

# **CGIAR**

## **Information Service**

TAC MEMBERS ONLY  
Working Document

THE CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH  
TECHNICAL ADVISORY COMMITTEE

REPORT OF THE TAC FACT-FINDING MISSION TO THE  
INTERNATIONAL COUNCIL FOR RESEARCH IN AGROFORESTRY (ICRAF)

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TAC-FINDING MISSION TO NON-ASSOCIATED CENTRES

REPORT ON  
INTERNATIONAL COUNCIL FOR RESEARCH IN AGROFORESTRY

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## 1. BACKGROUND

### 1.1. A Brief History of the Council

#### 1.1.1. Establishment

In 1975 IDRC initiated a study to identify tropical forestry research priorities to the year 2000. Although the terms of reference were forestry-dominated they included the following:

"Assess interdependence between forestry and agriculture in low-income tropical countries and propose research leading to the optimization of land use".

In the course of the study emphases shifted. It concluded indeed that first priority should be given to combined production systems integrating forestry, agriculture and/or animal husbandry to optimize tropical land use. It also concluded that an internationally financed Council for research in agroforestry be set up, to administer a comprehensive program leading to better land use in the tropics. A meeting in Paris in November 1976, convened by IDRC, discussed the report and set up a Steering Committee. After two meetings in April and June 1977 the Committee decided to establish a Council along the lines recommended in the IDRC report. A draft Charter was approved and a Board of Trustees elected. The Charter was subsequently signed by Canada, Senegal and Guyana, as well as IDRC. IDRC was appointed as executing agency by Canada, Switzerland and the Netherlands - the initial group of donors - until ICRAF was firmly founded.

#### 1.1.2. 1977 - 1980

Initially, while IDRC sought a suitable location, the Board and a small staff of two operated from the Royal Tropical Institute in Amsterdam. In July 1978 ICRAF moved to Nairobi, at the invitation of the Kenya Government (GOK). An important factor in this choice was the recent establishment of UNEP in Nairobi. The agreement then signed between GOK and IDRC, on behalf of ICRAF, remains a smooth instrument for interactions between the Council and GOK. Dr. Kenneth King, who had played a significant role in raising foresters' awareness of the need to target the well-being of rural people through trees, was selected as the first Director General. During 1978/1979 he and six other professional staff developed a program of work focussing on "Wasted Lands". In reviewing these early activities ICRAF identifies three limitations:

- An impression created that agroforestry was only relevant for wasted lands.
- An impression created that ICRAF could and would secure funding for field projects.
- Little time was spent creating a foundation of concepts and methods in this new discipline of agroforestry.

A failure to secure funds for projects set back relations with national programs. This, together with in-house problems and

disagreement on priorities between the Board and the Management grew into a crisis. In 1980 ICRAF's four donors requested the Board to restructure ICRAF's work and to develop a clear strategy and focus for its future program. ICRAF's present Board Chairman, Professor Howard Steppler, took up the position as interim Director while the Board, with the help of IDRC, sought a new, permanent Director. Four ICRAF scientists helped Professor Steppler to plot the new strategy. Work on the initial focus and strategy was completed by the Board meeting in April 1981. Dr. Bjorn Lundgren, the new Director, (now Director General), was appointed in September 1981. The task of developing an operational program of work based on the strategy was completed by November 1981.

### 1.1.3. 1981 Onwards

the strategy stated that icraf should focus its resources on the development of in-house capability to understand and analyze land use systems and to identify and design agroforestry technology interventions to overcome diagnosed constraints and problems in land use systems. From this strategy three main foci for the Program of Work were developed in late 1981:

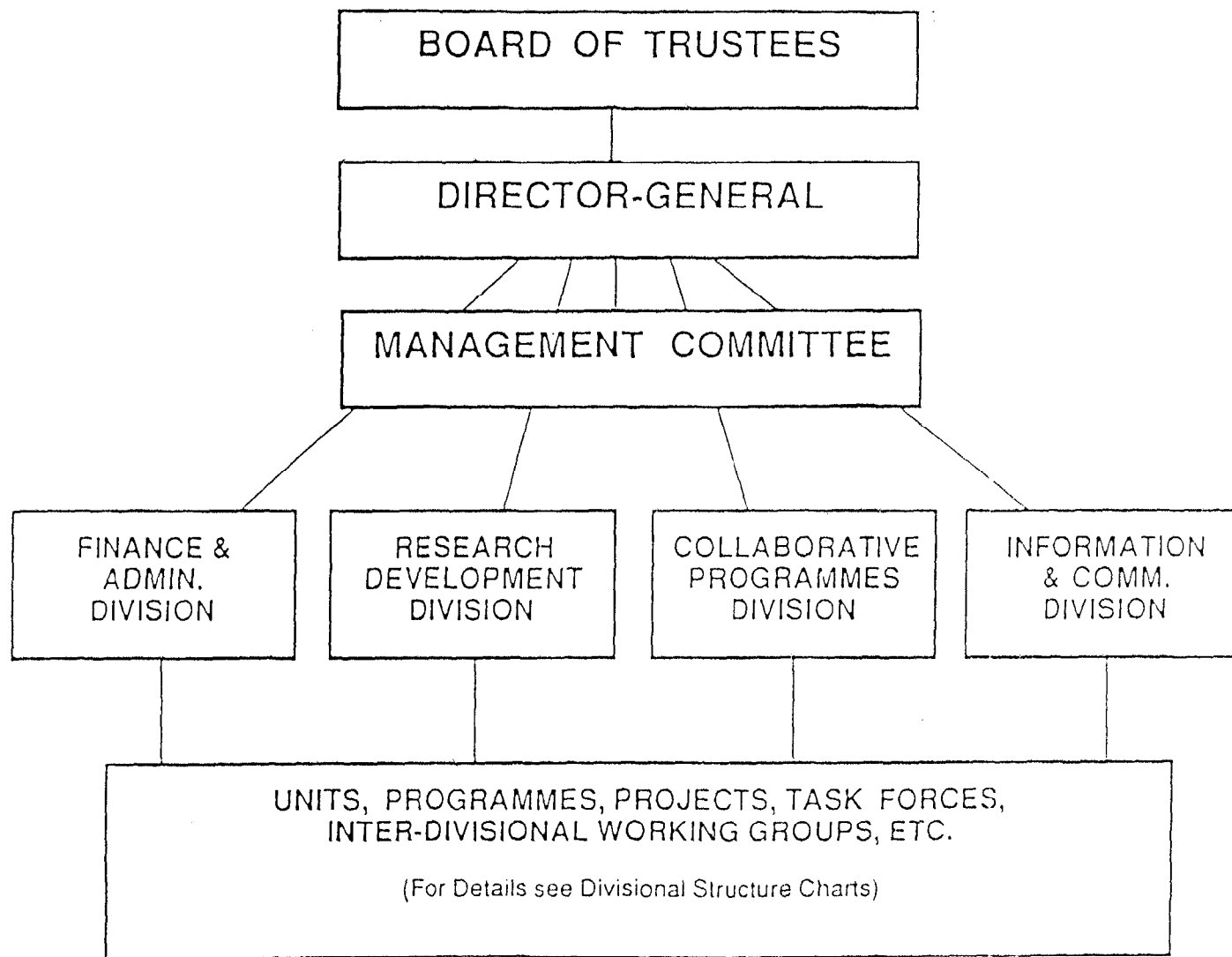
- The development of interdisciplinary capabilities and methods to deal with land use systems and the role of agroforestry in them.
- The build-up of a knowledge base on agroforestry systems and technologies and the development of methods on how to evaluate these.
- The dissemination of these capabilities, methods and knowledge.

These three foci still form the thrust of ICRAF's programs though the balance in emphasis shifted after 1985. From 1981-85 the emphasis was on the development of capability and methods, the build-up of a knowledge base and the dissemination of information. In 1984 the ICRAF Board and donors initiated an in-depth External Review. The Review Panel commended the productivity of the ICRAF team over the period from 1981. The spirit of the Panel's main recommendations is captured below.

"If the Council is to remain alive and vital, it must project its concern to field activities which apply and test its concepts and generate new information and technology....the panel wishes to emphasize that (all) functions be undertaken in a collaborative mode through national and regional programs...."

The Panel recommendations were adopted by ICRAF's Board in 1985. There followed the intensive development of a collaborative strategy and a revision of ICRAF's internal structure. The new program and structure became operational at the beginning of 1986. The main change is the build-up of the Collaborative programs Division and the development of the Agroforestry Research Networks for Africa (AFRENA). Current structure is shown on diagram 1.1.

# ICRAF'S ORGANISATIONAL STRUCTURE



## 1.2. Legal Status

The agreement (dated 21 November, 1978), between the Government of the Republic of Kenya and IDRC acting on behalf of a group of countries and agencies ("the Group"), established ICRAF as "an autonomous, non-profit making, international organization consisting of a Board of Trustees appointed in accordance with the provisions of the Charter of the Council". The second paragraph of article II of this agreement states that "the Council may establish itself as a body corporate under the Laws of Kenya".

Subsequently, on 7 April 1981, IDRC withdrew as the executing agency for ICRAF by making a declaration to the Board, the essence of which was conveyed in a letter to the Minister of Foreign Affairs by the Board. This letter also affirmed that "the Group" divested itself of all power to appoint trustees on the ICRAF Board and that such power would thereafter be vested exclusively in the Board.

In these ways ICRAF brought its legal status and governance into line with those that typically exist for CGIAR Centres. It is not absolutely clear from the available documents, however, whether ICRAF would be treated as an inter-governmental organization or as some other type of corporate body in the event of litigation under the Laws of Kenya.

## 1.3. ICRAF's Mission and Clients

The draft April 1989 Strategy, Project and Budget 1989-1991 quotes ICRAF's overall mission to:

"increase the social, economic and nutritional well-being of peoples of developing countries through the promotion of agroforestry systems to achieve better land use".

The document elaborates that this wide and global mandate will be achieved by encouraging, initiating, supporting and collaborating in research leading to the development of productive, sustainable and diversified land use systems through the integration of woody perennials into such systems.

ICRAF has identified its ultimate clients as farmers and other land users. The main source documents do not contain a comprehensive statement of ICRAF's view of its immediate clientele. Nevertheless, references in the main program documents and annual reports make it clear that ICRAF's view of its clients has changed over its ten year history. One source for 1978 designated international scientists interested in agroforestry research and teaching as primary users of ICRAF's output. By 1988 the same source offered an expanded list of primary users; national agroforestry researchers, agroforestry extensionists, university lecturers and policy-makers. The comparison shows the shift from an emphasis on information - the heart of ICRAF's original mandate - to research, training and information.



## 2. THE COUNCIL PROGRAM

### 2.1. ICRAF's Strategy

ICRAF has stated three strategic goals:

- (1) to develop the agroforestry discipline and maintain ICRAF's leading position in this process by developing concepts and methods that:
  - (a) increase understanding and identification of the role of agroforestry, emphasizing the need for systems analysis ("Diagnosis and Design") to diagnose problems, constraints and potentials in land use systems and to develop research to address the problems, and
  - (b) verify and scientifically evaluate agroforestry technologies.

ICRAF recognizes the need for multi and interdisciplinary approaches in-house and for collaboration with other specialized institutions for both long-term fundamental and strategic research and short-term problem-solving research.

This strategic goal is addressed particularly by the Research Development Division (RDD).

- (2) to cooperate with national institutions in building their own research capability and in generating relevant and promising technologies by:
  - (a) encouraging multidisciplinary and interinstitutional collaboration;
  - (b) integrating research with training and education, and
  - (c) focussing on technologies that have maximum zonal or regional relevance and potential for extrapolation (emphasizing ecozonal research in Africa while providing training and information to serve other areas).

This strategic goal is addressed particularly by the Collaborative Programs Division (COLLPRO).

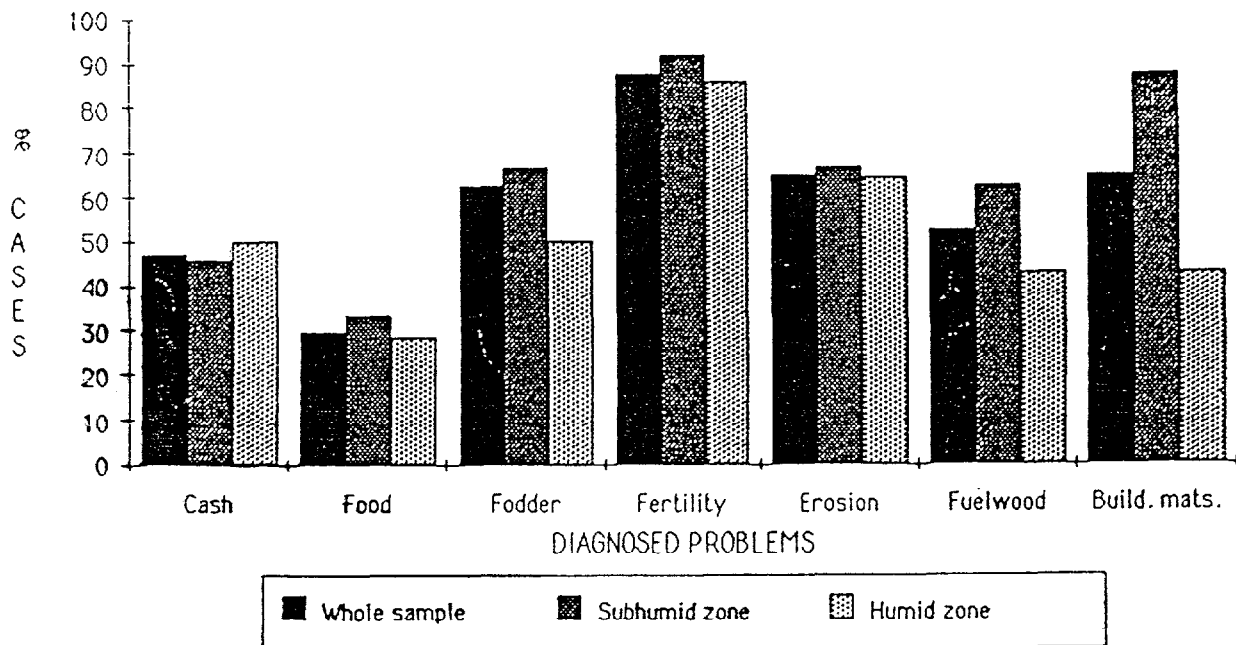
- (3) to promote the use of appropriate agroforestry systems and technologies as tools for national development by:
  - (a) communicating information, ideas and advice adapted to different audiences and target groups, and
  - (b) adopting an "honest broker" approach that recognizes agroforestry as a potential means of achieving development goals, not as an end in itself.

This requires the identification, acquisition, analysis and dissemination of relevant information and it is the function of the Information and Communications Division (INFOCOM).

## 2.2. The Constraints Addressed by ICRAF

Results from some 38 Diagnosis and Design (D & D) exercises in three continents confirm that farmers recognize major constraints that could be met by trees: - lack of cash, food, fodder, fuel and building materials, and the loss of soil and its fertility. These results are illustrated in Figure 2.2.

Fig. 2.2. Distribution of problems identified by farmers in 38 D and D exercises. Source Raintree (1987b)



ICRAF's programs seek to address these constraints, determine and quantify the perceived wisdom and develop appropriate land-use systems for the sustained satisfaction of identified farmers' needs.

## 2.3. Program Approach and Operation

Unlike agriculture, forestry and fishery, agroforestry has no clear institutional niche within donor agencies, multilateral organizations, or national political, administrative, educational or operational systems. The interdisciplinary approach followed by ICRAF, serves to conceptualize and formalize the discipline, bring together concepts and human resources from different backgrounds and institutions, and provides framework within which national systems can operate.

ICRAF has activities within the whole continuum of strategic, applied and adaptive research, development and application of appropriate systems, including the provision of materials for training, education and extension. Agroforestry deals with systems not with a single commodity. ICRAF therefore researches components, techniques and technology systems, emphasizing the tree component and the tree-crop interface; the agricultural crops are usually well known for a given site.

Because of its global mandate ICRAF seeks to provide widely applicable methods for strategic, applied and adaptive research based on concepts developed at headquarters, on-station research at its Machakos Field Station and research in the regional and national stations associated with the COLLPRO Division; on-farm trials are beginning at various national project locations.

COLLPRO distinguishes ICRAF in having regional networks of national researchers and institutions assisted by ICRAF staff at headquarters and in the field; national components are funded as bilateral donor projects whereas the bulk of ICRAF inputs are core activities funded from various sources. The research needs of the networks are identified during D & D exercises. Training needs are also identified.

Great emphasis has been placed throughout ICRAF's existence on the sequential development of information and technologies, the relation of research to identified needs, and the reiterative nature of the D & D process. This philosophy is best summarized as shown in Figure 2.3 where the place of the three research programs in the RDD is also indicated.

The operational philosophy of the Council is thus to provide, in three separate but collaborating Divisions, the methods of technology generation (RDD), the initiation of technology generation in selected zones and countries (COLLPRO), and the dissemination of relevant knowledge (INFOCOM). All Divisions seek to provide material for the development of human resources and national institutional research capability. The operational Divisions are fully supported by a Finance and Administrative Division (FINAD).

## 2.4. The Research Development Division

### 2.4.1 Introduction

In the field of research ICRAF's goals are:

- to create a sound and well-defined structure within which the various approaches to agroforestry research can grow;
- to collect information and create a substantive base upon which to establish the practical development of field research;
- to develop the necessary guidelines and tools for directly assisting actual field research.

# A STRATEGY FOR AGROFORESTRY TECHNOLOGY GENERATION

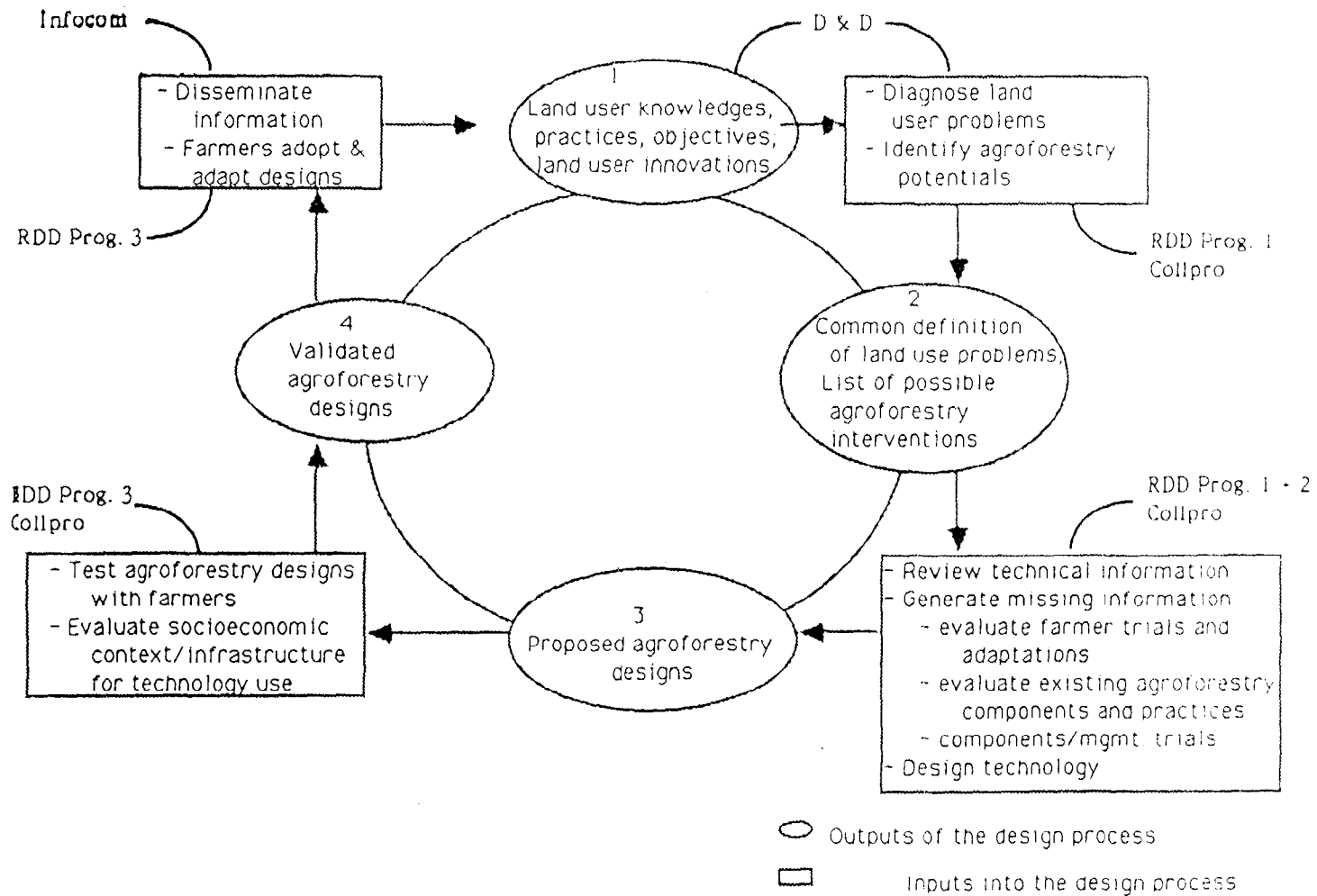


Diagram 2.3

ICRAF considers agroforestry research to comprise:

- understanding about the individual plant components and their possible interactions in various circumstances;
- thorough ex-ante analysis of research proposals;
- knowledge of the appropriate assessment methodologies needed;
- a complete appreciation of the correct form of data analysis;
- experiments;
- literature reviews.

In comparison to "agricultural research" it is felt that "agroforestry research" has to devote a higher proportion of the total research effort to literature search, observational trials, prototype system trials and learning from on-farm situations.

A major part of ICRAF's research effort is conducted by the RDD which structures its research activities into three programs; (See Diagram 2.4.1) and is also responsible for the Machakos Field Station.

#### 2.4.2. Program 1: The Role and Potential of Agroforestry and Multipurpose Trees and Shrubs (MPT's)

The overall aim of Program 1 is to collect, catalogue, synthesize and disseminate information on the role and potential of agroforestry systems and MPTS in land husbandry and rural development. The Program also deals with soil conservation and land evaluation. A special challenge to the Program is to integrate isolated components of ICRAF's substantial knowledge base on agroforestry and bring this same knowledge to bear in the context of both crop and animal farming. Among other outputs Program 1 is currently preparing an "agroforestry technology register".

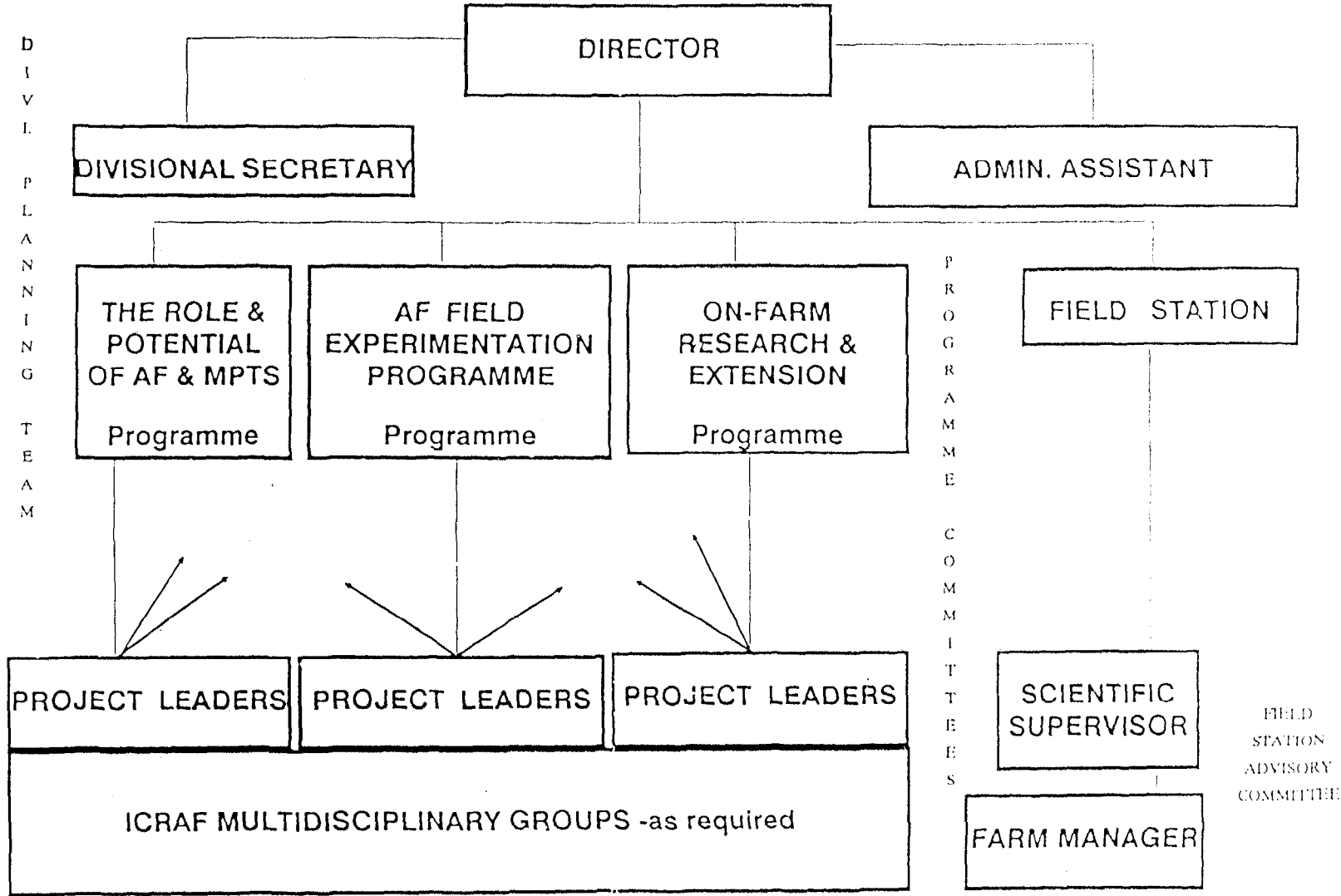
#### 2.4.3. Program 2: The Field Experimentation Program

The objective of Program 2 is to provide technical support for scientists in field experimental work in agroforestry through the design of experiments, data analysis and assessment methodology. The experiments which ICRAF conducts itself, though obviously addressing the generation of technology, have primarily a research methodology focus.

#### 2.4.4. Program 3: The On-farm Research and Extension Program

Program 3 aims at focussing agroforestry research directly on development, the major output of which will be methods and design for on-farm agroforestry experimentation, evaluation of prototype agroforestry technologies and agroforestry projects, case studies and guidelines for research on agroforestry extension and development. Land tenure problems are dealt with under this Program.

RDD ORGANISATIONAL STRUCTURE



#### 2.4.5. Machakos Field Station

ICRAF has investigated research methodologies in agroforestry at its field station in the Machakos District of Kenya some 70 km. south-east of Nairobi, where the average rainfall is 700 mm. with a bimodal distribution. The field station consists of 40 ha. land and a simple building with offices, field laboratories and facilities for overnight accommodation. From 1988 an additional site for field experimentation has been available in Western Kenya at Maseno, run in collaboration with KARI and KEFRI.

#### 2.4.6. Agroforestry experiments

Agroforestry field experimentation is an essential component of ICRAF's research both at the Machakos Station and in the COLLPRO field stations. It is to be pointed out however, that experiments in AF do not play the same role as in agricultural research. Agroforestry experiments are aimed essentially at specifically testing what has been learned from observations, at demonstrating a particular set of experimental methodologies, and at studying specific tree/crop interfaces. The five basic approaches to agroforestry experimentation are reflected in Annex 2.4.6. The interpretation and processing of data obtained from agroforestry experiments is often more complex than with agricultural experiments. There are usually several separate components for making observations including the annual crop, the perennial tree and hedge and the soil. The measurements will be made over several seasons at intervals which are phased in a way that depends upon both the type of measurement and the type of component being observed. Often the experiments will be organized so that treatments are applied at different strata levels within the design. Datachain is a software package which helps to collect and handle such data.

### 2.5. Collaborative Programs Division

#### 2.5.1. Agroforestry in the national setting

Agroforestry is developing as a "discipline", a knowledge base that cuts across a number of scientific disciplines in the biological, physical and social sciences, as well as administrative and legal aspects impinging on land-use. The canvas for understanding existing knowledge in diverse fields and integrating it in a new science and technology useful to the farmer is complex and wide-ranging. Traditional knowledge of integrated land-use and agroforestry as practiced in different settings is collected, analyzed and conceptualized jointly as a basis for developing the science and practice of agroforestry. There is no institutional base in any given country where such knowledge can be collected and collated for policy-making, for directing research and for extension to farmers. ICRAF recognizes that the success of its mission depends on working collaboratively with national research and development institutions. ICRAF's promoting agroforestry is more difficult and complex than the work of other international research Centres.

### 2.5.2. Working in national settings

ICRAF has developed a strategy of initiating collaborative work in a national setting in a series of steps through COLLPRO. Diagram 2.5.2 shows the structure of the Division. These steps are:

- (1) a mission to a given country identifies institutions as potential partners in agroforestry research. The mission holds discussions with policy makers and helps establish a national steering committee and a national task force to work jointly with ICRAF scientists. Although discussions are initiated at the scientific and administrative levels in different ministries of government, the memorandum of understanding is often signed by the Minister for Agriculture or Forestry or Planning or Foreign Affairs. This assures political support to the new venture;
- (2) a D & D exercise provides analysis of existing production systems, agriculture policy, institutional arrangements, land-use systems, current agroforestry practices and identifies possible agroforestry interventions;
- (3) in addition, there are planning workshops, design workshops, in-country and on-the-job training courses;
- (4) regional and/or zonal networks are also established from these national projects for exchange of information and addressing shared problems in a given ecozone.

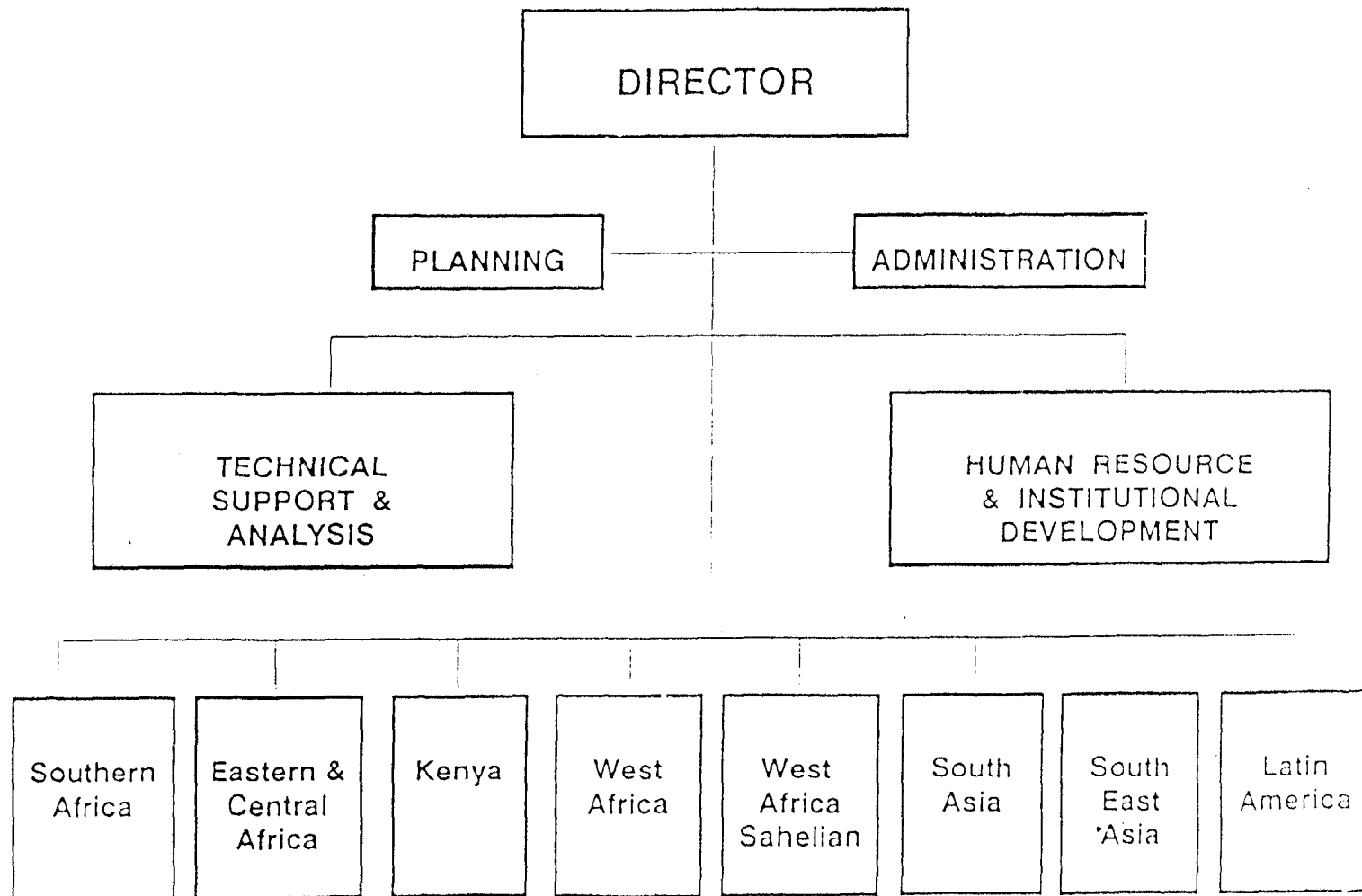
ICRAF also helps the national projects in identifying and securing funding. Often the national project authority requests ICRAF to manage the international funds for the agroforestry project because of the flexibility and other additional advantages that the participating scientists can have. Although it is easier to get access, collaboration and the project off to an earlier start with ICRAF managed funds, ICRAF considers this management of funds as an interim strategy. It realizes that in the long term this role will raise questions of institution-building for handling agroforestry projects within a national framework.

### 2.5.3. Interactions between RDD and COLLPRO

There is a main area of cooperation between RDD and COLLPRO research activities with regard to backstopping on research methodologies and feed back of the field experience. Although the major goal of COLLPRO is to develop arable and sustainable land-use systems to improve the productivity and profitability of small-scale farming systems, the research component in this program has a feedback into RDD activities. With the design of national research projects and/or zonal programs by national scientists, in collaboration with ICRAF scientists, research at the national level focuses on the analysis of existing land-use systems. Special attention is given to defining constraints in relation to agroforestry potentials and to assessing the feasibility of agroforestry technical components for immediate application. The research includes both on-station and on-farm research involving MPTS management and technology validation.



## COLLPRO ORGANISATIONAL STRUCTURE



#### 2.5.4. Training

ICRAF's Training and Education Program are coordinated by the Human Resources and Institutional Development Unit (HRD) located in COLLPRO. The unit was created to assist COLLPRO in its efforts to disseminate available methodologies and knowledge to research scientists, development planners and extension workers in developing countries. ICRAF provides fellowships to selected persons from collaborating institutions in developing countries to undertake educational programs in universities abroad. It also provides fellowships to visiting scientists who wish to undertake long-term agroforestry research alongside ICRAF's multidisciplinary teams. International training programs of 3 weeks duration are arranged once a year where scientists from different countries participate. In-country training programs are also arranged where collaborative work is in progress. Between 1982-87, a total of 223 researchers from 40 countries in Africa, Asia and Latin America participated in the various programs. By 1989, it was estimated that over 300 persons had been exposed to these different training and education programs.

ICRAF has also developed training modules and training materials to be used by other institutions in teaching agroforestry-related topics. Further, because agroforestry is a new emerging field, ICRAF has been interested in developing an appropriate curriculum for agroforestry specialization for selected universities.

#### 2.6. Information and Communication Division (INFOCOM)

In 1988, this Division was created from the previous information Program and the Publication Unit. It currently consists of two units, the Information and Documentation Unit (INFODOC) and the Communications Unit (COMM). Diagram 2.6 shows the program structure. The goal of INFOCOM is to promote the adoption of appropriate agroforestry systems and practices through the dissemination of information to a wide variety of target audiences. These audiences include national institutions, researchers, donors, policy-makers, extension groups, non-governmental organizations, development agencies, educators and the general public.

Specifically, the major program objectives include the continuous improvement of ICRAF's information on agroforestry and its accessibility to potential users, and the training of national personnel in documentation, library and information management, publication and other communication methods and practices. INFOCOM cooperates with COLLPRO in project design and implementation with respect to strengthening national capability in information and documentation services for agroforestry.

The 1989 core budget of US\$ 0.952 million represents close to 21% of ICRAF's core expenditure, but is expected to drop during the next ten years to about 7-8% as agroforestry and its uses become better known. For 1989 sixteen international and local professional positions have been approved (but the filling of four positions has been deferred to 1990), and eight support positions of which seven are filled.

# INFOCOMM ORGANISATIONAL STRUCTURE

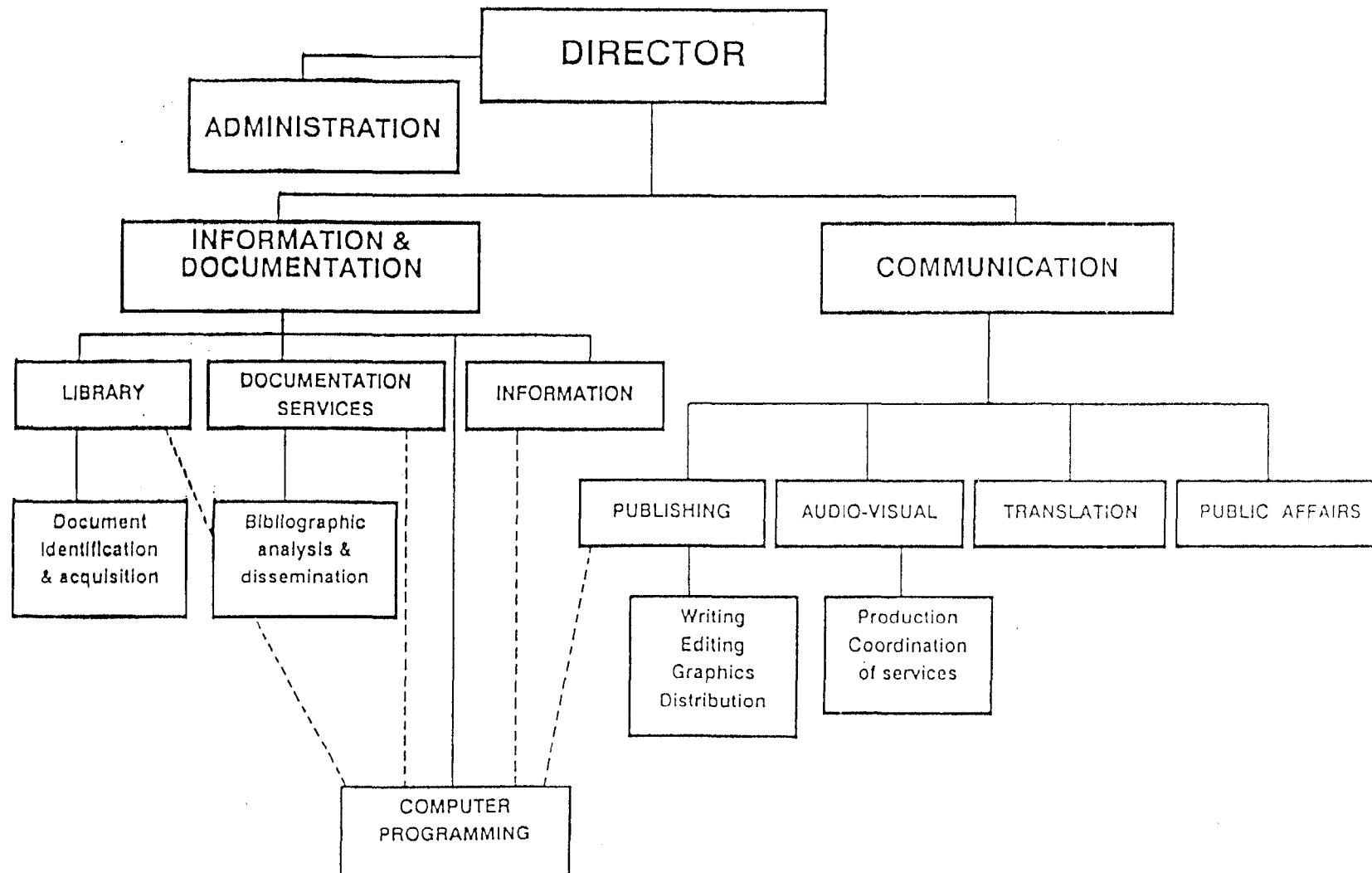


Diagram 2.6

The demand for the services from INFOCOM are such that a new building is being planned although the date of construction has not been determined. This building is expected to house all of the division except the library.

The Director is a member of the CGIAR Public Awareness Committee while the Head of INFODOC is a member of the CGIAR Committee on Information and Documentation. ICRAF is also a member of CGNET but, pending authority from the GOK, only on an experimental basis.

#### 2.6.1. Information and Documentation Unit (INFODOC)

This Unit comprises the Library, Documentation Services and Information, although the post of Information Officer (which will be the focal point for all enquiries coming in to ICRAF) has yet to be staffed.

This whole Unit revolves around the provision of documentation services. The staff comprises four subject matter specialists, two anglophone and two francophone documentalists. In addition, the Head of the Unit is a bilingual information specialist. ICRAF's computerized library database (some 14,000 items in May 1989) is continuously expanding. In addition, several specialized databases are maintained e.g. the Fodder-tree Database. Information searches are provided to developing country clients (especially those connected with the AFRENA) and ICRAF staff cost-free, and on a cost-recovery basis to others. Micro CDS/ISIS software developed by UNESCO is used. Internships and training courses in finding and maintaining agroforestry information have been provided for librarians of a number of African countries.

The ICRAF library, headed by a coordinator, contains approximately 5,000 books, and 9,000 reprints. It subscribes to 120 journals and periodicals and receives another 100 gratis or on an exchange basis. The annual budget for acquisitions is US\$ 35,000. ICRAF plans to hire a qualified librarian in the future. Even though the library occupies new quarters, the rate of acquisition (about 25% increase annually) means that additional space will be needed in about two years.

As the Unit is fully computerized, a computer programmer is employed to develop software applications and to give advice and assistance on all aspects of computer use. He also services publishing section in the Communications Unit.

#### 2.6.2. Communications

The Communications Unit consists of Publishing, Audio-visual, Translation, and Public Affairs services, each of which is staffed by a coordinator, except Public Affairs which is vacant.

Publishing oversees/produces ICRAF documents (including training materials), largely by desktop publishing. The staff consists of a science writer, an editorial assistant and a graphic artist. The Head of the Unit is a bilingual writer/editor. The camera-ready, edited material may be duplicated in-house or sent out for printing. To

prevent bottlenecks, only books, the quarterly magazine and other important texts, receive thorough editing. Major manuscripts are subject to external peer review before publication and some of ICRAF's monographs are co-published, e.g. "Agroforesterie et Désertification" by Michel Baumer, with Centre Technique de Coopération Agricole et Rurale, and "Agroforestry for Soil Conservation" by Anthony Young with CABI.

The Audio-Visual Unit undertakes video and slide productions, and operates and maintains all the audio-visual equipment. An audio-visual producer position has been approved, and is currently filled by secondment. The photo and slide library, in the process of being computerized, is a specific charge. Some 1,000 slides have been catalogued and another 6,000 are in process. A small darkroom facility is being constructed.

Translation services provide French versions of scientific, technical and training materials. Most of ICRAF's brochures are produced in both languages and translations of major publications, e.g. "Agroforestry of Dryland Africa", are prepared.

"Agroforestry Today", the transformed "ICRAF Newsletter" is published in both French and English. As yet ICRAF has not produced documents in other languages.

Public Affairs service is a responsibility of the Director with the help of other staff. It aims at focusing greater media attention (print and broadcast) on agroforestry worldwide. Materials suitable for varying audiences, are regularly supplied to a global range of media contacts.

## 2.7. Regional Distribution of Programs

Five geographical regions were identified on a worldwide basis for collaborative work. These were: American tropics, sub-Saharan Africa, South Asia, South-East Asia and the Mediterranean/Middle East. Each of these geographical regions was further divided into three or four ecological zones, making a matrix of 15-20 potential environments for collaborative activities. By 1984, collaborative work was initiated in seven geographical/ecological areas. The selection of these sites depended on available opportunities rather than on a systematic selection. These projects were in the American tropics, sub-Saharan Africa, South-East Asia and South Asia.

The present and the medium-term plan is to concentrate on sub-Saharan Africa. Agroforestry Research Networks in Africa (AFRENA) have been initiated in Southern Africa, East and Central Africa, Kenya, West Africa and West Africa Sahelian. Countries covered in these AFRENA's are listed below:

- The unimodal upland plateau of Southern Africa: Malawi, Tanzania, Zambia. Zimbabwe is expected to join in 1989.
- Bimodal highlands of Eastern and Central Africa: Burundi, Kenya, Rwanda, Ethiopia and Uganda.

- The humid lowlands of West Africa: Cameroon and Ghana.
- Semi-arid lowlands of West Africa: A regional program to be based with SAFGRAD in Burkina Faso. Senegal, Mali, Burkina Faso and Niger have country programs.

It is also proposed to establish networks in focussing on information for, and training of, scientists in South Asia, South-East Asia and Latin America. By 1990, COLLPRO will be working collaboratively in 18 projects, largely in Africa, although a project in India is underway and funding is being sought for a project in Bangladesh.

## 2.8. Future Programs

The draft strategy/program/budget document for 1989-1991 includes only short-term plans. ICRAF is in the process of developing a strategy to the year 2000. External Program and Management Reviews will take in place mid 1989.

### 2.8.1. Research Development Division (RDD)

In the short to mid term the RDD will maintain its interests in five main approaches to agroforestry experimentation - species evaluation, mixed systems, zonal systems, rotational (temporal) systems and special topics (e.g. nitrogen fixation, fodder value or wood quality).

Program 1 will continue to compile information on the role and potential of agroforestry and multipurpose trees through the Technology Register, specialized data bases and modelling tools, case studies, reviews and summaries.

Program 2 will continue or initiate preparation and publication of background material and guidelines for field experiments; it will conduct experiments on tree germplasm evaluation, nursery techniques, nutrition and resource-sharing, soil conservation, comparison of experimental designs, and prototype trials.

Program 3 aims to focus agroforestry research directly on development. It will seek to develop methods for on-farm experimentation, design and evaluate prototype technologies, devise methods for monitoring and evaluation of agroforestry projects, and publish case studies and guidelines for agroforestry extension and development.

### 2.8.2. Collaborative Programs Division (COLLPRO)

The immediate and medium-term plan for COLLPRO is to concentrate its work in sub-Saharan Africa. Zonal and national experiments in the AFRENA networks will be evaluated, target farming systems will be monitored economically, and on-farm testing of promising technologies will begin.

For the unimodal upland plateau of Southern Africa new projects are planned in Malawi and Tanzania and it is hoped that Zimbabwe will join these two countries and Zambia in the network. Several training courses, workshops and internships are planned.

In the bimodal highlands of Eastern and Central Africa it is planned to incorporate Ethiopia and Eastern Zaire into the network (to join Burundi, Kenya, Rwanda and Uganda).

For the humid lowlands of West Africa the existing experiments in Cameroon will be maintained and assessed while additional experiments will be initiated on improving fallows and on hedgerow intercropping. In Ghana macro and micro D & D exercises will be undertaken and assistance given to training scientists and improving the university diploma curriculum.

In the semi-arid lowlands of West Africa ICRAF will evaluate existing land-use systems and provide technical support to national programs and the ICRISAT Sahelian Centre (ISC); in addition it will help develop a regional information and documentation system and provide D & D training. Formal agreements with ISC and SAFGRAD will be signed in 1989.

For South Asia the main priorities are to obtain financial support for the second (current) phase of the agreement between ICRAF and the Indian Council of Agricultural Research (ICAR), and for the agreement with the Bangladesh Agricultural Research Council (BARC). Similar searches for funds will be made to increase the currently minor ICRAF activities in South East Asia and the Amazon basin.

With respect to HRID, COLLPRO plans to continue to organize workshops, field trips, internships, short courses and fellowships. In addition it aims to produce training materials and develop linkages with an African university in order to create the curriculum of a postgraduate course in agroforestry.

Within COLLPRO research itself will concentrate on the institutionalization of agroforestry, the economics of agroforestry technologies, and the analysis of D & D experience.

A special joint project involving ICRAF, IITA and Oregon State University will initiate the screening, acquisition and propagation of multipurpose tree germplasm at IITA stations in Ibadan and Onne. Also ICRAF will participate in the coordination meetings of the Alley-Farming Network for Tropical Africa (AFNETA) project.

### 2.8.3. Information and Communication Division (INFOCOM)

For the period 1989-91 the specific objectives of INFOCOM can be summarized as "more of the same but even better". They include the continued improvement of ICRAF's store of relevant information and its accessibility to clients, the continuous promotion of agroforestry systems and practices, and the training of national personnel in information, documentation, library methods, publishing and other communications practices. Plans have been prepared for continued

professional abstracting, summarizing and dissemination of literature, attractive publications and promotional material, and bilingual capability in the Division. The planned work and expected increases of staff and materials will necessitate additional building. Current lack of funds limit the planned expansions and enhancements.

### 3. RESEARCH RESULTS AND THE COUNCIL'S IMPACT

#### 3.1. Background

Annual Reports, including a draft report for 1988, were made available to the Mission; these itemized activities within programs and divisions. Useful integrating reports are the 13 papers published in a special edition of Agroforestry Systems (Volume 5, No. 3, 1987) to mark the Tenth Anniversary of the Council. Additional global views of the potential and actual impact of agroforestry itself are given by the 17 papers included in "Agroforestry - A Decade of Development", also issued to coincide with ICRAF's anniversary. There is as yet no unequivocal evidence from the Machakos Field Station or the AFRENA networks that agroforestry has a sustainable impact. However, positive evidence exists in indigenous land-use systems in many parts of the world and from research at other locations; ICRAF is principally concerned with developing research methods that will facilitate the evaluation of the perceived wisdom by national scientists and managers. A major gap occurs in economic evaluation of normally unquantified benefits such as risk avoidance, income diversification, counter-seasonality in income and labour demand, soil erosion control and downstream effects.

In addition to the two publications mentioned above, ICRAF staff (with or without national staff as co-authors) have published research results, progress in concept development, AFRENA project experimental designs, information summaries and annotated bibliographies in a wide range of journal articles, book chapters, in-house guidelines, working papers and the Science and Practice Series, conference and workshop proceedings. Substantive use of these publications has been made in the preparation of training, extension and publicity material.

#### 3.2. Results

The AFRENA projects are so new that few results are available from designed experiments; a meeting of the Eastern and Central African Network due in May 1989 will be the first to bring together comparable data (from 1-year old experiments in four countries). Most of these and similar experiments in other networks concern evaluation of multipurpose tree species in one or two standard agroforestry systems (e.g. hedgerow intercropping).

The RDD results have been based largely on (i) conceptual development of experimental designs, surveys and tree assessments at headquarters; (ii) the refinement of farm systems analysis into the specific Diagnosis and Design (D & D) methodology and its use in a wide range of situations; (iii) observations of tree-crop interface effects in unreplicated trials at the Machakos Field Station; and,



(iv) assessment and analysis of data from a large number of demonstration plots and replicated experiments on technology system components (species, spacings, tree management, soil cover and management irrigation).

The results of these studies have indicated suitable design types and efficiencies, suggested causes of tree and crop behaviour, identified topics for further research, and resulted in a prototype technology for Machakos District at least.

### 3.3. Impacts

The impacts of the Council which contribute to the CGIAR goal include:

- the increased international and national awareness of the potential application of agroforestry by institutions, politicians, administrators, scientists, line managers and the public, judged by the specific identification of agroforestry in donor and national budgets and research programs, educational activities, and media;
- the stimulation and enhanced collaboration of national research and land management institutions, at least in the four African zones, often with direct technical support from ICRAF, judged by donor and national budgets;
- the large number of staff trained at various levels and for various tasks in agroforestry, both within and outside AFRENA and Africa by means of courses and workshops, judged by staff numbers and career opportunities (See Section 2.5.4);
- the cooperation between ICRAF, several other CGIAR Centres (including ICRISAT, IITA and ILCA), many national research institutions (e.g. ICAR, KEFRI), some regional organizations (e.g. CATIE), and International Bodies (e.g. FAO, IHSS, IUFRO, NFTA and WMO);
- the availability of published and "grey" literature useful for national research, educational and development institutions;
- the availability and experience of a system D & D to analyze land-use problems and derive research strategies, judged by the number of countries and institutions using it; and
- the availability of research methods, experimental designs and analytical/interpretative procedures, again judged by the number of organizations and scientists using, testing or adapting them.

#### 4. GOVERNANCE, MANAGEMENT, AND METHODS OF OPERATION

##### 4.1. Governance and Management

ICRAF is governed by a Board of Trustees consisting of a Chairman and eleven additional members including the Director General (ex-officio). With the exception of representation from the host country, trustees are appointed in their personal capacities. The composition of the present Board is given in Annex 4.1.1. The Board strives to maintain a balance of equal membership from developing and industrialized countries. Seven elected trustees present at a meeting of the Board constitute a quorum.

The Board has four committees: An Executive and Finance Committee, a Program Committee, a Nominating Committee and an Audit Committee. One member of the Executive and Finance Committees is appointed by the Chairman of the Board as Chairman of the Program Committee, the other four members of which are elected by the Board.

ICRAF has a Donor Support Group (Annex 4.1.2) which was formed in 1985, and should not be confused with the original group of donors and agencies that founded ICRAF. Members of the Donor Support Group have observer status at Board meetings and are invited to speak at the end of the meeting. The Support Group meets annually in Washington and ICRAF offers secretariat services. The Support Group may nominate two individuals for appointment to the Board. It is clear that some donors exert pressure on ICRAF to become involved in aspects of work that are of particular interest to them, but the Board sees one of its functions as insulating the ICRAF management from this type of pressure.

The Management Committee consists of the Director General and the four Directors of Division. It meets frequently to discuss operational matters, make decisions and exchange information. Brief minutes are recorded and agreed at the next meeting.

##### 4.2. Methods of Operation

ICRAF's main methods of operation have been described in earlier sections of this report dealing with the divisional activities. ICRAF has encouraged several mechanisms to ensure professional interaction among staff in different divisions. These include informal contact between scientists of the RDD and COLPRO divisions, task forces to develop thinking on specific technical issues, direct input of RDD scientists into the planning and implementation of COLPRO activities and the establishment of formal working groups across the three scientific divisions. These working groups are concerned mainly with methodological approaches to agroforestry.

##### 4.3. Relations with Other Institutions

###### 4.3.1. National Programs

ICRAF attaches great importance to its collaboration with national programs which it sees as a major part of its activities (see

section on COLLPRO). A concern is the extent to which the Council will be requested by donors to extend these activities, thereby stretching ICRAF's capacity to provide the necessary support. Already the Council is considering establishing sub-regional offices to assist the administration of its collaborative networks. The collaboration is in both applied and adaptive research, with feedback through COLLPRO into the work of the Research Division.

#### 4.3.2. International Agricultural Research Centres

ICRAF has a wide array of formal and informal links with other IARCs. Formal agreements for collaboration have been signed with IITA and ICRISAT. The Council has also established close cooperation with ILCA. The four institutes (IITA, ICRISAT, ILCA and ICRAF) work together in AFNETA which is administered from IITA.

ICRAF shares common interests with IBSRAM and the two Centres have mounted various collaborative activities, especially in training. ICRAF has also collaborated in training with CIMMYT and with the CIAT team in Uganda. In Latin America, ICRAF's collaboration with CIAT resulted in two agroforestry activities that have been implemented by the national programs while ICRAF's collaboration with IBPGR has resulted in a joint publication on multi-purpose trees. At the regional and sub-regional levels, ICRAF has a memorandum of understanding with IICA in Costa Rica with ICAR in India and with SEARCA in the Philippines. Both agreements provide an umbrella for various cooperative activities, such as exchange of staff through visiting fellowships.

#### 4.3.3. Advanced Institutions

ICRAF collaborates with various departments at the Agricultural University of Wageningen in The Netherlands, for example in economic analysis, the Oxford Institute of Forestry in the United Kingdom in germplasm development, and several universities in the U.S.A. It is also negotiating an agreement with ACIAR which will permit collaboration in strategic research with the CSIRO Division of Forestry.

### 5. **A PROFILE OF COUNCIL RESOURCES**

#### 5.1. Physical facilities

ICRAF's new headquarters building at Gigiri, adjacent to UNEP on the outskirts of Nairobi, was occupied in 1987. Due to the unanticipated rate of expansion since 1984, when the building was planned, it is already full. Accounting and clerical staff have had to be temporarily housed away from the main campus. ICRAF has plans for a new building on the existing site to be occupied by INFOCOM. The Board has approved this expansion and funds are being sought though the development is currently postponed.

ICRAF is seeking to expand its 40 hectare Field Station at Machakos. If an opportunity occurs to purchase or rent adjacent land it will be taken up. Development of the extra area will await sufficient

funds to provide extra buildings and services for the new site. The existing station is leased for 10 years from the Kenya Government, ICRAF will seek renewal of the lease when it expires in 1991.

With the expansion of COLPRO Division ICRAF has increased its number of outposted staff. Facilities for such staff are normally provided by the collaborating organization in the Country concerned. Where facilities have been inadequate ICRAF has provided funds for equipment and in one or two cases for housing and office space. This would be budgeted for under the special project funds of the donor involved.

## 5.2. Staff Resources

### 5.2.1. Staff Structure

Professional staff are divided into seven grades. The top four of these, Principal Scientist, Senior Scientist, Scientist and Associate Scientist, are restricted to internationally recruited staff (IPS). The three lowest grades, Officer, Associate Officer and Assistant Officer, are restricted to nationally recruited professional staff (LPS) who are normally recruited to serve in their country of origin. Kenyans are recruited under both international and national grades. Kenyans in IPS grades who serve in Kenya are responsible for tax payment to GOK. Internationally recruited Kenyans working elsewhere are not taxed.

### 5.2.2. Staff Evolution and Development

The build-up of ICRAF international (IPS) and local professional staff (LPS) is given in Table 5.2.2.

Table 5.2.2. Staff Development at ICRAF 1979 - Mid 1989

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Intn'l. prof. staff <u>1/</u>	9	5	7	12	17	17	17	16	32	40	43
local prof. staff	1	1	2	4	7	9	12	16	17	19	26
Other prof. staff <u>2/</u>	-	-	1	5	3	7	10	9	11	15	16
Total prof. staff	10	6	10	21	27	33	39	41	60	74	85
Support staff	7	8	9	19	34	29	44	49	60	n.a.	n.a.
Total staff	17	14	19	40	61	62	83	90	120	n.a.	n.a.

1/ International staff employed by ICRAF on continuing basis (core and long-term project).

2/ Senior visiting scientists, seconded research associates, long-term on-the-job trainees, consultants, etc.

Build up has been particularly rapid since 1986 with the development of the Collaborative Program. Because of the uncertainty of future funding with the heavy dependence on special projects there are no budget or staff projections beyond 1991. For 1990 an additional 19 International Professional Scientist (IPS) positions are planned with 8 additional Local Professional Scientists (LPS) positions. For 1991 an additional 11 IPS and 4 LPS. Over the period 1989-1990 a significant build up is planned for the Financial and Administrative Division which, with the staff expansion in the operating division has become short-handed. Five new international professional level staff will be recruited, including a Head of Human Resources Development, Head of Finance and a Head of Operations. Three new local professional level staff positions will also be filled.

### 5.2.3. Current staff disposition

The staff list as of mid 1989 gives the allocation of staff across divisions which is shown in Table 5.2.3.

Table 5.2.3. ICRAF Staff by Division, Mid 1989

Division		COLLPRO	RDD	INFOCOM	FINAD*
International professional staff	HQ	11	17	7	3
	OUT	11	-	-	-
Local professional staff	HQ	3	6	7	3
	OUT	-	3	-	-

\* Finance and Administrative Division which includes DG's Office

Details of discipline and balance among staff are available for April 1988 when RDD, with a complement of 17 international staff, had 3 social scientists (including economists) 9 agricultural scientists, including a biometrician and an agroclimatologist and 5 foresters. COLLPRO at this same time, with a complement of 15 international staff, had 4 social scientists, 4 agricultural scientists and 7 foresters or agroforesters.

Currently the local professional cadre is dominated by Kenyans who take up 21 out of the 22 positions. Kenyans also hold 4 international professional positions. Other nationalities well represented in the International Professional Scientist cadre, including current secondments are Canada 3, Netherlands 6, France 5, Sweden 3, U.S.A. 5 and U.K. 5. Developing countries have 14 staff positions, in addition to the four Kenyans, in this cadre.

### 5.3. Financial Resources

#### 5.3.1. The evolution of funding levels

ICRAF's original donors were Canada, Switzerland and the Netherlands. The Council has had an increasing number of donors and increased funding from the majority of these (See Annex 4.1.2). Table 5.3.1. shows the build up of funding 1980-88.

Table 5.3.1. Development of ICRAF Funding (US\$000)

YEAR	1980	1981	1982	1983	1984	1985	1986	1987	1988
Unrestricted Core	823	804	732	1060	1198	1186	1858	2334	2653
Restricted Project	149	208	624	1133	1184	1231	1138	2320	3144
Total	972	1012	1356	2193	2382	2417	2996	4654	5797

Growth in project funds has outpaced growth in core funds gradually reducing the flexibility for management.

#### 5.3.2. Current and Future Needs

The 1988 income and expenditure balances on the two types of funding are shown below:

	CORE (- - - - -)	RESTRICTED US\$ - - - - -)
Balance carried forward	360,000	1,000,911
Income 1988	2,652,828	3,143,663
Expenses 1988	3,205,993	2,781,955
Balance at 31.12. 1988	-1,119,165	1,493,142

The deficit on core spending, which includes US\$750,000 provision for staff termination, has been a recurring feature of ICRAF's accounts due to restricted fund surpluses being used to aid cash flow. The Board

has recently decided to hold this deficit on core, estimated at some US\$350,000 in 1989, steady for the year, and to eliminate it by savings on core costs by 1992. Progress has been made in raising overheads on project funding, and by charging back core services to projects, in stabilizing the balance.

The above 1988 core expenditures were divided accross divisions as shown below:

Division	US Dollars	%
Research Development	834,019	27
Collaborative Program	255,191	8
Information and Communications	783,441	24
Finance and Administration	1,070,501	33
Director's Office Board, etc.	262,841	8

The Collaborative Program Division is, of course, a major user of project funds. The increases in staff projected for 1989-1991 also increase the budget estimates. No projections have been done beyond 1991 and ICRAF management terms these 1990 and 1991 estimates as "ideal".

Table 5.3.2. ICRAF Future Funding Needs (US\$000)

YEAR	1989	1990 (ideal)	1991 (ideal)
Core	4,499	6,210	7,035
Project	4,166	5,000	6,000
TOTAL	8,665	11,200	13,000

## 6. ISSUES AND CONCERNS

Starting from a basis of anecdotal but unquantified information only, ICRAF has striven to establish agroforestry as a recognized discipline. The absence of an institutional framework within which to promote agroforestry has induced ICRAF to work closely with a range of national R & D in order to establish a research capability in agroforestry.

The drain on ICRAF's core resources caused by the need to service a large number of bilateral projects, as well as the demands on ICRAF for information and training, have led to a shortage of core funding. Should this state of affairs be solved by cost-cutting, there would, inevitably, be a loss of some of the momentum that has now been established. Currently, ICRAF's work is attracting a great deal of interest and promise of further support, although some donors are holding back pending a decision on possible expansion of the CGIAR.

ICRAF sees a possible disadvantage in joining the CGIAR in that it might not then be able to attract funding from unconventional sources directed towards environmental problems. ICRAF would also be concerned if entry into CGIAR should involve a significant departure from its present strategies or a loss of flexibility in its present programs of work. Any request from the CGIAR to dismantle part of the program as a condition of entry would be carefully scrutinized by the Board.

Moreover, ICRAF would not wish to lose its identity because of the initiatives on tropical forestry now being considered by the CGIAR. Some 40% of the TFAP financial proposals appear to be aimed at agroforestry but this need not be allocated specifically to forestry institutions; agroforestry does not shelter under the forestry umbrella.

The advantage of CGIAR membership is seen as association with such a powerful group of institutions as those within the CGIAR and the opportunities for scientific collaboration that this would present.



## 7. SOURCES

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## 8. ANNEXES

The five basic approaches to agroforestry experimentation \*

<u>Categories</u>	<u>Sets of experiments required</u>
1	Investigations concerned - Species selection and multipurpose tree introduction; testing (for all types), establishment of agroforestry and assessment trials; assessment methodologies and data analysis need careful review and, in some cases, have to be developed. Tree establishment will often need to be studied.
2	Investigations concerned - Tree/crop interface effects; promotion of simple <u>mixed</u> phenology studies aimed at providing agroforestry system information about tree management; investigations into ways of optimizing environmental resource-sharing; land sustainability.
3	Investigations concerned - Tree/crop interface effects; promotion of simple management trials; <u>zonal systems</u> : agroforestry (lopping, spacing); land sustainability.
4	Investigations concerned - Tree-planting density; early with the promotion of management; harvest removals; <u>rotational systems</u> : agroforestry in relation to the "trade-offs" to be decided with reference to quantity of outputs removed versus land sustainability.
5	Special subject areas - for example, nitrogen fixation; honey or gum production; fodder problems associated value; timber or fuelwood with particular kinds and quality.

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(\*) Note: 1 is likely to be common to all programs; 2,3 and 4 will be selected according to the type or types of agroforestry systems for which the research is to be undertaken, and 5 may be necessary only in particular cases.

The ICRAF Board - May 1989

Howard A. Steppler, Canada, Chairman

Stachys N. Muturi, Kenya, Vice Chairman

Gelia T. Castillo, Philippines

Ralph W. Cummings, Jr., U.S.A.

George D. Holmes, U.K.

Jim R. McWilliam, Australia

Robbie Mupawosie, Zimbabwe

Fran Schmithuesen, Federal Republic of Germany

Maharaj Singh, India

Moctar Toure, Senegal

Bjorn Lundgren, Director General, ex-officio

There are currently two vacancies

Current Donor Support Group

ICRAF derives the financial resources to pay for its activities principally from the members of a set of donors who have constituted a Support Group for this purpose. Currently the Group includes:

Aga Khan Foundation  
African Development Bank  
Asian Development Bank  
Australia  
Canada  
Fed. Rep. of Germany (BMZ)  
France  
Ford Foundation  
International Development Research Centre  
International Fund for Agricultural Development  
Japan  
Netherlands  
Rockefeller Foundation  
United Kingdom  
United Nations Development Program (UNDP)  
United States of America  
World Bank

## 9. LIST OF PEOPLE CONTACTED

### Office of the Director General

Bjorn O. Lundgren, Director General  
 Florence Mboya, Executive Secretary

### Finance and Administration Division

Derek M. Siekelmore, Director

### Research Development Division

Peter A. Huxley, Director  
 Michel Baumer, Range Management and Marginal Lands  
 Peter G. von Carlowitz, Forester  
 Paul Kiepe, Soil Scientist  
 M. Ramamohana Rao, Agronomist  
 Sara J. Scherr, Economist  
 Gregor V. Wolf, Forester  
 Anthony Young, Land Evaluation

### Collaborative Programs Division

Robert Bruce Scott, Director  
 Dennis Depommier, Forester  
 Gajendra B. Singh, Agronomist  
 Ester Zulberti, Principal Training Officer

### Information and Communications Division

Robert D. Huggan, Director  
 Richard Labelle, Head Information and Documentation Unit  
 Sidney Westley, Head Communications Unit

### ICRAF Board

Howard Steppler, Chairman

## 10. ACRONYMS

ACIAR	Australian Centre for International Agricultural Research
AFSI	Agroforestry Systems Inventory (ICRAF)
AIDAB	Australian International Development Assistance Bureau
AFNETA	Alley Farming Network for Africa (IITA/ILCA/ICRAF)
AFRENA	Agroforestry Research Networks for Africa (ICRAF)
BARC	Bangladesh Agricultural Research Council
CABI	Commonwealth Agricultural Bureau International (UK)
CATIE	Centro Agronómico Tropical para Investigaciones y Enseñanza
CGIAR	Consultative Group on International Agricultural Research
CIDA	Canadian International Development Agency
COLLPRO	Collaborative Projects Division (ICRAF)
COMM	Communications Unit (ICRAF)
CSIRO	Commonwealth Scientific and Industrial Research Organization (Australia)
CTA	Centre Technique de Coopération Agricole et Rurale (EEC)
D & D	Diagnosis and Design
FAO	Food and Agriculture Organization of the United Nations
FINNIDA	Finnish International Development Agency
GOK	Government of Kenya
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit (Germany Agency for Technical Cooperation)
HRID	Human Resources and Institutional Development Unit (ICRAF)
ICAR	Indian Council for Agricultural Research
ICRAF	International Council for Research in Agroforestry
ICRISAT	International Crop Research Institute for the Semi-Arid Tropics
IDRC	International Development Research Centre (Canada)
IFAD	International Fund for Agricultural Development
IHSS	International Horticultural Science Society
IICA	International Institute for Cooperation in Agriculture
IITA	International Institute for Tropical Agriculture
ILCA	International Livestock Centre for Africa
INFOCOM	Information and Communications Division (ICRAF)
INFODOC	Information and Documentation Unit (ICRAF)

ISC	ICRISAT Sahelian Centre
IUFRO	International Union of Forestry Research Organizations
KARI	Kenya Agricultural Research Institute
KEFRI	Kenya Forestry Research Institute
LANMODEL	Land Model (software)
MPT	Multipurpose Trees
MULBUD	Multipurpose Multiple-Crop Budgeting (software)
NFTA	Nitrogen-Fixing Tree Association
NGO	Non-Governmental Organization
NORAD	Norwegian Agency for International Development
ODA	Overseas Development Administration (U.K.)
R & D	Research & Development
RDD	Research Development Division (ICRAF)
SACCAR	Southern Africa Committee for Coordination in Agricultural Research
SAFRAD	Semi-Arid Food Grains Research and Development
SAREC	Swedish Agency for Research Cooperation with Developing Countries
SCUAF	Soil Changes Under Agroforestry (software)
SDI	Selective Dissemination of Information
SEARCA	South East Asian Regional Council for Agriculture
SIDA	Swedish International Development Agency
TAC	Technical Advisory Committee
TCI	Tree-Crop Interface
TFAP	Tropical Forest Action Program
TSA	Technical Support and Analysis Unit (ICRAF)
UNDP	United National Development Program
UNEP	United Nations Environment Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
USAID	United States Agency for International Development