	4000
	6800	6950	6980
	7050		

Aims to change public attitude and opinions on environmental issues and from materialism to a new lifestyle which requires less resource consumption as a first step to a new policy which would give priority to the development of poor countries.

3.02 Natur Og Ungdom (Nature and Youth)

(N)

Post Box 8268
Hammersborg
Oslo 1

INFOTERRA:	1015	3720	6800
	6980	6990	

Involved in alternative energy projects and publications.

3.03 Norwegian Building Research Institute

(H)

P.O. Box 322
Blindern
Oslo 3

Contact: Mr. H. Hagen

INFOTERRA:	3140	3215	3230
	3410	6471	

Studies aspects of building such as insulation, moisture, thermal capacity, solar radiation, engineering of heating and ventilation equipment.

4.01 Okoteket i Norge

Torggate 35
Oslo 1

5.01 Johann Galtung

Professor of Conflict and Peace Research
University of Oslo
P.O. Box 1070
Oslo 3

INFOTERRA:	6800	6880
------------	------	------

Interested in methodology of selection of environmentally-sound and appropriate technologies and in global peace.

OMAN

2.01 Khabura Development Project (T)

P.O. Box 9024
Mina al Fahal

Contact: Roderic Dutton, Director

INFOTERRA:	2860	2910	3720
	3746	6530	6620
	6790	6800	

Implements appropriate technologies in a chain of small villages along 20 kilometres of the South Omani coast. A small, low-cost, low-lift windmill for irrigation pumping should soon be installed, together with a solar still to purify brackish water.

3.01 Water Resources Council (X)

P.O. Box 5225
Muscat

Contact: Technical Secretary

INFOTERRA:	1640	2820	2861
	3720	5366	

Involved in appropriate technology activities in the areas of energy, sanitation, waste disposal, water storage, supply and treatment.

PAKISTAN

1.01 Appropriate Technology Development Organization (T)

P.O. Box 1306
I-B
F-7/1 Street Number 47
Islamabad

INFOTERRA:	2630	2910	3300
	3720	3742	3746
	3747	3960	3961
	6271	6790	6800
	6840	6850	6860
	6941	6990	

Identifies, either through studies or requests, technological gaps in the agricultural and industrial sectors, and then commissions institutions to develop appropriate solutions. Studies the economics of specific technologies and publishes the results. Plans and implements Appropriate Technology projects. Has been involved in the following fields:
(a) Agricultural equipment: paddy driers, rice and wheat threshers, and ox-driven

earth-moving equipment for agriculture and irrigation; (b) Agro-industries: dehydration of fruits and vegetables, extraction of sugar from sugar cane, and vinegar from over-ripe dates; (c) Industries: simple rural production of insecticide from tobacco waste; (d) Power: the generation of electricity using water at high, medium, low and very low heads in turbines, generators and water wheels, windmills for both electricity generation and water pumping, and gobar gas plants; (e) Construction: low-cost housing and primary school buildings.

2.01 Irri-Pak (G)

Agricultural Machinery Programme
73-A Satellite Town
Rawalpindi

Contact: Dr. A. U. Khan

INFOTERRA: 2630 2910 3120
5151 6900

Undertakes research on small agricultural tools with emphasis on small farms; provides engineering drawings and technical assistance to groups requesting it. Also provides training courses for design engineers.

3.01 Institute of Public Health Engineering and Research (Y)

University of Engineering and Technology
Lahore-31

INFOTERRA: 1620 1640 6980

Research institute concerned with public health facilities.

4.01 Agricultural Research Institute

Tandojam
Sind

INFOTERRA: 2620 2640

4.02 Agricultural Research Station

Ariab
N.W.F.P.

INFOTERRA: 2620 2640

4.03 Irrigation Research Institute

Lahore

INFOTERRA: 2910

PANAMA

3.01 Asociación Panamena de Desarrollo (APADE) (T)

Calle 34
Edificio Banco de Bogota Apt. 4-404
Panama 9A

Contact: Cecilio Shaw, Executive Director

INFOTERRA: 6930 6960

Provides credit and financing services for development projects.

3.02 Rural Development Centre (T)

Apartado 445
Panama 9A

Contact: Rev. Kenneth Mahler

INFOTERRA: 2015 6790 6800
6960

Interested in Appropriate Technology applications for rural development.

PAPUA NEW GUINEA

1.01 South Pacific Appropriate Technology Foundation (SPATF) (I)

P.O. Box 6937
Boroko

INFOTERRA: 1165 2630 3720
6790 6800 6870
6900 6980 6990
7000

Actively promotes and develops appropriate technology for self-help village development in Papua New Guinea and facilitates the spread of appropriate technology throughout the South Pacific.

2.01 Melanesian Council of Churches (T)

P.O. Box 1920
Lae

Contact: Mimi Arata, Information
Co-ordinator

INFOTERRA: 2015 6800 6960
7000

Publishes *Liklik Buk Bulong Kain Kain Samting*, a handbook and catalogue of rural development for Papua New Guinea, strongly emphasizing the role of appropriate technologies.

3.03 Office of Village Development of the Department of the Prime Minister (I)

Boroko

INFOTERRA: 6980 6990 7000

Encourages and acts as a clearinghouse for information exchange between government departments, private organizations and individuals. Publishes a newsletter.

3.04 Purari Action Group (N)

c/o National Parks
P.O. Box 2749
Boroko

INFOTERRA: 6800 6840 6960

Works to ensure that appropriate technology is used in development ventures.

3.05 Wau Ecology Institute (N)

Box 77
Wau

Contact: Dr. J. L. Gressitt

INFOTERRA: 1015 1921 2640
6272 7050

Experiments with and demonstrates Composted Contour-mound Agrosilviculture to improve diet, reduce pest-loss, reduce waste, reduce unnecessary cutting of forests and promote soil conservation. Mainly concerned with environmental education.

5.01 Tony Power

IVIN Integrated Farm Project
P.O. Box 61
Angoram
East Sepik

2.02 Appropriate Technology Development Unit (ATDU) (R)

University of Technology
P.O. Box 793
Lae

INFOTERRA: 2630 3120 3215
3742 3840 3960
3990 6620

A joint SPATF/PNG University of Technology venture which tests various designs of hydraulic ram pumps and sago processing machine and is developing a cheap pelton wheel for small hydro-electric

schemes. Research projects on small-scale cement production, bicycle assembly, solar refrigeration, wood preservation and small-scale food processing.

2.03 Yangpela Didiman Association (N)

P.O. Box 39
Banz
Western Highland Province

INFOTERRA: 2660 6800 6980

Disseminates appropriate technology materials to help promote self-sufficiency in food production.

3.01 Churches Medical Council (X)

P.O. Box 2458
Konedobu

INFOTERRA: 1580 2015 2860
3300 3330 6800
6990 7050

Involved in appropriate technology activities concerned with education, family planning, health, housing, nutrition, waste disposal, technology information, water storage and supply.

3.02 Department of Transport, Works and Supply (J)

P.O. Box 1108

INFOTERRA: 6800 6980 7000

Publishes work of interest to people involved in appropriate technology.

PERU**2.01 Instituto de Investigación Tecnológica Industrial y de Normas Técnicas (ITINTEC) (A)**

Dirección de Tecnología
Programa de Tecnologías Apropriadas al Ambito Rural
Lima

Contact: Ing Carlos Villa-García

INFOTERRA: 1640 2015 2620
2673 2700 2820
3300 3330 3720
6800 6810 6840
6990

Initiated an appropriate technology programme with the help of A.I.D. Appro-

priate Technologies for Rural Areas. This programme aims to establish a system to improve the technologies used by the rural inhabitants which would identify necessities, generate solutions and transfer modern abilities. It also hopes to test and adapt those satisfactorily tested rural technologies to the particular conditions of specific zones and to diffuse appropriate rural technologies and determine how most effectively to accomplish this. Areas under investigation include energy, public health, water, agriculture, forestry, fishing, industry (including small-scale), farming, housing, education and infrastructures and services.

3.01 Co-operación Técnica del Gobierno Suizo (T)

Embajada de Suiza
Casilla 378
Lima 1

Contact: Gerold F. Baumann

INFOTERRA: 2015 6790 6800
6840 6900 6960

Promotes suitable, low-cost techniques for rural development.

3.02 Department of Engineering, Pontificia Universidad Católica del Peru (A)

Apartado 12514
Lima, 21

Contact: Ing. Juan Harman, Head of Department of Engineering

INFOTERRA: 2630 3092 3742
6800 6810

Involved in various aspects of appropriate technology such as the design of small machinery – presses, pulleys, counting and folding machines; the development of control equipment for small hydroelectric power stations; design of hydraulic turbines; fans and heat exchangers; and methods of protection against corrosion.

3.03 Peruvian Association of Sanitary and Environmental Engineering (N)

Asociación Peruana de Ingenieros Sanitaria y Ambiental
Emilio Fernandez 296 Of. 803
Lima 1

INFOTERRA: 1015 2155 2300
2910 3720 4960

Undertook Project San Juan which used treated polluted water for irrigation of a sand region in which a forest could not be created, to use as a green space for Lima. Also interested in alternative sources of energy.

3.04 Universidad Nacional Agraria (A)

Apartado 456
La Molina
Lima

INFOTERRA: 1010 1701 2910

Helps to co-ordinate other institutions in investigating problems of the environment and to help find formulas to help safeguard ecological equilibrium.

3.05 Universidad Técnica del Altiplano (T)

Puno

INFOTERRA: 2620 4000 4113
6800

Engaged in "primitive" engineering and conducting research on the nutritional values of local food plants.

4.01 Centro Panamericano de Ingeniería Sanitaria y Ciencias del Ambiente (CEPIS)

Calle Los Pinos 259
Casilla Postal 4337
Lima 100

INFOTERRA: 1620 1640

PHILIPPINES

2.01 Institute for Small-Scale Industries (ISSI) (T)

University of the Philippines
11th Floor
SSS Building 5
East Avenue
Quezon City D 505

INFOTERRA: 1015 5481 6790
6800 6810 6941
6960 6990 7000

Collects, collates and disseminates information on research and development relating to small-scale industry technologies particularly concerning wood-furniture and shoe production. Also implements with Georgia Institute of Technology (USA), an entrepreneurship

development programme. Completed study on utilization of water hyacinth. Publishes *Small Industry Journal*, quarterly, which often contains information on appropriate, small-scale techniques based on renewable resources.

3.01 Centre for the Development of Human Resources in Rural Areas (CENDHRA)

P.O. Box 458 (N)
Greenhills
Manila

INFOTERRA: 2015 6800 7000
7002

Sponsors workshops and is involved in documentation on appropriate technology for people in rural areas for dissemination throughout Asia.

3.02 Federation of Free Workers (N)

Room 303 Cruz Building
1452 Taft Avenue
Manila 1208

INFOTERRA: 6800 6980

Undertakes research and provides information on appropriate technology.

3.03 International Rice and Research Institute (IRRI) (T)

P.O. Box 933
Manila

INFOTERRA: 2630 4113 6790
6800

Designed and developed threshers, tillers, and harvesting equipment in close collaboration with local farmers and craftsmen. Technical drawings available upon request.

3.04 Ministry of Human Settlements (A)

Marvin Plaza
Pasong Tamo Extension
Makati
Metro-Manila

INFOTERRA: 1000 1580 1620
1640 1701 2030
2155 2190 2820
3260 4165 5440
5443 5481 6272

Supplements, supports and co-ordinates the efforts of the other implementing ministries and local governments to provide to the masses the eleven basic needs

of a human settlement (water; power; food-agriculture; clothing; cottage industries; economic base-livelihood; medical services; education; culture and technology; ecological balance; sports and recreation; shelter – housing and land use; mobility). Under its jurisdiction are Technology Resource Centre and National Housing Authority, which follow.

3.05 Technology Resource Center (A)

Technology Resource Center Building
Buendia Avenue Extension
Makati
Metro-Manila

INFOTERRA: 6700 6785 6790
6800 6810 6840

Provides information on appropriate technology; involved in technology development.

3.06 National Housing Authority (A)

Elliptical Road
Quezon City

INFOTERRA: 3150 3260 3300
3330 3340

Develops and undertakes housing development and resettlement projects; formulates and enforces general and specific policies for housing development and resettlement; prescribes guidelines and standards for reservation, conservation and utilization of public lands identified for housing and resettlement.

3.07 National Pollution Control Commission (W)

Pedro Gil Street
Corner Taft Avenue
P.O. Box EA-174
Manila

Contact: Deputy Commissioner for
Standard Setting and Monitoring

INFOTERRA: 1970 2030 2190
3200 3300 3330
3340 3410 6800
6840 6941

Conducts studies and formulates plans and programmes for human settlements. Formulates land development regulations and standards and explores possibilities for development and implementation of innovative technologies and approaches on human settlements.

3.08 Regional Adaptive Technology Centre

Mindanao State University (T)
Marawi City

INFOTERRA: 1340 3830 6790
6800 6960 7000

Assists low income groups in developing technical skills. Currently working on small-scale ceramics and brass production.

3.09 Urban Designers Associates, Inc. (UDA)

P.O. Box 53 (N)
Diliman
Quezon 3004

Contact: Geronimo V. Manahan,
Vice-President

INFOTERRA: 3140 3260 3300
3724 6790 6810

Initiates discussion groups and seminars with architectural association on technology transfer. Developed prototype biogas generation plant for marginal housing.

PORTUGAL**3.01 Comissao Nacional do Ambiente (W)**

Praca Duque de Saldanha 31-1
Lisboa - 1

Contact: The President

INFOTERRA: 1015 1060 3720
3724 3746 3747
6800

Collects information on the impact on the environment by the production and utilization of energy. Also aims to develop new energy, particularly in the fields of solar, wind and methane energy.

RWANDA**3.01 Association Rwandaise des Compagnons Batisseurs (T)**

B.P. 454
Kigali

INFOTERRA: 2015 3140 3150
3230 3300 3330
4040 6790 6800
6960

Concerned with rural development with a strong Appropriate Technology compo-

nent. Interested in alternative cements and building materials, and devising applications for papyrus. Studies on glue manufacture from animal waste.

3.02 Centre d'Etudes et d'Applications de l'Energie au Rwanda (CEAER) (T)

Dept. de Physique
Université Nationale du Rwanda
Butare

Contact: Monsieur Gerard Saunier,
Director

INFOTERRA: 3720 3724 3742
3747 6790 6800
6990

Examines potential production of distillators, refrigeration chambers and water heaters in Rwanda. Plan to adapt one of the Girardier solar pumps, and construct a Pelton Wheel for small-scale power production.

4.01 Rural Environment and Housing in Inter-Tropical Africa

Butare

INFOTERRA: 2015 3140 3230

5.01 Monsieur Jozef G. Manteleers

s/c Economat General
B.P. 30
Kibungo

INFOTERRA: 6800 6950

Interested in appropriate technologies in developing countries.

SAUDI ARABIA**4.01 The Research Centre**

Faculty of Technology
University of Riyadh
Riyadh

SENEGAL**1.01 Technology Relay for Ecodevelopment and Planning in African Environments (RETED) (T)**

Environment Training Programme
(ENDA)

B.P. 3370
Dakar

Contact: Philip Langley

INFOTERRA:	6785	6790	6800
	6810	6840	6880
	6900	6941	6950
	6960	6990	7050

Has established an information exchange network on the use of environmentally-sound technologies. Will also encourage and undertake case studies; draft, publish and distribute documents (technical information sheets, etc.) and other teaching aids, as well as assist in training activities. Particular attention will be paid to existing indigenous technologies and their improvement through promotion of popular inventiveness and technical competence. Publishes *African Environment* quarterly.

2.01 Enseignement Moyen Pratique (EMP) (V)

Centre National de M'Bour
B.P. 31
M'Bour

Contact: Mamadou Diallo

INFOTERRA: 6800

Concerned with various aspects of alternative technology.

3.01 Ecole Nationale d'Economie Appliquée (ENEA) (V)

Route de Ouakam
B.P. 5084
Dakar

Contact: Papa Kane

INFOTERRA:	1970	2030	6790
	6810	6960	

Interested in endogenous technology and rural planning, land use and development.

3.02 Faculté des Sciences, Université de Dakar (V)

Dakar

Contact: Gerard Cohen-Solal

INFOTERRA: 3215 3747

Involved in research on solar energy.

3.03 Institut de Technologie Alimentaire (V)

B.P. 2765
Dakar

Contact: Thérèse Basse, Director

INFOTERRA: 3960 3961 3990

Concerned with various means of processing and storing food.

3.04 I.U.T./Dépt. de Génie Mécanique (V)

Dakar

Contact: M. Bremont

INFOTERRA: 3120

Concerned with various aspects of mechanical engineering.

3.05 Maisons Familiales Rurales (V)

B.P. 55
Thiès

Contact: Paulette Gervais

INFOTERRA: 3300 3330

Composed of organizations in several African countries – Cameroon, Rwanda, Togo, Chad, Congo, involved in low-cost housing programmes.

3.06 School Buildings Service (UNESCO) (V)

UNESCO-BREDA
P.O. Box 3311
Dakar

Contact: Kamal el Jack

INFOTERRA:	3140	3150	3230
	6860		

Works on pilot projects, prototype buildings; concerned with appropriate building technology and materials.

3.07 Secretariat Exécutif des Centres d'Expansion Rurale (V)

Mini du Développement Rural
Building Administratif
Dakar

Contact: Massata Guèye

INFOTERRA:	1970	2015	2170
	2660	2760	

Involved in co-ordinating rural expansion centres, animal and plant production, rural planning and transformation.

4.01 African Institute for Economic Development (V)

P.O. Box 3186
Dakar

- 4.02 Centre Expérimental de Recherches et d'Etudes pour l'Equipment (CEREEQ)** (V)
 B189
 Hann
 Dakar
 Contact: M. Sall
 INFOTERRA: 2630

- 4.03 Direction Générale de la Recherche Scientifique et Technique (DGRST)** (V)
 61 Bd. Pinet Laprade
 Dakar
 Contact: M. Papa Algaphe Thiam
 INFOTERRA: 7040

- 4.04 International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)** (V)
 28 Rue Thiers
 B.P. 3340
 Dakar
 Contact: Claude Charreau
 INFOTERRA: 2482 2640 2660

- 4.05 Société Industriel pour l'Application de l'Energie Solaire (SINAES)** (V)
 B.P. 1277
 Dakar
 Contact: Frager Gaye
 INFOTERRA: 3215 3747

SIERRA LEONE

- 3.01 Department of Agricultural Engineering** (T)
 Njala University College
 P.M.B. Freetown
 Contact: N. G. Kuyenbeh, Head
 INFOTERRA: 2630 6800 6810
 Devises implements for small-scale farming, employing indigenous materials. Products include: hand operated threshing machine, winnowers, rice-parboilers and improved storage cribs.

- 3.02 Department of Engineering** (T)
 Fourah Bay College
 Freetown
 Contact: Brian Bowen, Lecturer

INFOTERRA: 2015 3215 3747
 6800 6810

Develops low-cost technologies for use by rural communities. Equipment developed has included hand operated oil presses, solar water heaters and solar dryers.

SOUTH AFRICA

- 3.01 Environmental and Development Agency (EDA)** (T)
 P.O. Box 62054
 Marshalltown
 2107 Transvaal

Contact: Karl Edwards, Director

INFOTERRA: 1015 2630 2673
 2820 3720 6800
 6960 7000

Acts as linking agency and information pool for South Africans concerned with environmental, developmental and community issues. Information resources relate to low-cost tool production, alternative energy sources, simple water supply and fish farming. Publishes bi-monthly bulletin, *Link*.

- 3.02 Food Gardens Unlimited** (W)
 39 Jameson Avenue
 Melrose
 Transvaal 2196

Contact: P. Raphaely, Director

INFOTERRA: 1000 1015 1180
 1580 1620 1921
 1930 2030 2640
 3982 4000 6272
 6800 6870

Demonstrates a small-scale method of growing food easily and inexpensively. The method incorporates recycling of biodegradable rubbish and the use of mulch. Important aspects include health, nutrition, environmental education, self-help and maximum use of available resources.

- 3.03 Transvaal Region, Department of Agricultural Technical Services** (W)
 Private Bag X180
 Pretoria
 Transvaal 0001

Contact: Dr. M. Von La Chevallerie,
Director

INFOTERRA:	1060	1921	2420
	2521	2620	2640
	2760	6120	

Works for the optimum utilization of natural resources for agricultural production without endangering the soil, environment or causing pollution. Plant breeding and protection, fertilization and animal production are main enterprises. Disseminates scientific knowledge.

3.04 Urban and Regional Research Unit, University of the Witwatersrand (W)

1 Jan Smuts Avenue
Johannesburg
Transvaal 2001

INFOTERRA:	1120	1970	2155
	3300	3330	6960

Makes social and economic studies in the field of housing and regional analysis and planning, urban modelling, factorial ecology, regional economic development, property and land economics; low-cost housing.

4.01 Organic Soil Association of South Africa

Box 47100 Parklands
Johannesburg

INFOTERRA:	1930	6272
------------	------	------

SRI LANKA

1.01 Marga Institute, Sri Lanka Centre for Development Studies (A)

P.O. Box 601
61 Isipathana Mawatha
Colombo

INFOTERRA:	1970	6790	6810
	6840	6850	6960
	6980	7002	7021

Main activity is a critical non-partisan inquiry into the development issues in Sri Lanka and the publication of studies which can be of value to policy makers. Undertakes analytical studies and research projects on socio-economic issues, seminars and public discussion. Studies have included transfer of technology in developing countries, technology and development, assimilation and diffusion

of imported technology, and sharing of traditional technology.

2.01 Appropriate Technology Group (T)

9 Stanley Place
Mirihana
Nugegoda

Contact: J. Nihal de Mel, Chairman

INFOTERRA:	1590	3120	3742
	3746	3747	4130
	6790	6800	6810
	6941	6990	7000

Identifies technical needs in small-scale industries, and devises or locates products/processes to solve specific problems. Promotes an appropriate technology approach in the areas of blacksmithing, small-scale hydro-electric schemes, wind-mills for irrigation canal clearance and light engineering. Has representation from Government Ministries, public corporations, private industry and the professions. Technical assistance is also provided by the Dutch organization, TOOL, in examining a solar ice-making unit and the extraction of drugs from medicinal herbs.

2.02 Sarvodaya Appropriate Technology Development Programme (R)

Lanka Jatika Sarvodaya Shramadana
Sangamaya, Incorporated
77 de Soysa Road
Moratuwa

INFOTERRA:	1015	1180	2015
	3330	3720	3724
	3746	3748	3830
	3920	4091	6800
	6810	6840	6870
	6900	6960	

Organizes training and self-help programmes; has developed prototype wind-mill pumps and has done research on soap-making, paper production and the manufacture of clay pipes and tiles. Village reconstruction and self-help projects now cover over 1000 villages. Also undertakes projects concerned with the use of renewable energy – biogas, solar and wind energy.

2.03 Sri Lanka Association for the Advancement of Science (SLAAS) (T)

c/o Regional Development Division
Ministry of Planning and Economic
Affairs
P.O. Box 1532
Colombo

Contact: Mr. D. L. O. Mendis

INFOTERRA:	1015	2910	3150
	3720	3742	3746
	3747	3840	6790
	6800	6990	7000

Undertakes research and development on alternative technologies, including a small-scale hydro plant, solar and wind energy, lime and alternative cements, irrigation.

3.01 Serendeeepam Community Development Project (N)

Sithankerny N.P.

INFOTERRA:	1580	1640	2015
	2620	2630	3960
	3984	4000	6800
	6810	6850	6960
	6980		

Works to propagate the use of indigenous and appropriate technology; developed an oil extractor plant for sesame, soya and peanuts; model projects; also involved in rural community development, planned parenthood, pre-school and pre-vocational education.

4.01 Small Industries Development

Hemas Building
Colombo 1

INFOTERRA:	4130	6810
------------	------	------

5.01 N. W. De Silva

Research Development Division
Co-operative Wholesale Establishment
21 Vauxale Street
Colombo 2

INFOTERRA:	2015	6800	6810
------------	------	------	------

Interested in rural technology.

SUDAN

3.01 Department of Mechanical Engineering (N)

Faculty of Engineering and Architecture
University of Khartoum
Khartoum

Contact: Dr. Yahia H. Hamid, Lecturer

INFOTERRA:	2821	3720	6530
	6790	6800	6860

Designed a low-cost solar still for desalination of borehole water.

3.02 Energy Research Institute (X)

National Council for Research
P.O. Box 6094
People's Hall
Khartoum

INFOTERRA:	1015	3720	3724
	3742	3746	3747

Involved in appropriate technology activities relating to energy biogas, biomass, solar, hydroelectric and wind generated energy.

3.03 Food Research Centre (V)

P.O. Box 213
Khartoum North

INFOTERRA:	3960	3990	4131
------------	------	------	------

Publishes *Sudan Journal of Food Science and Technology* and is involved in research regarding the processing of food products.

3.04 The Regional Development Corporation (V)

P.O. Box 29
Juba

INFOTERRA:	3140
------------	------

Involved in the development of building materials, concrete boats.

4.01 National Building Research Centre

University of Khartoum
Khartoum

SURINAM

3.01 Department of Development (T)

Forest Service
P.O. Box 436
Paramaribo

Contact: Ing. Adrian Vink,
Deputy Director General

INFOTERRA: 2700 4020 6790
6800 6840

Interested in appropriate technology applications for forestry.

SWAZILAND

3.01 Swaziland Tractor Company (T)

P.O. Box 450
Manzini

Contact: Alan Catterick

INFOTERRA: 2630

Developed the versatile, low-cost "Tinkabi" tractor which can be used for cultivating, spraying, watering and as a people and goods carrier.

3.02 Small Enterprises Development Company Limited (R)

P.O. Box 451
Mbabane

INFOTERRA: 1300 2630 4130
4132 6810 6900
6941

Provides working capital, managerial and technical advice to small industries. Has created over 90 enterprises, employing 800 people in making products such as textiles, water carts, scotch carts, clutch plates and brake linings, furniture, fencing, wooden rulers, tanning oil.

3.03 National Industrial Development Corporation

P.O. Box 99
Malkerns

Royal Swedish Academy of Sciences
Stockholm

Contact: Professor Gordon Goodman,
Director

INFOTERRA: 1011 1015 1040
1060 3720 6840
6860

Undertakes research into energy development for Third World countries, including inventories of present and renewable resources, assessment of environmental effects of energy use, and planning for future exploration of energy resources.

3.02 Development Planning Group (G)

Chalmers
P.O. Box 53156
40015 Gothenburg

INFOTERRA: 2015 2630 6800
6880 6950 6960
6990

Constructing village workshop equipped and programmed to produce agricultural implements with local resources. Previous activities in Tanzania and Mozambique.

3.03 Ekologist Byggnade (T)

Department of Architecture
Institute of Technology
P.O. Box 725
220 27 Lund

INFOTERRA: 3100 3150 3300
6800

Department operates extensive graduate programme on ecological building.

SWEDEN

2.01 EKOTEKET (C)

c/o Moderna Museet
S-11149
Stockholm

INFOTERRA: 6800 6850 7000
7002

Staged large Alternative Technology exhibition in Stockholm's Modern Museum in summer of 1976.

3.01 Beijer Institute (T)

3.04 Goteborg Alternative Technology Group (T)

Institute of Theoretical Physics
Chamers Tekniska Fack
S-402 20
Goteborg 5

Contact: Bjorn Ericksson

INFOTERRA: 6790 6800 6810
6980 6990 7000

Produces an inventory of resource conserving technologies.

3.05 Research Policy Program, University of Lund (A)

Magistratsvagen 55 N^{III}
S-222 44 Lund

INFOTERRA: 6800 6810 6840
6880 6950 6960
6990 7021

Undertakes research in four general areas: technology and science policy; research and technology – processes and management; technology and science in Third World development; and social areas. Concerned about the role of science and technology in meeting basic human needs. Developed a network to help stimulate debate on the issues and to provide input into the 1979 UNCSTED Conference.

3.06 Swedish Agency for Research Co-operation with Developing Countries (SAREC) (T)

c/o SIDA
105 25 Stockholm

Contact: Professor Karl Eric Knutsson,
Director of Research

INFOTERRA: 1165 3984 4000
6790 6800 6840
6880 6900 6920
6930 6950 6960
6990 7000

Collects and disseminates technical information; advises SIDA and the Swedish Government on technical matters; undertakes research preparation, initiation and liaison for Swedish institutions resulting from surveys in developing countries; supports research both in industrialized and developing countries when the results have Third World applications; promotes research co-operation between Third World Institutions. One project in India concerns the production, processing and use of oil seeds. Also supports and funded proposal of The Association of African Women for Research and Development.

3.07 Swedish International Development Authority (SIDA) (T)

S-105 25
Stockholm

Contact: Hans Wettergren, Programme Officer, Industry Division

INFOTERRA: 6790 6840 6850
6880 6900 6920
6950 6960 7000

In direct co-operation with developing countries, proposes, plans and implements development assistance projects and programmes. Programmes often include a strong Appropriate Technology component. An extensive listing of publications is available.

4.01 Power Systems Research Group

The Royal Institute of Technology
Stockholm 70

4.02 Svenska Biodynamiska Foreningen

S-15020 Jarna

5.02 Michall Crisp

Norrby Card
17011 Drottingholm

INFOTERRA: 6800 6950

Promotes communication of appropriate technology in developing countries.

5.02 Bjorn Erikson

Department of Theoretical Physics
Chalmers Technical High School
Gothenberg

INFOTERRA: 6800

Involved in appropriate technology research.

5.03 Per Janse

Vikingagatan 10
S-11342 Stockholm

INFOTERRA: 6800

Journalist who works in various political, environmental and radical technology projects.

5.04 Jon Sigurdson

Forskningpolitiska Programmet
Lunds Universitet
Magistrarsvage 5N
S - 222 44 Lund

INFOTERRA: 2015 4130 6800
6810

Interested in rural industrialization.

5.05 Krisno Nimpuno

P.O. Box 53156
400 15 Goteborg

INFOTERRA: 6800 6950

Experienced practitioner of appropriate techniques in developing countries.

SWITZERLAND**2.01 Forum fur verantwortbare (N)**

Anwendung der Wissenschaft
CH4113 Fluh

Contact: Konradin Kreuzer

INFOTERRA: 1060 3720 6800
6990

Coordinates activities of groups concerned with energy research and appropriate technology; investigates science and technology projects according to certain criteria including their consideration of the environment and the ecosystem.

2.02 International Labour Office (A)

CH-1211
Geneva 22

INFOTERRA: 1300 2015 2630
3140 6790 6800
6810 6840 6880
6900 6920 6941
6950 6960 6980
6990 7002

Undertakes activities which include socio-economic research on feasibility of technological alternatives, upgrading of traditional technologies, technological linkages between formal and informal sectors and constraints in the implementation of appropriate technology. Other areas of activities cover advisory services, information dissemination on appropriate technologies and technical cooperation projects. A major technical programme on the dissemination of information on appropriate technology has been initiated in response to the World Employment Conference mandate. A series of technical memoranda will be produced to present alternative, generally capital-saving technology in the three sectors in which the ILO has particularly concentrated, namely, manufacturing (large and small-scale and rural industrialization),

construction, agricultural tools and equipment. The advisory services, among others, cover assistance in the establishment of national, sub-regional and regional centres on technology.

2.03 Schweizerische Arbeitsgemeinschaft fur Alternative Technologie (SAGAT) (G)

Postfach 2121
8028 Zurich

INFOTERRA: 2640 3140 3230
3410 3720 3724
6272 6960

Promotes development of decentralized economic and social structures through work on housing insulation, methane energy, organic agriculture and home disposal units.

3.01 Alternative-Katalog (D)

GD1 Park in Gruene
CH-8803

INFOTERRA: 2190 4165 6700
6980 7000

Produced a "Whole Swiss Catalog" covering building communities, communications, transport, recycling.

3.02 BlaBla (Blaus Blatt) (D)

Box 97
CH-2900 Porrentruy

INFOTERRA: 6800 6980

Publishes a magazine (in German) that is concerned with technological alternatives.

3.03 Division of Narcotic Drugs (T)

Nations Unies
Palais des Nations
CH1211
Genève 10

Contact: W. Micuta, Deputy Director,
Operations

INFOTERRA: 2630 3960 6800

Developed a wide range of hand and animal powered intermediate equipment for agricultural processing. Published *Animal-Driven Power Gear*, Slides available.

3.04 Elektro G.M.B.H. (P)

St. Gallerstr. 27
Winterthur CH 8400

INFOTERRA: 3746

Involved with work on electricity generating windplants.

3.05 Latin American Institute (G)

University of St. Gall
Varnbuelstr. 14
9000 St. Gallen

Contact: J. M. Baumer

INFOTERRA: 3215 6880 6950
6960

Undertakes research into problems of developing countries, especially in Latin America. Introduced "sun cooker".

3.06 Swiss Association for Technical Assistance (SATA) (T)

St. Moritzstr.
15/Postfach
Zurich 8042

Contact: R. Gerster

INFOTERRA: 1580 1640 1921
2620 2700 2820
3300 3747 4250
6790 6800 6870
6880 6900 6920
6950 6960

Implements development projects: (training programmes for farmers, builders, craftsmen; development of health care facilities; transport infrastructure) with a strong appropriate technology orientation. Projects utilizing solar energy completed in Nepal.

3.07 World Council of Churches (Commission of Churches' Part in Development CCPD) (V)

150, route de Ferney
1211 Geneva

INFOTERRA: 1970 6800 6980

Produces information sheets on appropriate technology and is concerned with many aspects of appropriate technology.

3.08 World Health Organization (WHO) (T)

20 Avenue Appia
1211 Geneva

INFOTERRA: 1580 2015 6840
6900 6920 6960
6990 7000

Establishing a health technology programme to support primary health care for integrated rural development. Currently setting up field programmes to test low-cost health technologies in selected countries and will disseminate the results and plan for a longer-term appropriate technology programme. *WHO magazine, Pan American Health Magazine, WHO Chronicle and Bulletin of the Pan American Health Organization.*

4.01 Bergheimat Gesellschaft

Beaumontweg 11
CH-3007 Bern

4.02 Biofarm-Genossenschaft Madiswil

CH-4934
Madiswil

4.03 BUESS

Cantonale Landwirtschaftsschule Ebenrain
CH-4450 Sissach

4.04 Environmental Conservation

Elsevier Sequoia SA
P.O. Box 851
CH-1001 Lausanne 1

4.05 Forschungsinstitut für Biologischen Landbau

Postfach Oberwil/BL
CH-4104

4.06 International Foundation for Development Alternatives

2 Place du Marche
Nyon CH-1260

4.07 Swiss Solar Energy Society

Leonhardstr. 27
CH-8001
Zurich

INFOTERRA: 3215 3747

5.02 Vitali Kouznetsov

ECE
Palais des Nations
CH-1211
Geneva 10

INFOTERRA: 6800

Interested in the methodology of selection of environmentally-sound and appropriate technologies.

SYRIAN ARAB REPUBLIC

3.01 General Administration for the Development of the Euphrates Basin

Daria
Ragga

INFOTERRA: 3720 6620 6790
6900

Interested in the application of wind powered pumps for irrigation and village water supply.

The Arab Centre for the Studies of Arid Zones and Dry Lands

P.O. Box 2440
Damascus

TANZANIA, UNITED REPUBLIC OF

1.01 Arusha Appropriate Technology Pilot Project (T)

P.O. Box 764
Arusha

Contact: Richard Stanley

INFOTERRA: 1015 2015 2820
2861 3150 3720
3746 3747 6790
6800 6840 6900
6941 7000

Aims to develop and promote the use of village level technologies by investigating the methods by which technological needs are determined by villagers and ways by which desired technologies are diffused among communities. Work is being done on: drilling, pumping, storage, purification, and distribution of water; low-cost building materials; alternative energy sources (wind, sun and methane); and low-cost village refrigeration.

2.01 Department of Agricultural Engineering (T)

The University
P.O. Box 643
Morogoro

Contact: Kamil Vanek

INFOTERRA: 1015 2630 3746
4113 6790

Develops and tests appropriate agricultural implements including a range of bicycle-powered processing equipment

(threshers and winnowers), windmills and water pumps.

2.02 Small Industries Development Organization (SIDO) (T)

P.O. Box 2476
Dar-es-Salaam

Contact: Basil Mramba, Director General

INFOTERRA: 2015 2630 3150
3724 3840 3960
3961 4132 6790
6800 6810 6941

Assists in the regional development of small-scale rural industries, establishing an appropriate technology unit and planning work in the following fields: (a) Food Processing; (b) Building Materials and Clay Products; (c) Textiles, Clothing; (d) Rural Mechanized Workshops; (e) Village-scale biogas systems.

2.03 Tanzania Agricultural Machinery Testing Unit (TAMTU) (T)

P.O. Box 1389
Arusha

Contact: F. K. Mujemala, Manager

INFOTERRA: 2630 4113 6790

Designs, tests and manufactures simple technology farm equipment, including animal-drawn carts, harrows, planters, weeders and winnowers. Published *First Steps in Village Mechanization* by George Macpherson. Many implement evaluation reports available.

2.04 Ubungo Farm Implements (R)

P.O. Box 20126
Dar-es-Salaam

INFOTERRA: 2630 6790 6800
7040

Undertakes research, development and evaluation of ox-drawn equipment; produces large numbers of hoes, single-furrow mould-board, ox-drawn ploughs.

2.05 Faculty of Agriculture (G)

P.O. Box 643
Morogoro

Contact: Professor Kyomo

INFOTERRA: 1015 2640 3720
3724 3746 3747

Develops solar, wind and methane power facilities and assists Ujamaa farmers on small-scale agricultural techniques such as mixed cropping.

2.06 Uyole Agricultural Centre (R)

P.O. Box 400
Mbeya

INFOTERRA: 2630 2640 6790
6800 6810 6840

Involved in dry-land tillage research; has constructed a Village Technology Workshop and developed a prototype of a wooden tool-carrier with an attached tin and developed a 4-wheel ox-cart.

3.01 Department of Electrical Engineering (R)

University of Dar-es-Salaam
P.O. Box 24121
Dar-es-Salaam

INFOTERRA: 3746 6980 6990

Works on rural electrification using wind-mills. A paper is available that summarizes options, designs theory, etc.

3.02 Economic Research Bureau (V)

P.O. Box 35096
Dar-es-Salaam

Contact: Patrick Kunya, M. Mabele

INFOTERRA: 6810 6960

Interested in endogenous technology and its economic role.

3.03 Faculty of Engineering (T)

University of Dar-es-Salaam
P.O. Box 35131
Dar-es-Salaam

INFOTERRA: 2015 2155 3850
6790 6800 6810
6941 6990

Publishes quarterly journal *Uhandisi*, containing articles on intermediate, low-cost engineering techniques for both urban and rural areas; works to improve iron production.

3.04 Institute of Development Studies (N)

University of Dar-es-Salaam
P.O. Box 35169
Dar-es-Salaam

INFOTERRA: 6790 6800 6810

Trains students in technology transfer and development policy.

3.05 Kilacha Production and Training Centre (R)

Box 21
Himo

INFOTERRA: 2630

Develops poultry feeders and waterers.

3.06 Lushoto Integrated Development Project (N)

P.O. Box 60
Soni

INFOTERRA: 2015 4000 4130
6810 6941 6960

Interested in rural development, village industries, marketing and nutrition.

3.07 Shinyanga Shallow Well Project (V)

P.O. Box 168
Shinyanga

Contact: F. J. H. Van de Laak

INFOTERRA: 2821 3746 6620

Interested in well-digging, pump building, wind power.

4.01 The Tropical Pesticide Research Institute

Box 1002
Arusha

5.01 J. F. Rweyemany

University of Dar-es-Salaam
Dar-es-Salaam

5.02 Alex Weir

Department of Agricultural Engineering
P.O. Box 643
Morogoro

INFOTERRA: 2630

Interested in pedal power, agricultural equipment.

THAILAND

2.01 Asian Institute of Technology (N)

P.O. Box 2754
Bangkok

INFOTERRA:	1015	2820	2860
	2861	3215	3724
	5364	5481	6271
	6790	6800	6840

Undertakes research in many areas related to appropriate technology such as waste treatment, design and operation of a potable water solar still for village community water supply, renewable fuel recovered from bio-conversion of solid wastes, wastewater characteristics and its appropriate treatment, ferro-cement for rice storage, harvesting algae by flotation, and a unique water filtration system using shredded coconut and burnt rice husks.

3.01 Applied Research Scientific Corporation of Thailand (P)

196 Phaholyothin Road
Bandkhen
Bangkok 9

INFOTERRA:	3150	5364	6271
------------	------	------	------

Undertakes research in the treatment and disposal of wastes from the sugar industry. Also, made ferro-cement prefab-roofs from reinforcing bars, galvanized chicken mesh and cement mortar without sophisticated equipment.

3.02 Construction Research Division, Research and Construction Department (W)

905 Sukhaphibal Road 1
Klong Chan
Bangkapi
Bangkok 24

INFOTERRA:	2155	2190	3230
	3300	3330	3410
	6790	6810	6840

Provides housing for low/medium income people to rent, hire or purchase; subsidizes people who want to buy homes. Involved in many aspects of housing and housing programmes.

3.03 Economic and Social Commission for Asia and the Pacific (X)

The United Nations Building
Rajadamnern Avenue
Bangkok-2

INFOTERRA:	1015	1640	3330
	3720	5366	5369
	6800		

Engaged in appropriate technology activi-

ties concerned with energy biogas and biomass and other forms of alternative energy, housing, pollution, sanitation, waste disposal, water storage, supply and treatment.

3.04 Faculty of Environment and Resource Studies (N)

Mahidol University
c/o 269 R.S. Hotel, 6th Floor
Larn Luang Road
Bangkok 1

Contact: Dr. Nart Tuntawiroon, Dean

INFOTERRA:	6800	7050
------------	------	------

Offers M.Sc. course in Appropriate Technology. Undertakes research and has developed a data bank.

3.05 World Vision Foundation of Thailand (F)

G.P.O. Box 1717
Bangkok

INFOTERRA:	1000	1015	1030
	3720	4000	5366
	6790	6800	

Involved in appropriate technology activities relating to alternative forms of energy, nutrition, waste disposal, technology transfer.

5.01 Marcus M. Sherman

Energy Resources Section
UN Economic and Social Commission for Asia and the Pacific (ESCAP)
Sala Santhitham
Bangkok 2

INFOTERRA:	3746
------------	------

Offers consultancy on wind energy.

TOGO

3.01 Centre de Construction et du Logement

B.P. 1762
Cacavelli
Lomé

INFOTERRA:	3140	3150	3230
	3300		

Interested in building materials and techniques and low-cost housing.

3.02 Centre de Recherche en Nutrition (V)

Cacavelli
Lomé

INFOTERRA: 3982 4000 4131

Involved in research on local vegetables.

TRINIDAD AND TOBAGO**3.01 Colin Laird Associates (G)**

P.O. Box 341
Port-of-Spain

INFOTERRA: 1015 2180 2190
3720 5151 6800
6860

Planning an ecological autonomous community for the tropics, "Eco 1".

TUNISIA**2.01 Association pur le Développement de l'Animation Rurale (ASDEAR) (V)**

10 rue Eve Nohelle
Tunis

Contact: Abdelhafidh Chabbi

INFOTERRA: 2620 2820 6800
6810

Interested in various aspects of appropriate technology and endogenous technology, water and agriculture.

2.02 Centre de Recherche du Génie Rural (CRGR)

Route de Soukra
B.P. 10
Ariana
Tunis

Contact: Slaheddine El Amami

INFOTERRA: 1970 2015 2910
6810

Studies traditional irrigation and other applications of endogenous technology; rural planning.

UGANDA**2.01 Department of Agricultural Engineering (R)**

Makerere University
P.O. Box 7062
Kampala

INFOTERRA: 2630 3215 4113
6800 6900

Investigates appropriate technology approaches to machinery; designed a tractor, improved ox-drawn equipment after study of animal ergonomics. A solar crop dryer has been produced.

2.02 Department of Crop Science (T)

Makerere University
P.O. Box 7062
Kampala

INFOTERRA: 2630 4113 6790
6800 6900

Involved in research and development on appropriate agricultural equipment for small-scale farming.

2.03 Christian Development Agency (T)

P.O. Box 745
Kampala

INFOTERRA: 6800 6900

Acts as liaison for individuals involved in Appropriate Technology promotion in Uganda.

3.02 Faculty of Technology

Makerere University
P.O. Box 7062
Kampala

Contact: Dr. E. T. Adriko

INFOTERRA: 6790 6800 6810

Involved in small-scale technology.

UNITED KINGDOM**1.01 Community Technology Group (COMTEK) (C)**

13 Bedford Street
Bath, Avon

INFOTERRA:	1015	2673	3215
	3330	3360	3410
	3746	3747	5480
	6700		

Builds windmills, solar collectors, dome-covered fish farm. Also operates building cooperative, recycling depot. Provides community architecture services.

1.02 Intermediate Technology Development Group Limited (ITDG) (A)

9 King Street
Covent Garden
London WC2E 8HN

INFOTERRA:	1015	2620	2630
	2820	3150	3720
	6790	6800	6810
	6840	6880	6900
	6950	6990	7000
	7021		

Promotes intermediate technology concepts through research, development, evaluation and information dissemination. Operates through a network of units focusing on the Operations Centre, which collates information and coordinates the Group. The Industrial Liaison Unit processes technical enquiries, relating British Industry and research bodies to the needs of developing countries, through a grant of the Overseas Development Ministry. IT Publications, a subsidiary company, publishes and retails materials relating to the Appropriate Technology concept. Another subsidiary, IT Services, provides consulting services to developing countries. Fourteen panels with over 300 voluntary members representing the sciences and professions, provide technical advice to the Group, with Project Officers (for Water, Agriculture, Power, Transportation and Building Materials) producing occasional papers on research by the Group. Development Technology Ltd, a subsidiary, manufactures and markets intermediate technology hardware. The Group is increasingly involved with policy aspects of appropriate technology, the establishment of Appropriate Technology centres overseas, and field testing. Publishes Quarterly journal, *Appropriate Technology*, designed to keep practitioners in touch with innovations and to act as a forum for information exchanges on appropriate technologies. A very extensive listing of publications (including technical

drawings on large numbers of Appropriate Technology implements, source books and manuals on economic and technical aspects of water resources development, building materials, energy source development, etc.) is available.

1.03 National Centre for Alternative Technology (NCAT) (T)

Lywyngwern Quarry
Machynlleth 24001
Powys - Wales

Contact: Richard Todd

INFOTERRA:	1015	2180	2190
	2690	3720	3746
	5151	6700	6800
	6850	6860	7000

Self-sufficient demonstration community that relies on alternative energy sources and causes a minimum of pollution or waste. Energy systems consist of a wind generator, a pelton wheel, a water wheel, small scale turbines and wood alcohol. Housing energy consumption is about 1/5 of that of a comparable house dependent on main utility supply. Horticulture and waste recycling methods are also featured. Publishes do-it-yourself plans and other papers.

2.01 Alternative Technology Liaison Group (Cumbria) (B)

c/o Barclays Bank Chambers
Crescent Road
Windermere
Cumbria

Contact: Robert Gilchrist

INFOTERRA: 6800

Interested in many aspects of alternative technology.

2.02 Appropriate Technology Yorkshire (B)

Brearton Hall
Brearton, Harrogate
Yorks

Contact: Professor Chris Nordin

INFOTERRA: 1000 6800 7000

Holds meetings and tries to encourage new membership in order to involve more people in ideas and concerns of alternative lifestyles and alternative technology.

2.03 Architectural Association, Rational Technology Unit (C)

34 Bedford Square
London WC1

Contact: Gerry Foley

INFOTERRA: 1010 3230 3410
3746

Interested in resource conserving techniques, contributes articles on alternative housing, wind and other topics.

2.04 Alternative Technology Information Group (A)

c/o Friends of the Earth
9 Poland Street
London W1V 3DC

INFOTERRA: 6800 6980 6990
7000 7002

Aims to improve the use of appropriate technology literature by publishing bibliographics tools and support, helping public and other libraries to improve their collections of appropriate technology literature and extend their use, and assisting individuals to find the information they require.

2.05 BIT (D)

146 Great Western Road
London W11

INFOTERRA: 1000 1010 6800
6980 7000

Provides an information service on alternative living, sponsors alternative technology projects, publishes magazine.

2.06 Conservation, Tools and Technology (CTT) (T)

161 Clarence Street
Kingston
Surrey, KT 1QT

Contact: Hugh Charman

INFOTERRA: 1015 2630 3720
3746 3747 5481
6800

Retails alternative technology equipment. Publishes Quarterly newsletter, *Natural Energy*, which relates information on wind generators, solar collectors, turbines, water purifiers, and waste conversion equipment.

2.07 Department of Engineering Science (G)

Oxford University
Parks Road
Oxford OX1 3PJ

Contact: Dr. S. S. Wilson

INFOTERRA: 2630 4165 6620
6980 7000 7040

Designs, constructs, tests and develops pedal-powered devices for transport and stationary uses. Further development on OXTRIKE tricycle chassis, prototypes of the Pedal Rover (four-wheel-drive off-the-road articulated vehicle) a pedal winch for cable cultivation and a variety of pedal pumps. Collects and disseminates information on all kinds of simple forms of transport.

2.08 Friends of the Earth (U.K.) (T)

9 Poland Street
London W1V 3DG
England

INFOTERRA: 1000 1010 1015
1020 1040 2015
5480 6800 6880
6980 6990 7000
7010 7021

Politically non-aligned environment lobby which acts to conserve and promote rational, appropriate use of natural resources. Campaigns include promoting wider usage of reclaimed and recycled materials, wildlife protection and self-sufficiency in food requirements without damage to the rural environment. Publishes extensive listings of reports and specialized books, as well as a quarterly bulletin.

2.09 Future Studies Centre (A)

15 Kelso Road
Leeds LS2 9PR

Contact: Roland Chaplain

INFOTERRA: 1000 1030 6800
6840 6980 7000

Organized conference "Industry, Community and Alternative Technology" in 1977 with both extensive and intensive follow-ups. Keeps file of contacts and addressees, publishes newsletter, helped organize series of 22 lectures/seminars at

Swarthmore College on wide range of appropriate technology concerns.

2.10 Intermediate Technology Industrial Services (A)

Myson House
Railway Terrace
Rugby CV21 3HT

INFOTERRA:	1011	1300	1320
	6790	6800	6810
	6840	6880	6900
	6920	6941	6950
	6960		

A unit of the Intermediate Technology Development Group Limited (see United Kingdom, source 1.02) which provides technical and financial assistance to meet the needs of developing countries for unfamiliar or new technologies, primarily in the small industry sector. Works to assist in creating more employment in developing countries through the establishment of production facilities using local resources to meet local needs.

2.11 Ministry of Overseas Development (ODM) (X)

Eland House
Stag Place
London SW1E 5DH
England

Contact: Mr. C. E. Young, International Economics Division, Economic Planning Staff

INFOTERRA:	6790	6800	6880
	6900	6920	6950
	6960		

Promotes intermediate and appropriate technologies through funding of government and private agency research and development, information inventory and dissemination programmes, market surveys and linkage, and project implementation. Parent Organization of several research establishments including: Tropical Products Institute, Transport and Road Research Laboratory, and Building Research Establishment. Also contributes to the National Institute of Agricultural Engineering. Publishes Quarterly newsletter, *Overseas Development*.

2.12 National Institute of Agricultural Engineering (NIAE) (T)

Overseas Department
Wrest Part
Silsoe
Bedfordshire MK45 4DT
England

Contact: R. D. Bell

INFOTERRA:	2630	2640	2650
	2660	4113	6790
	6800	6860	6880
	6900	6950	6990
	7000		

Designs and develops agricultural implements, with overseas field trials. Overseas projects include: Sudan – tractor ox-powered cultivation; Yemen Arab Republic – agricultural mechanization; other programmes in Botswana, Costa Rica, El Salvador and Peru. Publishes *Tropical Agricultural Engineering Information*, bulletins on a simple water pump, a mini-thresher, an auger conveyor for groundnuts, and a simple hand operated winnower.

2.13 The Natural Energy Centre (Marketing and Public Relations) (W)

161 Clarence Street
Kingston-upon-Thames
Surrey KT1 1QT

INFOTERRA:	1015	3215	3720
	3724	3741	3742
	3746	3747	3990
	5481	6800	

Identifies and markets developed energy saving equipment, large solar, wind and heat pump systems, heat recovery systems and methane digesters, wood and water burning stoves, heat pipes and heat wheels, electronic energy monitors, water turbines and wheels, DIV wind generator systems etc.

2.14 Oxford Committee for Famine Relief (OXFAM) (T)

274 Banbury Road
Oxford OX2 7DZ
England

Contact: Michael Harris, Director

INFOTERRA:	1540	1640	6790
	6800	6850	6870
	6880	6950	

Incorporates appropriate technology components. Has developed composting

sanitation units for disaster areas, water pumps and hospital equipment. Oxfam has sister programmes, in Canada, Quebec, Belgium, the United States, and Australia. Occasional papers and a monthly newsletter, *Oxfam News*.

2.15 Radtech (B)

71 Thirlwell Road
Sheffield S8 9TF

Contact: Robin Fielder

INFOTERRA: 1000 1015 2180
2190 5151 6800
6850 6860

Radical Technologies commune which aims to demonstrate its viability in the urban context.

2.16 School of Engineering Science (D)

University of Edinburgh
King's Buildings
Mayfield Road
Edinburgh EH9 3JL
Scotland

Contact: Harold Dickenson

INFOTERRA: 6800 6990 7050

Offers an M.Sc. course in appropriate technology (including research and hardware design), and is considering the publication of a book summarizing the work done to date.

2.17 Street Farm (D)

The Vicarage
2k Flodden Road
London SE5

INFOTERRA: 1015 3410 3720
6800

Built ecohouse and has much experience in areas of alternative technology.

2.18 Undercurrents (C)

27 Clerkenwell Close
London EC1R 0AT

INFOTERRA: 6800 6980 7000

Produces magazine, *Undercurrents* which is concerned with all aspects of appropriate technology. Also published book, *Radical Technology*. Promotes self-sufficiency movement in U.K.

3.01 Alternative Society (C)

9 Morton Avenue
Kidlington
Oxford

Contact: Stan Windass

INFOTERRA: 1000 6800

Investigates all kinds of alternatives, from education to medicine to technology.

3.02 Antipoverty Limited (C)

67 Godstow Road
Wolvercote
Oxford OX2 8NY

INFOTERRA: 2630 3215 6880
6950 6960

Works on low-cost, labour intensive equipment for developing countries that can be manufactured and/or maintained by the communities that request them, such as pumps, solar water heater, press tools, jigs.

3.03 Appropriate Health Resources and Technologies Action Group (AHRTAG-UK) (R)

85 Marylebone High Street
London W1M 3DE

INFOTERRA: 1580 1640 6800
6950

Assists individual countries to develop appropriate technologies for health by providing information and promoting liaison among field programmes and agencies and in training personnel. Research into control of insect-borne disease.

3.04 Aquatic Biological Consultancy Services Limited (W)

135 New London Road
Chelmsford
Essex CM2 0QT

INFOTERRA: 1040 1060 2673
2820 2970 4960
5364 6800

Involved in biological aspects of water use and management, freshwater fishculture and fisheries, water amenity projects, coastal conservation and ecology, freshwater monitoring, environmental impact surveys, industrial process water control,

low-cost intermediate technology for water supply and pollution control.

3.05 Associated Housing Advisory Services (G)

5 Dryden Street
London WC2E 9NW

INFOTERRA: 3330 6870 6880
6900

New organization that will provide advisory services for an international network of self-help housing projects.

3.06 Autonomous House Research Programme (G)

Department of Architecture
University of Cambridge
1 Scroope Terrace
Cambridge CB2 1PX

INFOTERRA: 1000 1015 3300
3410 3720 6800
6850 6860 6980
6990

Undertakes research on the relationship between housing density and costs. Will begin work soon on an experimental dwelling which could be mass produced to provide low-cost autonomous living.

3.07 Biogas Plant (T)

Easebourne Lane
Midhurst, Sussex GU29 9AZ

INFOTERRA: 3724

Produces a series of digesters.

3.08 Biotechnic Research and Development (BRAD) (C)

Eithin-y-Gaer
Church Stoke
Bishop's Castle
Montgomeryshire
Wales

Contact: John and Maria Clemow

INFOTERRA: 1000 1030 3747
6790 6800 6810

Pioneer community that aims to develop technologies valid for all men for all time. Solar energy.

3.09 British Society for Social Responsibility in Science (C)

9 Poland Street
London W1V 3DG

Contact: Andy Solandt

INFOTERRA: 1000 6785 6800
6990

Works to encourage social and political responsibility in scientists and to prevent new technologies of repression. Publishes magazine.

3.10 Building Research Establishment (BRE) (T)

Overseas Division
Bucknalls Lane
Gartston - Watford
Hertford WD2 7JR

Contact: The Director

INFOTERRA: 1540 3140 3150
3230 3260 3300
3340 6900 6990
7000 7010

Provides information and advisory services concerning building materials, standards, planning legislation, construction in earthquake and hurricane areas, town and land use planning and building environment.

3.12 Centre for Alternative Industrial and Technological Systems (CAITS) (H)

North-East London Polytechnic
Longbridge Road
Dagenham
Essex RM8 2AS

Contact: Mike George, Coordinator

INFOTERRA: 1300 3720 4100
4165 6840

Assists and promotes the work of the Lucas Aerospace Combine Shop Stewards Committee that has drawn up an alternative to skilled employee redundancy. It is now capable of producing a least 150 socially useful products (as opposed to arms and other products that have little, no or negative social value). The Centre is involved in the technical development and research aspect as well as lobbying and communications functions, education and research on "socially useful production". Products include medical equipment, transport systems, oceanics, alternative energy sources, braking systems and remote control (telechuric) devices.

3.13 Centre for Alternatives in Urban Development (B)

Lower Shaw Farm
Shaw, near Swindon

Contact: Dick Kitto

INFOTERRA:	1000	1030	6800
	6850	6980	7000

Organizes courses, seminars, meetings, work parties around alternative lifestyles and alternative technology.

3.14 Christian Aid (T)

P.O. Box 1
London SW9 8BH
England

Contact: Reverend Carlisle Patterson, Aid Administrator

INFOTERRA:	2015	6800	6870
	6880	6900	6920
	6950	6960	7000
	7050		

Offers financial assistance to rural and urban development projects in less-developed countries, with a strong focus on appropriate solutions to local needs. Several leaflets on the concept of Appropriate Technology applications for less developed countries are available, along with bi-monthly Christian Aid News and educational "packs" concerning development concepts in general.

3.15 Commonwealth Science Council (G)

Marlborough House
Pall Mall
London SW1Y 5HX

INFOTERRA:	1015	3720	6800
	6880	6950	

Developed project proposal for an integrated development programme of alternative energy systems for the Caribbean.

3.16 Council for Small Industries in Rural Areas (J)

P.O. Box 717
35 Camp Road
Wimbledon Common SW19 4UP

INFOTERRA:	2015	6790	6800
	6810	6941	6950
	6980	6990	

Involved in publications and activities relevant to small-scale and village industries in developing countries.

3.17 Energy Research Group (T)

Open University
Walton Hall
Milton Keynes
Bucks MK7 AAD

INFOTERRA:	1015	3720
------------	------	------

Undertakes research on energy source development and comparative consumption patterns (transport, housing). Publishes numerous research papers and Five Year Report.

3.18 Global Village Crafts (V)

17 St. James Street
South Petherton
Somerset TA 13 5BS

INFOTERRA:	1180	1320	2015
	6800	6810	6880
	6941	6950	6980
	7000		

Edits *Basics*; organized seminar in Calcutta titled "Let the Villages Hear".

3.19 Hamlet Trust (A)

Holne Cross Cottage
Buckland Lane, near Ashburton
South Devon

INFOTERRA:	1000	3410	3720
	6272		

Developed prototype organic eco-house and plans for more.

3.20 Hydroponic Advisory and Information Unit (T)

119 Glebe Avenue
Ickenham
Middlesex UB10 8PF

Contact: James Sholto-Douglas, Director

Provides technical enquiry referral service, with special reference to Asian hydroponic applications.

3.21 Imperial College Centre for Environmental Technology (A)

Imperial College of Science and Technology
University of London
London SW7 2AZ

INFOTERRA: 6800 7050

Established in 1976 to administer a new MSc course in Environmental Technology and to foster multidisciplinary research in a broad field of environmental technology. Produces frequent papers compiled into a Report series.

3.22 International Solar Energy Society (N)

The Royal Institution
21 Albermarle Street
London W1X 4BS

INFOTERRA: 3215 3747

Involved in many aspects of solar energy.

3.23 International Institute for Environment and Development (N)

27 Mortimer Street
London W1A 4QW

INFOTERRA: 1015 1020 1040
3720 6800 6980
6990 7000

Initiated Project Earthscan which is a media programme on selected problems of the global environment which includes appropriate technology and alternative energy.

3.24 Laurieston Hall (B)

Laurieston Castle Douglas
Kircudbrightshire, Scotland

INFOTERRA: 2030 6800 6850
6980 6990 7000

Residential conference centre, particularly for Alternative Technology and Land for the People's projects.

3.25 Loughborough University of Technology (V)

Department of Civil Engineering
Loughborough
Leicestershire LE11 3TU

Contact: John Pickford

INFOTERRA: 1620 3120

Involved in environmental health engineering training.

3.26 Low Impact Design (C)

Hillside Cottage
Wootton-under-Edge
Gloucester

Contact: Ian Hogan

INFOTERRA: 1015 3140 3230
3720

Offers environmental design consultancy specializing in building with ambient energy.

3.27 The Natural Energy Centre (N)

161 Clarence Street
Kingston
Surrey KT1 1QT

Contact: Cr. Tichatschek

INFOTERRA: 1015 2673 3720
6272 6800 6850
7002 7050

Promotes and develops alternative energy systems by selling hardware and by publishing. Currently planning a show centre for alternative technology and crafts, organically grown food, fish farming etc.

3.28 Pocklington School (B)

West Green
Pocklington
York YO4 2NJ

Contact: John Jeffrey

INFOTERRA: 6800

Developed several successful alternative technology projects.

3.29 The Resource Use Institute Limited (T)

"Dumore"
Pitlochry
Perthshire PH16 5ED
Scotland

Contact: Robert H. S. Robertson,
Director

INFOTERRA: 1010 1011 1015
6790 6800 6941
6990

Aims to collect information on natural resources development, carry out feasibility surveys on regional natural resources, assist in the selection, research, development and implementation of new pro-

ducts and industries according to environmentally-sound methodologies, act as a liaison service for industry, research establishments, technical colleges, and universities in the field of natural resource development of mineral and organic industrial raw materials.

3.30 Rural Alternative Project (A)

"New Mills" Luxborough
Watchet
Somerset TA23 0LF

INFOTERRA: 1000 2015 6800

Acts as clearing-house for Scandinavian resource material concerned with rural alternatives and technology.

3.31 School of Architecture (X)

Brunswick Avenue
Hull HU2 9BT

INFOTERRA: 1015 1640 2861
3720 3724 3961
5366

Appropriate technology activities are concerned with energy biogas, biomass, alternative forms of energy, food hygiene and storage, sanitation, waste disposal, water storage, supply and treatment.

3.32 Society for Environmental Improvement (G)

P.O. Box 11
Godalming
Surrey

Contact: Gerard Morgan-Grenville

INFOTERRA: 6800

Established National Centre for Development of Alternative Technology.

3.33 Solar Energy Developments

Bay 8
16 South Wharf Road
London W21PF

Contact: Dominic Michaelis

INFOTERRA: 1015 3215 3720
3745 3746 3747
6850 6980 7000
7002 7050

Involved in many aspects of utilization of solar energy, solar cookers, solar stills, "passive" solar energy systems; wind and

wave energy biomass systems. Uses exhibitions, articles, and building projects to increase public awareness of alternative energy potential.

3.34 Solar Energy Information Office (J)

Department of Mechanical Engineering
and Energy Studies
University College
Cardiff CF1 1XL

INFOTERRA: 3215 3747 6980

Provides data and advice to anyone interested in solar energy.

3.35 Tibetan Farm School Limited (N)

Brynonyre Talybout-on-Usk
Brecanshire

INFOTERRA: 1015 2630 2640
3720 3742 3746
3747 5341 6880
6950

Trains young Tibetans the techniques of self-sufficient farming; develops wide variety of simple power sources for field and farmyard application such as water, wind, horse, bullock and manpower as well as small internal combustion engines to operate simple equipment.

3.36 Transport and Road Research Laboratory (TRRL) (T)

Tropical Section
Crowthorne
Berkshire RG11 6AU

Contact: The Director

INFOTERRA: 4165 4250 6790
6990

Offers research, development and advisory services on all aspects of road transportation technology, including the design, construction and maintenance of roads and bridges, vehicle safety and new methods, materials, and processes for road surfacing.

3.37 Tropical Products Institute (TPI) (T)

56/62 Gray's Inn Road
London WC1X 8LU

Contact: The Director

INFOTERRA:	1011	1040	2620
	2630	2640	2650
	2660	2673	2700
	3960	3961	3990
	4020	6800	6810
	6880	6900	6941
	6950	6990	7000

Undertakes extensive research and development, collects and disseminates information, and implements projects in the fields of forestry, agriculture and fisheries products, and small-scale industries development, particularly those based on plant and animal products. Also maintains special units for programme planning and training of overseas personnel. Projects include: preservation, handling and processing of fish in Malawi; grain storage and marketing in Ghana and Gambia; carcass evaluation of goats in Malawi and Botswana; alternative methods of mango processing; charcoal production and storage structures and materials investigation — all with a strong component of appropriate technologies. Tropical Products Institute has a library of over 150,000 publications relating to renewable resources, agriculture and products of developing countries. Publishes *Journal of Tropical Science* (quarterly), *Tropical Storage Abstracts*, *Tropical Stored Products Information*, and *Oil Palm News*, as well as extensive listings of economic and technical reports.

3.38 Voluntary Committee on Overseas Aid and Development (VCOAD) (N)

International Development Centre
Parnell House
25 Wilton Road
London SW1V 1JS

INFOTERRA:	1180	6950	6960
	6980	7000	

Promotes education about development; published *Technology for Development*.

3.39 World Development Movement (B)

Bedford Chambers
Covent Gardens
London WC2E 8HA

Contact: Robert Dickson

INFOTERRA:	1030	1180	6800
	6880	6950	6960

Interested in alternative technology, international trade and tariffs, world development.

3.40 War on Want (T)

467 Caledonian Road
London N7

Contact: Mrs Mary Dines

INFOTERRA:	2015	2910	3746
	6870	6880	6920
	6950	6960	7000

Funding projects designed to alleviate economic and social hardship and exploitation, such as an integrated rural development programme in Mauritania which includes water lifting windmills employed for irrigation. Produces studies on exploitation in the Third World, some of which are published. Publishes Annual Report, occasional bulletins, *Frontline*. Pamphlets include: *Profits of Doom* concerning the World Food Crisis and agri-business; *Who Needs Drug Companies* examining, in association with the Haslemere Group, the sale of pharmaceuticals in the Third World; *Baby Killer* concerning powdered milk sales and promotion in developing countries; and *Fertilizers*.

4.01 Biodynamic Agricultural Association

Broome Farm
Clent
Stourbridge
Worcestershire

4.02 British Society for Social Responsibility in Sciences

9 Poland Street
London W1

INFOTERRA:	6980	7000
------------	------	------

4.03 Ecological Housing Association

11 Lodge End
Radlett
Herts

Contact: David Stephens

INFOTERRA:	1015	3410	3720
	6800		

4.04 Organic Farmers and Growers Limited

Longridge Creeting Road
Stowmarket
Suffolk

INFOTERRA: 2620 6272

4.05 Soil Association

Walnut Tree Manor
Haughley
Stowmarket
Suffolk

5.01 Andrew Barnett

Science Policy Research Unit
University of Sussex
Falmer
Brighton BN1 9RE

INFOTERRA: 6800

5.02 I. Carruthers

Wye College
Ashford
Kent

INFOTERRA: 2820 3746

Water supply, wind power.

5.03 Reverend S. Charles

Salford University
St. Barnabas Vicarage
Frederick Road
Salford

INFOTERRA: 6785

5.04 Robin Clark

Criffin House
Wentnor, near Bishops Castle
Shropshire SV9 5ED

INFOTERRA: 6800

Interested in soft technologies; writes appropriate technology section in *Mazingira*.

5.05 Nigel Cross

Faculty of Technology
Open University
Walton Hall
Milton Keynes MK7 6AA

INFOTERRA: 6800

Future oriented "Design and Technology" course.

5.06 H. Dickinson

School of Engineering Science
University of Edinburgh
Kings Building
Mayfield Road
Edinburgh EH9 3JL

INFOTERRA: 6800

Interested in ferro-cement boat building, appropriate technology systems; organized conference on Appropriate Technology.

5.07 Professor P. D. Dunn

APS Department
Reading University
Whiteknights
Reading

INFOTERRA: 3720 6620

Interested in power supplies, Humphrey pump.

5.08 J. Howarth

'South View' Haxey
Doncaster
S. Yorks

INFOTERRA: 3724

Supplies plans for medium-scale farm digester.

5.09 M. Kibblewhite

The Long House
Owslebury, near Winchester
Hants

INFOTERRA: 3140 3230

Interested in building construction.

5.10 Dr. H. H. Koepf

School of Biodynamic Agriculture and
Earth Sciences
Emerson College
Forest Row
Sussex

INFOTERRA: 2620 6272

Interested in organic farming.

5.11 R. T. Lewis

National College of Agricultural Engineer-
ing
Silsoe
Bedford

INFOTERRA: 2630

Interested in agricultural machinery.

- 5.12 Mr. and Mrs Linton**
 Mill Close
 Tredington, near Shipston-on-Stour
 War.
 INFOTERRA: 6800
 Interested in alternative technology,
 development issues.
- 5.13 Mike McPhun**
 34 Cannon Park Road
 Coventry CV4 7AY
 INFOTERRA: 6800
 Campaigns for an alternative technology
 component for all courses in Departments
 of Technology University of Warwick.
- 5.14 Dr. Peter Musgrove**
 Department of Engineering
 Whiteknight
 The University
 Reading
 Berks RG6 2AL
 INFOTERRA: 3746
 An expert in windpower and particularly
 vertical axis windmills.
- 5.15 Jimoh Omo-Fadakah**
 208b Camberwell Grove
 London SE5
 INFOTERRA: 6800 6870
 Involved in self-help politics and techno-
 logy, especially for Africa.
- 5.16 A. Pacey**
 Oxfam-UK
 274 Banbury Road
 Oxford OX2 7DZ
- 5.17 Ian Parsons**
 Tynemount Cottages
 Tynemount Ormiston
 East Lothian
 Scotland
 INFOTERRA: 1015 3215 3230
 3410 3720 3746
 6800
 Interested in self-build low energy housing
 for Edinburgh and in windmills.
- 5.18 Kit Pedlar**
 119 Park Hill
 London SW4
 INFOTERRA: 6800
 Establishing alternative technologies centre
 in London.
- 5.19 Alexander Pike**
 Technical Research Division
 University of Cambridge
 Department of Architecture
 1 Scroope Terrace
 Cambridge CB2 1PX
 INFOTERRA: 3140 3230
 Interested in housing and building.
- 5.20 Patrick Rivers**
 Fieldgate
 Brockweir
 Chepstow NP6 7NN
 INFOTERRA: 6800
 Interested in alternative technology and
 self-sufficiency.
- 5.21 Jiri Skopek**
 Shenley Park House
 Shenley Church End
 Milton Keynes
 Bucks.
 INFOTERRA: 3724
- 5.22 Brenda and Robert Vale**
 The Horse and Gate
 Witcham Toll
 Sutton
 Ely
 Cambs.
 INFOTERRA: 3215 3230 3410
 Experts on autonomous housing, one of
 their designs won an international prize.
 Authors of *The Autonomous House*,
 published by Thames and Hudson, U.K.
- UNITED STATES OF AMERICA**
- 1.01 Appropriate Technology International**
 1709 N Street, N.W. (A)
 Washington D.C. 20036

INFOTERRA:	1011	1180	3150
	6800	6810	6880
	6900	6950	6960

Aims to promote the development and dissemination of technologies appropriate for developing countries. Supports local organizations and people seeking to solve their development problems with local resources. Provides assistance for those activities that increase employment, productivity, incomes and saving among the poor, increase access of the poor to needed goods and services, or that employ technologies appropriate to the incomes, skills, culture and customs of the poor.

1.02 Centre for Maximum Potential Building Systems (T)

6438 Bee Cave Road
Austin
Texas 78746

Contact: Dr. Pliny Fisk

INFOTERRA:	1015	2674	3490
	3621	3724	3746
	6800	6990	

Developed a number of low-cost integrated energy and food systems, including: a 55-gallon drum methane digester for a small homestead, a woodburning stove made out of 55-gallon drums, a US\$500 wind generator for mobile homes, a methane digester with a hydroponic greenhouse using sludge from the digester as its nutrient solution.

1.03 East-West Technology and Development Institute (A)

East-West Centre
1777 East-West Road
Honolulu
Hawaii 96822

INFOTERRA:	3300	6800	6840
	6880	6980	6990
	7000		

Sponsors projects in low-cost housing technology and technology resource information acquisition and dissemination. Annual conference with international representatives to discuss problems and seek solutions in areas of mutual concern to East and West.

1.04 National Centre for Appropriate Technology (NCAT) (T)

P.O. Box 3838
Butte
Montana 59701

Contact: Ms Harriet Barlow, James Schmidt

INFOTERRA:	1180	6800	6810
	6900	6990	7000
	7021		

Provides technical assistance and small grant support to Appropriate Technology projects with direct relevance to low income communities. Activities include the collection and dissemination of Appropriate Technology information, organization of community and regional conferences and workshops, research and development and social and policy research to encourage national development of Appropriate Technology by removing institutional barriers. Publishes newsletter and quarterly journal.

1.05 Transnational Network for Appropriate Technologies (TRANET) (T)

7410 Vernon Square Drive
Alexandria
Virginia 22306

Contact: William N. Ellis

INFOTERRA:	1030	1320	2640
	3150	3300	3746
	4131	6800	6810
	6840	6870	6880
	6950	7000	

Provides liaison-service for appropriate/alternative technology centres and interested individuals with information on technical capabilities and levels of expertise of groups doing small-scale, low-cost research and development on village level technologies, including self-help housing, small farm equipment, alternative energy sources. Publishes Bulletin entitled *Tranet* giving details on Appropriate Technology activities world-wide.

1.06 Volunteers in Technical Assistance (VITA) (T)

3706 Rhode Island Avenue
Mt. Rainier
Maryland 20822

Contact: Tom Fox, Director

INFOTERRA:	2640	2910	6790
	6800	6810	6840
	6880	6950	6980
	6990	7000	

Promotes strong Appropriate Technology emphasis through active implementation of projects and information surveys. US VITA staff coordinates volunteer activity, provides reference services and publishes technical manuals. VITA volunteers to provide research and development (water wheel design, husbandry problems, alternative irrigation technologies, re-design of salt processing, and lime-kiln designs). VITA operates in Central America, East and West Africa, with affiliate programmes in the Dominican Republic, Honduras, El Salvador and Nicaragua. Published *Village Technology Handbook* in Spanish and English and extensive listings, produced in association with Action/Peace Corps.

2.01 Advanced Building Technology Group (S)

Department of Architecture
University of Idaho
Moscow 83843
Idaho

INFOTERRA: 1015 3215 3230
3720 5151

Involved in research and practical experiments with energy conservation, solar heating and building design.

2.02 Alger-Marquette Community Action Board (S)

600 Altamount
Marquette
Michigan 49855

INFOTERRA: 1015 2030 3230
3300 3720

Undertakes multiple energy conservation projects related to the needs of low-income families including: refining a low-cost, high efficiency wood stove, developing multi-unit housing designed to optimize energy and land use, retrofitting existing houses, and exploring the economic potential of other renewable energy technologies.

2.03 Alternative Energy Resources Organization (S)

435 Stapleton Building
Billings
Montana 59101

Contact: Kye Cochran

INFOTERRA: 1010 1015 3210
3215 3744 3746
3747 5366 5480
6283 6800 6840
6850 6980 6990
7000

Disseminates information and encourages the development of renewable resources. Publishes monthly newsletter and conducts workshops and travelling displays.

2.04 Amity Foundation (N)

2760 Riverview
Eugene
Oregon 97403

Contact: Director

INFOTERRA: 1015 2630 3011
3410 3720 6800
6850 6870 6900

Conducts research and assists in innovation and alternative technology and service programmes. Established tool library systems and self-help construction programmes. Designed and constructed an energy self-sufficient home. Also completed solar greenhouse fish-raising facility used in breeding of tilapia in recirculating biological systems.

2.05 Appropriate Technology Corporation (S)

P.O. Box 121
Townshend
Vermont 05353

INFOTERRA: 1015 3215 3720
3746 3747 6800

Aims to develop new technologies in energy conservation, solar collection, wind, wood and energy storage.

2.06 Appropriate Technology Project (T)

Volunteers in Asia
P.O. Box 4543
Stanford
California 94305

Contact: Ken Darrow

INFOTERRA: 6790 6800 6900
6990 7000

Identifies existing published information on village technology from all over the world. Also advises volunteers on appropriate technology projects overseas. Publi-

cations include *Appropriate Technology Sourcebook* (1976) with 375 reviews of current materials.

2.07 Appropriate Technology Research (ATR) (T)

1938 Hano Road
Santa Fe
New Mexico 87501

Contact: Charles D. Kolstad and D. P. Grimmer

INFOTERRA:	2620	3720	3746
	3747	6620	6800
	6980	7000	

Undertakes projects in low-cost lift-type vertical axis wind turbines, the economics of solar greenhouse, low-cost flywheels for the home, small-scale pumps.

Researches small-scale hardware, particularly concerning alternative energy technologies. Publishes reports including *Low-cost Method of Construction Darrieus Wind Turbine Blades*; *The Optimal Size of a Greenhouse Solar Heating System*; and *Why an Owner-Built Greenhouse is Competitive with Gas for Home Heating*.

2.08 Battelle Memorial Institute - Columbus Laboratories, Energy and Environmental Process Research (W)

505 King Avenue
Columbus
Ohio 43201

Contact: Keshava S. Murthy

INFOTERRA:	1011	1060	2155
	3681	3741	3747
	4940	6800	6840
	6941	7040	

Involved in environmental assessment of industrial processes, land use and urban development, enhancement and exploitation of fossil fuel resources, research and development assistance, technical assistance for technological and industrial development, solar energy research and development assistance.

2.09 The Big Outdoors People (S)

2201 N.E. Kennedy Street
Minneapolis
Minnesota 55413

INFOTERRA:	3215	3230	3410
	3724	3742	3746
	5366	5440	

Specializes in geodesic domes; also designs and distributes components for biodegradable waterless waste treatment systems, wood burning heating systems, windpower systems, solar heating and methane digesters.

2.10 Boston Wind (G)

307 Centre Street
Jamaica Plain
Massachusetts 02130

Contact: R. Daley, R. Zeidman, K. Albinger

INFOTERRA:	1000	3230	3410
	3720	3990	6850
	6870	6980	7000

Studies "Life Support Systems" (Shelter, energy and food production) and provides an educational centre for alternative energy and life support systems at which individuals can be trained to own, design, construct and install these systems. Plans to establish a library and resource centre and to conduct research.

2.11 Center for Appropriate Technologies/Health (X)

University of Wisconsin
610 N. Walnut Street
Room 438
Madison
Wisconsin 53706

Contact: Director, Ned Wallace, M.D., M.P.H.

INFOTERRA:	1015	1620	1640
	2820	3720	5366

Activities concern alternative forms of energy, demography and epidemiology, education, health, waste disposal, water supply storage and treatment.

2.12 Centre for Science in the Public Interest (CSPI) (T)

1757 S. Street, NW
Washington, D.C. 20009

Contact: Ken Bossong and Alan Okagaki
(Coordinators, CSPI Energy Project)

INFOTERRA:	1000	1015	2420
	3720	3743	3746
	3747	3961	4000
	6800	6990	7000

Works in the areas of energy, environmental protection, appropriate technologies, consumer protection, simple life styles, worker safety and food and nutrition. Forming a community solar energy planning network to encourage a rational transfer to solar usage, and is planning a research project that would calculate net energy gains for solar and wind technologies. Publishes monthly newsletter entitled *People and Energy*, providing names and addresses of individuals and organizations involved with solar and wind energy development, energy conservation, environmental protection, and the nuclear power proliferation issue. Published *Solar Energy: One Way to Citizen Control*, *99 Ways to simpler Lifestyle*, *Life Style Index*.

2.13 Citizens for Energy Conservation and Solar Development (F)

P.O. Box 49173
Los Angeles
California 90049

Contact: George Larke

INFOTERRA: 3215 3747

Designs low-cost greenhouses using solar energy.

2.14 Community Technology (D)

1520 New Hampshire Avenue NW
Washington, D.C. 20036

INFOTERRA: 2673 3215 4132
6810

Undertakes many projects which include: basement fishfarming, manufacture of small-scale solar cookers with a heat store, community textile production with small power looms.

2.15 Design Alternatives, Incorporated (K)

1312 18th Street N.W.
Washington, D.C. 20036

INFOTERRA: 3215 3230 3410
3747 5151 7050

Designs and constructs residences and buildings; involved in solar research and development of educational materials.

2.16 Domestic Technology Institute (S)

P.O. Box 2043
Evergreen
Colorado 80439

INFOTERRA: 3215 6800

Offers consultation on alternative technology; development of solar greenhouses.

2.17 Earthmind (C)

Josel
Sagus
California 91350

INFOTERRA: 3746 6980 7000

Interested in wind power; published book and booklets on wind power and restoring old U.S. windgenerators.

2.18 Ecotope Group (G)

747 16th Street East
Seattle
Washington 98112

Contact: Evan Brown

INFOTERRA: 1015 3011 3720
3724 3746 3747
6850 6980 7050

Concerned with research, education, consultation and demonstration of energy conservation and renewable energy technologies, also solar and wind energy and bio-conversion to small-scale aquaculture-greenhouse systems. Developed biogas digester on a cow farm.

2.19 Energy Laboratory (S)

School of Electrical Engineering
Oklahoma State University
Stillwater
Oklahoma 74074

INFOTERRA: 1015 3720 3724
3746 3747 6880
7040

Undertakes research and design in the field of renewable energy sources. Publishes many papers and is involved with a group in Sri Lanka in setting up an integrated sun-wind methane energy system.

2.20 Energy Research and Development Administration (ERDA) (T)

1800 G. Street
Washington, D.C. 20545

Contact: Norman L. Brown, Office of
International Research and Develop-
ment Program

INFOTERRA:	1015	3720	3743
	3746	3747	6800
	6840	6880	6950
	6990		

Promotes national and global expansion of energy technology options through research and development and bi-lateral technical cooperation, and assistance to lesser developed countries. Undertakes a great deal of work on alternative sources of energy. A new testing programme has begun for small wind turbines of up to 100 kilowatts, and a Solar Energy Research Institute (SERI) is shortly to be established which will cover all areas of solar research and development. ERDA also funds non-nuclear energy conserving or producing inventions for development by individuals or small companies, after the invention has been vetted by the Office of Energy Related Inventions of the National Bureau of Standards. Publications: *National Plan for 1976 (Vols. 1 and 2)* available from the Chief of Publications and Reports Branch.

2.21 Farallones Institute (T)

15290 Coleman Valley Road
Occidental
California 95465

INFOTERRA:	2155	3100	3300
	5151	6800	6850
	6860		

A small group of scientists, designers and technicians which undertakes research and education projects in appropriate technologies. One project produced an urban dwelling which serves as a model for a more ecologically-sound urban habitat.

2.22 Foundation for Self-Sufficiency, Incorporated (S)

Research Centre
35 Maple Avenue
Catonsville
Maryland 21228

INFOTERRA:	2660	3720	6800
	6810	6980	

Undertakes research on low-technology in food and energy production. Produces newsletter and booklets.

2.23 Friends World College (S)

Lloyd Harbour
Huntington
New York 11743

INFOTERRA:	3215	3230	6800
	6850	6950	6960
	6980		

Involved in appropriate technology research and demonstration; activities include a geodesic dome, greenhouse solar collectors and others; concerned with Third World needs.

2.24 Integrated Living Systems

Star Route 103
Tijeras
New Mexico 87059

Contact: Robert Reines

INFOTERRA:	3215	3230	3746
	3747		

Constructed energy autonomous domes using wind and solar servicing.

2.25 Intermediate Technology (A)

556 Santa Cruz Avenue
Menlo Park
California 94025

Contact: The Director

INFOTERRA:	1000	3990	6800
	6810	6840	6870
	6941		

Works to promote the ideas of Dr. E. F. Schumacher. Involved also in small industry and technology, particularly the weaving industry. Encourages self-reliance and community relationships at the grass-roots level. Work has also been done in alternative food sources.

2.26 International Bank for Reconstruction and Development (IBRD) (T)

1818 H. Street, N.W.
Washington, D.C. 20433

Contact: Montague Yudelman, Director,
Agriculture and Rural Development
Department

INFOTERRA:	1180	2015	6800
	6810	6930	

Currently re-orienting its aid towards the rural poor and small-scale projects. Has

produced a confidential internal policy document on appropriate technology in its activities, and is collaborating with ITDG, London, in exploring avenues for small-scale technologies in its programmes.

2.27 International Federation of Appropriate Technology

University of California (Santa Cruz)
Department of Environmental Studies and Planning
Santa Cruz
California 95064

INFOTERRA:	1000	1015	6800
	6880	6980	7040
	7050		

Aims to further education in research, development and implementation of appropriate technology throughout the world. Encourages renewable and decentralized living systems.

2.28 Lorien House

P.O. Box 1112
Black Mountain
North Carolina 28711

INFOTERRA:	3215	3747	6800
	6980	7000	

Provides information on solar energy and alternative technology in complete and understandable form; produces books on solar energy.

2.29 Los Alamos Scientific Laboratories (X)

University of California
P.O. Box 1663
Los Alamos
New Mexico 87545

Contact: Dr. Douglas Balcombe and Peter van Dresser (Coordinator of Sun Dwellings Project)

INFOTERRA:	3215	3747	6990
------------	------	------	------

Undertook three-year testing of solar collectors integrated with roof structure. Fitted four dwellings with various types of passive solar heating systems. Presently studying the performance of these systems as applied to different climates.

2.30 Montana Energy and Magnetohydrodynamics Research and Development Institute (MERDI) (T)

Butte
Montana

INFOTERRA:	3681	3720	3746
	3747	6860	6990

Undertakes research on magnetohydrodynamic (MHD) technology, and is the only non-nuclear, central station, electric power generation system with significant potential for both greatly improved fuel efficiency and direct utilization of coal. It also offers substantially higher efficiency than conventional technologies. Involved in the development of a revolutionary, 14" cube, home furnace that burns coal oil and gas cleanly, directly and automatically at high efficiency. Also involved in the development of an electrical wind machine which is significantly cheaper than existing designs and in the design and testing of a low-cost solar collector suitable for mass manufacture. The Institute is developing a major programme for energy conservation among large consumers in Montana.

2.31 New Alchemy Institute (East) (T)

P.O. Box 432
Woods Hole
Massachusetts 02543

Contact: John Todd, Director

INFOTERRA:	1015	3011	3720
	3724	4131	6271
	6790	6800	

Specializes in developing aquaculture and integrated food and energy systems. Currently constructing a dwelling on Prince Edward Island, integrating food production, energy generation and waste re-cycling. New Alchemy Institute also has branches in Canada and Costa Rica, developing techniques appropriate to each locale. Publishes *New Alchemist*, annual journal.

2.32 New Alchemy Institute West (C)

Box 376
Pescadero
California 94060

INFOTERRA:	2640	3720	3724
	3990	6272	

Specializes in organic agriculture and methane production.

2.33 The Nucleus for the Exploration of Humanity's Future (S)

5833 Eucalyptus Lane
Los Angeles
California 90042

INFOTERRA:	3215	3747	4131
	6800	6980	6990

Collects information about appropriate and alternative technologies, experiments with solar energy food production and human-powered vehicles.

2.34 Office of Appropriate Technology (OAT) (T)

P.O. Box 1677
Sacramento
California 95808

Contact: Ms Judy Michalowski

INFOTERRA:	1010	1300	1620
	1640	3720	3724
	3747	6283	6470
	6800	6850	6960
	6990	7000	

Acts as a catalyst for change in government in the areas of job development, resource conservation, environmental protection and community development through seminars, demonstration projects, and publications. Current projects include: a travelling energy van; research on the relationship between jobs and energy; training technicians in solar energy technology; researching health problems of waterless toilets for urban and rural areas; and the use of waste heat for the heating of buildings. OAT is incorporating Appropriate Technology's ideas into the urban renewal plan for the state capital, Sacramento. Publishes annotated bibliographies on solid waste management, sun tempered green-houses, landscaping for energy conservation, methane and others.

2.35 Project Ouroboros (S)

University of Minnesota
School of Architecture and Landscape
Architecture
110 Architecture Building
Minneapolis
Minnesota 55455

INFOTERRA:	2170	3215	3230
	3746	5481	6283
	6700	6800	

Students constructed a partially underground house with solar space heating, a

recycling sewage system and a wind generator, the collective efforts of a design class to retrofit an entire community for self-sufficiency.

2.36 Rain (X)

2270 N.W. Irving
Portland
Oregon 97210

Contact: Lane de Moll

INFOTERRA:	6800	6980	6990
	7000		

Provides information inventories on appropriate technologies and studies for the Oregon State Government. Currently assisting in the organization of the Oregon Office of Appropriate Technology. Publications include: *Rain*, a monthly journal on appropriate technology activities; *Rainbook: Resources for Appropriate Technology* (1977); *Appropriate Technology Sourcebooks* (1976), on various subjects, prepared for the California Office of Appropriate Technology; and other publications.

2.37 Research Applied to National Needs (RANN)

Division of Exploratory Research and
Systems Analysis
National Science Foundation
Washington, D.C. 20550

Contact: Eugene Eccli, Project Manager

INFOTERRA:	2620	3747	5481
	6120	6790	6800
	6990	7000	

Supports projects focusing on issues such as waste re-cycling, substitutes for petrochemicals in agriculture, and solar energy, some of which concentrate on small-scale applications. Publishes *Appropriate Technology - A Directory of Activities and Projects* (1977), containing an extensive list and description of Appropriate Technology activities in the USA as well as a comprehensive bibliography.

2.38 Rodale Press Research Centre (T)

33 East Minor Road
Emmaus
Pennsylvania 18049

Contact: John Haberen, Vice President

INFOTERRA: 2620 2630 3720
3724 3747 3961
6272 6800 6990

An advocate of organic farming, Rodale has also developed a technical centre for innovating and testing a wide range of high quality, "low-impact" tools, particularly in the field of pedal power. Other research concerns methane digesters, testing solar panels, food storage and preservation. Publishes (From Rodale Press, Inc.) books, magazines and newsletters such as *Organic Farming and Gardening*, *Compost Science* and *Environmental Action Bulletin*. Publications list available.

2.39 Rutan Research (S)

12489 Norell Avenue North
Stillwater
Minnesota 55082

INFOTERRA: 3724 6850 6980
7050

Involved in experiments and demonstrations with methane digesters. Holds instructional workshops.

2.40 School of Alternative Technology (G)

American Village Institute
Marchus
Washington 99151

INFOTERRA: 2015 3850 3880
6800 6810 6840
6941

Develops and teaches rural technologies in the areas of iron foundry work, self-replicating, metal work and break-making.

2.41 Self Help, Incorporated (S)

Waverly
Iowa 50677

INFOTERRA: 2630 6800 6810

Develops small but versatile and durable multi-purpose tractor that can be constructed from industrial over-run materials and requires minimal machine work.

2.42 Shelter Institute (S)

72 Front Street
Bath
Maine 04530

INFOTERRA: 1015 3140 3215
3230 3720 5151
6800 6980 6990
7050

Offers courses and private consultations for those who want to design and build their own energy-efficient homes; distributes books, supplies building materials and produces periodical newsletter.

2.43 Southern California Institute of Architecture (N)

1800 Berkeley Street
Santa Monica
California 90402

INFOTERRA: 1015 3215 3300
3720 3746 3747
5151 6800 6850

Constructed an exhibit for Habitat Forum Conference in 1976 which included a portable low-cost wind generator; interested in alternative energy, low-cost housing and energy efficient structures. Designed and constructed a low-energy house in Southern California.

2.44 Solar Sustenance Project (S)

Route 1, Box 107 AA
Santa Fe
New Mexico 87501

INFOTERRA: 1015 1180 2620
3215 3720 3747
6800 6850 6960
6980 6990 7050

Researches and demonstrates energy conserving alternatives that can help low-income people; develops and tests prototype low-cost solar greenhouses; holds workshops in different communities.

2.45 TILTH

Route 2 Box 190-A
Arlington
Washington 98223

INFOTERRA: 1300 2620 2630
2640 3215 3747
6850 6980 6990
7040 7050

Explores ecologically-sound and socially equitable agricultural alternatives for the Pacific Northwest. Work includes experimenting with hand tool/labour intensive agriculture and agricultural applications

of solar energy. Operates a labour-intensive farm simultaneously as a home-stead, commercial farm and research/education/demonstration establishment; publishes newsletter.

2.46 United Nations Children's Fund (UNICEF) (R)

866 United Nations Plaza
New York
New York 10017

INFOTERRA:	1580	1640	2015
	2640	2860	3960
	6620	6790	6800
	6850	6900	6950
	7000	7040	

Supports Village Technology Units; general programme has a notable appropriate technology component with a concentration on small-scale food processing, hand-dug wells, manual water pumps and the provision of cheap local health care.

2.47 The Walden Foundation (G)

P.O. Box 5
El Rito
New Mexico 87530

Contact: James B. DeKorne

INFOTERRA:	2620	2640	2660
	2673	2674	2760
	3215	4131	6272

Developed an eco-system approach to home food production which combines hydroponic gardening in a carbon dioxide atmosphere maintained by maximized rabbit production and fish farming; also uses a Windcharger electric system solar heating for semi underground greenhouses.

2.48 Windworks (T)

Box 239, Route 2
Mukwonago
Wisconsin W153149

Contact: Ben Wolff

INFOTERRA:	3720	3746	6620
	6790	6800	7000

Undertakes research in wind generated power systems. Has developed a low-cost sail windmill for pumping water, and a synchronous inverter system which converts direct current from windmills to alternating current, which can be introduced into the electrical utility grid,

eliminating the need for expensive storage batteries.

2.49 Zomeworks Corporation (T)

P.O. Box 712
Albuquerque
New Mexico 87103

Contact: Steve Baer

INFOTERRA:	3100	3140	3210
	3215	3720	6800
	6860	6900	6990

Provides innovative, low-cost consultancy service on solar designs. Has produced zomes (buildings similar to geodesic domes), drumwalls (walls of oil barrels painted black and filled with water to store heat) and bead-wall systems (which pump styrofoam beads between two panes of glass to prevent heat loss at night).

3.01 ADVOCAP Inc. Community Action Programme (S)

174 W. Division Street
Fond du lac
Wisconsin 53935

INFOTERRA:	3260	3330	3410
	6471	6800	

Involved in programme in which homes are selected and purchased, rehabilitated and weatherized and resold to low moderate income families, having reduced energy costs by at least fifty per cent.

3.02 The Aero Power Company (S)

2398 4th Street
Berkeley
California 94710

INFOTERRA:	3746	6800	7040
------------	------	------	------

Involved in the design, engineering, construction and testing of wind powered electric generating systems.

3.03 Alternative Energy Systems (S)

P.O. Box 295
Winthrop
Washington 98862

INFOTERRA:	3215	6800	6850
	6980	7000	

Involved in the design and construction of community demonstration projects with solar energy heating systems.

3.04 Alternative Sources of Energy (D)

928 2nd Street SW
Apt. 4
Roanoke
Virginia 24016

INFOTERRA: 3720 6800 6980
6990 7000

Publishes a magazine, various pamphlets and has published one book. Maintains a classified catalogue of contacts and runs a lending library.

3.05 Alternative Sources of Energy Incorporated (ASE) (T)

Route 2
Box 90A
Milaca
Minnesota 56353

Contact: Don Marier

INFOTERRA: 1000 1015 2620
3720 6785 6790
6800 6840 7000

Provides a communication network for an open exchange of ideas and information, encourages experiments in individual and cooperative management of goods and services, and fosters mutual aid in the development of skills. Publishes *Quarterly Alternative Sources of Energy Magazine* concerned with the development of alternative technologies for a decentralized society. Emphasis is on alternative environmental technologies as energy sources, agriculture, architecture, transport and communications, and the synthesis of old and new technologies.

3.06 American Wind Turbine Company (P)

Box 446
St. Cloud
Florida

INFOTERRA: 3746

Manufactures wind turbines.

3.07 American Underground Association (G)

Department of Civil Engineering
University of Minnesota
Minneapolis
Minnesota 55455

INFOTERRA: 3230 3410 3720
5151 6471 6800
6990

Active in promoting the potential of underground space; believes that energy independent buildings are technically and economically feasible. Publishes bi-monthly journal.

3.08 Anchor Tools and Woodstove (S)

618 N.W. Davis
Portland
Oregon 97209

INFOTERRA: 1015 3720

Involved in wood heating and trying to keep people informed about wood as a renewable source of fuel.

3.09 Appalachian Rural Alternatives Network (S)

P.O. Box 135
Bainbridge
Ohio 45612

INFOTERRA: 2015 3215 3747
6800 6850 6980
6990 7000

Involved in a programme which is a series of "hands-on" workshops covering different types of solar technology devices; facilitates innovative and interested people to exchange ideas about rural alternatives appropriate to the region.

3.10 Arrakis Propane Conversions (S)

Route 2
Box 96C
Leslie
Arkansas 72645

INFOTERRA: 3720 4120 6800

Supplies equipment, kits and literature to "do-it-yourselfers" who want to convert their autos to either propane, methane or both.

3.11 Ball Food Preservation Programme (S)

Ball Corporation
345 High Street
Muncie
Indiana 47302

INFOTERRA: 3961 6870

Concerned with the sale and successful operation of community canning centres for self-help operations.

3.12 Bio-Energy Systems, Incorporated (S)

P.O. Box 375
Spring Glen
New York 12483

INFOTERRA: 1015 3120 3720

Offers complete design and engineering services for integrated systems of energy production and resource conservation.

3.13 Bio-Gas of Colorado, Incorporated (S)

Research Division
5620 Kendall Court, Unit G
Arvada
Colorado 80002

INFOTERRA: 1015 3120 3724
6800

Offers engineering design services to those interested in methane digesters for fuel production.

3.14 Bio-Utility Systems, Incorporated (S)

P.O. Box 135
Narberth
Pennsylvania 19072

INFOTERRA: 1640 6283 6800

Offers a complete package of hardware for those interested in all alternatives to the flush toilet.

3.15 Blue Skies Radiant Homes (S)

40819 Park Avenue
Hemet
California 92343

INFOTERRA: 3215 3410 6471

Designs and builds single family homes completely equipped with solar heating.

3.16 Board on Science and Technology for International Development (BOSTID) (T)

National Academy of Sciences
2101 Constitution Avenue, NW
Washington D.C. 20418

INFOTERRA: 1015 2015 2820
3720 4000 6790
6800 6880 6950
6960 6990 7000

Concerned with the application of scientific and technical resources to the problems of international economic and social development. Publishes reports including

More Water for Arid Lands (1974) Food Science in Developing Countries (1974), Energy for Rural Development: Renewable Resources and Alternative Technologies for Developing Countries (1976).

3.17 Bridge Design Cooperative (S)

General Delivery
Burton
Washington 98013

INFOTERRA: 3215 3300 6800

Interested in low-cost housing and solar heating applications.

3.18 By Hand and Foot Limited (G)

P.O. Box 611
Brattleboro
Vermont 05301

INFOTERRA: 2620 2630 6800
7050

Develops tools dependent on human energy. Also interested in biological agriculture and has produced educational tapes.

3.19 Cameron Engineering, Incorporated (W)

1315 South Clarkson Street
Denver, Colorado 80237

Contact: Robert Harris, President

INFOTERRA: 1010 1011 1020
3300 3681 3720
6800 6860 6960
6990

Provides information, consulting, engineering and management services on synthetic fuels. Specialists in oil shale, oil (tar) sands and coal. Publishes quarterly magazine.

3.20 Centre for Aquaculture (T)

Auburn University
Auburn
Alabama

INFOTERRA: 3011 6840 6860
6990

Involved in research and development on aquaculture systems.

- 3.21 Centre for the Biology of Natural Systems (CBNS) (G)**
 Box 1126 Washington University
 St. Louis
 Missouri 63130
 INFOTERRA: 2620 3720 6272
 Undertakes studies to show the viability of organic farming compared to chemical farming, even in the short run. Further studies will include on-farm energy production, small farm marketing, production efficiency and taxation.
- 3.22 Centre for Local Self Reliance (S)**
 3302 Chicago Avenue
 So.
 Minneapolis
 Minnesota 55407
 INFOTERRA: 2170 3215 6471
 6800 6802 6850
 6870 6980 7000
 Helps communities become more self-reliant. Projects include winterization and insulation, demonstrations of solar collectors, workshops.
- 3.23 Centre for Planning and Development Research (G)**
 College of Environmental Design
 University of California
 Berkeley
 California 94720
 INFOTERRA: 1015 3480 3720
 5151 6800 6870
 7040
 Multi-disciplinary research unit in the areas of community design, appropriate technology, self-help, facilities planning and design, energy conservation and development, design for special users (e.g. handicapped and elderly).
- 3.24 Centre for Rural Affairs (G)**
 Box 405
 Walthill
 Nevada 68067
 INFOTERRA: 1015 2015 2620
 2630 2640 3720
 3724 3746 3747
 6800 6810 6840
 Works with local small farmers to test new and traditional technologies to improve
- farm efficiency. The Small Farm Energy Project includes farm tests of solar, wind and biogas technologies.
- 3.25 Community Action of Laramie County Incorporated (S)**
 Bell Building Suite 400
 Cheyenne
 Wyoming 82001
 INFOTERRA: 2660 3215 3990
 4131
 Constructs solar-reliant greenhouses which produce vegetables and heat for adjacent buildings.
- 3.26 Committee for Social Responsibility in Engineering (D)**
 475 Riverside Drive
 New York
 New York 10027
 INFOTERRA: 3120 6800
 Explores ways in which engineering skills can be used to solve societal problems.
- 3.27 Centre for Science in the Public Interest (N)**
 1757 S. Street N.W.
 Washington, D.C. 20009
 INFOTERRA: 6800 6980 6990
 7000
 Aims to make science and technology responsive to the needs of the people of the world. Produces books and newsletters.
- 3.28 Clean Energy Systems (S)**
 RD 1, Box 366
 Elysburg
 Pennsylvania 17824
 INFOTERRA: 3120 3215 3720
 6850 6980 7000
 Offers mechanical engineering design assistance to those interested in energy conservation; experiments with a greenhouse/solar air collector system; involved in state-wide demonstrations and lectures relating to energy.
- 3.29 Cook College Department of Biological and Agricultural Engineering (S)**
 P.O. Box 231
 New Brunswick
 New Jersey 08903

INFOTERRA: 3215 4113

Involved in the development of low-cost polyethylene greenhouses; undertakes research in the fields of solar energy and works on the design and testing of low-cost collectors.

3.30 Denver Research Institute, University of Denver (W)

2050 East Iliff Avenue
Denver
Colorado

Contact: Dr. T. W. Shlie, International OFC

INFOTERRA: 1040 1060 4940
6800 6860 6941
6950 7040

Conducts research on air pollution, water pollution, upper atmospheric physics, industrial waste, environmental assessment of commercial oil shale development, environmental policy analysis and cloud physics.

3.31 Department of Agricultural Engineering (X)

Cornell University
330 Riley-Robb Hall
Ithaca
New York 14853

INFOTERRA: 1015 2820 3215
3230 3410 3720
3724 4113 5151
5366 6800

Appropriate technology activities involve energy biogas, biomass, alternative forms of energy, housing construction, housing design, waste disposal, water storage, supply and treatment.

3.32 Domestic Technology Institute (G)

P.O. Box 2043
Evergreen
Colorado 80439

INFOTERRA: 2640 3215 3410
5151 6471 6980
7000

Assists people in greenhouse construction, publishes articles on passive solar home design and the economics of solar heating and cooling.

3.33 Earth Resources Development Research Institute (G)

Hearst Hall
Wisconsin Avenue and Woodley Road
N.W.
Washington, D.C. 20016

INFOTERRA: 1930 2030 2300
2620 2640 2660
6272 6880 6950

Works on revitalizing and establishing soils and ecosystems through a concept of "Climax Agriculture". Project in Niger aims to make productive land destroyed by overuse by man.

3.34 Ecology Action/Common Ground (G)

2225 El Camino Real
Palo Alto
California 94306

INFOTERRA: 2620 2640 6272
6990

Undertakes research and education in the biodynamic/French intensive method of small-scale agriculture. Publishes and distributes book, *How to Grow more Vegetables than you Ever Thought Possible on Less Land than you can Imagine*.

3.35 Economic Development Laboratory (EDL) (T)

Engineering Experiment Station
Georgia Institute of Technology
Atlanta
Georgia 30332

Contact: Ross W. Hammond, Director

INFOTERRA: 6790 6800 6810
6880 6900 6941
6950 6960 6990

Carries out investigations in engineering science and economic development for government and industrial sponsors. The EDL is one of eight laboratories which compose the station. Links have been established with counterpart organizations in developing countries (including Brazil, Ecuador, Ghana, Indonesia, Kenya, Korea, Nigeria and the Philippines) assisting in the development and expansion of small and medium-scale industries, frequently through the use of appropriate intermediate technologies. Publishes: *Small Industry Development Newsletter*, issued quarterly.

- 3.36 Emerging Professional International Conference** (N)
313 W. 87th Street
New York
New York 10024
INFOTERRA: 2190 3140 3150
3230 6800
Concerned with human settlement and appropriate use of materials.
- 3.37 Energy Planning Division** (S)
Montana Department of Natural Resources and Conservation
32 South Ewing
Helena
Montana 59601
INFOTERRA: 1015 3720 3724
3742 3744 3746
3747 6800
Undertakes research in the areas of solar, wind, wood, water, geothermal and biomass energy systems.
- 3.38 Energy Research and Development Corporation** (J)
3544 Emerson Avenue South
Minneapolis
Minnesota 55408
INFOTERRA: 1015 3720 3724
6980 7000 7050
Undertakes research and educational activities in the area of renewable energy systems; works on digesters.
- 3.39 Energy Research, Development and Applications Project** (S)
Forests Products Laboratory
Madison
Wisconsin 53701
INFOTERRA: 3720 4020 4021
Undertakes studies on the use of wood for fuel, in forest products, for manufacturing plants, and on the production of petrochemical substitutes from forest residues.
- 3.40 Enertech Corporation** (S)
P.O. Box 420
Norwich
Vermont 05055
INFOTERRA: 3746
Specializes in the design, distribution and installation of reliable wind powered electrical generating systems.
- 3.41 Environmental Energies, Incorporated** (S)
Box 73
Front Street
Copernish
Michigan 49625
INFOTERRA: 1015 3720 3724
3742 3744 3746
3747
Offers design services in the area of renewable energy sources feasibility studies and installation.
- 3.42 Environmental Information Centre of the Florida Conservation Foundation Incorporated** (N)
935 Orange Avenue
Winter Park
Florida 32789
INFOTERRA: 3215 3747 6980
6990 7000
Undertakes research and dissemination of information on environmental issues including solar energy. Produces reports such as *Build Your Own Solar Water Heater* and a newsletter.
- 3.43 Environmental Studies Section/International Studies Association (ESS/ISA)** (N)
Department of Political Science
Western Michigan University
Kalamazoo, Michigan 49008
Contact: Dr. Kenneth A. Dahlberg
INFOTERRA: 1970 6840 6880
6960 7050
Carries out environmental research and education, sponsors forums. Held a workshop on "A People's Input into the 1979 UN Conference on Science and Technology for Development".
- 3.44 Experimental Farm and Training Centre** (G)
Route 3
Box 95
Wadesboro
North Carolina 27170

INFOTERRA: 2620 2640 4131
6272

Explores diversified, holistic, biological methods for small farm production. Programmes include a ten-sow programme, crop rotation, woodlot management, specialty crops, orchards and composting.

3.45 Falbel Energy Systems Corporation (S)

472 Westover Road
Stanford
Connecticut 06902

INFOTERRA: 3215

Designs and builds solar collectors for hot water heating applications.

3.46 The Farm (G)

156 Drakes Lane
Summertown
Tennessee 38483

Contact: Stephan Gaskin

INFOTERRA: 1540 2030 2300
2620 2630 2640
2660 4113 6880

Assisted earthquake-stricken Guatemala with back to the land techniques and technologies. Developed exchange programme so that both the group in Tennessee and the Guatemalans could benefit from the expertise of the other.

3.47 Foundation for Cooperative Housing (G)

1001 15th Street
Washington D.C. 20005

INFOTERRA: 3150 3300 3360
6880 6900 6950

Explores new low-cost techniques for construction in both the U.S.A. and in developing countries.

3.48 Foundation for Rural Technology (T)

P.O. Box 8
Embudo
New Mexico 87531

INFOTERRA: 2015 3150 3300
3720 6620 6790
6800 6840 6850
6900 7000

Supports local rural community projects

which conserve energy, through research, development and prototype testing. Investigating low-cost housing using pumice as building material, refrigerating units and water pumps.

3.49 Fred Rice Production, Incorporated (S)

P.O. Box 643
LaQuinta
California 92253

INFOTERRA: 3747

Undertakes research and development in the solar energy field.

3.50 Friends of the Earth

620 C Street S.E.
Washington, D.C. 20003

INFOTERRA: 1015 3720 6800

Promotes appropriate technology and alternative energy.

3.51 The Futures Group (W)

124 Hebron Avenue
Glastonbury
Connecticut 06033

Contact: Theodore J. Gordon, President

INFOTERRA: 1000 1030 3260
3720 3990 6800
6840 6960

Aims to assist decision-makers in undertaking better decisions in the face of future uncertainty. Capable of dealing with social, economic, scientific, technological, demographic and other important aspects of the future.

3.52 Gardens For All, Incorporated (S)

Bay and Harbor Roads
Box 371
Shelburne
Vermont 05482

INFOTERRA: 2640 4131 6980

Helps organize community gardening programmes; serves as clearinghouse for community gardening information.

3.53 Genesis Housing and Community Development Corporation (G)

P.O. Box 827
Claxton
Georgia 30417

INFOTERRA: 3300 6870

Works on self-help housing projects with low-income people in the U.S.A.

3.54 Grassy Brook Village, Incorporated (S)

RFD 1, Box 39
Newfane
Vermont 05345

INFOTERRA: 1000 1060 3215
3330 3720

Developing a solar heated cluster-type condominium stressing energy conservation, reduction of water consumption and ecologically- and aesthetically-sound site development work.

3.55 Helion, Incorporated (S)

Box 4301
Sylmar
California 91342

INFOTERRA: 2630 2640 3215
3746 3747 6980
6990 7000

Tests and markets wind power systems, a solar greenhouse and solar flat plate collectors; conducts seminars and workshops and publishes plans and books.

3.56 Horner and Shifrin, Incorporated (W)

5200 Oakland Avenue
St. Louis
Missouri 63110

Contact: F. E. Wisely, Vice President

INFOTERRA: 4960 5362 5363
5364 5441 5481
6283 6700 6800

Offers expertise in solid waste disposal, municipal and industrial sewerage and waste water treatment, waste disposal and energy conversion techniques, materials recovery and re-use, alternative technology evaluation and selection.

3.57 Hydroheat Division (S)

Ridgway Steel Fabricators, Incorporated
Ridgway
Pennsylvania 15853

INFOTERRA: 3210 3410

Manufactures and distributes products which can be used to convert fireplaces into central heating systems.

3.58 I E Associates (A)

3704 11th Avenue South
Minneapolis
Minnesota 55407

Contact: Dr. Tom P. Abeles, President

INFOTERRA: 1015 3215 3720
3747 6271 6800

Interested in the development of renewable energy resources. Currently carrying out research and product development in the area of anaerobic digestion of agricultural and urban wastes for pollution abatement and energy production. Also involved in solar heating and cooling and energy conserving structures.

3.59 Idaho State Energy Office

Idaho Statehouse
Boise
Idaho 83720

INFOTERRA: 1015 3720 3744
6980 6990 7000
7050

Promotes energy conservation through educational activities and projects such as participation in a geothermal heating project and development of a statewide energy conservation programme.

3.60 Institute for Environmental Education (N)

8911 Euclid Avenue
Cleveland
Ohio 44266

INFOTERRA: 1015 1940 2861
3720 5364 6700
6800

Published training manual, *Tuning the Green Machine*, in which appropriate technology is considered, particularly in the fields of wastewater and drinking water treatment, erosion abatement techniques, recycling, and alternative sources of energy.

3.61 Institute for Local Self-Reliance (A)

1717 18th Street NW
Washington, D.C. 20009

INFOTERRA: 1000 2170 6800
6870

Produces bi-monthly publication that provides information about research and

projects that are aimed at neighbourhood and community self-reliance.

3.62 International Project for Soft Energy Paths (IPSEP) (A)

124 Spear Street
San Francisco
California 94105

INFOTERRA: 1015 2030 3681
3720 3724 6800

Publishes occasional newsletter, *Soft Energy Notes* for distribution to the IPSEP network which includes articles on many aspects of soft energy - biomass potential, biogas technology, alcohol fuels, land management, burning coal and other concerns in the field of alternative sources of energy.

3.63 International Society for Technology Assessment (B)

Cleveland Park Station
P.O. Box 4926
Washington, D.C. 20008

Contact: Alexander Christakes

INFOTERRA: 6785 6840

Assesses technological development.

3.64 Insulation Engineering, Incorporated (S)

1/2 Mile Van Horn Road
S R Box 60140
Fairbanks
Alaska 99701

INFOTERRA: 3215 3410 5151
6471 6700 6980
7000

Interested in home insulation through paper waste, geodesics, solar furnaces and in mechanisms that will allow appropriate technology developers to communicate directly and serve as resources.

3.65 Jester Press (T)

54468 CR 31
Bristol
Indiana 46507

Contact: Michael Evans, Editor, Publisher

INFOTERRA: 3720 3746 7000

Publishes *Wind Power Digest*, a quarterly, which provides general and consumer information about wind energy systems.

3.66 Living Systems (S)

Route 1, Box 170
Winters
California 95694

INFOTERRA: 1701 3215 3720
3747

Offers consultancy on energy conservation, solar building design planning, landscape architecture and ecology.

3.67 Marathon Heater Company Incorporated (S)

Box 165, R.D. 2
Marathon
New York 13803

INFOTERRA: 3210 4020

Manufactures wood burning hot air and hot water residential heating systems.

3.68 Metastasis (J)

P.O. Box 128
Marblemount
Washington 98267

INFOTERRA: 6800 6980 6990
7000

Produces a wide range of publications of interest to those involved in appropriate technology.

3.69 Midwest Energy Alternatives Network (A)

Governors State University
Park Forest South
Illinois 60466

INFOTERRA: 1015 3720 6800
6980 6990 7000

Network for organizations involved in energy alternatives; facilitates exchange of information and ideas including information on alternative technology; bi-monthly newsletter, directory of Midwest activities, people and organizations.

3.70 National Federation of Young Farmers Clubs (N)

c/o Young Farmers Office
Youth House
Phoenix
Arizona

Contact: R. Awotar, Sec/Manager

INFOTERRA: 6120 6272

Talks and demonstrations on the rational use of chemical fertilizers; gives demonstrations on usage and benefits of compost waste.

3.71 Nacul Environmental Design Centre (S)

592 Main Street
Amherst
Massachusetts 01002

INFOTERRA: 1000 3410 5151
6800

Designs methods by which people can build and live harmoniously with their natural environment.

3.72 Northern Arizona Council of Governments (S)

P.O. Box 57
Glagstaff
Arizona 86001

INFOTERRA: 3215 3720

Involved in solar energy projects.

3.73 New Directions (N)

2021 L Street NW
Washington, D.C. 20036

INFOTERRA: 2015 6800 6870
6880 6950 6960

Aims to increase U.S. assistance in support of more self-reliant programmes in developing countries through better and appropriate technology and sound rural development.

3.74 North Wind Power Company Incorporated (S)

P.O. Box 315
Warren
Vermont 05674

INFOTERRA: 3720

Manufactures and sells renewable energy hardware.

3.75 The Oceanic Institute (N)

Waimanalo
Hawaii 96795

Contact: Dr. Robert Shleser, Director

INFOTERRA: 2673 3980 3990
6271

Aims to seek alternative methods of providing protein from local sources. Developed culture methods for mullett and milkfish which graze low in the food chain. Emphasis is on using organic material wastes as a source for food.

3.76 The Ozark Institute (G)

P.O. Box 549
Eureka Springs
Arkansas 72632

INFOTERRA: 1701 2015 6800
6990

Publication *Rural Media* acts as a catalyst for rural community action by providing information on appropriate technology, rural development and regional ecosystems.

3.77 Pacific Science Association (N)

P.O. Box 17801
Honolulu
Hawaii 96817

Contact: General Secretary

INFOTERRA: 6800

Interested in scientific problems relating to the Pacific region. Hosted Congress, "Appropriate Technology".

3.78 Partnership for Productivity (A)

P.O. Box 170
Annandale
Virginia 22003

INFOTERRA: 2015 2640 6810
6840 6880 6950

Fosters human potential and local institutions in African rural areas; introduces small-scale technology wherever possible along with small-scale intermediate "management". Established "Bicycle Brigade" in Kenya and a new rice scheme in Liberia.

3.79 Peace Corps (PC) (T)

Washington, D.C. 20525

Contact: Brenda Gates, Director Peace Corps Information Collection and Exchange, Office of Multi-Lateral and Special Programmes

INFOTERRA:	1580	2420	2620
	2673	2700	2780
	2910	3300	4113
	6790	6800	6810
	6870	6880	6950
	6960	6990	7000

Volunteer assistance programme with a strong Appropriate Technology component that provides a wide range of experience and information on adapting programmes to local conditions. Publishes very extensive listings, with the assistance of VITA, USA.

3.80 Progressive Technology Company (A)

P.O. Box 20049
Tallahassee
Florida 32304

INFOTERRA: 6800

Works to make science and technology serve the people.

3.81 R. Buckminster Fuller and Associates (N)

3500 Market Street
Philadelphia
Pennsylvania 19104

INFOTERRA: 3300 3410 5151
6800

Constructs geodesic domes and experiments with other low-cost shelter.

3.82 Research and Design Institute (REDE) (G)

P.O. Box 307
Providence
Rhode Island 02901

INFOTERRA: 1015 3720 6785
6800

Works on projects directed at making connections between known technologies and also tries to assess the effect of using alternative energy sources on people. Uses an old mill retrofitted with alternative energy systems to supply power needs.

3.83 Roger Blobaum and Associates (G)

Rural Route 4
Creston
Iowa 50801

INFOTERRA: 1015 2015 2640
3720 5366 6272
6800

Interested in promoting a small farm revival in the United States. Projects include an alternative energy programme for small farms, a project to compost urban waste for agricultural use and an assessment of low cost agricultural technologies.

3.34 Rural Housing Alliance (S)

1346 Connecticut Avenue N.W.
Washington, D.C. 20036

INFOTERRA: 3140 3300 3410
3720 6471 6870
6980 6990 7000

Twenty-five agencies involved in self-help housing, disseminating information about low-cost construction methods and energy conservation.

3.85 Rural Housing Research Unit (S)

Agricultural Research Service, USDA
P.O. Box 792
Clemson
South Carolina 29631

INFOTERRA: 2015 3230 3260
3300 3410

Undertakes research to improve the housing conditions in rural areas, trying to lower construction costs and reduce energy costs.

3.86 Sanitary Engineering Research Laboratory (T)

University of California
Richmond Field Station
1301 S. 46th Street
Richmond
California

INFOTERRA: 1640 6800 6860
6990

Published *An Algal Regenerative System for Single-Family Farms and Villages* by C. G. Colueke and W. J. Oswald (c.1975).

3.87 Sencenbough Wind Electric (P)

Box 11174
Palo Alto
California 94306

INFOTERRA: 3746

Works with windplants.

3.88 SESPA (Scientists and Engineers for Social and Political Action) (D)

9 Walden Street
Jamaica Plain
Massachusetts 02130

INFOTERRA: 6800 6980 6990
7000

Federation of groups throughout the U.S. that publishes magazines and numerous books and pamphlets.

3.89 Sheaffer and Roland, Incorporated (S)

20 North Wacker Drive
Chicago
Illinois 60606

INFOTERRA: 1040 3720 3747
7040

Offers consultant services to clients in the areas of environmental planning, resources management, energy conservation and solar energy.

3.90 SOLAG (S)

R.R. 2
Roseville
Illinois 61473

INFOTERRA: 2620 2630 3215
3720 3747

Works on the development of solar energy techniques for agricultural applications; built a solar grain dryer.

3.91 Solar Products Information and Engineering (S)

P.O. Box 506
Columbus
North Carolina 28722

INFOTERRA: 1015 3720 3746
3747

Acts as an information source for people interested in renewable energy sources.

3.92 Solar Survival (S)

Cherry Hill Road
Harrisville
New Hampshire 03450

INFOTERRA: 1000 2640 3140
3150 3215 3230
3747 4131 6800
6810

Cottage industry group that works on local, low-technology solar living concepts including food, housing, hand skills, etc.

3.93 Solar Technology Corporation (S)

2160 Clay Street
Denver
Colorado 80211

INFOTERRA: 3215 3747

Offers design and engineering and also installs walk-in solar collectors.

3.94 Solarc (S)

P.O. Box 4233
Whittier
California 90607

INFOTERRA: 3215 3747

Specializes in research and design for solar heated buildings.

3.95 Sunshine Engineering (S)

P.O. Box 1776 or P.O. Box 61
Gilford Westfield
Montana 59525 North Carolina 27053

INFOTERRA: 1015 3215 3720
3747 6980 6990
7050

Offers architectural and design services for renewable energy applications, including education packages for university course work.

3.96 Solarvision, Incorporated (A)

Port Jervis, Box 2
New York 12771

INFOTERRA: 3215 3747 6980
6990

Produces magazine *Solar Age*.

3.97 Sunspace, Incorporated (S)

Box 71A Rt 5
Burnsville
North Carolina 28714

INFOTERRA: 3215 3747 6980
6990

Provides design, construction and educational services in the solar energy field.

3.98 Sunstructures, Incorporated (S)

Integrated Architectural Design
201 E. Liberty Street, Number 6
Ann Arbor
Michigan 48104

INFOTERRA: 3215 3747 6980
6990

Provides architectural and engineering design services in the solar energy field.

3.99 Technical Publishing Company (W)

1301 South Grove Avenue
Barrington
Illinois 60010

Contact: Editor, Pollution Engineering Magazine

INFOTERRA: 4111 4710 4940
4960 5364 5441
6790 6800

Provides practical solutions to specific problems in air and water pollution, solid waste handling and disposal and noise abatement for managers and engineers responsible for designing, specifying, buying and installing pollution control equipment and systems.

3.100 Technoserve (T)

36 Old King's Highway South
Darien
Connecticut 06820

Contact: Edward P. Bullard

INFOTERRA: 1180 1300 1340
2015 6790 6800
6860 6870 6880
6900 6920 6941
6950 6990 7000

Provides technical, managerial and financial services to aid in the establishment or expansion of small-scale, self-help enterprises among low-income groups in developing countries. Special attention is given to projects which contribute to rural productivity, employment generation and income distribution. Current projects include the design, testing and installation of sugar processing equipment in Mankessiny, Ghana, and a kiln installation for cooperative manufacturing in Honduras. Technoserve operates in El Salvador, Honduras, Nicaragua, Ghana and Kenya. Publishes occasional newsletter, *Technoserve*.

3.101 Total Environment Action (S)

Church Hill
Harrisville
New Hampshire 03450

INFOTERRA: 1015 3720 3746
3747 6271 6800

Offers wide range of architectural and engineering services in the area of energy conservation, solar energy, wind power and waste disposal.

3.102 United Nations Centre for Housing, Building and Planning (W)

The Centre is now incorporated in the United Nations Centre for Human Settlements, Nairobi, Kenya.

3.103 UN Children's Fund (UNICEF) (T)

866 United Nations Plaza
New York
New York 10017

INFOTERRA: 1165 1580 1640
2820 2860 4000
6800 6900 6920
6990 7000 7050

Supports programmes having a strong Appropriate Technology component, in the areas of maternal welfare, water supply, family planning, social welfare, child nutrition and education. Publishes *UNICEF News* quarterly.

3.104 Vermont Tomorrow (N)

5 State Street
Montpelier
Vermont 05602

INFOTERRA: 2620 2640 3410
3720 6800 6980
7000

Produces community development guides (agriculture, energy, housing); participated in alternative energy conference.

- 3.105 Village Design** (N)
1545 Dwight
Berkeley
California 94703
INFOTERRA: 3746 3747
Works with wind and solar energy.
- 3.106 Westport Research Associates** (S)
P.O. Box 107
Westport
Connecticut 06880
INFOTERRA: 3747 6700 6800
Provides research and consulting services in the areas of physical science and alternative technology including solar energy, material recycling.
- 3.107 Whole Earth Truck Store** (J)
558 Santa Cruz Avenue
Menlo Park
California 94025
INFOTERRA: 6800 6980 6990
7000
Very extensive publishing house where most authoritative texts on appropriate technology may be obtained.
- 3.108 Windworks** (S)
Box 329 Route 3
Mukwonago
Wisconsin 53149
INFOTERRA: 1015 3720 3746
Interested in renewable energy, especially wind energy.
- 3.109 Winrock International** (G)
Livestock Research and Training Center
Petit Jean Mountain
Morillon
Arkansas 72110
INFOTERRA: 2521 2760 7050
Conducts research and training on its own farm site to improve the understanding and use of ruminants for the benefit of mankind.
- 4.01 Biodynamic Farming and Gardening Association**
165 West Street
Duxbury
Massachusetts 02543
INFOTERRA: 2620 6272
- 4.02 California Organic Growers**
Box 540-H
Halcyon
California 93420
INFOTERRA: 2620 6272
- 4.03 Colorado Organic Growers and Marketers Association**
2555 West 37 Avenue
Denver
Colorado 80211
INFOTERRA: 2620 6272
- 4.04 Maine Organic Farmers and Gardeners Association**
Chaitanya York
RFD 2, Bump Hill Road
Union
Maine 04642
INFOTERRA: 2620 6272
- 4.05 Michigan Organic Growers and Buyers Association**
Box 136
Decatur
Michigan 49045
INFOTERRA: 2620 6272
- 4.06 Minnesota Organic Growers and Buyers Association**
624 Jefferson Street N.E.
Minneapolis
Minnesota 55413
INFOTERRA: 2620 6272
- 4.07 Natural Gardeners and Farmers of Cochise County**
RR 1 Box 700
Willcox
Arizona, 85643
INFOTERRA: 2620 6272
- 4.08 Natural Organic Farmers Association**
Box 247
Plainsfield
Vermont 05667
INFOTERRA: 2620 6272

- 4.09 New Mexico Organic Growers Association**
1312 Lobo Place NE
Albuquerque
New Mexico 87106
INFOTERRA: 2620 6272
- 4.10 Northwest Organic Food Producers Association**
Route 2, Box 2152
Toppenish
Washington 98948
INFOTERRA: 2620 6272
- 4.11 Organic Growers and Buyers Association**
Winding Road Farm
Boyceville
Wisconsin 54724
INFOTERRA: 2620 6272
- 5.01 Les Auerback**
242 Copse Road
Madison
Connecticut 06443
INFOTERRA: 3724
Designs methane digester plans.
- 5.02 Dr. Richard C. Bailic**
Department of Chemical Engineering
West Virginia University
Morgantown
West Virginia 26506
INFOTERRA: 3720 3724 5362
5363 5481
Works as consultant with small-size energy conversion systems and helps small industries and communities with environmental problems including construction of small plants for the combustion of municipal and industrial wastes and a biomass gasifier intended for use on small farms.
- 5.03 Everett M. Barber, Jr.**
School of Architecture
Yale University
New Haven
Connecticut 06520
INFOTERRA: 3215 3747
Involved in the development and testing of solar energy products.
- 5.04 Bruce Bugbee**
Department of Vegetable Crops
Hunt Hall
University of California
Davis
California 95616
INFOTERRA: 2620 2640 3210
3747
Designs, installs and monitors a gravity flow, chimney-heat hot and cold water system; designed and built the Morning Glory Greenhouse which features folding reflectorized panels; teaches course in vegetable gardening.
- 5.05 Steve Coffel**
Suncraft Company
Route 4, Box 90
Golden
Colorado 80401
INFOTERRA: 2640 3215 3747
Experiments with solar heated greenhouses and has designed and built a solar home.
- 5.06 Professor Richard Duncan**
Systems Science Department
Portland State University
P.O. Box 751
Portland
Oregon 97207
INFOTERRA: 6700 6800 6810
Interested in recycling and intermediate technology.
- 5.07 Dr. Allen Jedlicka**
Assistant Professor of Organizational Behaviour
School of Business
University of Northern Iowa
Cedar Falls
Iowa 50613
INFOTERRA: 2630 3215 3724
6800 6880 6950
Involved in several appropriate technology projects, many overseas, such as biogas plants and small-scale tractors designed for repair by local blacksmiths; the use of methane as a tractor fuel and eutectic salts for heat storage with a solar furnace system.

5.08 John J. Keller

2828 Kahawai Street
Honolulu
Hawaii 96822

INFOTERRA: 2630 3150 3746
6620 6880

Worked with the Tagbanwa tribe in the Philippines where he catalysed the co-operative development of a low-cost do-it-yourself sailing windmill, largely on the basis of local materials and skills to power a water pump and a home-made metal and wood plough.

5.09 Edward Mazria

Assistant Professor of Architecture
Department of Architecture
University of Oregon
Eugene
Oregon 97403

INFOTERRA: 2640 3215 3747

Undertakes research on computer simulation analysis of passive solar heating systems; designs, constructs, and evaluates passive solar greenhouses.

5.10 Hans Meyer

Route 3, Box 329
Mukwonago
Wisconsin 53149

INFOTERRA: 3746

Designs windmills for electricity and water pumping.

5.11 Dr. Andrew C. Nyce

Gorham International, Incorporated
Gorham
Maine 04038

INFOTERRA: 3720

Researches on wood as an energy source.

5.12 Bill and Helga Olkowski

1307 Acton Street
Berkeley
California 94706

INFOTERRA: 1000 2420 2790
3720 4131 5443
6980

Direct the educational and research programme at Farallones Institute's Integral

Urban House, a project designed to demonstrate environmentally-sound urban life styles through energy conservation, pest and waste management, and greenhouse garden and rooftop food production.

5.13 Goodwin George Petersen, Associate Professor

Department of Industry and Technology
Northern Illinois University
DeKalb
Illinois 60115

5.14 Ralph E. Powe

Department of Mechanical Engineering
Mississippi State University
Mississippi State
Mississippi 39762

INFOTERRA: 3746

Works on the development of large inexpensive wind energy conversion systems.

5.15 Frank D. Przybycien

Civil Technology Department
Mohawk Valley Community College
1101 Sherman Drive
Utica
New York 13501

INFOTERRA: 3410

Acts as a consulting engineer to several historical preservation and homestead renovation projects.

5.16 Dr. Jack Purdum

Department of Economics
Butler University
Indianapolis
Indiana 46208

INFOTERRA: 1015 3720 3746
7021

Involved with research on US energy policy, energy economics and the future allocation of resources such as energy and food. Works on the design of wind generator systems.

5.17 Richard I. Schauer

Goodheart Farm
Rt 2
Box 206
Berkeley Springs
West Virginia 25411

INFOTERRA: 2620 3215 3410
6272

Developed on-site production of fertilizers and soil conditioners for a production farm using non-energy consumptive methods of agriculture; built a solar-heated home.

5.18 Dr. Richard Smith

Agricultural Engineering Department
Davidson Hall
Iowa State University
Ames
Iowa 50011

INFOTERRA: 3724

Developing a farm-scale anaerobic (methane) digester that will allow manure handling with less odour, better retention of nutrients and some energy recovery.

5.19 Alan Sondak

2000 E. 121st Street
Number 308
Burnsville
Minnesota 55337

INFOTERRA: 3746 6850

Restores, tests and develops public exhibits of old wind generators.

5.20 Professor Yaron Sternberg

Director and Professor of Civil Engineering
International Rural Water Resources
Development Laboratory
University of Maryland
College of Engineering
College Park
Maryland 20742

5.21 Peter van Dresser

634 Garcia Street
Santa Fe
New Mexico 87501

INFOTERRA: 2015 2170 3140
3150 3215 3230
6850 6870 6980
7000

Advocates self-reliance for community development. Working with the Sundwells Demonstration Programme in rural New Mexico, researching and adapting indigenous design and construction tech-

niques, including passive solar energy systems in prototype buildings. Writes books on Appropriate Technology subjects.

5.22 Alex Wade

Box 43
Barrytown
New York 12507

INFOTERRA: 3300

Offers design and construction services in the area of low-cost housing.

5.23 Philip C. Wankat

Department of Chemical Engineering
Purdue University
West Lafayette
Indiana 47909

INFOTERRA: 3215

Undertakes research on the applications of natural cooling phenomena. Projects involve the construction of small test facilities that have explored the prospects for cooling or freezing water via radiation of heat to the night sky under different wind, temperature and humidity conditions.

5.24 Malcolm Wells

P.O. Box 183
Cherry Hill
New Jersey 08002

INFOTERRA: 3140 3150 3215
3230 3410 3746

Specializes in consulting design services for earthcovered energy-conserving, solar-heated and wind-powered building.

5.25 Dr. Francis C. Wessling

Department of Mechanical Engineering
University of New Mexico
Albuquerque
New Mexico 87131

INFOTERRA: 1300 1320 3140
3150 3215 3230

Has designed and built four adobe solar-heated duplex dormitory buildings, geared toward locally available, low-energy building materials and serving as a training programme for underemployed local people.

5.26 David Wright

P.O. Box 49
The Sea Ranch
California 95497

INFOTERRA: 2030 3215 3300
3720

Provides design services to people in the areas of environmental architecture and land use planning, energy conservation, solar energy and low-cost housing.

UPPER VOLTA

2.01 Société Africaine d'Etudes et de Développement (SAED) (A)

B.P. 592
Ouagadougou

INFOTERRA: 1970 2015 2190
2620 2630 2640
2700 6790 6800
6810 6840 6900
6941 6960

Undertakes feasibility studies concerning rural development programmes. Created a special section, *Service de Recherches et Application Techniques (SRAT)* to help promote rural indigenous technologies. Its activities include compiling information on simple techniques and methods capable of increasing agricultural production at village level, experimenting on those which seem more practical in order to disseminate information about them through development bodies and organizations, and to study and install small regional units for manufacturing or assembling of tools, simple irrigation machinery, and for transporting and processing of agricultural products. Publishes *Développement Voltaïque*.

3.01 Catholic Relief Services USCC (V)

B.P. 469
Ouagadougou

INFOTERRA: 2015 3724 6870

Supports grass roots projects, and a project on methane production.

3.02 Centre d'Application des Technologies Rurales et Urbaines (CATRU) (V)

C.N.P.A.R.
B.P. 575
Ouagadougou

Contact: Mr. Da

INFOTERRA: 2015 6810 6941

Primarily concerned with development of local crafts.

3.03 Centre National de Perfectionnement des Artisans ruraux (CNPAP) (V)

B.P. 575
Ouagadougou

INFOTERRA: 2015 2630 3150
6900

Provides technical assistance to builders, masons, well-sinkers, carpenters and other rural artisans. Also involved in transportation of non-agricultural products, agricultural implements, and in building.

3.04 Centre Regional de Perfectionnement Artisanal (CRPAR) (V)

Ouagadougou

Contact: Soumana Fofana (in Bobo Dioulasso)

INFOTERRA: 2630 6810 7050

Trains local craftsmen, offers support service to the craftsmen and identifies craftsmen inventions.

3.05 Centre Voltaïque de Recherche Scientifique (CVRS) (V)

B.P. 7047
Ouagadougou

Contact: Marcel Poussi, D. Ouedraogo

INFOTERRA: 1165 1320 6810

Undertakes research into women crafts and informal urban crafts.

3.06 Comité de Coordination du Développement Rural (V)

Ouagadougou

Contact: M. Tiao

INFOTERRA: 2015 2630 3990
4000 6800 6960

Involved in activities concerning rural development, nutrition and agricultural tools. Also coordinates eleven regional development offices and is involved in a project to create a centre for developing rural machinery.

3.07 Comité Interafricain d'Etudes Hydrauliques (CIEH) (V)

B.P. 868
Ouagadougou

Contact: M. Robert Koester

INFOTERRA: 2700 3092 3724
6272

Involved in methane production, compost production and in forestry.

3.08 Comité Inter-états de Lutte contre la Sécheresse dans le Sahel (V)

B.P. 7049
Ouagadougou

INFOTERRA: 2480

Concerned with drought in the Sahel.

3.09 Conseil Oecuménique des Eglises (V)

Commission d'Entraide - Equipe du Sahel

B.P. 106
Ouagadougou

INFOTERRA: 3961 6870

Offers assistance to grass roots projects in the Sahel, particularly those concerning grain storage.

3.10 Essor Rural (G)

B.P. 7007
Ouagadougou

INFOTERRA: 2620 2640 6990
7000 7050

Develops and promotes improved agricultural methods for rural workers by means of radio clubs, seminars and consultations.

3.11 Institut Pan-Africain pour le Développement (V)

B.P. 1756
Ouagadougou

Contact: Ibrahim Diallo

INFOTERRA: 1011 1970 2015
6960

Trains development staff and undertakes research into small-scale development activities.

3.12 Institut de Recherches Agronomiques Tropicales (IRAT) (V)

Station de Recherche, Saria
Farokobo

INFOTERRA: 2640 3724

Experiments on methane production.

3.13 Musée National (V)

Directeur des Affaires Culturelles
Ouagadougou

INFOTERRA: 6800 6810

Studies endogenous technology.

3.14 Office de Promotion des Entreprises Voltaïques (OPEV) (V)

B.P. 94
Ouagadougou and Bobo Dioulasso

Contact: M. Diallo

INFOTERRA: 3880 4132 6800
6810 6914

Operates a mobile workshop at Bobo Dioulasso; small-scale production.

3.15 Oxfam Regional Office (V)

B.P. 489
Ouagadougou

Contact: Bill Hereford

INFOTERRA: 6800 6870

Offers assistance to grass roots projects and encouragement of appropriate technology.

3.16 Projet d'Egalité d'Accès des Femmes (V)

B.P. 111
Ouagadougou

Contact: Mme Kampaore

INFOTERRA: 1165 1580 1620
1640 2820 4000
6800 7050

Works in several regions to reduce women's workload by appropriate technology - food, health, hygiene, water and transportation. Involved in literacy campaign through non-formal education.

3.17 Projet Habita (CISSIN) (V)

PNUD

B.P. 7014

Ouagadougou

Contact: Francois Pfister

INFOTERRA:	2190	3140	3150
	3230	3300	

Involved in various aspects of building.

3.18 SAFI (V)

B.P. 525

Ouagadougou

INFOTERRA: 2630

Produces tools, implements, carts.

3.19 SOMCA (V)

B.P. 810

Ouagadougou

INFOTERRA: 2630

Produces donkey carts and small machinery.

4.01 African Society for Development Studies

Box 593

Ouagadougou

4.02 Ecole Inter-Etats d'Ingénieurs de l'Équipement Rural (EIER) (V)

B.P. 7023

Ouagadougou

Contact: J. Lamadiou

INFOTERRA: 2015 2630 4113

4.03 Inter-Etats des Techniciens Supérieur de l'Hydraulique et de l'Équipement Rural (ETSHER) (V)

B.P. 594

Ouagadougou

INFOTERRA: 2630 3092 7050

4.04 The Research and Applied Techniques Service

Box 593

Ouagadougou

URUGUAY**5.01 Dr. Patrick Moyna**

Mississippi 1634

Ap. 007

Montevideo

INFOTERRA: 4111 6800

Chemist with a great interest in alternative chemical technologies.

VENEZUELA**3.01 Comité du Lucha Contra la Desnutrición (COLUDES) (T)**

Caracas

INFOTERRA:	1013	2620	2630
	2640	2660	2910
	6790	6800	6810
	6870	6900	6960

Assists campesino groups in improving food production through the introduction of simple irrigation techniques, and maximizing the use of local resources.

5.01 Dr. Marcel Antonorsi

Conicit, Apartado 70617

Los Ruices

Caracas

INFOTERRA:	6800	6810	6950
	6960		

Seeks radical alternatives to standard development; wrote thesis on soft technology from a Third World perspective.

ZAIRE**2.01 Association pour le Développement Intégral - Bondaba (T)**

B.P. 49

Lisala

INFOTERRA:	2015	6790	6800
	6810	6870	6900
	6960		

Promotes appropriate technologies in integrated rural development projects.

- 2.02 Centre de Développement Communautaire (CEDECO) (T)**
 B.P. 170
 Kimpese
 Bas-Zaïre
 INFOTERRA: 2630 6790 6860
 6900
 Designs, tests and manufactures simple agricultural implements, with a maximum use of locally available material.
- 2.03 Centre d'Etudes pour l'Action Sociale (CEPAS) (V)**
 9 Avenue Père Boka
 B.P. 3096
 Kinshasa
 Combé
 Contact: P. Segers
 INFOTERRA: 6800
 Involved in various aspects of appropriate technology; represents INADES-Abidjan.
- 2.04 Comité de Coordination pour la Coopération au Développement en République du Zaïre (CODEZA) (T)**
 B.P. 7611
 Kinshasa I
 INFOTERRA: 6790 6800 6850
 6870 6900
 Promotes low-cost, appropriate technologies in rural development projects.
- 3.01 CECOMAF (D)**
 B.P. 240
 Kinshasa-Ndjili
 INFOTERRA: 2620 2673
 Undertakes fish cultivation and market gardening projects.
- 3.02 Centre de Re-éducation des Handicapés (D)**
 B.P. 546
 Goma
 Kivu
 Contact: Louis Martin
 INFOTERRA: 3150 3480
 Makes false legs and arms and wheel chairs for cripples from local materials.
- 3.03 Institut Supérieur de Développement Rural (V)**
 Bureau Technique de Coordination des Agents de Développement
 B.P. 2849
 Bukavu
 Kivu
 Contact: Mimpaya Akan Onun A Mgwom
 INFOTERRA: 1970 2015 7050
 Involved in the training of development staff.
- 3.04 Office de Promotion de l'Entreprise Zairoise (OPEZ) (V)**
 Batiment Royal
 Avenue du 30 Juin
 Kinshasa
 Contact: M. Cole, Makalay wa Banze
 INFOTERRA: 6810 6941
 Involved in small-scale industry.
- 3.05 SICA (V)**
 Maison des Diapositives
 B.P. 936
 Kinshasa 1
 Contact: Père Bom
 INFOTERRA: 6810 7002
 Develops slides on development and traditional technologies.
- 3.06 Unionco-Op. (T)**
 B.P. 187
 Mbuji-Mayi
 Kasai-Oriental
 INFOTERRA: 6790 6800
 Investigates and promotes appropriate technologies.
- 5.01 Père Barratte, Professeur de Chimie**
 B.P. 19
 Bunia
 INFOTERRA: 3960 3961 3990
 5480
 Activities include construction of papyrus building boards, utilization of soya, wine, fruit juices, alcohol; meat preservation.

5.02 Père Farcy

Diocèse de Bukavu
B.P. 480
Bukavu

INFOTERRA: 2015 6810

Promotes crafts.

5.03 Dr. Quecker

Diocèse de Kinshasa

INFOTERRA: 3140 5151

Designs school buildings with local materials for climate control.

5.04 G. Vanneste

B.P. 320
Kananga

INFOTERRA: 2015 6870

In charge of rural extension services for Church Commission.

5.05 Father Anthone Verwilghe

Panzi
s/c B.P. 7.245
Kinshasa 1

INFOTERRA: 3300

Develops prototype low-cost housing.

ZAMBIA**2.01 Family Farms Limited**

P.O. Box RW 285
Lusaka

Contact: Leo Holland, General Manager

INFOTERRA: 2630 3215 6620
6790 6800 6810
6850 6900 7050

Resettles farmers in Southern Zambia and provides training in agricultural techniques. A rural intermediate technology programme, established in 1973, has produced over 40 Appropriate Technology devices, which are included in the training programme. Publishes Information sheets.

2.02 Farm Machinery Research Unit (R)

Regional Research Station
P.O. Box 11
Magoye

INFOTERRA: 2630 6790 6800
6810 6900 7050

Trains artisans in the manufacture of equipment such as a forge made from an oil-drum, a cultivator, groundnut lifter, weeder, metal-bending jig and an ox cart; plans available on request.

2.03 Technology Development and Advisory Unit (TDAU) (T)

University of Zambia
P.O. Box 2379
Lusaka

Contact: The Manager

INFOTERRA: 2630 3300 3490
6790 6800

Concentrates on rural development, small-scale industries and low-cost housing. TDAU provides Research and Development on equipment and processes to replace imported versions, and advisory (and consultancy) services to large and small-scale enterprises.

3.01 Biology Department, University of Zambia (N)

P.O. Box 2379
Lusaka

Contact: W. B. Banage, Professor of Biology

INFOTERRA: 1015 2030 2640
3720 3723 6800
7050

The Unit of Land Use Training is evolving sound and appropriate techniques in land use and agriculture as part of its on-going and training activities. A national conference was held in December, 1978. Also, the Department is interested in problems caused by charcoal burning and is exploring alternatives of low-cost energy sources.

3.02 JETS of Zambia (R)

School of Engineering
University of Zambia
P.O. Box 2379
Lusaka

INFOTERRA: 6800 6810 6980

Club for young people that aims to encourage the learning of science and technology. Produced a twenty page booklet of technical drawings for the production

of laboratory type equipment and other devices all of which have been tested by JETS.

3.03 National Council for Scientific Research (V)

P.O. Box CH 158
Chelston, Lusaka

Contact: Dr. Sitali Silangwa

INFOTERRA: 3140 3982 3990
4131

Undertakes research and development on food products, drinks, clay products and building materials.

3.04 Natural Resources Development College (X)

P.O. Box CH 99
Lusaka

INFOTERRA: 1015 2820 2861
3330 3720 5366
6800

Involved in appropriate technology activities in the areas of alternative forms of energy, housing, waste disposal, water storage, supply and treatment.

3.05 Northern Technical College (G)

P.O. Box 1563
Ndola

INFOTERRA: 2630 3215

Studies and designs hand operated tools such as seed sowing machines, a maize sheller, a maize grinder, a peanut sheller, brickmaking machines, thermo-syphon solar water heaters and hydraulic bending machines.

3.06 Zambian Council for Social Development (ZCSD) (V)

P.O. Box RW 369
Lusaka

Contact: Mr. Oglethorpe

INFOTERRA: 1180 1970 2015
6800

Coordinates activities of nongovernmental organizations in Zambia; involved in appropriate technology.

5.01 A. Hamaamba

Ministry of Rural Development
Natural Resources Development College
P.O. Box CH 99
Lusaka

INFOTERRA: 2015 4130 6800
6810 6941

Interested in rural industries.

5.02 Philip Kingsley

Psychology Department
P.O. Box 2379
Lusaka

INFOTERRA: 3746 3880 6800

Has built a windmill and a foot powered lathe.

5.03 Ronald Watts

Natural Resources Development College
P.O. Box CH 99
Lusaka

INFOTERRA: 2620 6800 6810

An agriculturalist who is a strong advocate of intermediate technologies.

ZIMBABWE

2.01 Friends Rural Service Centre (T)

P.O. Box 708
Bulawayo

INFOTERRA: 2015 6790 6800
6870 6960

Promotes appropriate technologies in rural development projects.

4.02 Butchers Shop in the Backyard (V)

Old Umtali Mission
P.O. Box 7024
Umtali

Contact: Andrew E. Chisakwe

INFOTERRA: 1180 6810

INDEX

1000 Quality of Life

- Australia 2.01
- Austria 2.01, 3.01, 3.03, 3.04
- Belgium 2.01
- Botswana 2.01
- Chile 1.01
- France 2.05
- Netherlands 3.02
- Norway 3.01
- Philippines 3.04
- South Africa 3.02
- Thailand 3.05
- United Kingdom 2.02, 2.05, 2.08, 2.09, 2.15, 3.01, 3.06, 3.08, 3.09, 3.13, 3.30
- United States of America 2.10, 2.12, 2.25, 2.27, 3.05, 3.51, 3.54, 3.61, 3.71, 3.92, 5.12

1010 Natural Resources

- Botswana 2.01
- Fiji 2.01
- France 2.05
- Germany, Federal Republic 3.04
- Mexico 2.03
- Norway 3.01
- Peru 3.04
- United Kingdom 2.03, 2.05, 2.08, 3.29
- United States of America 2.03, 2.34, 3.19

1011 Resource Development

- Colombia 1.01
- Fiji 2.01
- France 2.01, 3.17, 5.01
- Jamaica 3.02
- Japan 3.01
- Nigeria 3.11
- Sweden 3.01
- United Kingdom 2.10, 3.29, 3.37
- United States of America 1.01, 2.08, 3.19
- Upper Volta 3.11

1013 Resource Exploitation

- Chile 3.02
- Fiji 2.01
- Venezuela 3.01

1015 Renewable Resources

- Australia 1.01, 1.02, 2.01
- Austria 3.02, 3.03
- Bangladesh 2.01, 2.02

- Belgium 2.01
- Botswana 1.03
- Canada 3.02, 3.06, 3.08, 5.04
- Chile 3.02
- Colombia 3.06
- Denmark 2.01, 2.02, 3.02, 3.04, 3.13, 3.15, 3.18
- El Salvador 2.01
- Ethiopia 1.01, 1.02, 5.03
- Fiji 2.01
- France 2.02, 3.01, 3.02, 3.05, 3.06, 3.13, 5.03, 5.12
- Germany, Federal Republic 3.04, 3.05
- Guatemala 1.02
- India 1.03, 2.04, 2.24, 3.15, 3.17, 3.30, 3.37
- Indonesia 1.01
- Kenya 3.12
- Nepal 3.01
- Netherlands 3.08
- Nigeria 3.07, 5.01, 5.02
- Norway 3.02
- Papua New Guinea 3.05
- Peru 3.03
- Philippines 2.01
- Portugal 3.01
- South Africa 3.01, 3.02
- Sri Lanka 2.02, 2.03
- Sudan 3.02
- Sweden 3.01
- Tanzania 1.01, 2.01, 2.05
- Thailand 2.01, 3.03, 3.05
- Trinidad and Tobago 3.01
- United Kingdom 1.01, 1.02, 1.03, 2.06, 2.08, 2.13, 2.15, 2.17, 3.06, 3.15, 3.17, 3.23, 3.26, 3.27, 3.29, 3.31, 3.33, 3.35, 4.03, 5.17
- United States of America 1.02, 2.01, 2.02, 2.03, 2.04, 2.05, 2.11, 2.12, 2.18, 2.19, 2.20, 2.27, 2.31, 2.42, 2.43, 2.44, 3.05, 3.08, 3.12, 3.13, 3.16, 3.23, 3.24, 3.31, 3.37, 3.38, 3.41, 3.50, 3.58, 3.59, 3.60, 3.62, 3.69, 3.82, 3.83, 3.91, 3.95, 3.101, 3.108, 5.16
- Zambia 3.01, 3.04

1020 Non-renewable Resources

- Canada 2.01
- India 3.37
- Netherlands 3.02
- United Kingdom 2.08, 3.23
- United States of America 3.19

1030 Long-Term Global Trends

Austria 3.03, 3.04
 Thailand 3.05
 United Kingdom 2.09, 3.08, 3.13, 3.39
 United States of America 1.05, 3.51

1040 Resource Management

Chile 1.01
 Denmark 3.08
 Fiji 2.01
 Japan 3.01
 Sweden 3.01
 United Kingdom 2.08, 3.04, 3.23, 3.37
 United States of America 3.89, 5.16

1060 Environmental Impact

Bangladesh 3.02
 Canada 2.01
 Colombia 3.04
 France 2.02, 3.07
 Guyana 3.01
 Kenya 3.10
 Portugal 3.01
 South Africa 3.03
 Sweden 3.01
 Switzerland 2.01
 United Kingdom 3.04
 United States of America 2.08, 3.54

1120 Social Surveys

Indonesia 3.03
 Norway 3.01
 South Africa 3.04

1165 Status of Women

Ethiopia 3.02
 France 2.03
 India 3.38
 Ivory Coast 3.04
 Kenya 1.01
 Papua New Guinea 1.01
 Sweden 3.06
 United States of America 3.103
 Upper Volta 3.05, 3.16

1180 Under-privileged Peoples

Chile 3.01
 Colombia 3.03
 Dominican Republic 3.01
 Egypt 1.01
 Ethiopia 3.04
 Guatemala 1.01
 India 2.26, 3.17, 3.25
 Indonesia 1.02
 Japan 3.01
 Kenya 3.12

Malawi 2.01
 South Africa 3.02
 Sri Lanka 2.02
 United Kingdom 3.18, 3.38, 3.39
 United States of America 1.01, 1.04,
 2.26, 2.44, 3.100
 Zambia 3.06
 Zimbabwe 4.01

1300 Manpower and Employment

Belgium 2.01
 Bolivia 2.01
 Botswana 1.02, 2.01, 2.02, 2.03
 Cameroon 3.02, 5.01
 Chile 3.02
 Colombia 1.01, 2.02
 France 2.03
 Germany, Federal Republic 3.05, 3.09
 Ghana 1.01
 India 3.35, 3.38
 Indonesia 1.01
 Italy 3.02
 Lesotho 3.01
 Mexico 2.01
 Swaziland 3.02
 Switzerland 2.02
 United Kingdom 2.10, 3.12
 United States of America 2.34, 2.45,
 3.100, 5.25

1320 Local Labour

Belgium 2.01
 Bolivia 2.01
 Colombia 1.01
 Denmark 3.09
 Ivory Coast 3.04
 United Kingdom 2.10, 3.18
 United States of America 1.05, 5.25
 Upper Volta 3.05

1340 Low-Income Groups

Dominican Republic 3.01
 Malawi 2.01
 Philippines 3.08
 United States of America 3.100

1540 Disasters Preparedness and Relief

France 3.12
 Guatemala 1.01
 United Kingdom 2.14, 3.10
 United States of America 3.46, 3.102

1580 Health and Wellbeing

Bangladesh 3.06
 Bolivia 2.01
 Ethiopia 3.04

- India 2.25, 3.12, 3.17
 Mexico 3.02
 Norway 3.01
 Papua New Guinea 3.01
 Philippines 3.04
 South Africa 3.02
 Sri Lanka 3.01
 Switzerland 3.06, 3.08
 United Kingdom 3.03
 United States of America 2.46, 3.79, 3.103
 Upper Volta 3.16
- 1590 Medicine**
- Ghana 3.03
 Guatemala 1.01
 Guinea 4.01
 Sri Lanka 2.01
- 1620 Environmental Health**
- Cameroon 5.02
 Congo 3.01
 India 3.12, 3.15
 Nepal 3.03
 Netherlands 3.03
 Nicaragua 3.01
 Nigeria 3.04, 3.05, 3.08
 Pakistan 3.01
 Peru 4.01
 Philippines 3.04
 South Africa 3.02
 United Kingdom 3.25
 United States of America 2.11, 2.34
 Upper Volta 3.16
- 1640 Sanitation and Public Health**
- Australia 1.02, 1.03
 Bangladesh 3.06
 Bolivia 2.03
 Cameroon 5.02
 Canada 1.03
 Colombia 3.01
 Ethiopia 3.04
 France 2.03, 3.07
 India 3.12, 3.15, 3.19, 3.40
 Mexico 3.02
 Nepal 3.03
 Netherlands 1.01, 2.01, 3.03
 Nigeria 2.03, 3.05, 3.08
 Oman 3.01
 Pakistan 3.01
 Peru 2.01, 4.01
 Philippines 3.04
 Sri Lanka 3.01
 Switzerland 3.06
 Thailand 3.03
 United Kingdom 2.14, 3.03, 3.31
- United States of America 2.11, 2.34, 2.46, 3.14, 3.86, 3.103
 Upper Volta 3.16
- 1642 Hospitals etc.**
- Bangladesh 3.06
 Burundi 5.01
 Lesotho 3.02
 Nigeria 2.02, 5.04
- 1701 Ecological Balance**
- France 2.02
 Indonesia 3.02
 Iran 2.01
 Peru 3.04
 Philippines 3.04
 United States of America 3.66, 3.76
- 1890 Soil Science**
- Canada 3.01
 India 1.02, 3.11
- 1921 Soil Conservation**
- Colombia 1.02
 France 2.05
 India 3.11
 Italy 3.01
 Kenya 3.03
 Papua New Guinea 3.05
 South Africa 3.01, 3.03
 Switzerland 3.06
- 1930 Soil Improvement**
- Brazil 3.01
 Canada 3.01
 Central African Republic 3.01
 France 2.05
 India 3.11
 Italy 4.01, 4.02
 South Africa 3.02, 4.01
 United States of America 3.33
- 1940 Erosion**
- Brazil 3.01
 Indonesia 3.02
 Kenya 3.03
 United States of America 3.60
- 1970 Planning and Development**
- Argentina 3.01
 Belgium 3.01
 Cameroon 3.02
 Colombia 1.01
 France 3.07, 5.02
 India 3.06

Israel 3.02
 Ivory Coast 3.02
 Kuwait 3.02
 Mali 4.01
 Nepal 2.02
 Philippines 3.07
 Senegal 3.01, 3.07
 South Africa 3.04
 Sri Lanka 1.01
 Switzerland 3.07
 Tunisia 2.02
 United States of America 3.43, 3.102
 Upper Volta 2.01, 3.11
 Zaire 3.03
 Zambia 3.06

2015 Rural Areas

Argentina 3.01, 3.04
 Bangladesh 2.03
 Barbados 3.02
 Belgium 3.01
 Bolivia 2.01, 2.04
 Botswana 1.02, 1.03, 2.03, 3.01
 Cameroon 3.02
 Canada 3.04, 3.07, 5.08
 Chile 3.03
 Costa Rica 2.01
 Ecuador 2.03
 Ethiopia 1.01, 1.02, 2.02, 2.03, 2.04,
 3.01, 3.02, 3.03, 3.04, 3.05, 5.01, 5.04
 France 2.03, 2.04, 3.12, 5.01, 5.04
 Ghana 2.02, 5.01, 5.04
 Guyana 3.01, 3.02
 Honduras 2.01, 3.01
 India 1.01, 1.02, 1.03, 2.02, 2.03, 2.08,
 2.14, 2.17, 2.21, 2.23, 2.25, 2.26, 3.01,
 3.04, 3.05, 3.06, 3.13, 3.25, 3.26, 3.30,
 3.33, 3.38, 3.39, 5.02
 Indonesia 1.01, 1.02, 2.03, 3.01, 3.02,
 5.01
 Iran 2.01, 5.01
 Israel 3.02
 Italy 3.02
 Ivory Coast 2.01, 3.02, 3.05
 Kenya 3.13
 Lesotho 2.01, 3.01
 Malawi 3.01, 3.02
 Mali 4.01
 Mexico 3.01
 Nepal 3.03
 Netherlands 3.01
 New Caledonia 2.01
 Nicaragua 3.03
 Panama 3.02
 Papua New Guinea 2.01, 3.01
 Peru 2.01
 Philippines 2.01

Rwanda 3.01, 4.01
 Senegal 3.07
 Sierra Leone 3.02
 Sri Lanka 2.02, 3.01, 5.01
 Sweden 3.02, 5.04
 Switzerland 2.02, 3.08
 Tanzania 1.01, 2.02, 3.03, 3.06
 Tunisia 2.02
 United Kingdom 2.08, 3.14, 3.15, 3.16,
 3.18, 3.30, 3.40
 United States of America 2.26, 2.40,
 2.46, 3.09, 3.16, 3.24, 3.48, 3.73, 3.76,
 3.78, 3.83, 3.85, 3.100, 3.102, 5.21
 Upper Volta 2.01, 3.01, 3.02, 3.03,
 3.06, 3.11, 4.02
 Zaire 2.01, 3.03, 5.04
 Zambia 3.06, 5.01
 Zimbabwe 2.01

2030 Land Use

Central African Republic 3.01
 Egypt 3.02
 France 2.05
 Germany, Federal Republic 3.04
 Iran 2.01
 Malawi 3.01
 Norway 3.01
 Philippines 3.04, 3.07
 Senegal 3.01
 South Africa 3.02
 United Kingdom 3.24
 United States of America 2.02, 3.33,
 3.46, 3.62, 3.102, 5.26
 Zambia 3.01

2155 Urban Development

Argentina 3.01
 Cameroon 5.01
 El Salvador 3.01
 France 3.07
 Iran 2.01
 Israel 3.02
 Peru 3.03
 Philippines 3.04
 South Africa 3.04
 Tanzania 3.03
 Thailand 3.02
 United Kingdom 2.15
 United States of America 2.08, 2.21,
 3.102, 5.12

2170 Neighbourhood Improvement Schemes

India 2.03
 Senegal 3.07
 United States of America 2.35, 3.22,
 3.61, 5.21

2180 New Communities

- Trinidad and Tobago 3.01
 United Kingdom 1.03, 2.15

2190 Human Settlements

- Austria 3.03
 Germany, Federal Republic 3.04
 Guyana 3.01
 Indonesia 3.03
 Iran 2.01
 Israel 3.02
 Kenya 3.12
 Philippines 3.04
 Switzerland 3.01
 Thailand 3.02
 Trinidad and Tobago 3.01
 United Kingdom 1.03, 2.15
 United States of America 3.36, 3.102
 Upper Volta 2.01, 3.17

2300 Land Reclamation

- Canada 1.01
 France 3.09
 India 2.10
 Peru 3.03
 United States of America 3.33, 3.46

2420 Nature Conservation

- Argentina 4.01
 Botswana 2.01
 Brazil 3.01
 Canada 3.07
 Chile 1.01
 India 3.30
 South Africa 3.03
 United States of America 2.12, 3.79, 5.12

2480 Deserts

- Germany, Federal Republic 3.03
 Upper Volta 3.08

2481 Arid Lands

- Canada 1.01
 India 2.05, 2.16, 4.01
 Kenya 3.17
 Senegal 4.04

2482 Semi-arid Lands

- India 2.16
 Kenya 3.17
 Senegal 4.04

2521 Domestic Cattle Breeding

- France 3.18

India 3.22

South Africa 3.03

United States of America 3.109

2620 Agriculture

- Australia 1.02
 Bangladesh 2.03, 3.01, 3.05
 Barbados 3.02
 Bolivia 2.02, 4.01
 Botswana 2.02, 2.03
 Canada 1.01, 1.02, 4.02
 Colombia 1.01, 1.02, 2.02, 3.04
 Ecuador 3.01, 4.01, 5.02
 France 2.05, 3.08, 3.09, 3.21
 Germany, Federal Republic 5.02
 Ghana 5.02
 India 1.01, 2.16, 2.25, 3.01, 4.01, 5.03, 5.06
 Indonesia 1.02
 Italy 3.01
 Kenya 3.01, 3.08, 3.17
 Lesotho 2.01
 Mauritius 3.02
 Mexico 2.01
 Nepal 3.03
 Netherlands 3.01
 Nigeria 3.01, 3.09
 Norway 3.01
 Pakistan 4.01, 4.02
 Peru 2.01, 3.05
 South Africa 3.03
 Sri Lanka 3.01
 Switzerland 3.06
 Tunisia 2.01
 United Kingdom 1.02, 3.20, 3.37, 4.04, 5.10
 United States of America 2.07, 2.37, 2.38, 2.44, 2.45, 2.47, 3.05, 3.18, 3.21, 3.24, 3.33, 3.34, 3.44, 3.46, 3.79, 3.90, 3.104, 4.01, 4.02, 4.03, 4.04, 4.05, 4.06, 4.07, 4.08, 4.09, 4.10, 4.11, 5.04, 5.17
 Upper Volta 2.01, 3.10
 Venezuela 3.01
 Zaire 3.01
 Zambia 5.03

2630 Agricultural Machinery

- Australia 1.01
 Bangladesh 1.01, 3.05
 Benin 3.02
 Bolivia 2.03
 Botswana 1.01, 1.02, 2.02
 Cameroon 4.02
 Canada 1.01, 5.01
 Colombia 1.01, 1.02, 1.03, 5.01, 5.02
 Dominican Republic 2.01, 3.01
 Ecuador 2.01

El Salvador 2.01
 Ethiopia 1.02, 2.02
 France 2.01, 2.03, 5.07, 5.10
 Gambia 3.01
 Ghana 3.01, 3.04, 3.05
 Guinea 3.01, 3.02
 Honduras 2.01
 India 1.01, 1.03, 1.04, 2.01, 2.03, 2.04,
 2.08, 2.12, 2.16, 2.17, 3.20, 3.36, 4.02
 Indonesia 1.01, 1.02, 1.03, 2.01
 Ivory Coast 3.02, 3.03
 Japan 2.01
 Kenya 1.01, 2.01, 2.02, 3.01, 3.02,
 3.03, 3.05, 3.06, 3.07, 3.08, 3.11, 3.14
 Lesotho 2.01, 3.03
 Mali 3.03, 3.04, 3.05
 Mexico 2.01
 Morocco 3.01
 Nepal 3.01, 3.02
 Netherlands 3.07
 Niger 3.01
 Nigeria 2.01, 2.03, 3.01, 3.02, 3.09,
 3.10, 3.12, 5.03, 5.05
 Pakistan 1.01, 2.01
 Papua New Guinea 1.01, 2.02
 Peru 3.02
 Philippines 3.03
 Senegal 4.02
 Sierra Leone 3.01
 South Africa 3.01
 Sri Lanka 3.01
 Swaziland 3.01, 3.02
 Sweden 3.02
 Switzerland 2.02, 3.03
 Tanzania 2.01, 2.02, 2.03, 2.04, 2.06,
 3.05, 5.02
 Uganda 2.01, 2.02
 United Kingdom 1.02, 2.06, 2.07, 2.12,
 3.02, 3.35, 3.37, 5.11
 United States of America 2.04, 2.38,
 2.41, 2.45, 3.18, 3.24, 3.46, 3.55, 3.90,
 5.07, 5.08
 Upper Volta 2.01, 3.03, 3.04, 3.06,
 3.18, 3.19, 4.02, 4.03
 Venezuela 3.01
 Zaire 2.02
 Zambia 2.01, 2.02, 2.03, 3.05

2640 Agricultural Practices

Bangladesh 1.01, 2.03, 3.01, 3.04
 Belgium 3.01
 Bolivia 2.03
 Botswana 2.01
 Colombia 3.04
 Dominican Republic 2.01
 Egypt 3.02
 Ethiopia 2.01, 3.04
 France 2.05, 3.08, 3.21

Germany, Federal Republic 3.03
 Ghana 4.01, 5.10
 Guatemala 1.02
 India 2.03, 2.07, 2.14, 2.16, 2.17
 Indonesia 1.03
 Ivory Coast 4.01
 Kenya 3.01
 Lesotho 2.01
 Mauritius 3.02
 Nepal 3.02
 Netherlands 2.02
 Nigeria 2.01, 2.03, 3.09
 Pakistan 4.01, 4.02
 Papua New Guinea 3.05
 Senegal 4.04
 South Africa 3.02, 3.03
 Switzerland 2.03
 Tanzania 2.05, 2.06
 United Kingdom 2.12, 3.35, 3.37
 United States of America 1.05, 1.06,
 2.32, 2.45, 2.46, 2.47, 3.24, 3.32, 3.33,
 3.34, 3.44, 3.46, 3.52, 3.55, 3.78, 3.83,
 3.92, 3.104, 5.04, 5.05, 5.09
 Upper Volta 2.01, 3.10, 3.12
 Venezuela 3.01
 Zambia 3.01

2650 Agriculture, Harvesting

Bangladesh 3.05
 Botswana 1.01
 Kenya 3.01
 United Kingdom 3.37

2660 Agricultural Production

Bolivia 2.02
 Colombia 1.02
 Ghana 4.01, 5.10
 India 2.16, 2.17
 Indonesia 1.02
 Ivory Coast 4.01
 Japan 2.01
 Lesotho 2.01
 Nigeria 2.01, 2.03, 3.09, 3.10
 Papua New Guinea 2.03
 Senegal 3.07, 4.04
 United Kingdom 2.12, 3.37
 United States of America 2.22, 2.47,
 3.25, 3.33, 3.46
 Venezuela 3.01

2673 Fish Farming

Australia 1.02
 Bangladesh 3.01
 Canada 1.02
 Central African Republic 3.03
 Chile 1.01
 France 3.11, 3.17

- Guatemala 1.02
 India 2.10
 Indonesia 2.04
 Peru 2.01
 South Africa 3.01
 United Kingdom 1.01, 3.04, 3.27, 3.37
 United States of America 2.14, 2.47, 3.75, 3.79
 Zaire 3.01
- 2674 Hydroponics**
 United Kingdom 3.20
 United States of America 1.02, 2.47
- 2690 Horticulture**
 Botswana 1.02, 2.01
 United Kingdom 1.03
- 2700 Forestry and Silviculture**
 Belgium 3.01, 4.01
 Canada 1.02
 Ethiopia 2.04
 France 3.11
 India 3.16
 Italy 3.01
 Nepal 3.03
 Peru 2.01
 Surinam 3.01
 Switzerland 3.06
 United Kingdom 3.37
 United States of America 3.79
 Upper Volta 2.01, 3.07
- 2760 Animal Husbandry**
 Dominican Republic 2.01
 Ethiopia 2.04
 Kenya 3.01
 Netherlands 1.01
 Senegal 3.07
 South Africa 3.03
 United States of America 2.47, 3.109
- 2790 Pest Control**
 Ethiopia 1.01
 India 2.07
 Kenya 3.01
 Nigeria 3.01
 United States of America 5.12
- 2810 Veterinary Medicine**
 France 3.18
 Morocco 3.01
- 2820 Water Resources**
 Belgium 3.01
- Bolivia 2.03
 Burundi 5.01
 Central African Republic 3.02
 Colombia 1.01
 France 3.07, 3.08, 5.02
 Germany, Federal Republic 3.04
 India 2.10, 2.20, 2.21, 3.12, 3.15, 3.42, 5.01
 Indonesia 1.02
 Iran 2.02
 Italy 3.01
 Ivory Coast 3.05
 Mali 5.01
 Nigeria 5.10
 Oman 3.01
 Peru 2.01
 Philippines 3.04
 South Africa 3.01
 Switzerland 3.06
 Tanzania 1.01
 Thailand 2.01
 Tunisia 2.01
 United Kingdom 1.02, 3.04, 5.02
 United States of America 2.11, 3.16, 3.31, 3.103
 Upper Volta 3.16
 Zambia 3.04
- 2821 Subterranean Water**
 Bolivia 2.03
 Botswana 1.01
 India 2.14
 Sudan 3.01
 Tanzania 3.07
- 2822 Dams and Reservoirs**
 Botswana 2.03
 Canada 1.01
- 2826 Conservation and Collection of Water**
 Botswana 2.02
 Chile 1.01
 France 3.07
 India 2.14
 Indonesia 1.02
- 2860 Drinking Water**
 Bolivia 2.03
 Colombia 3.01
 Ethiopia 1.01
 Indonesia 1.02
 Kenya 1.01
 Nepal 3.03
 Oman 2.01
 Papua New Guinea 3.01
 Thailand 2.01
 United States of America 2.46, 3.103

2861 Drinking Water Treatment

Canada 1.01
 Colombia 2.01
 India 3.12, 3.15
 Kenya 3.12
 Netherlands 2.01
 Oman 3.01
 Tanzania 1.01
 Thailand 2.01
 United Kingdom 3.31
 United States of America 3.60
 Zambia 3.01

2910 Irrigation

Bolivia 2.03
 Canada 1.01
 Chile 1.01
 Egypt 1.01
 France 3.07, 3.17
 India 3.11, 5.03
 Italy 3.01
 Kenya 3.03, 3.12
 Nepal 3.01
 Oman 2.01
 Pakistan 1.01, 2.01, 4.03
 Peru 3.03, 3.04
 Sri Lanka 2.03
 Tunisia 2.02
 United Kingdom 3.40
 United States of America 1.06, 3.79
 Venezuela 3.01

2970 Coastal Development and Protection

Ecuador 3.01
 France 3.17
 United Kingdom 3.04

3011 Aquaculture

France 3.02, 3.17
 United States of America 2.04, 2.18, 2.31, 3.20

3092 Hydraulics

Peru 3.02
 Upper Volta 3.07, 4.03

3100 Architecture

Canada 2.02
 France 3.01
 Iran 2.01
 Sweden 3.03
 United States of America 2.21, 2.49

3110 Civil Engineering**3120 Mechanical Engineering****4115 Electrical Engineering**

Bangladesh 2.03, 3.03
 Egypt 2.01

El Salvador 5.01
 France 3.07
 India 2.08, 3.14, 3.21
 Kenya 3.05
 Libyan Arab Jamahiriya 5.01
 Nepal 3.01
 Netherlands 3.01
 Nigeria 3.04
 Pakistan 2.01
 Papua New Guinea 2.02
 Senegal 3.04
 Sri Lanka 2.01
 United Kingdom 3.25
 United States of America 3.12, 3.13, 3.26

3140 Construction and Building Materials

Belgium 5.01
 Botswana 2.01
 Brazil 2.01
 Burundi 5.01
 Canada 2.02
 Chile 3.03
 Colombia 1.01, 3.02
 Cuba 4.01
 Denmark 3.06, 4.01
 Ethiopia 3.02
 France 3.16
 Germany, Federal Republic 3.05
 Ghana 2.01, 3.02, 5.03, 5.05, 5.06, 5.08
 Guatemala 1.01
 India 2.06, 2.09, 2.22, 3.23, 3.29, 3.36
 Iran 2.01
 Iraq 4.01
 Italy 3.02
 Ivory Coast 3.01
 Mexico 3.02
 Netherlands 1.01
 New Hebrides 2.01
 Nigeria 3.12
 Norway 3.03
 Philippines 3.09
 Rwanda 3.01, 4.01
 Senegal 3.06
 Sudan 3.04
 Switzerland 2.02, 2.03
 Togo 3.01
 United Kingdom 3.10, 3.26, 5.09, 5.19
 United States of America 2.42, 2.49, 3.36, 3.84, 3.92, 3.102, 5.21, 5.24, 5.25
 Upper Volta 3.17
 Zaire 5.03
 Zambia 3.03

3150 Local Materials for Building

Australia 1.02
 Belgium 2.01, 3.01, 5.01
 Botswana 1.01, 1.03
 Brazil 2.01
 Burundi 5.01
 Cameroon 3.01
 Canada 2.02, 3.04
 Chile 1.01, 3.03
 Colombia 1.01, 1.02, 3.02, 3.05
 Ethiopia 3.01, 3.02
 France 2.02, 2.03
 Germany, Federal Republic 3.05
 Ghana 2.01, 2.03, 3.02, 5.03, 5.05,
 5.06, 5.08
 India 1.02, 1.03, 2.06, 2.09, 2.14,
 2.15, 3.23, 3.36
 Iran 2.01
 Iraq 4.01
 Italy 3.02
 Ivory Coast 3.06
 Kenya 3.04, 3.09, 3.15
 Mexico 2.01, 3.02
 Mongolia 5.01
 New Hebrides 2.01
 Nicaragua 3.02
 Nigeria 2.02, 3.12
 Philippines 3.06
 Rwanda 3.01
 Senegal 3.06
 Sri Lanka 2.03

3210 Heating

United States of America 2.03, 2.49,
 3.08, 3.64, 3.67, 5.04

3215 Solar Heating

Argentina 3.03
 Australia 1.01, 3.01
 Austria 3.02
 Denmark 3.02, 3.06, 3.10, 3.23, 3.24
 France 3.07, 3.10, 3.13, 5.09
 Germany, Federal Republic 3.07
 Guatemala 1.02
 India 2.01, 2.04, 2.05, 2.20, 3.10, 3.16,
 3.34, 5.07
 Indonesia 1.03
 Kenya 3.16
 Mali 3.02
 Mauritius 3.01
 Nepal 3.01
 Netherlands 3.04, 3.05
 New Zealand 3.01
 Niger 3.02
 Nigeria 3.12
 Norway 3.03
 Papua New Guinea 2.02

Senegal 3.02, 4.05
 Sierra Leone 3.02
 Switzerland 3.05, 4.07
 Thailand 2.01
 Uganda 2.01
 United Kingdom 1.01, 2.13, 3.02, 3.22,
 3.33, 3.34, 5.17, 5.22
 United States of America 2.01, 2.03,
 2.05, 2.09, 2.13, 2.14, 2.15, 2.16, 2.23,
 2.24, 2.28, 2.29, 2.33, 2.35, 2.42, 2.43,
 2.44, 2.45, 2.47, 2.49, 3.03, 3.09, 3.15,
 3.17, 3.22, 3.25, 3.31, 3.32, 3.42, 3.45,
 3.54, 3.55, 3.58, 3.64, 3.66, 3.72, 3.90,
 3.92, 3.93, 3.94, 3.95, 3.96, 3.97, 3.98,
 5.03, 5.05, 5.07, 5.09, 5.17, 5.21, 5.23,
 5.24, 5.25, 5.26
 Zambia 2.01, 3.05

3230 Building Component Design

Burundi 5.01
 Colombia 3.02
 Cuba 4.01
 Denmark 3.06, 4.01
 Ethiopia 3.01
 Ghana 2.01, 2.03, 5.03, 5.05, 5.06,
 5.08
 India 2.14, 2.22
 Mexico 3.02
 Mongolia 5.01
 Netherlands 2.02
 Norway 3.03
 Rwanda 3.01, 4.01
 Senegal 3.06
 Switzerland 2.03
 Thailand 3.02
 Togo 3.01
 United Kingdom 2.03, 3.10, 3.26, 5.09,
 5.17, 5.19, 5.22
 United States of America 2.01, 2.02,
 2.09, 2.10, 2.15, 2.23, 2.24, 2.35, 2.42,
 3.07, 3.31, 3.36, 3.85, 3.92, 5.21, 5.24,
 5.25
 Upper Volta 3.17

3260 Housing Needs

Bolivia 2.01
 El Salvador 3.02
 Ethiopia 3.04
 France 3.12
 Ghana 2.01, 2.03
 Italy 3.02
 Philippines 3.04, 3.06, 3.09
 United Kingdom 3.10
 United States of America 3.01, 3.51,
 3.85

3300 Low-cost Housing

- Barbados 3.01
- Belgium 3.01
- Bolivia 2.01, 2.03
- Botswana 2.03
- Brazil 2.01
- Canada 2.02
- Central African Republic 3.02
- Colombia 1.01, 1.02
- El Salvador 3.01, 3.02
- Ethiopia 3.04
- France 3.07, 3.16
- Germany, Federal Republic 3.02, 3.09
- Ghana 2.01, 2.03, 5.03, 5.05, 5.06, 5.08
- Guyana 3.01
- India 1.01, 1.03, 2.06, 2.09, 2.21, 2.26
- Indonesia 3.03
- Iran 2.01
- Kenya 1.01, 3.04, 3.09, 3.15
- Mongolia 5.01
- New Hebrides 2.01
- Nicaragua 3.02
- Pakistan 1.01
- Papua New Guinea 3.01
- Peru 2.01
- Philippines 3.06, 3.07, 3.09
- Rwanda 3.01
- Senegal 3.05
- South Africa 3.04
- Sweden 3.03
- Switzerland 3.06
- Thailand 3.02
- Togo 3.01
- United Kingdom 3.06, 3.10
- United States of America 1.03, 1.05, 2.02, 2.21, 2.43, 3.17, 3.19, 3.47, 3.48, 3.53, 3.79, 3.81, 3.84, 3.85, 5.22, 5.26
- Upper Volta 3.17
- Zaire 5.05
- Zambia 2.03

3330 Housing Programmes

- Barbados 3.02
- Bolivia 2.01
- Canada 2.02
- Colombia 1.01, 3.01
- Cuba 4.01
- El Salvador 3.01
- Ghana 2.01, 2.03, 3.04
- Iran 2.01
- Italy 3.02
- Kenya 3.09
- Netherlands 2.01
- Nigeria 2.03
- Papua New Guinea 3.01
- Peru 2.01
- Philippines 3.06, 3.07

- Rwanda 3.01
- Senegal 3.05
- South Africa 3.04
- Sri Lanka 2.02
- Thailand 3.03
- United Kingdom 1.01, 3.05
- United States of America 3.01, 3.54, 3.102
- Zambia 3.04

3340 Housing Standards

- Australia 2.01
- El Salvador 3.02
- India 3.75
- Philippines 3.06
- United Kingdom 3.10

3360 Housing Associations and Cooperatives

- Bolivia 2.01, 2.02
- France 3.72
- United Kingdom 1.01
- United States of America 3.47

3410 Housing Improvements

- Australia 1.01, 1.03, 2.01
- Central African Republic 3.02
- Denmark 3.06, 3.23, 3.24
- Ethiopia 3.02
- Germany, Federal Republic 3.07
- India 2.24
- Ivory Coast 3.01
- Netherlands 2.02
- Nigeria 5.09
- Norway 3.03
- Switzerland 2.03
- Thailand 3.02
- United Kingdom 1.01, 2.03, 2.17, 3.06, 3.19, 4.03, 5.17, 5.22
- United States of America 2.04, 2.09, 2.10, 2.15, 3.01, 3.07, 3.15, 3.31, 3.32, 3.57, 3.64, 3.71, 3.81, 3.84, 3.85, 3.104, 5.15, 5.17, 5.24

3480 Handicapped People

- United States of America 3.23
- Zaire 3.02

3490 Household Equipment

- Botswana 1.03
- Ethiopia 1.02
- Guatemala 1.02
- India 2.02, 2.08
- Indonesia 1.01, 1.03
- Kenya 1.01
- Liberia 3.01
- United States of America 1.02
- Zambia 2.03

3551 Agricultural Buildings

- Bolivia 2.03
- Guatemala 1.02
- India 3.18

3580 Roads and Bridges

- France 3.07
- Ghana 3.02
- Lesotho 3.02
- Nepal 3.03

3630 Pipelines

- Ethiopia 1.01
- Indonesia 2.02

3681 Coal

- India 2.22, 3.37
- United States of America 2.08, 2.30, 3.19, 3.62

3683 Natural Gas

- India 3.21

3690 Mineral Extraction and Processing

- Canada 3.01
- Kenya 3.10

3720 Energy Sources and Fuels

- Australia 1.01, 1.02, 1.03, 2.01
- Austria 2.01, 3.03
- Bangladesh 1.01
- Barbados 3.02
- Botswana 1.01, 1.03
- Brazil 3.03, 3.04
- Canada 1.01, 2.01, 3.06, 3.08
- Chile 1.01, 3.02, 4.01
- Colombia 1.02, 3.01, 3.06
- Denmark 2.01, 2.02, 3.04, 3.08, 3.11, 3.12, 3.13, 3.15, 3.16
- Egypt 1.01
- El Salvador 2.01
- France 2.02, 3.02, 3.05, 3.14, 5.03
- Germany, Federal Republic 3.01, 3.04, 3.08
- Guatemala 1.02
- India 1.03, 2.01, 2.02, 2.10, 2.12, 2.13, 2.20, 3.15, 3.17, 3.37
- Indonesia 1.01
- Iran 2.02
- Ireland 2.02
- Ivory Coast 3.05
- Jamaica 3.02
- Mexico 3.01
- Nepal 2.02, 3.01
- Netherlands 2.01, 2.03, 3.08, 3.09
- New Caledonia 2.01

New Zealand 3.01

Nigeria 3.07, 5.01, 5.02

Norway 3.02

Oman 2.01, 3.01

Pakistan 1.01

Papua New Guinea 1.01

Peru 2.01, 3.03

Portugal 3.01

Rwanda 3.02

South Africa 3.01

Sri Lanka 2.02, 2.03

Sudan 3.01, 3.02

Sweden 3.01

Switzerland 2.01, 2.03

Tanzania 1.01, 2.05

Thailand 3.03, 3.05

Trinidad and Tobago 3.01

United Kingdom 1.02, 1.03, 2.06, 2.13, 2.17, 3.06, 3.12, 3.15, 3.17, 3.19, 3.23, 3.26, 3.27, 3.31, 3.33, 3.35, 4.03, 5.07, 5.17

United States of America 1.02, 2.01, 2.02, 2.04, 2.07, 2.10, 2.11, 2.12, 2.18, 2.19, 2.20, 2.22, 2.30, 2.31, 2.32, 2.34, 2.38, 2.42, 2.43, 2.44, 2.48, 2.49, 3.04, 3.05, 3.07, 3.08, 3.10, 3.12, 3.16, 3.19, 3.21, 3.23, 3.24, 3.31, 3.37, 3.38, 3.39, 3.41, 3.48, 3.50, 3.51, 3.54, 3.58, 3.59, 3.60, 3.62, 3.65, 3.66, 3.69, 3.72, 3.74, 3.82, 3.83, 3.84, 3.89, 3.90, 3.91, 3.95, 3.101, 3.104, 3.108, 5.02, 5.11, 5.12, 5.16, 5.26

Zambia 3.01, 3.04

3723 Carbon and Charcoal

Chile 1.01

Ghana 3.04

Honduras 1.01

India 3.37

Zambia 3.01

3724 Animal Dung as Fuel

Australia 1.01, 1.02

Bangladesh 2.01, 2.02

Botswana 1.01, 1.03, 2.03

Cameroon 5.01

Denmark 2.01, 3.13

France 2.01, 3.20

Guatemala 1.01, 1.02

India 1.02, 1.03, 2.01, 2.02, 2.12, 2.13, 2.25, 3.04, 3.06, 3.19, 3.21, 3.22, 3.30, 3.37

Indonesia 1.02

Iran 2.02

Ireland 2.02

Jamaica 3.02

Kenya 3.16

Mauritius 3.01

- Nepal 2.02, 3.01
 Netherlands 1.01, 3.01, 3.06
 New Caledonia 2.01
 Philippines 3.09
 Portugal 3.01
 Rwanda 3.02
 Sri Lanka 2.02
 Sudan 3.02
 Switzerland 2.03
 Tanzania 2.02, 2.05
 Thailand 2.01
 United Kingdom 2.13, 3.07, 3.31, 5.08, 5.21
 United States of America 1.02, 2.09, 2.18, 2.19, 2.31, 2.32, 2.34, 2.38, 2.39, 3.13, 3.24, 3.31, 3.37, 3.38, 3.41, 3.62, 5.01, 5.02, 5.07, 5.18
 Upper Volta 3.01, 3.07, 3.12
- 3741 Steam Electric Power Generation**
- United Kingdom 2.13
 United States of America 2.08
- 3742 Hydro Electric Power Generation**
- El Salvador 2.01
 Indonesia 1.01
 Iran 2.02
 Pakistan 1.01
 Papua New Guinea 2.02
 Peru 3.02
 Rwanda 3.02
 Sri Lanka 2.01, 2.03
 Sudan 3.02
 United Kingdom 2.13, 3.35
 United States of America 2.09, 3.37, 3.41
- 3743 Nuclear Electric Power Generation**
- Germany, Federal Republic 3.04
 Norway 3.01
 United States of America 2.12, 2.20
- 3744 Geothermal Electric Power Generation**
- United States of America 2.03, 3.37, 3.41, 3.59
- 3745 Tidal Electric Power Generation**
- United Kingdom 3.33
- 3746 Wind Electric Power Generation**
- Australia 1.01, 1.02, 1.03
 Bangladesh 3.01
 Botswana 1.01, 1.03, 3.06, 3.07
 Canada 1.01, 2.01, 3.05, 5.04
 Chile 1.01
- Colombia 5.01, 5.02
 Denmark 2.01, 3.01, 3.03, 3.07, 3.13, 3.14, 3.17, 3.18, 3.19, 3.20, 3.21
 El Salvador 1.01, 1.02, 2.01, 2.04
 Ethiopia 1.01, 1.02, 2.01, 2.04
 France 2.01, 2.02, 3.03, 5.12
 Guatemala 1.02
 India 1.02, 1.03, 2.04, 2.10, 2.24, 3.37
 Indonesia 1.01
 Iran 2.02
 Ireland 2.02
 Israel 3.01
 Kenya 3.05, 3.09, 3.11, 5.01
 Malaysia 3.01
 Netherlands 1.01, 2.03, 3.07, 4.01
 Nicaragua 2.02
 Oman 2.01
 Pakistan 1.01
 Portugal 3.01
 Sri Lanka 2.02, 2.03
 Sudan 3.02
 Switzerland 3.04
 Tanzania 1.01, 2.01, 2.05, 3.01, 3.07
 Thailand 5.01
 United Kingdom 1.01, 1.03, 2.03, 2.06, 2.13, 3.33, 3.35, 3.40, 5.02, 5.14
 United States of America 1.02, 1.05, 2.03, 2.05, 2.07, 2.09, 2.12, 2.17, 2.18, 2.19, 2.20, 2.24, 2.30, 2.35, 2.43, 2.48, 3.02, 3.06, 3.24, 3.37, 3.40, 3.41, 3.55, 3.65, 3.87, 3.91, 3.101, 3.105, 3.108, 5.08, 5.10, 5.14, 5.16, 5.19, 5.24
 Zambia 5.02
- 3747 Solar Electric Power Generation**
- Argentina 3.02, 3.03
 Australia 1.01, 1.03, 3.01
 Austria 3.02
 Bangladesh 2.01, 2.02, 3.01
 Botswana 1.01
 Brazil 3.04
 Canada 1.01, 2.01, 5.04
 Colombia 3.04
 Denmark 2.01, 3.01, 3.04, 3.05, 3.08, 3.10, 3.12, 3.13, 3.18
 El Salvador 2.01, 2.02
 Ethiopia 5.03
 France 3.01, 3.06, 3.13, 5.08
 Germany, Federal Republic 3.04, 3.07
 Guatemala 1.02
 Honduras 3.01
 India 1.02, 1.03, 2.05, 2.10, 2.24, 3.34, 3.37
 Indonesia 1.01, 1.02
 Iran 2.02
 Italy 3.04
 Kenya 3.09, 3.16

Kuwait 3.01
 Mali 3.02
 Mauritius 3.01
 Netherlands 3.04, 3.05
 Niger 3.02
 Nigeria 3.07
 Pakistan 1.01
 Portugal 3.01
 Rwanda 3.02
 Senegal 3.02, 4.05
 Sierra Leone 3.02
 Sri Lanka 2.02, 2.03
 Sudan 3.02
 Switzerland 3.06, 4.07
 Tanzania 1.01, 2.05
 United Kingdom 1.01, 2.06, 2.13,
 3.08, 3.22, 3.33, 3.34, 3.35
 United States of America 2.03, 2.05,
 2.07, 2.08, 2.12, 2.13, 2.15, 2.18, 2.19,
 2.20, 2.24, 2.28, 2.29, 2.30, 2.33, 2.34,
 2.37, 2.38, 2.43, 2.44, 2.45, 3.09, 3.24,
 3.37, 3.41, 3.42, 3.49, 3.55, 3.58, 3.66,
 3.89, 3.90, 3.91, 3.92, 3.93, 3.94, 3.95,
 3.96, 3.97, 3.98, 3.101, 3.105, 3.106,
 5.03, 5.04, 5.05, 5.09

3820 Glass Manufacture

Canada 3.01
 Ghana 1.01
 India 1.02

3830 Ceramics Manufacture

India 3.08, 3.29
 Kenya 3.07
 Nigeria 3.12
 Philippines 3.08
 Sri Lanka 2.02

3840 Bricks and Cement Manufacture

Belgium 5.01
 Egypt 1.01
 Ghana 3.02
 India 1.02, 1.03, 1.04, 2.06, 2.10,
 2.12, 2.14, 2.22, 2.25, 3.14, 3.29
 Iran 2.01
 Jamaica 3.02
 Mauritius 3.01
 Papua New Guinea 2.02
 Sri Lanka 2.03
 Tanzania 2.02

3850 Iron and Steel Manufacture

Tanzania 3.03
 United States of America 2.40

3880 Metalworking

Colombia 2.02
 United States of America 2.40
 Upper Volta 3.14
 Zambia 5.02

3920 Soap and Detergent Manufacture

Netherlands 1.01
 Sri Lanka 2.02

3960 Food Processing Industry

Brazil 3.02, 3.05
 Canada 1.02
 Chile 3.01, 3.05
 Costa Rica 3.01
 Denmark 3.02
 Ecuador 2.01
 France 3.15
 Ghana 3.04
 India 1.01, 2.07, 2.17, 3.39, 5.05
 Indonesia 1.01, 2.04
 Kenya 1.01, 3.07
 Malaysia 3.01
 Nigeria 3.01, 3.06, 3.12, 5.03, 5.06
 Pakistan 1.01
 Papua New Guinea 2.02
 Senegal 3.03
 Sri Lanka 3.01
 Sudan 3.03
 Switzerland 3.03
 Tanzania 2.02
 United Kingdom 3.37
 United States of America 2.46

3961 Food Preservation Techniques

Botswana 1.01, 2.02
 Canada 1.02
 Ghana 3.06
 India 1.01, 3.18
 Indonesia 1.02, 1.03
 Japan 3.01
 Kenya 1.01
 Netherlands 1.01
 Nigeria 3.01, 3.06, 4.01
 Pakistan 1.01
 Senegal 3.03
 Tanzania 2.02
 United Kingdom 3.31, 3.37
 United States of America 2.12, 2.38,
 3.11
 Upper Volta 3.09

3980 High Protein Foods

Benin 3.03
 Ethiopia 2.81
 France 3.20

- Ghana 5.10
 Nigeria 5.06
 Norway 3.01
 United States of America 3.75
- 3982 Basic Food Requirements**
 Austria 3.03
 Bolivia 2.01
 Congo 3.01
 France 3.08
 Japan 3.01
 South Africa 3.02
 Togo 3.02
 Zambia 3.03
- 3984 Edible Fats and Oils**
 Egypt 1.01
 India 2.22
 Sri Lanka 3.01
 Sweden 3.06
- 3990 Food Science and Technology**
 Botswana 1.01
 Brazil 3.05
 Colombia 3.05
 Costa Rica 3.01
 Ghana 3.06
 India 2.07
 Ivory Coast 4.01
 Jamaica 3.02
 Japan 2.01
 Kenya 1.01
 Morocco 3.01
 Nigeria 5.06
 Papua New Guinea 2.02
 Senegal 3.03
 Sudan 3.03
 United Kingdom 2.13, 3.37
 United States of America 2.10, 2.25,
 2.32, 3.25, 3.51, 3.75
 Upper Volta 3.06
 Zambia 3.03
- 4000 Applied Nutrition**
 Bangladesh 2.03
 Benin 3.03
 Bolivia 2.01
 Canada 1.02
 Chile 1.01
 Colombia 3.05
 Congo 3.01
 Japan 3.01
 Norway 3.01
 Peru 3.05
 South Africa 3.01
 Sri Lanka 3.01
 Sweden 3.06
- Tanzania 3.06
 Thailand 3.05
 Togo 3.02
 United States of America 2.12, 3.16,
 3.103
 Upper Volta 3.06, 3.16
- 4020 Forest Products**
4021 Wood Products
 France 3.11
 Ghana 1.01, 2.01
 India 1.01, 3.16, 4.02
 Kenya 3.15
 Surinam 3.01
 United Kingdom 3.37
 United States of America 3.39, 3.67
- 4024 Sawdust**
 Chile 3.02
 Honduras 1.01
 India 3.32
 New Hebrides 2.01
- 4040 Animal Glue and Gelatin Manufacture**
 India 3.09
 Rwanda 3.01
- 4070 Leather Tanning**
 Canada 5.02
 Ghana 1.01
 India 1.01, 3.09
- 4091 Pulp and Paper Products**
 Egypt 1.07
 India 3.23, 3.24, 3.27
 Kenya 3.10
 Sri Lanka 2.02
- 4110 Engineering Industries**
 Egypt 2.01
 United Kingdom 3.12
- 4111 Chemical Engineering**
 India 2.22, 3.21, 3.31
 Kenya 3.07
 Mexico 5.02
 United States of America 3.99
 Uruguay 5.01
- 4113 Agricultural Engineering**
 Brazil 3.02
 Ethiopia 2.02
 France 2.01, 3.07

India 2.03, 2.07, 2.08, 2.12, 3.36
 Indonesia 2.01
 Kenya 3.02, 3.03
 Mauritius 3.03
 Niger 2.03
 Peru 3.05
 Philippines 3.03
 Tanzania 2.01, 2.03
 Uganda 2.01, 2.02
 United Kingdom 2.12
 United States of America 3.29, 3.31,
 3.46, 3.79
 Upper Volta 4.02

4130 Industry

Austria 2.03
 Canada 5.03
 Ecuador 2.02, 2.03
 Ethiopia 2.02, 2.04
 France 3.12
 Germany, Federal Republic 1.02, 3.04
 Ghana 5.01, 5.04, 5.07
 Guyana 3.02
 India 2.23, 3.35, 3.39, 5.03
 Indonesia 2.04
 Kenya 3.07
 Republic of Korea 3.01
 Sri Lanka 2.01, 4.01
 Swaziland 3.02
 Sweden 5.04
 Tanzania 3.06
 Zambia 4.01

4131 Agricultural Industry — Food

Canada 1.02
 Colombia 3.05
 France 3.08
 India 5.05
 Ivory Coast 4.01
 Kenya 1.01, 3.10
 Mauritius 3.02, 3.03
 Nigeria 3.10
 Sudan 3.03
 Togo 3.02
 United States of America 1.05, 2.31,
 2.33, 2.47, 3.25, 3.44, 3.52, 3.92, 5.12
 Zambia 3.03

4132 Clothing and Textile Industry

Botswana 4.01
 Ghana 1.09
 India 1.02, 3.03, 3.39
 Malawi 3.02
 Mali 3.03
 Swaziland 3.02
 Tanzania 2.02
 United States of America 2.14
 Upper Volta 3.14

4165 Transportation

France 3.07
 India 3.28
 Malawi 2.02
 Philippines 3.04
 Switzerland 3.01
 United Kingdom 2.07, 3.12, 3.36

4250 Road Construction and Maintenance

Bolivia 2.03
 Ethiopia 1.01
 France 3.07
 India 1.01
 Switzerland 3.06
 United Kingdom 3.36

4710 Pollution Control

Denmark 3.15
 India 3.28
 United States of America 3.99

4940 Air Pollution

United States of America 2.08, 3.30,
 3.99

4960 Water Pollution and Contamination

France 3.02, 3.17
 Peru 3.03
 United Kingdom 3.04
 United States of America 3.56, 3.99

5151 Design Considerations

Australia 2.01
 Burundi 5.01
 Chile 3.03
 Germany, Federal Republic 3.05
 India 2.14, 2.19, 3.03, 3.36
 Kenya 3.09, 3.15
 Nigeria 2.02, 3.11
 Pakistan 2.01
 Trinidad and Tobago 3.01
 United Kingdom 1.03, 2.15
 United States of America 2.01, 2.15,
 2.21, 2.43, 3.07, 3.23, 3.31, 3.32,
 3.64, 3.71
 Zaire 5.03

5341 Combustion Engines

Bangladesh 3.03
 India 3.27, 3.28
 United Kingdom 3.35

5360 Wastes**5362 Industrial Solid Wastes****5363 Industrial Liquid Wastes****5364 Waste Water Treatment****5440 Solid Wastes****5441 Solid Waste Disposal Techniques****5443 Liquid Waste Disposal Techniques**

- Australia 1.02
- Botswana 1.01
- Canada 2.02, 3.06
- Colombia 3.02
- Denmark 3.02
- France 3.07
- India 3.34
- Nigeria 3.08, 5.01
- Philippines 3.04
- Thailand 2.01, 3.01, 3.03
- United States of America 2.09, 3.56, 3.60, 3.99, 5.02, 5.12

5366 Municipal Waste Disposal

- Denmark 3.15
- India 2.21
- Nigeria 3.07
- Oman 3.01
- Thailand 3.03, 3.05
- United Kingdom 3.31
- United States of America 2.03, 2.09, 2.11, 3.31, 3.83, 5.02
- Zambia 3.04

5480 Recycled Materials

- Australia 2.01
- Brazil 3.01
- Colombia 3.02
- United Kingdom 1.01, 2.08
- United States of America 2.03
- Zaire 5.01

5481 Waste Conversion Techniques**5482 Waste Recovery**

- Australia 1.01, 1.02
- Canada 3.08
- Colombia 3.02
- India 1.04, 3.03
- Philippines 2.01, 3.04
- Thailand 2.01
- United Kingdom 2.06, 2.13
- United States of America 2.35, 2.37, 3.56, 5.02

5830 Asbestos

- India 2.15, 2.22, 3.23, 3.32

6120 Fertilisers

- Australia 1.02
- South Africa 3.03
- United States of America 2.37, 3.70

6150 Drugs and Food Additives

- Sri Lanka 2.01

6271 Agricultural Wastes

- Australia 1.01
- Brazil 3.01, 3.03, 3.05
- Canada 2.01
- Denmark 3.02
- France 2.05, 3.09
- India 1.04, 2.07, 2.14, 2.15, 2.17, 2.22, 2.25, 3.03, 3.09, 3.14, 3.23, 3.27, 3.31
- Italy 3.02
- Nigeria 3.12, 5.01
- Pakistan 1.01
- Thailand 2.01, 3.01
- United States of America 2.31, 3.58, 3.75, 3.101

6272 Composts and Natural Fertilisers

- Canada 4.03
- Colombia 3.04
- Germany, Federal Republic 3.01, 5.01
- India 2.20, 2.24
- Iran 2.02
- Mexico 2.01
- Netherlands 2.02
- Papua New Guinea 3.05
- Philippines 3.04
- South Africa 3.02, 4.01
- Switzerland 2.03
- United Kingdom 3.19, 3.27, 4.04, 5.10
- United States of America 2.32, 2.38, 2.47, 3.21, 3.33, 3.34, 3.44, 3.70, 3.83, 4.01, 4.02, 4.03, 4.04, 4.05, 4.06, 4.07, 4.08, 4.09, 4.10, 4.11, 5.17
- Upper Volta 3.07

6283 Human Excretion – Disposal and Use

- Nigeria 3.08
- United States of America 2.03, 2.34, 2.35, 3.14, 3.56

6300 Industrial Effluents

- Bangladesh 3.02
- India 2.22
- Jamaica 3.02

6470 Waste Heat

- United States of America 2.34

6471 Thermal Insulation Techniques

- Norway 3.03
 United States of America 3.01, 3.07,
 3.15, 3.22, 3.32, 3.64, 3.84

6473 Thermodynamics

- Chile 4.01

6530 Desalination

- Canada 1.01, 5.04
 Kuwait 3.01
 Oman 2.01
 Sudan 3.01

6620 Pumps and Compressors

- Botswana 2.03
 Burundi 5.01
 Chile 1.01
 Colombia 1.01, 1.02
 Denmark 3.19
 Egypt 1.01
 Ethiopia 1.01, 2.01, 2.03
 India 1.02, 1.03, 1.04, 2.04, 2.05, 2.08,
 2.10, 2.19, 3.01, 3.40, 3.42
 Kenya 1.01, 3.11
 Malaysia 3.01
 Nepal 2.02
 Netherlands 2.03
 Nicaragua 2.02
 Nigeria 5.10
 Oman 2.01
 Papua New Guinea 2.02
 Syrian Arab Republic 3.01
 Tanzania 3.07
 United Kingdom 2.07, 5.07
 United States of America 2.07, 2.46,
 2.48, 3.48, 5.08
 Zambia 2.01

6650 Boilers and Burners

- India 2.02

6670 Fire Precautions**6671 Fire Retardants**

- India 2.06, 2.15, 2.22

6700 Recycling Processes

- Australia 1.02
 Canada 3.06
 Chile 3.01
 India 2.22, 3.27, 3.34
 Indonesia 3.02
 Philippines 3.05
 Switzerland 3.01
 United Kingdom 1.01, 1.03

- United States of America 2.35, 3.56,
 3.60, 3.64, 3.106, 5.06

6785 Technology

- Austria 2.02, 2.04
 Brazil 2.01
 France 4.03
 Germany, Federal Republic 5.01
 Malaysia 5.01
 Mauritius 3.02, 3.03
 Mexico 2.02
 Philippines 3.05
 Senegal 1.01
 United Kingdom 3.09, 5.03
 United States of America 3.05, 3.63,
 3.82

6790 Technology Transfer

- Australia 1.02
 Austria 2.02, 2.04
 Bangladesh 1.01, 2.03
 Botswana 1.01, 1.02, 1.03, 3.01
 Brazil 2.01
 Canada 1.03, 3.02, 3.07
 Colombia 1.01, 2.01, 2.02
 Dominican Republic 3.01
 Ecuador 2.01
 Egypt 1.01, 2.01
 Ethiopia 1.01, 3.02
 Fiji 2.01
 France 2.01, 2.04, 3.03, 3.08, 3.12,
 3.24, 3.25, 5.02
 Gambia 3.02
 Germany, Federal Republic 1.01, 2.01
 Ghana 1.01, 2.02
 Guatemala 1.01, 1.02
 Honduras 1.01, 2.01, 3.01
 India 1.01, 1.02, 1.03, 2.02, 2.04, 2.06,
 2.09, 2.15, 2.19, 2.25, 3.05, 3.11, 3.18,
 3.24, 3.26, 3.35
 Indonesia 1.01, 1.02, 1.03, 2.02
 Iran 2.01, 2.02
 Israel 3.02
 Italy 3.01, 3.04
 Ivory Coast 3.06
 Jamaica 3.01, 3.02
 Kenya 1.01, 3.03, 3.04, 3.06, 3.11,
 3.12, 3.14, 3.17
 Korea, Republic of 2.01
 Kuwait 3.02
 Lesotho 2.01
 Liberia 3.01
 Malawi 2.01, 2.02
 Malaysia 3.01
 Mexico 2.02, 5.02
 Nepal 2.01, 2.02, 3.02, 3.03
 Netherlands 1.01

New Hebrides 2.01
 Nicaragua 2.01, 2.02, 3.02, 3.03
 Niger 3.01
 Nigeria 2.03, 3.08
 Oman 2.01
 Pakistan 1.01
 Panama 3.02
 Papua New Guinea 1.01
 Peru 3.01
 Philippines 2.01, 3.03, 3.05, 3.08, 3.09
 Rwanda 3.01, 3.02
 Senegal 1.01, 3.01
 Sri Lanka 1.01, 2.01, 2.03
 Sudan 3.01
 Surinam 3.01
 Sweden 3.01, 3.04, 3.06, 3.07
 Switzerland 2.02, 3.06
 Syria Arab Republic 3.01
 Tanzania 1.01, 2.01, 2.02, 2.03, 2.04,
 2.06, 3.03, 3.04
 Thailand 2.01, 3.02, 3.05
 Uganda 2.02, 3.02
 United Kingdom 1.02, 2.10, 2.11, 2.12,
 2.14, 3.08, 3.16, 3.29, 3.36
 United States of America 1.06, 2.06,
 2.31, 2.37, 2.46, 2.48, 3.05, 3.16, 3.35,
 3.48, 3.79, 3.99, 3.100
 Upper Volta 2.01
 Venezuela 3.01
 Zaire 2.01, 2.02, 2.04, 3.06
 Zambia 2.01, 2.02, 2.03
 Zimbabwe 2.01

6800 Alternative Technologies

Australia 1.01, 1.02, 1.03, 2.02
 Austria 2.01, 2.02, 2.04, 3.02, 3.04,
 5.01
 Bangladesh 1.01, 2.03, 3.01, 3.06
 Barbados 2.01, 3.01, 3.02
 Belgium 2.01, 3.01, 3.02, 4.01, 5.02
 Benin 3.01
 Bolivia 2.01, 2.02, 3.01
 Botswana 1.01, 1.02, 1.03, 2.02, 3.01
 Brazil 2.01, 3.04
 Burundi 5.01
 Cameroon 3.01, 3.02, 3.03, 4.01
 Canada 1.01, 1.02, 2.01, 3.03, 3.04,
 3.06, 3.07, 3.08, 5.05
 Central African Republic 2.01
 Chile 1.01, 3.02
 Colombia 1.01, 1.02, 1.03, 2.01, 2.02,
 3.01, 3.04, 3.06
 Congo 3.01
 Costa Rica 2.01, 3.02
 Denmark 2.01, 3.08, 3.11, 3.15
 Dominican Republic 2.01, 3.01
 Ecuador 2.01, 2.03
 Egypt 1.01, 2.01, 3.01
 El Salvador 2.01
 Ethiopia 1.01, 1.02, 2.04, 3.02, 3.03,
 5.01, 5.04
 Fiji 2.01
 France 2.01, 2.02, 2.03, 2.04, 3.03,
 3.06, 3.12, 3.14, 3.16, 3.19, 3.21, 3.25,
 4.01, 4.03
 Gambia 3.02
 Germany, Federal Republic 1.01, 1.02,
 2.01, 2.02, 3.03, 3.04, 3.06, 3.09, 5.01
 Ghana 1.01, 2.02, 5.07, 5.10
 Guatemala 1.01, 1.02, 3.01
 Honduras 1.01, 2.01, 3.01
 India 1.01, 1.02, 1.03, 1.04, 2.01, 2.02,
 2.04, 2.06, 2.07, 2.10, 2.11, 2.21, 2.22,
 2.23, 2.25, 2.26, 3.02, 3.03, 3.05, 3.09,
 3.12, 3.13, 3.16, 3.17, 3.24, 3.25, 3.26,
 3.29, 3.35, 5.02, 5.03, 5.04
 Indonesia 1.01, 1.02, 1.03, 2.01, 2.02,
 2.03, 2.04, 3.01
 Iran 2.01, 2.02
 Ireland 2.01, 2.02
 Italy 3.01, 3.03, 3.04, 5.01
 Ivory Coast 3.05
 Jamaica 3.01, 3.02
 Kenya 1.01, 2.01, 3.03, 3.09, 3.10,
 3.11, 3.12, 3.13, 3.17, 5.01, 5.02, 5.03
 Korea, Republic of 2.01, 3.01
 Lesotho 2.01, 3.01, 3.02, 3.03
 Liberia 3.01
 Malawi 2.01, 2.02, 3.01
 Malaysia 3.01, 5.01
 Mali 3.01
 Mauritius 3.01
 Mexico 2.01, 2.02, 2.03, 2.04, 5.01,
 5.02
 Mozambique 5.01, 5.02
 Nepal 2.01, 3.01, 3.02, 3.03
 Netherlands 1.01, 2.01, 3.01, 3.02,
 3.08
 New Hebrides 2.01
 Nicaragua 2.01, 2.02, 3.01, 3.03
 Nigeria 2.02, 2.03, 3.03, 3.07, 5.02,
 5.04, 5.06, 5.07
 Norway 3.01, 3.02, 5.01
 Oman 2.01
 Pakistan 1.01
 Panama 3.02
 Papua New Guinea 1.01, 2.01, 2.03,
 3.01, 3.02, 3.04
 Peru 2.01, 3.01, 3.02, 3.05
 Philippines 2.01, 3.01, 3.02, 3.03,
 3.05, 3.08
 Portugal 3.01
 Rwanda 3.01, 3.02, 5.01
 Senegal 1.01, 2.01
 Sierra Leone 3.01, 3.02

- South Africa 3.01, 3.02
 Sri Lanka 2.01, 2.02, 2.03, 3.01, 5.01
 Sudan 3.01
 Surinam 3.01
 Sweden 2.01, 3.01, 3.02, 3.03, 3.04,
 3.05, 3.06, 5.02, 5.03, 5.04, 5.05
 Switzerland 2.01, 2.02, 3.06, 3.07, 5.02
 Tanzania 1.01, 2.02, 2.04, 2.06, 3.03,
 3.04
 Thailand 2.01, 3.03, 3.04, 3.05
 Trinidad and Tobago 3.01
 Tunisia 2.01
 Uganda 2.01, 2.02, 2.03, 3.02
 United Kingdom 1.02, 1.03, 2.01, 2.02,
 2.04, 2.05, 2.06, 2.08, 2.09, 2.10, 2.11,
 2.12, 2.13, 2.14, 2.15, 2.16, 2.17, 2.18,
 3.01, 3.03, 3.04, 3.06, 3.08, 3.09, 3.13,
 3.14, 3.15, 3.16, 3.18, 3.21, 3.23, 3.24,
 3.27, 3.28, 3.29, 3.30, 3.32, 3.37, 3.39,
 4.03, 5.01, 5.04, 5.05, 5.06, 5.12, 5.13,
 5.15, 5.18, 5.20
 United States of America 1.01, 1.02,
 1.03, 1.04, 1.05, 1.06, 2.03, 2.04, 2.05,
 2.06, 2.07, 2.08, 2.12, 2.16, 2.20, 2.21,
 2.22, 2.23, 2.25, 2.26, 2.27, 2.28, 2.33,
 2.34, 2.35, 2.36, 2.37, 2.38, 2.40, 2.41,
 2.42, 2.43, 2.44, 2.46, 2.48, 2.49, 3.01,
 3.02, 3.03, 3.04, 3.05, 3.07, 3.09, 3.10,
 3.13, 3.14, 3.16, 3.17, 3.18, 3.19, 3.22,
 3.23, 3.24, 3.26, 3.27, 3.30, 3.31, 3.35,
 3.36, 3.37, 3.48, 3.50, 3.51, 3.56, 3.58,
 3.60, 3.61, 3.62, 3.68, 3.69, 3.71, 3.73,
 3.76, 3.77, 3.79, 3.80, 3.81, 3.82, 3.83,
 3.86, 3.88, 3.92, 3.99, 3.100, 3.101,
 3.103, 3.104, 3.106, 3.107, 5.06, 5.07
 Upper Volta 2.01, 3.06, 3.13, 3.14,
 3.15, 3.16
 Uruguay 5.01
 Venezuela 3.01, 5.01
 Zaire 2.01, 2.03, 2.04, 3.06
 Zambia 2.01, 2.02, 2.03, 3.01, 3.02,
 3.04, 3.06, 5.01, 5.02, 5.03
 Zimbabwe 2.01
- 6810 Low Level Technologies**
 Australia 1.02, 2.02
 Austria 2.02, 2.04
 Bangladesh 2.02, 2.03, 3.02, 3.03, 3.04,
 3.05
 Benin 3.01, 3.02
 Bolivia 2.01, 2.02
 Botswana 2.01, 2.02, 2.03, 4.01
 Cameroon 4.02, 5.01
 Canada 1.03, 3.04, 3.07, 5.02, 5.03,
 5.08, 5.09
 Central African Republic 2.01, 3.02
 Chad 4.01
 Chile 3.01, 3.02
- Colombia 2.02
 Denmark 3.09, 3.22
 Dominican Republic 3.01
 Ecuador 2.02
 Egypt 2.01, 3.01
 Ethiopia 1.02, 2.02, 2.03, 2.04, 5.01
 France 2.02, 2.03, 2.04, 3.04, 3.08,
 3.21, 5.11
 Gambia 3.02
 Germany, Federal Republic 1.01, 1.02,
 3.09
 Ghana 1.01, 5.01, 5.04, 5.07
 Gilbert Islands 3.01
 Guatemala 1.01, 3.01, 3.02
 Guinea 3.02
 Guyana 3.02
 Honduras 3.01
 India 1.01, 1.02, 1.04, 2.01, 2.02, 2.11,
 2.14, 2.17, 2.21, 2.22, 2.23, 2.25, 2.26,
 3.05, 3.08, 3.09, 3.11, 3.16, 3.26, 3.35,
 3.39, 3.40, 5.02, 5.03
 Indonesia 1.02, 1.03, 2.04, 3.01, 5.01
 Ivory Coast 3.04
 Japan 2.01
 Kenya 3.01, 3.04, 3.05, 3.09, 3.11,
 3.13, 3.14, 3.18
 Republic of Korea 3.01
 Lesotho 2.01, 3.01
 Mali 3.01, 3.03
 Mauritius 3.01, 3.03
 Morocco 3.01
 Nepal 3.01
 Netherlands 3.01
 New Caledonia 2.01
 Nicaragua 3.03
 Nigeria 2.02, 3.09, 5.06
 Peru 2.01, 3.02
 Philippines 2.01, 3.05, 3.09
 Senegal 1.01, 3.01
 Sierra Leone 3.01, 3.02
 Sri Lanka 1.01, 2.01, 2.02, 3.01, 4.01,
 5.01
 Swaziland 3.02
 Sweden 3.04, 3.05, 5.04
 Switzerland 2.02, 3.02, 3.03
 Tanzania 2.02, 2.06, 3.02, 3.03, 3.04,
 3.06
 Thailand 3.02
 Tunisia 2.01, 2.02
 Uganda 3.02
 United Kingdom 1.02, 2.10, 3.08, 3.16,
 3.18, 3.37
 United States of America 1.01, 1.04,
 1.05, 1.06, 2.14, 2.22, 2.25, 2.26, 2.40,
 2.41, 3.24, 3.35, 3.78, 3.79, 3.92, 5.06
 Upper Volta 2.01, 3.02, 3.03, 3.05,
 3.13, 3.14
 Venezuela 3.01, 5.01

Zaire 2.01, 3.04, 3.05, 5.02
 Zambia 2.01, 2.02, 3.02, 5.01, 5.03
 Zimbabwe 4.01

6840 Technological Development

Austria 2.02, 2.04
 Bangladesh 1.01, 3.02
 Benin 3.01
 Botswana 1.01
 Canada 1.01, 1.03, 3.02
 Chile 1.01, 3.02
 Dominican Republic 3.01
 Egypt 2.01
 France 3.25, 5.02
 Gambia 3.02
 Germany, Federal Republic 1.01, 1.02, 5.01
 Ghana 1.01, 2.02
 Guatemala 1.01, 1.02
 Honduras 2.01
 India 1.01, 1.02, 1.03, 2.02, 2.04, 2.06, 2.07, 2.12, 2.14, 2.17, 3.03, 3.05, 3.33, 3.36
 Indonesia 1.01
 Iran 2.01
 Israel 3.02
 Jamaica 3.01, 3.02
 Kenya 1.01, 3.01, 3.04, 3.11, 3.13
 Republic of Korea 2.01
 Lesotho 3.01, 3.02
 Malaysia 4.01
 Mexico 2.02
 Morocco 3.01
 Nepal 2.01, 3.02
 Netherlands 1.01
 Nigeria 3.11
 Pakistan 1.01
 Papua New Guinea 3.04
 Peru 2.01, 3.01, 3.05
 Senegal 1.01
 Sri Lanka 1.01, 2.02
 Surinam 3.01
 Sweden 3.01, 3.05, 3.06, 3.07
 Switzerland 2.02, 3.08
 Tanzania 1.01, 2.06
 Thailand 2.01, 3.02
 United Kingdom 1.02, 2.09, 2.10, 3.12
 United States of America 1.03, 1.05, 1.06, 2.03, 2.08, 2.20, 2.25, 2.40, 3.05, 3.20, 3.24, 3.43, 3.48, 3.63, 3.78, 3.102
 Upper Volta 2.01

6850 Demonstration Projects

Bangladesh 3.05
 Canada 3.06
 India 1.01, 1.02, 2.25, 3.13

Indonesia 2.03
 Jamaica 3.01
 Kenya 1.01
 Nigeria 3.12, 5.09
 Pakistan 1.01
 Sri Lanka 1.01, 3.01
 Sweden 2.01, 3.07
 United Kingdom 1.03, 2.14, 2.15, 3.06, 3.13, 3.24, 3.27, 3.33
 United States of America 2.03, 2.04, 2.10, 2.18, 2.21, 2.23, 2.34, 2.39, 2.43, 2.44, 2.45, 2.46, 3.03, 3.09, 3.22, 3.28, 3.48, 5.19, 5.21
 Zaire 2.04
 Zambia 2.01

6860 Pilot Studies

Australia 1.01
 France 3.17
 Ghana 1.01
 Guatemala 1.02
 Lesotho 3.01, 3.02
 Netherlands 2.02
 Pakistan 1.01
 Senegal 3.06
 Sudan 3.01
 Sweden 3.01
 Trinidad and Tobago 3.01
 United Kingdom 1.03, 2.12, 2.15, 3.06
 United States of America 2.21, 2.30, 2.49, 3.19, 3.20, 3.30, 3.86, 3.100
 Zaire 2.02

6870 Self-help Programmes

Barbados 3.02
 Belgium 2.01, 3.02
 Bolivia 2.01, 2.02, 2.03, 2.04
 Botswana 1.02, 2.01, 2.02, 2.03
 Cameroon 3.03
 Canada 1.02, 3.07
 Colombia 1.01
 Costa Rica 2.01
 Dominican Republic 2.01, 3.01
 France 2.03
 Ghana 2.02, 3.01
 India 2.06, 3.17
 Indonesia 1.03, 2.02
 Iran 2.02
 Italy 3.02
 Ivory Coast 2.01
 Kenya 3.13
 Lesotho 3.02
 Malawi 2.01, 3.02
 Mexico 2.01
 New Hebrides 2.01
 Papua New Guinea 1.01
 South Africa 3.02

Sri Lanka 2.02
 Switzerland 3.06
 United Kingdom 2.14, 3.05, 3.14,
 3.40, 5.15
 United States of America 1.05, 2.04,
 2.10, 2.25, 3.11, 3.22, 3.23, 3.53, 3.61,
 3.73, 3.79, 3.84, 3.100, 5.21
 Upper Volta 2.01, 3.09, 3.15
 Venezuela 3.01
 Zaire 2.01, 2.04, 5.04
 Zimbabwe 2.01

6880 International Cooperation

Australia 1.02
 Austria 2.03, 3.01, 3.03, 3.04
 Belgium 3.01, 3.02
 Canada 1.02, 1.03, 3.03, 3.07
 Denmark 3.09
 France 2.01, 2.05, 3.07, 3.20, 3.22,
 3.24, 3.25, 5.12
 Germany, Federal Republic 1.01, 1.02,
 2.01, 3.01, 3.02, 3.03, 3.09
 India 2.11, 3.02
 Italy 3.02
 Lesotho 3.02
 Nepal 3.03
 Netherlands 1.01, 3.01
 Norway 5.01
 Senegal 1.01
 Sweden 3.01, 3.02, 3.05, 3.06, 3.07
 Switzerland 2.02, 3.05, 3.06
 United Kingdom 1.02, 2.08, 2.10, 2.11,
 2.12, 2.14, 3.02, 3.05, 3.14, 3.15, 3.18,
 3.35, 3.37, 3.39, 3.40
 United States of America 1.01, 1.03,
 1.05, 1.06, 2.19, 2.20, 2.27, 3.16, 3.33,
 3.35, 3.43, 3.46, 3.47, 3.73, 3.78, 3.79,
 3.100, 3.102, 5.07, 5.08

6900 Technical Assistance

Argentina 3.01
 Australia 1.02, 2.02, 2.04
 Austria 3.01
 Belgium 2.01, 3.02
 Bolivia 2.03, 2.04
 Botswana 2.02
 Cameroon 3.03
 Canada 1.03, 3.03, 3.04, 3.07
 Chile 1.01
 Colombia 1.02, 1.03, 3.05
 Costa Rica 3.02
 Ecuador 2.01, 2.02
 Egypt 2.01
 Fiji 2.01
 France 2.01, 3.02, 3.04, 3.08, 3.12,
 3.14, 3.18, 3.24, 3.25
 Gambia 3.02

Germany, Federal Republic 2.01, 3.01,
 3.05
 Ghana 1.01
 Guatemala 1.02
 Honduras 2.01, 3.01
 India 1.02, 1.03, 2.06, 2.19, 2.21, 3.01,
 3.02, 3.11, 3.18
 Iran 2.01
 Italy 3.03
 Kenya 3.07, 3.11
 Lesotho 3.01, 3.02
 Malaysia 3.01
 Mali 3.03
 Nepal 3.02, 3.03
 Nicaragua 3.02
 Pakistan 2.01
 Papua New Guinea 1.01
 Peru 3.01
 Senegal 1.01
 Sri Lanka 2.02
 Swaziland 3.02
 Sweden 3.06, 3.07
 Switzerland 2.02, 3.06, 3.08
 Syrian Arab Republic 3.01
 Tanzania 1.01
 Uganda 2.01, 2.02, 2.03
 United Kingdom 1.02, 2.10, 2.11, 2.12,
 3.05, 3.10, 3.14, 3.37
 United States of America 1.01, 1.04,
 2.04, 2.06, 2.46, 2.49, 3.35, 3.47, 3.48,
 3.100, 3.103
 Upper Volta 2.01, 3.03
 Venezuela 3.01
 Zaire 2.01, 2.02, 2.04
 Zambia 2.01, 2.02

6920 Financial Assistance

Bangladesh 1.01
 Belgium 3.01
 Canada 1.02, 1.03, 3.02
 France 3.24
 Lesotho 3.02
 Nepal 3.03
 Sweden 3.06, 3.07
 Switzerland 2.02, 3.06, 3.08
 United Kingdom 2.10, 2.11, 3.14, 3.40
 United States of America 3.100, 3.103

6930 Stimulation Funds

Dominican Republic 3.01
 Panama 3.01
 Sweden 3.06
 United States of America 2.26

6941 Industrial Development

Australia 2.02
 Austria 2.02, 2.03, 2.04

Botswana 2.02
 Chad 4.01
 Chile 3.02
 Colombia 1.03, 3.05
 Dominican Republic 3.01
 Ecuador 2.03
 Egypt 2.01
 France 2.02
 Gambia 3.02
 Honduras 1.01, 3.01
 India 1.02, 2.07, 3.03, 3.05
 Indonesia 2.04
 Kenya 3.10, 3.18
 Lesotho 3.02
 Niger 3.01
 Nigeria 3.12
 Pakistan 1.01
 Philippines 2.01
 Senegal 1.01
 Sri Lanka 2.01
 Swaziland 3.02
 Switzerland 2.02
 Tanzania 1.01, 2.02, 3.03, 3.06
 United Kingdom 2.10, 3.16, 3.18, 3.29,
 3.37
 United States of America 2.08, 2.25,
 2.40, 3.30, 3.35, 3.100
 Upper Volta 2.01, 3.02, 3.14
 Zaire 3.04
 Zambia 5.01

6950 Less Industrialized Countries

Australia 1.02
 Austria 2.02, 2.03, 2.04, 3.01, 3.04
 Belgium 3.01
 Botswana 3.01
 Canada 3.03
 Denmark 3.09
 France 2.02, 2.03, 3.07, 3.08, 3.18,
 3.20, 3.22, 3.24, 3.25
 Germany, Federal Republic 1.01, 1.02,
 3.02, 3.05, 3.09
 India 2.11
 Iran 2.01
 Israel 3.02
 Italy 3.02, 3.03
 Netherlands 1.01
 Norway 3.01
 Rwanda 5.01
 Senegal 1.01
 Sweden 3.01, 3.02, 3.05, 3.06, 3.07,
 5.02, 5.05
 Switzerland 2.02, 3.05, 3.06
 United Kingdom 1.02, 2.10, 2.11, 2.12,
 2.14, 3.02, 3.03, 3.14, 3.15, 3.16, 3.18,
 3.35, 3.37, 3.38, 3.39, 3.40
 United States of America 1.01, 1.05,
 1.06, 2.20, 2.23, 2.46, 3.16, 3.30, 3.33,

3.35, 3.47, 3.73, 3.78, 3.79, 3.100,
 3.102, 5.07
 Venezuela 5.01

6960 Economic and Technical Advancement

Australia 2.02
 Austria 2.04, 3.01, 3.04
 Bangladesh 3.04
 Barbados 3.02
 Belgium 2.01, 3.01, 3.02, 5.02
 Bolivia 2.01, 2.02, 2.03
 Botswana 1.02, 1.03, 2.01, 2.02, 2.03
 Brazil 3.06
 Cameroon 3.02
 Canada 1.03, 3.03, 3.07, 5.08
 Chile 1.01, 3.01, 3.02
 Colombia 1.02, 3.03
 Costa Rica 2.01, 3.02
 Dominican Republic 2.01, 3.01
 Ecuador 2.01, 3.01
 Egypt 2.01
 Ethiopia 3.04, 3.05
 France 2.04, 3.08, 5.01
 Gambia 3.02
 Germany, Federal Republic 3.01
 Ghana 2.02
 Guatemala 1.01
 Honduras 1.01, 3.01
 India 2.03, 2.06, 2.11, 3.02, 3.03, 3.04,
 3.06, 3.13, 3.17, 3.26, 3.35
 Indonesia 1.02, 3.02
 Iran 2.01, 2.02, 5.01
 Israel 3.02
 Ivory Coast 2.01
 Jamaica 3.01
 Kenya 3.13
 Lesotho 3.01, 3.02
 Malawi 2.01
 Malaysia 3.01
 Nepal 3.02
 New Caledonia 2.01
 Nicaragua 2.02
 Nigeria 3.11, 5.07
 Panama 3.01, 3.02
 Papua New Guinea 2.01, 3.04
 Peru 3.01
 Philippines 2.01, 3.08
 Rwanda 3.01
 Senegal 1.01, 3.01
 South Africa 3.01, 3.04
 Sri Lanka 1.01, 2.02, 3.01
 Sweden 3.02, 3.05, 3.06, 3.07
 Switzerland 2.02, 2.03, 3.05, 3.06,
 3.08
 Tanzania 3.02, 3.06
 United Kingdom 2.10, 2.11, 3.02, 3.14,
 3.38, 3.39, 3.40
 United States of America 1.01, 2.23,

2.34, 2.44, 3.16, 3.19, 3.40, 3.43, 3.73,
3.79, 3.102

Upper Volta 2.01, 3.06, 3.11

Venezuela 3.01, 5.01

Zaire 2.01

Zimbabwe 2.01

6980 Environmental Information

Austria 2.02

Bangladesh 1.01

Barbados 2.01

Belgium 4.02

Bolivia 3.01

Botswana 3.01

Canada 3.06, 4.01

Central African Republic 3.02

Colombia 3.06

Denmark 3.08, 3.16

Ethiopia 3.01, 3.03, 3.05

France 2.05, 3.13

Germany, Federal Republic 3.02, 3.06

Ghana 2.01

India 2.23, 2.25, 3.13, 3.25, 3.37

Indonesia 2.03

Ivory Coast 3.05

Kenya 3.14

Mexico 2.02, 2.04, 3.02

Netherlands 3.09

Nicaragua 3.03

Nigeria 3.01, 3.03, 3.08

Norway 3.01, 3.02

Pakistan 3.01

Papua New Guinea 1.01, 2.03, 3.02,
3.03

Philippines 3.02

Sri Lanka 1.01, 3.01

Sweden 3.04

Switzerland 2.02, 3.01, 3.02, 3.07

Tanzania 3.01

United Kingdom 2.04, 2.05, 2.07, 2.08,
2.09, 2.18, 3.06, 3.13, 3.16, 3.18, 3.23,
3.24, 3.33, 3.34, 3.38, 4.02

United States of America 1.03, 1.06,
2.03, 2.07, 2.10, 2.17, 2.18, 2.22, 2.23,
2.27, 2.28, 2.33, 2.36, 2.39, 2.42, 2.44,
2.45, 3.03, 3.04, 3.09, 3.22, 3.27, 3.28,
3.32, 3.38, 3.42, 3.52, 3.55, 3.59, 3.64,
3.68, 3.69, 3.84, 3.88, 3.95, 3.96, 3.97,
3.98, 3.104, 3.107, 5.12, 5.21

Zambia 3.02

6990 Scientific and Technical Information

Australia 1.03

Austria 2.02, 2.04

Bangladesh 1.01

Barbados 2.01, 3.01

Brazil 3.04

Cameroon 3.02

Canada 1.01, 1.03, 2.02, 3.02, 3.06,
3.07

Colombia 2.02, 3.05, 3.12, 3.16

Ecuador 2.02

Ethiopia 3.05

Fiji 2.01

France 2.01, 2.04, 2.05, 3.01, 3.13,
3.16, 3.23, 3.25

Germany, Federal Republic 1.01, 3.01,
3.06, 3.08

Ghana 1.01, 2.01

Gilbert Islands 3.01

Guatemala 1.02

Honduras 1.01, 3.01

India 1.02, 1.03, 2.06, 2.19, 2.23, 3.11

Indonesia 2.03

Italy 3.01, 3.04

Kenya 1.01, 2.01, 3.03, 3.04, 3.06,
3.08, 3.09

Lesotho 3.01

Mauritius 3.02

Netherlands 1.01

New Caledonia 2.01

Nicaragua 2.01, 3.03

Nigeria 2.01, 3.01, 3.03, 3.06

Norway 3.02

Pakistan 1.01

Papua New Guinea 1.01, 3.01, 3.03

Peru 2.01

Philippines 2.01

Rwanda 3.02

Senegal 1.01

Sri Lanka 2.01, 2.03

Sweden 3.01, 3.02, 3.04, 3.05, 3.06

Switzerland 2.01, 2.02, 3.08

Tanzania 3.01, 3.03

United Kingdom 1.02, 2.04, 2.08, 2.12,
2.16, 3.06, 3.09, 3.10, 3.16, 3.20, 3.23,
3.24, 3.29, 3.36, 3.37

United States of America 1.02, 1.03,
1.04, 1.06, 2.03, 2.06, 2.12, 2.20, 2.29,
2.30, 2.33, 2.34, 2.36, 2.37, 2.38, 2.42,
2.44, 2.45, 2.49, 3.04, 3.07, 3.09, 3.16,
3.19, 3.20, 3.27, 3.34, 3.35, 3.42, 3.55,
3.59, 3.68, 3.69, 3.76, 3.79, 3.84, 3.86,
3.88, 3.95, 3.96, 3.97, 3.98, 3.100,
3.103, 3.107

Upper Volta 3.10

7000 Information for the Public

Argentina 3.01

Australia 1.03, 2.02

Austria 2.02

Bangladesh 2.03, 3.01

Barbados 3.01, 3.02

Belgium 2.01

Bolivia 2.01, 2.03
 Botswana 2.02, 3.01
 Canada 3.04, 3.06
 Chile 1.01
 Colombia 2.02
 Costa Rica 2.01
 Denmark 3.08, 3.16
 Ethiopia 1.01, 3.01
 Fiji 2.01
 France 2.01, 2.04, 3.16, 3.24
 Gambia 3.02
 Germany, Federal Republic 1.01, 3.01, 3.06
 Ghana 1.01
 Gilbert Islands 3.01
 Guatemala 1.01
 Honduras 1.01, 2.01, 3.01
 India 1.02, 1.03, 2.06, 2.11, 3.13, 3.25, 3.37, 3.40
 Italy 3.01
 Ivory Coast 2.01, 3.05
 Kenya 1.01, 2.01, 3.14
 Mexico 2.02, 2.04, 3.01, 3.02
 Netherlands 1.01, 2.02, 3.09
 Nicaragua 2.01, 3.03
 Nigeria 2.01, 3.03
 Papua New Guinea 1.01, 2.01, 3.02, 3.03
 Philippines 3.01, 3.08
 South Africa 3.01
 Sri Lanka 2.01, 2.03
 Sweden 2.01, 3.04, 3.06, 3.07
 Switzerland 3.01, 3.08
 Tanzania 1.01
 United Kingdom 1.02, 1.03, 2.02, 2.04, 2.05, 2.07, 2.08, 2.09, 2.12, 2.18, 3.10, 3.13, 3.14, 3.18, 3.20, 3.23, 3.24, 3.33, 3.37, 3.38, 3.40, 4.02
 United States of America 1.03, 1.04, 1.05, 1.06, 2.03, 2.06, 2.07, 2.10, 2.12, 2.28, 2.34, 2.36, 2.37, 2.46, 2.48, 3.03, 3.04, 3.05, 3.09, 3.16, 3.22, 3.27, 3.28, 3.32, 3.38, 3.42, 3.48, 3.55, 3.59, 3.64, 3.65, 3.68, 3.69, 3.79, 3.84, 3.88, 3.100, 3.103, 3.104, 3.107, 5.21
 Upper Volta 3.10

7002 Public Information Media

Australia 1.03
 Cameroon 5.02
 Central African Republic 3.02
 France 2.05, 3.13
 Guatemala 1.01
 India 2.11, 2.25, 3.25, 3.40
 Indonesia 1.03
 Mexico 3.01
 Netherlands 3.09
 Philippines 3.01

Sri Lanka 1.01
 Sweden 2.01
 Switzerland 2.02
 United Kingdom 2.04, 3.27, 3.33
 Zaire 3.05

7010 Legislative Information

United Kingdom 2.08, 3.10

7021 Environmental Policy

Austria 3.03
 Denmark 3.16
 Sri Lanka 1.01
 Sweden 3.05
 United Kingdom 1.02, 2.08
 United States of America 1.04, 5.16

7040 Environmental Research and Development Programmes and Policy

Argentina 3.01
 Australia 1.01
 Austria 2.01
 Bangladesh 2.01
 France 2.02, 3.02, 3.17
 India 2.05, 2.21, 2.22, 3.25
 Italy 3.01
 Japan 2.01
 Malaysia 4.01
 Mexico 2.03
 Nigeria 3.12
 Senegal 4.03
 Tanzania 2.04
 United Kingdom 2.07
 United States of America 2.08, 2.19, 2.27, 2.45, 2.46, 3.02, 3.23, 3.30, 3.89

7050 Environmental Education and Training

Argentina 3.01
 Bangladesh 2.03
 Botswana 2.01
 Cameroon 3.02, 4.02
 Central African Republic 3.02
 France 3.02, 3.19
 India 2.11, 3.25, 3.33, 3.40
 Indonesia 3.02
 Iran 2.01
 Kenya 3.18
 Mali 3.01
 Netherlands 2.02
 Nigeria 5.09
 Norway 3.01
 Papua New Guinea 3.01, 3.05
 Philippines 2.01
 Thailand 3.04
 United Kingdom 2.16, 3.14, 3.21, 3.27, 3.33

United States of America 2.15, 2.18,
2.27, 2.39, 2.42, 2.44, 2.45, 3.18, 3.38,
3.43, 3.59, 3.95, 3.103, 3.109

Upper Volta 3.04, 3.10, 3.16, 4.03
Zaire 3.03
Zambia 2.01, 2.02, 3.01

Additional material for page 54

3.19 United Nations Centre for Human Settlements

**P.O. Box 30030
Nairobi**

**Contact: Dr. A. Ramachandran
Executive Director**

INFOTERRA:	1540	1970	2015
	2030	2155	2190
	3140	3330	6840
	6880	6950	6960

Carries out research and development activities, provides technical assistance to U.N. member states and serves as an information source on matters relating to human settlements.

APPENDIX I

INDEX OF UNITED NATIONS AGENCIES WITH APPROPRIATE TECHNOLOGY PROGRAMMES

AGENCY	SOURCE No.	COUNTRY
African Training and Research Centre for Women (ATRCW) UN-ECA	3.02	Ethiopia
Division of Narcotic Drugs (UN)	3.03	Switzerland
Economic and Social Commission for Asia and the Pacific	3.03	Thailand
Economic Commission for Africa – Science and Technology Unit	3.03	Ethiopia
FAO – UN Food and Agriculture Organization	3.01	Italy
– Regional Office	3.04	Ghana
International Bank for Reconstruction and Development (IBRD)	2.26	United States
International Labour Office	2.02	Switzerland
UNDP-Project Habitat (CISSIN)	3.17	Upper Volta
UNESCO – UN Educational, Scientific and Cultural Organization	3.24	France
– School Building Service	3.06	Senegal
UNICEF – United Nations Children's Fund	2.46	United States
– United Nations Children's Fund	3.103	United States
– Regional Office India	3.38	India
– Regional Office West Africa	4.02	Ivory Coast
– Village Technology Unit	1.01	Kenya
UNIDO – United Nations Industrial Development Organization	2.02	Austria
– UNIDO-ICIS – Development and Transfer of Technology Section	2.04	Austria
– UNIDO-ICIS – International Centre for Industrial Studies	2.03	Austria
United Nations Centre for Housing, Building and Planning	3.102	United States
United Nations University	3.01	Japan
WHO – OMS, Bureau Régional pour l'Afrique	3.01	Congo
– UN World Health Organization	3.08	Switzerland

APPENDIX II

SELECTED INSTITUTIONS WITH INTERNATIONAL PROGRAMMES

AGENCY	SOURCE No.	COUNTRY
Appropriate Technology International	1.01	United States
Asian Institute of Technology	2.01	Thailand
Caribbean Development Bank	3.01	Barbados
Centro Panamericano de Ingenieria Sanitaria y Ciencias del Ambiente (CEPIS)	4.01	Peru
Comité Inter-Etats de Lutte Contre la Sécheresse dans le Sahel (CILSS)	3.08	Upper Volta
Commonwealth Science Council	3.15	United Kingdom
Friends of the Earth	3.08	Australia
Friends of the Earth	2.08	United Kingdom
Friends of the Earth	3.50	United States
International Development Research Centre (IDRC)	1.03	Canada
International Foundation for Development Alternatives	4.06	Switzerland
International Institute for Applied Systems Analysis (IIASA)	3.03	Austria
International Institute for Environment and Development	3.23	United Kingdom
International Institute of Tropical Agriculture (IITA)	2.03	Nigeria
International Project for Soft Energy Paths (IPSEP)	3.62	United States
International Rice and Research Institute (IRRI)	3.03	Philippines
Oxford Committee for Famine Relief (OXFAM)	2.14	United Kingdom
Programme de Formation pour l'Environnement	1.01	Senegal
Transnational Network for Appropriate Technologies (TRANET)	1.05	United States
Volunteers in Technical Assistance (VITRA)	1.06	United States
World Council of Churches (Commission on Churches' Part in Development - CCPD)	3.07	Switzerland
World Information Service on Energy (WISE)	3.09	Netherlands



**Published by PERGAMON PRESS for the
UNITED NATIONS ENVIRONMENT
PROGRAMME (UNEP)**

The **UNEP Reference Series** publishes volumes in the key reference areas covered by UNEP and provides a useful service to all those connected with the environment. Through the **UNEP Reference Series**, the Environment Programme fulfils a dual role in the reference field: the collection of data and the gathering of information sources.

UNEP Studies provides a forum for the more salient conceptual analyses, and policy and technical studies which are produced by the Environment Programme. These works will concern either assessment or management or be the result of co-operative ventures catalysed and sponsored by UNEP.

The **Studies** will be of interest to decision-makers, managers and professionals — indeed to all those who wish to follow a multi-dimensional approach to the problems of environment and development.

The **UNEP Technical Series** is more technical in subject matter and approach than **UNEP Studies**. Conference proceedings, workshop handbooks, etc., will be included in this series, which will appeal to the needs of environmentalists, scientists, research workers and professionals as well as government administrators.

UNEP REFERENCE SERIES

Volume 1 Directory of Institutions and Individuals Active in Environmentally-sound and Appropriate Technologies

UNEP STUDIES

Volume 1 The Effects of Weapons on Ecosystems

Volume 2 Environment and Development in Africa

UNEP TECHNICAL SERIES

Volume 1 The Mediterranean Monk Seal