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THE IUFRO SPECIAL PROGRAMME FOR
DEVELOPING COUNTRIES (SPDC): A STOCK TAKING

REPORT OF THE TAC AD HOC PANEL ON TROPICAL FORESTRY RESEARCH

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THE IUFRO¹ SPECIAL PROGRAM FOR DEVELOPING COUNTRIES (SPDC):
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Report Prepared for the TAC by an Ad Hoc Panel:

Hans Gregersen (Chair)
Ronnie de Camino
Philip Kio
Peter Oram

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IUFRO is the International Union of Forestry Research Organizations, founded in 1892. It is one of the oldest scientific associations, with more than 600 member institutions in some 100 countries. More than 15,000 scientists benefit from the widespread networking activity carried out through IUFRO in all areas of forestry research.

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INTRODUCTION

Creation of the SPDC in mid-1983 was an international response to a growing conviction among forestry researchers and donor organizations that forestry research activities underway in developing countries were utterly inadequate. Given its widespread influence and strong networks of top forestry researchers, IUFRO was considered the obvious candidate to organize and implement an effective program to address the increasingly urgent problems associated with forestry in developing countries. The IUFRO Board actively undertook the task of developing and implementing the SPDC. As the Tropical Forestry Action Plan (TFAP) evolved in the eighties, the SPDC fit itself into the overall TFAP framework and is now working closely with TFAP programs, both in terms of institution building and in terms of outreach.

The SPDC is different from the other non-associated centers in a number of ways. In contrast with the other centers, the SPDC was designed as a transition mechanism, one that eventually would evolve from a IUFRO appendage into an independent entity that would maintain the advantageous scientific links with IUFRO, but would become autonomous in terms of funding, program management, administration and governance. That transition is on-going.

The SPDC budget--averaging around \$250,000 per year over the SPDC's life of six years--is much smaller than the average budget of the other nonassociated centers. Thus, the SPDC does not have major facilities and complex program and management issues to assess. The SPDC was not intended initially to be a doer of research, but rather a facilitator and catalyst that could be helpful in expanding and coordinating forestry research through existing organizations. Thus, its impact is in terms of the quantity and quality of research that it has helped to stimulate, organize and support in other organizations.

Given the above--particularly the fact that the SPDC is in the midst of a transition phase--the Panel concluded that it would have to treat this stock-taking of the SPDC somewhat differently than those being developed for the other nonassociated centers.

Thus, the discussion here is presented in two parts. First, the results of the six years of activity of the SPDC are reviewed, following to some extent the outline in the terms of reference (TOR) for the TAC reviews of the non-associated centers. Second, the on-going evolution of the SPDC is reviewed.

PART I THE EXISTING SPDC PROGRAM AND ITS IMPACTS

1. Background

The **SPDC was initiated** in 1983 with a small budget from the UNDP and the World Bank. The **research areas of concern** within the newly created SPDC foreshadowed those chosen for emphasis within the Tropical Forest Action Plan and those eventually confirmed as priorities by the International Task Force on Forestry Research and the participants in the Bellagio Forestry II (Wiston House) meeting.

The IUFRO/SPDC is the only international forestry research entity that has as its main purpose the improvement of research dealing with forest resource and land use problems in LDC's. As such, it complements the work of such organizations as ICRAF, CATIE, and ICIMOD. The SPDC

has been able to focus the interest of the global forestry research community's on priority tropical forestry problems. To a large extent its success in this area is due to the fact that it is part of, and has been able to tap into, the vast network of scientists (some 15,000) and organizations (600 in over 100 countries) which makes up IUFRO.

2. The SPDC Mandate

The SPDC has a mandate to work in six major areas of concern:

- * planning for forestry research
- * training for management of forestry research
- * training on methods of forestry research
- * facilitating the flow of information to researchers, e.g., through the encouragement of networks and the publication of an information bulletin
- * fostering twinning arrangements
- * establishing an international fund for forestry research training.

Due to limitations on funding, SPDC activity has been limited mainly to:

- * initiating and supporting the identification of high priority research topics of common interest to groups of countries;
- * mobilizing technical assistance support for preparation of research programs and for the creation of research networks dealing with high priority topics; and
- * carrying out a limited number of training activities related to research conduct and management.

3. The SPDC Program to implement its mandate

Implementation of the SPDC mandate and program approach has to be considered within the context of its limited budget. As mentioned, over its relatively short life, it has averaged less than \$250,000 per year of core funding. Its most recent budget was only about \$600,000. In other words, it has been operating with a lower budget than the average budget of the other nonassociated centers.

Given its relatively small budget, the strategy of the SPDC has been to act as a catalyst and broker in bringing research organizations with similar interests together through networks and bringing donors together with developing country research groups. First, it brings interested parties together through initial regional workshops that identify concrete and specific research topics and opportunities of mutual interest. Then, acting in its facilitating and brokering roles, the SPDC identifies donors that are interested in supporting the defined research through networks of national research organizations and scientists.

At the same time, training activities are organized to support capacity building in national organizations. The SPDC strategy is a global one which involves a conscious attempt to search out specific regional opportunities and to involve research organizations in all of the major developing country regions.

Workshops and networking activity

The primary efforts of the SPDC initially were focused on identifying key research problem areas that had promise of major breakthroughs. The general research areas were chosen by the SPDC

through widespread consultation with researchers and practitioners. Specific problem identification was done through regional workshops with local researchers and practitioners. In these regional workshops issues of common concern were identified and organizations established key contacts and expressed their wishes with regard to participation and leadership roles in potential networks.

In the workshops that have been held so far, the SPDC has focused on three research areas that show promise for major payoffs and, in some cases, rather rapid payoffs. The three areas are as follows:

* Multi purpose tree species (MPTS) research. In contrast with agriculture, forestry tree breeding and improvement are still dealing with wild populations, where major gains in productivity can be made by selection of high yielding species and the best provenances within those species. In some cases differences exceed 300 percent between high and low yielding provenances. Thus, evidence exists to indicate that fairly low cost research in this area--e.g., in the form of replicated provenance trials in different agroecological zones--can have high payoffs (cf. ITFFR 1988 and background papers).

* Savanna woodland management research. A number of studies have shown that in the particular regions studied, fuelwood and fodder production from dryland savannas can be more than doubled by application of simple silvicultural tools such as early burning, correct timing of lopping, pollarding and by direct seeding of open areas. Replicated research trials are needed in different agroecological zones and with different management techniques.

* Species utilization from natural tropical forests and improved wood utilization. Research has shown that market research can increase the number of species which are marketable from a given area of tropical forest, thus increasing the productivity of management of tropical forests and, possibly, reducing the number of hectares that will be exploited. Research has shown promise for rapid and major payoffs from adaptation of existing technologies in developing countries. Payoffs can relate to increased employment, export earnings, food security, and reductions in deforestation, as given areas are used more intensively. In addition to wood utilization, there are opportunities for significant gains in the overall productivity of natural tropical forests through research on the many hundreds or thousands of plant food, medicinal and wildlife species found in the remaining 2 billion hectares of tropical forests. Many of these species are under-utilized because of lack of knowledge concerning them and their uses. Progress in this area is key to meeting the subsistence needs of some 200 million tropical forest dwelling people and to conservation of the biological diversity of the tropical forest.

Two other areas of research have been recognized as having immediate potentials. These are policy research and natural forest conservation research. Work in these areas is planned for the future.

In total, the SPDC has held 5 workshops on its own and has collaborated with IUFRO Project Group P5.01 - Properties and Utilization of Tropical Woods--in 3 additional meetings in South America and Southeast Asia. A list of references related to these workshop proceedings is given in Annex 3. The Workshops were as follows (see Annex 1 for details):

- * **Kandy, Sri Lanka, 1984**, for MPTS research for tropical Asia
- * **Nairobi, Kenya, 1986 and 1987**, for tree improvement and natural forest management for Sahelian and north Sudanian ecogeographic zones of Africa,
- * **Huaraz, Peru, 1987**, for MPTS and data base management for tropical Latin America.

- * Lilongwe, Malawi, 1988, for silvo-pastoral management and tree improvement for East and Southern Africa.
- * Manaus, Brazil, 1984 (IUFRO Project Group P5.01), wood utilization in South America.
- * Sao Paulo, 1988 (IUFRO Project Group P5.01), wood utilization in South America
- * Singapore, 1988 (IUFRO Project Group P5.01), wood utilization in Asia.

Workshops and activities have covered many of the major ecological zones in all three major developing regions (see Annex 1). Regional emphasis on different topics has varied. A regional breakdown of activity is as follows:

Asia. In the area of research planning and establishment of collaborative research, SPDC has conducted one regional workshop in Kandy, Sri Lanka, in 1984, covering MPTS research in tropical Asia. The workshop helped to target the first component (the Asian one) of the USAID's F/FRED (Forestry/Fuelwood Research and Development), which is now operating in two ecological zones (humid, semi-humid and arid, semi-arid) and several countries. It is concentrating efforts on species like Acacia auriculiformis, A. mangium, Leucaena spp., Azadirachta indica, Melia azaderach and Eucalyptus camaldulensis.

The IDRC is funding two operating networks on bamboo and rattan, both identified as priority species at the Kandy workshop. A program for action to improve utilization of timber resources in Southeast Asia has been prepared by IUFRO's research project group P5.01, based on a survey by a consultant financed by IDRC, and discussed in a project group meeting in Singapore in 1985.

Africa. Two workshops were conducted in Africa in 1986 and 1987, both in Nairobi, Kenya. The first workshop, whose subject was: Increasing Productivity of Multiple Purpose Lands, identified seven subject areas and associated draft projects. Two of them were selected as high priority by the participants: a) genetic improvement of multiple-purpose trees and shrubs and seed production in the Sahel-Sudan zone; and b) research on the management of natural savanna woodlands. Nonspecies specific project proposals were prepared for both of them.

Funding has been secured from France to start implementation of the genetic improvement project (FAO project FAO-GCP/RAF/234/FRA). Five-year, country specific research proposals have been prepared and are ready for funding for each of the nine member countries of CILLS. The coordinating unit or lead institution for this network will be the Forest Ecology Center at CILLS headquarters at Quagadougou, Burkina Faso. The SPDC will play an active role in setting up the network coordinating unit and in monitoring progress and quality of research. Details on funding requirements are given in the IUFRO Work Programme (IUFRO/SPDC 1989).

The savanna woodlands management project would cover three IGADD countries (Kenya, Somalia and Sudan) plus Cameroon, Nigeria and Tanzania. Five year, country specific research programs have been prepared for each of these countries, with emphasis on research related to upgrading the productivity of existing savanna woodlands. Recent work in these countries has indicated the potential to at least double productivity with application of simple silvicultural tools and management techniques such as controlled burning, reseeding of canopy gaps, and controls on harvest techniques (lopping, pollarding).

An **important** decision of SPDC was to place a regional coordinator for anglophone Africa in Nairobi. A **training** course dealing with management of forestry research was completed in Nairobi in 1986. A **second training** course funded by the World Bank is scheduled in Nairobi for June 1989.

IUFRO's P5.01 prepared a proposal to do a survey of research needs on wood technology in Africa. The survey was limited to 18 countries and begun in 1988.

Latin America. In 1984 a working group meeting of P5-01 took place in Manaus, Brazil, on "The possibilities to improve utilization of trees grown in natural and man-made forests." The result of the meeting was a program for action in which six subject areas were identified and six networks with leading institutions proposed. The program is now beginning to be executed.

The SPDC organized a workshop in Huaraz, Peru, in July 1987, on "The Role of Multiple Purpose Tree Species in the Life of Rural Communities." The planning of the meeting began in 1984 with an overall review of the situation, the hiring of consultants to prepare basic information over ecological zones and the preparation of six projects. Each of the projects included sub-projects, and groups of species were selected for each ecological zone. The projects were prepared by teams of experts (two persons, one from Latin America and one from a donor agency). The proceedings of the meeting are planned for late 1989, and efforts will be made to get financing for some of the identified projects.

The workshops mentioned above have lead to an additional eight network projects that are in various stages of development. These projects, listed in Annex 4, deal with genetic improvement of MPTS', reclamation of degraded forest lands, and transfer of technology in wood utilization. They include projects in Asia, Africa and Latin America.

In addition to the activity described above, the SPDC has been requested to sponsor a further six research workshops (see Annex 5). One of these, a workshop in the Caribbean region, is already in advanced stages of preparation. As in the case of the other workshops, topics for the new ones were selected in consultation with regional research personnel and taking into account the Bellagio II research priorities.

Training.

Two training courses have been completed by the SPDC, one dealing with the management of research (Nairobi 1986) and the other with statistical methods for forestry research (Austria 1987). A third course, dealing with the management of forestry research, is scheduled for Nairobi in June of this year (funded by the World Bank).

Support programs.

The SPDC has worked closely with a number of the regular IUFRO project and subject groups in developing productive programs of activity involving developing countries. It should be emphasized that the IUFRO networks date back many decades in some cases and have made an important contribution to the advancement of forestry research in developed countries. These networks are now starting to make a similar contribution to research in the developing countries, to a great extent through the linkages created by the SPDC. The SPDC has established an information service with a mailing list of some 500 key working forestry research scientists to whom an information bulletin has been sent twice a year, which provides selections of current literature; in addition, the Coordinator for anglophone Africa produces a newsletter. The SPDC also directs people to potential funding sources and it provides advice on funding sources for travel. This is all part of its clearinghouse function, which is severely limited by lack of funds.

4. Impacts

The SPDC has been able to help tropical forestry researchers focus on a few priority topics with opportunities for major payoffs, rather than pursuing the common forestry research approach in developing countries of doing a little bit of research on a wide variety of topics. The emphasis of the SPDC has been to work with existing institutions, helping to improve them and make them more effective in terms of research on issues which are considered important in the various tropical forest regions of the world.

Concrete impacts of the SPDC's work in terms of actual new research in place have been limited so far. However, results certainly have met initial expectations, given the SPDC's short time of existence, its low level of funding, and its low level of staffing.

So far, the only operating field research program which has resulted from SPDC work is the USAID funded F/FRED network project in Asia. This project provides financial support for research and encourages networking of research institutions working on multipurpose tree species (MPTS) in several agroecological zones. The project is a direct outcome of a SPDC sponsored 1983 workshop in Sri Lanka to identify MPTS research priorities in Asia. The F/FRED project received positive marks in the recent review of its first three years.

SPDC efforts are beginning to bear fruit in several other areas, as indicated in section 3. Thus, concrete plans exist for new networks in Africa and South America, and others are in the planning stages for all regions. Annex 1 provides details on the various SPDC problem identification workshops held in Asia, Africa and Latin America, and Annexes 4 and 5 provide information on planned networks and workshops.

5. Governance, management and methods of operation

Governance and structure

The Coordinator of the SPDC reports to IUFRO's President (elected at each IUFRO World Congress every 3-5 years) and through him/her to IUFRO's Executive Board, the executive organ of the Union. The Board carries out the decisions of the International Council, the supreme authority responsible for regulating the affairs of the Union (each country in which there is at least one Member Organization is entitled to nominate one representative), and is composed of the President, the Vice-President, the immediate Past-President (*ex-officio*), the Treasurer (*ex-officio*), the IUFRO Secretary (*ex-officio*), the Divisional Coordinators, nine members from the regions, and up to four additional members (FAO may appoint a representative to attend meetings).

The structure of the SPDC consists of a part-time Central Coordinator in Vienna (funded by the combined effort of UNDP, US-AID and the World Bank), and of a Regional Coordinator for anglophone Africa (since 1987) in Nairobi, funded by the World Bank. Supporting staff in Vienna (one Personal Assistant 75% FTE, one data base specialist 25% FTE, one documentation specialist 25% FTE) and office facilities are being provided free of charge by the Government of Austria; supporting staff in Nairobi (one secretary and one messenger/driver) are funded by the World Bank for the time being.

The SPDC is governed by the IUFRO, through its Executive Board. However, the Coordinator for the SPDC operates it in an independent fashion in close collaboration with the President of IUFRO, who contributes time and office support on a voluntary basis. The Coordinator also has volunteered part of his services, operating full time on a half time pay basis.

Contacts are kept at the formal level by IUFRO's President both with the (planning) authorities of countries and the heads of the donor agencies. Contacts with the members of IUFRO's Advisory Council are kept by IUFRO's President and by the Coordinator of the SPDC. Contacts at the technical level with research directors or heads of forest administrations, when forestry research is still part and parcel of forestry administrations, are kept by the Central Coordinator or the Regional Coordinator, in the case of anglophone Africa.

Relations with other international programs.

The most important collaboration is through the six divisions and more than 200 subject/project groups and working parties that already exist in IUFRO. As mentioned, SPCD collaborated closely with IUFRO Project Group P5.01 in workshops dealing with utilization in South America and Southeast Asia, and similar collaboration has begun in Africa. Furthermore, useful cooperation has been established with the Subject Groups S2.02 "Provenance, breeding, and genetic resources," S3.06 "Forest operations under mountainous conditions," and S4.01 "Mensuration, growth, and yield." Efforts are being made to establish cooperation with the Working Party S3.02-03 "Nursery operations" for the organization of a meeting on nursery operations in the tropics, and with the Subject Group S3.05 "Forest operations in the tropics" for the organization of a training course, if the necessary resources can be secured.

The SPDC has close working relations with FAO, the World Bank, UNDP, US-AID, IDRC, CTZ, Unesco, UNEP, IUCN, and other international groups that fund or support forestry or related research in developing countries.

6. A profile of resources

As mentioned the resources of the SPDC are limited. In 1988 it employed two professionals and the equivalent of three full-time support staff. Additional support comes from the IUFRO Secretariat and volunteer help from the offices of the President.

1987 direct funding support was about \$600,000. Some 12 bilateral and multilateral donors have or are contributing to the SPDC. The government of Austria provides facilities and support for the SPDC in Vienna, its current headquarters. In addition, FAO provides office space and other facilities for the SPDC in Rome. Most of the present financial support is due to finish at the end of June, 1989. (Annex 2 provides a financial history for the SPDC)

PART II ISSUES RELATED TO THE SPDC AND ITS FUTURE

Plans for the immediate future.

Immediate plans for continuation of SPDC work over the coming 18 months have been detailed by IUFRO/SPDC in a separate document (IUFRO/SPDC 1989). A proposal for an 18-month extension (July '89-December '90) has been submitted to a provisional donor consortium. It appears that **this proposal is in line** with the recommendation at Bellagio II (Wiston House) that the momentum of existing activity not be lost. At the same time, it appears that the proposed bridging activity does not in any way preempt the decisions which have to be made by the TAC and the CG concerning the most appropriate way in which forestry research might fit within the CG system.

Under the assumption of a level of core funding about equal to that of last year, plans for the immediate future include: active support for initiation and implementation of a network in Africa (CILS countries); a training course in Africa for research managers and administrators; a workshop in the Caribbean in 1990; further exploration of network opportunities in Africa, South America, and in Asia; and further exploration of possibilities for establishing regional coordinators in Asia and South America (IUFRO/SPDC 1989). It should be noted that as recently as mid-May, the British ODA has committed itself to funding a deputy coordinator for the SPDC for an eighteen month period.

Training of RD&A managers and of scientists would be accelerated. Information would be distributed not only on documents listed in abstracting services but also on what is currently being published or reported from RD&A activities in developing countries.

Technology transfer would include preparation and distribution of state-of-the-art papers where sufficient knowledge exists on key problems.

Studies and one or more workshops on national forestry policies influencing RD&A programs would be organized. The workshops would identify problems, assign priorities, and help to organize research on the key policy issues. In addition to policy research needs, the SPDC is committed to initiating activity related to conservation of natural tropical forests. Potential activity in this area includes an initiative with the IUCN dealing with countries in the Congo basin.

Possibilities for twinning arrangements to work on researchable problems and to provide training would be determined by surveying institutions in developed and developing countries. The purpose would be to determine institutional willingness and requirements for twinning. After the survey, SPDC would be in a position to specify disciplines of fields of expertise for twinning and temporal, technical, with financial requirements for bringing institutions together.

Over the period 1 July 1989 to 31 December 1990, SPDC's estimate is that some US\$11.4 million will be needed to promote and foster on-going networks and in-country research activities. To maintain SPDC's core operations during the same period will require a further US\$0.6 million and development of additional network and training activities would require about \$1 million (IUFRO/SPDC 1989).

SPDC evolution into a tropical forestry research center

Early emphasis in the SPDC was placed on building a structure which could assist in identifying priority research problems through regional, subject specific workshops. Now that substantial progress has been made in that area, the focus has been shifting to develop a structure that is more appropriate to the creation, support, and monitoring of research networks and the provision of training materials and activities to help support national research capacity building.

The SPDC is evolving into a tropical forestry research center or council (hereafter called the "TFRC") that is administratively independent of IUFRO, but still closely related to IUFRO and its network of scientists and research organizations. In fact the evolution was intended for some years ago, but IUFRO decided to wait to make changes pending the outcome of the Bellagio II conference (IUFRO 1989).

This TFRC concept and plan is what really needs to be assessed in considering the SPDC for inclusion in the CG system.

The officers of IUFRO recognize that IUFRO is not set up to be a management and administrative body such as is needed to run an expanded SPDC (or TFRC) and its activities worldwide. Thus, IUFRO and the coordinator of the SPDC see it evolving into an independent tropical forestry research center that would act as a focal point for identifying priority forestry research topics, for promoting collaborative forestry research networks, for contracting with specialized agencies, for implementing high-priority forestry related studies, for monitoring financial resources and monitoring the quality of research, and for ensuring adequate training and information systems (IUFRO/SPDC 1989).

These functions are felt to be needed regardless of whether or not the CG system decides to take on forestry and to include a modified SPDC within the system. Based on discussions with SPDC and IUFRO personnel and review of SPDC documentation, the functions of the evolved "center" would be as follows:

Identifying priority research. The "center" would work with both developing and developed country research and action organizations in identifying constraints to progress and priority topics for research dealing with forest conservation and sustainable forestry land use and tree management.

Matching research needs to researchers. Through SPDC networking activity and experience and contacts built up over the past years, the center would identify suitable groups and networks to undertake research related to the various priority topics. It would help develop sound proposals for research and organize and support networks to effectively implement the needed research.

Mobilizing funds. The center would put together a program of funding to implement research related to the priority research areas. This would be done in collaboration with the IARC's working in specific areas of research related to forestry, such as agroforestry, tree germplasm collection and preservation, and policy research. The underlying considerations in formulating a program relate to balance in terms of problems being addressed, quality of programs, and continuity of funding for productive, relevant programs. The types of groups identified in the Panel's companion report ("International and Regional Organizations and Networks Involved in Tropical Forestry Research") would be considered in terms of program implementation. If operating within the CG system, the center would present the proposed program at centers week.

Executing research. In terms of actual research accomplishments, the center would arrange implementation by a) network partners in developing countries; b) by advanced institutions in both developing and developed countries; c) by individuals employed by the center for outposting in national research organizations; and d) by the center's own personnel working in partnership with personnel in other organizations, both international and national.

Monitoring research performance and quality. A significant function of the center will be to monitor performance of contractors/grantees and quality of research performed by them. The SPDC recognizes at present that a critical factor in establishing and implementing an effective research network is the quality controls the network imposes on the work of its members, particularly in networks where members are working jointly on a common research project and in networks of researchers working on common problems but through independent projects.

Supporting training and institution building. Another major function of the center will be to ensure high quality training and education opportunities for forestry researchers from developing countries and to cooperate with such groups as ISNAR in developing appropriate mechanisms for helping developing country research organizations improve management and operations. Training activities also will include support for courses on research methods.

Mobilizing existing information. The center, through its widespread contacts and programs could serve a useful function as a focal point for mobilizing information on existing research results and information on methodology and research techniques. It could provide a valuable outreach function in support of the Tropical Forestry Action Plan activities. In implementing this function, the center would develop a practical data base management system.

The Panel views the above functions as expanding in a positive way on the SPDC's initial mandate, for example in terms of adding monitoring functions.

CONCLUDING COMMENTS

The IUFRO/SPDC has for some years been planning the transformation of the SPDC into an expanded and independent tropical forestry research center or council (TFRC). Much of the discussion within IUFRO/SPDC circles revolves around the functions and potential contributions associated with the new center concept. The Panel wanted to avoid mixing actual SPDC accomplishments with potential contributions from the center or council, so it decided to discuss the SPDC in a two-part assessment.

The first part of our report is more a traditional stock-taking that uses the main headings in the outline in the the TOR for reviews of non-associated centers. We have attempted to look objectively at what the SPDC has accomplished so far. Our conclusions are as follows:

- * taking into account the low level of funding the SPDC has had and the consequent shortage of professional staff, and keeping in mind that programs take time to develop concrete results and the SPDC is barely six years old, we conclude that the SPDC has a good record of accomplishment.
- * a main strength of the SPDC has been its close scientific links with the IUFRO and its numerous networks of top scientists from more than 600 research organizations in 100 countries.
- * its main activity has been (1) to organize workshops where participants identify common priority problems in regions of the developing world and then (2) to help in moving those problems into research programs through establishment of networks of existing research organizations. The first IUFRO/SPDC workshop resulted in the establishment of an operating network, funded by USAID; several later workshops have resulted in projects ready to be funded and implemented. With adequate funding, they should become operational within a short period of time.
- * The SPDC has not been involved in the area of monitoring and assessment of on-going forestry research. It appears that this is partly because of lack of funding and partly because the actual research resulting from SPDC activity has just begun to be operational. However, it also appears that institutional mechanisms that give the SPDC a role in research monitoring and assessment need to be strengthened and formalized.
- * The SPDC is beginning to expand its work with data bases and information networks, having recognized the potential contributions that can flow from information and data sharing through organized information networks.

* in terms of training, the SPDC has sponsored only a few courses/workshops; it has plans for several more in the near future. The main constraint appears to be lack of funding.

The second part of our report addresses the evolving SPDC and the concept of the TFRC as viewed by IUFRO/SPDC. We suggest that this concept of the future is what the TAC needs to consider, since the IUFRO/SPDC intends to move ahead with the transformation and, thus, the current SPDC would no longer exist.

Our conclusions with regard to the concept of the TFRC are as follows:

* The IUFRO/SPDC concept of a tropical forestry research center or council embodies functions of the existing SPDC with some additional strengths added, such as monitoring and assessment and expanded data base management functions; the concept also provides for a more structured and formal entity than the existing SPDC.

* The concept of the center is broadly based on an assessment of the experience gained by the IUFRO/SPDC over the past six years and on the recommendations of the International Task Force on Forestry Research (ITFFR) and Bellagio II participants.

* the concept of the center addresses major research needs identified by the ITFFR at Bellagio II.

* the concept of the center allows for the complementary interaction with existing CG centers and with such non-associated centers as ICRAF, CATIE, ICIMOD, and others. However, more attention needs to be paid to developing effective mechanisms for creating and taking advantage of such complementarities and opportunities for cooperation.

* we agree with the concept of a center that would focus on doing a few key things well and that would follow an evolutionary approach, building on what is learned along the way.

* a significant effort is needed to define more precisely how the various functions of the center would be organized and administered, for example, in the case of its monitoring and assessment function and in the case of its information management and transfer functions. While the IUFRO/SPDC has given a good deal of thought to the nature of the functions, the way they most effectively could fit together institutionally needs further thought. Determining how the various functions should be fit together will be a major task ahead. This is so whether or not the TAC decides to look further at the SPDC and its possibilities within the CGIAR system.

As a final point, the Panel emphasizes that the TFRC is not the only institutional mechanism available to incorporate forestry research into the CGIAR. The other options also have to be assessed in considering the relative merits of the TFRC as a central coordinating mechanism for forestry research.

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ANNEX 1

Workshops Which Identified Research Needs and Approved Proposals
for Group-Country Projects

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Kandy, Sri Lanka, 1984

1. The first regional research planning workshops, for Asia, was held at Kandy in Sri Lanka in July 1984, and entitled "Increasing productivity of multipurpose tree species" (Shea and Carlson 1984; Burley and Stewart 1986). There were 25 participants from 12 Asian countries. The workshop used the traditional technique of discussions around position papers leading to the identification, for three major climatic zones in Southeast Asia, of priority species among MPTS and supporting thematic projects. The planning group developed a single objective, 7 sub-objectives, 21 goals and 43 activities. The practical end-products were proposals for the creation of 10 research networks, each concentrating on one or a few species. However, these suggestions were not in the form of draft project documents, ready for submission to donor agencies .

2. The 10 networks, with leaders, co-leaders and suggested principal sources of financial aid, were:

2.1. *Acacia* spp.: *A. auriculiformis*, *A. mangium*, *A. nilotica*, *A. senegal*, *A. tortilis*. Leader: India. Co-leader: Malaysia. Sponsors: US-AID and 6 others.

Bamboo. no species mentioned. Leader: Bangladesh. Co-leaders: China and Thailand. Sponsors: IDRC with ODA and US-AID.

2.3. *Albizia* spp. and *Leucaena* spp. Leader: Philippines. Co-leader: Taiwan. Sponsors: US-AID and 4 others.

2.4. *Eucalyptus* spp: *E. camaldulensis* and *E. microtheca* lead by India. *E. deglupta* and *E. urophylla* lead by Indonesia. Sponsor: World Bank.

2.5. *Dalbergia sissoo*, *Morus alba* and *Populus* spp. Leader: Pakistan. Sponsors: US-AID with World Bank and 2 others.

2.6. *Azadirachta* spp. and *Melia* spp. Leader: Thailand. Sponsors: IDRC with US-AID and 2 others.

2.7. Rattan, no species mentioned. Leader: Malaysia. Co-leader: Thailand. Sponsors: IDRC with US-AID and the World Bank.

2.8 *Prosopis cineraria*. Leader: India. Sponsors: US-AID with IDRC and the World Bank.

2.9 *Salix* spp. and *Robinia pseudoacacia*. Leader: India. Sponsors: US-AID with GTZ and the World Bank.

2.10 *Alnus nepalensis* and *Grewia oppositifolia*. Leader: Nepal. Sponsors: US-AID and 3 others.

3. The Kandy workshop has helped to target the Asian component of US-AID's F/FRED (Forestry/Fuelwood Research and Development) Project which is now operating in several countries and is reported to be concentrating on the following species: *Acacia auriculiformis*, *A. mangium* and *Leucaena* spp. for the moist and wet areas; *Azadirachta indica*, *Melia azadirach* and *Eucalyptus camaldulensis* for the arid and semi-arid areas; thus, three species for each of two of the main climatic zones in the region. The F/FRED project was approved in mid-1985 and became operational in 1986. The world budget of the F/FRED project is US\$40 million, with US\$10 million for the 10-year segment in Asia. Winrock International manages the Asia segment for US-AID from a coordination office at Kasetsart University in Thailand. There are three components: research capability enhancement, networking of institutions, and information systems / database management. Progress has been reported by Adams and Dixon (1986).

4. A consultant was recruited by IUFRO in mid-1985 to convert the Kandy recommendations into fundable project proposals and to sustain the momentum generated by the workshop. He visited 12 countries in Southeast Asia and recorded the national commitments to the MPTS networks (Madamba 1985). These 12 countries were: Bangladesh, Peoples' Republic of China, India, Indonesia, (Peninsular) Malaysia, Nepal, Pakistan, Papua New Guinea, Philippines, Sri Lanka, Taiwan and Thailand. At the time of the visits the following situations were encountered:

4.1 Bangladesh. This country would participate in networks 2.1 to 2.7 mentioned above and provide the regional leadership for 2.2. The frameworks of the programs have been drafted and copies of the documents are archived with the vice-president of IUFRO at FRIM.

4.2 Indonesia. The Forest Research and Development Center (FRDC) of the Agency for Forestry Research and Development confirmed its agreement to lead network 2.4 and its participation in 2.1, 2.2, 2.3, 2.5, 2.6 and 2.7. Frameworks of the programs for these networks had been drafted. Copies of the documents are archived with the vice-president of IUFRO at FRIM. The selection of a national director for the MPTS research program was in process and searches were underway for national managers of the individual networks, plus the regional coordinator for the eucalypt network.

4.3 Malaysia. The Forest Research Institute of Malaysia (FRIM) reiterated its offer to lead networks 2.1 (*A. auriculiformis* and *A. mangium* only) and 2.7, and to participate in networks 2.2, 2.3, 2.4 and 2.6. Program frameworks are archived with the vice-president of IUFRO at FRIM.

4.4 Nepal. An outline of the participation in four networks, out of the seven mentioned as possible during the Kandy workshop, had been prepared and a copy of the documents is archived with the vice-president of IUFRO at FRIM. Shortage of staff and other resources makes it difficult to plan and program research in detail.

4.5 Philippines. The former Forest Research Institute of the Ministry of Natural Resources would be the national lead agency for most of the networks and the regional leader for the *Albizia* and *Leucaena* network 2.3. The Philippines would participate in networks 2.1, 2.2, 2.4, 2.6 and 2.10. Frameworks of the programs for each network had been drafted and the leaders for the national and regional programs had been agreed. Copies of the documents are archived with the vice-president of IUFRO at FRIM.

4.6 Thailand. Kasetsart University and the Royal Forestry Department would share responsibility for MPTS research. Thailand confirmed its agreement to lead network 2.6 and to participate in networks 2.1, 2.2, 2.3, 2.4 and 2.7. Leaders had been suggested. Copies of the documents for network 2.6 are archived with the vice-president of IUFRO at FRIM.

4.7 Plans for MPTS research from the other six countries visited by the IUFRO consultant had not been received by the vice-president of IUFRO at FRIM by August 1985.

5. FAO is executing the GCP/RAS/111/NET regional wood energy development program in Asia. This network is coordinated from the FAO regional office in Bangkok, Thailand, and covers ten countries: Bangladesh, Burma, India, Indonesia, Nepal, Pakistan, Philippines, Sri Lanka, Thailand and Vietnam. Finance for the coordination comes from funds-in-trust by The Netherlands.

6. Another FAO regional network will cover the genetic improvement of MPTS in hill country, with emphasis on the value for fodder. Four countries will be involved in the project: Bangladesh, Bhutan, Burma and Nepal. Funding will be provided by UNDP for a start in the near future.

7. An FAO proposal to UNDP is "in the pipeline", for large-scale afforestation with MPTS for domestic use in 13 Asian countries. The project is estimated to cost US\$13 million and will include substantial efforts on application of technology and training.

8. Funding for parts of networks 2.2 (bamboo) and 2.7 (rattan) has been assured by IDRC.

9. A regional center for forest tree seed near Bangkok, Thailand, for the ASEAN countries was built with a C\$1.5 million contribution from CIDA/IDRC, and a supplement of C\$0.3 million to the initial operating costs. The center, with additional equipment supplied by JICA, will certainly be useful for the MPTS Asian networks.

10. Australia is funding the ACIAR/VASEAN program in Brunei, Indonesia, Malaysia, Philippines and Thailand. It consists of 9 projects on tree improvement and breeding, 6 of which are equivalent to proposals made at the Kandy workshop: improvement to *Acacia* spp., *Albizia falcataria*, and eucalypts; introduction of species and provenances;

management for the production of improved seed; applied research on the biology of reproduction.

Nairobi I, Kenya 1986

11. The second regional research planning workshop was held in Nairobi, Kenya, in January 1986 and entitled "Increasing Productivity of Multipurpose Lands" (Carlson and Shea 1986). The workshop concentrated on the problems of the Sahelian and North Sudanian zones, and was attended by 35 participants from 15 African countries. In contrast to the preceding meeting at Kandy in 1984, the Nairobi I workshop was organized around seven subject areas. For each area, a draft project document was commissioned from consultants. In practice, the workshop papers tended to be reviews, supplemented by outlines of project proposals (called "topics" in the workshop proceedings) for action within a program (called a "proposal"). The seven subject areas and associated draft projects are listed in paragraphs 12-18.

12. Agroforestry research and development; agroforestry for the solution of food, fodder, and fuel shortages. There were four subprojects:

12.1 Agroforestry fodder species for arid lands, including: biology and reproduction of the family *Capparaceae*, and uses in arid zones of the genus *Atriplex* and the family *Cactaceae* for fodder and food production.

12.2 Agroforestry management for fodder in dry zones, including: management of hedges to produce fodder, management of trees for fodder production, productivity and quality of selected browse species as fodder, and phenology and physiology of leaf growth.

12.3 Agroforestry management for fuelwood and fodder production in dry zones, including: production of fuelwood and fodder by windbreaks, production of fuelwood and fodder on saline lands, production of fuelwood in various agroforestry systems (alley cropping, home gardens, farm woodlots, boundary trees, and intercropping).

12.4 Impact of agroforestry on food production, including: food production by woody plants, and studies of the tree-crop interface.

13. Research and development of techniques for natural regeneration for silvo-pastoral management of existing forest resources. This theme was treated as a single project with several lines of research: bioclimatology, techniques of inventory and photo interpretation, methodology to estimate the volume and the productivity of a stand, stand regeneration techniques, management of stands and their productivity, stand dynamics, development of an agroforestry system based on natural regeneration, development of a pasturing system based on natural regeneration, and bush fires. In addition, five special studies were proposed for research.

14. Management of indigenous trees and shrubs for the rehabilitation of degraded rangelands in the arid zone of northern Kenya. This proposal was essentially for the

establishment of demonstrations of management possibilities, rather than research.

15. Selection and genetic improvement of indigenous and exotic multipurpose tree species including seed collection, handling, storage and exchange. There were four subprojects:

15.1 Exploration, conservation and provenance seed collection of multipurpose woody species.

15.2 Evaluation and selection of genetic resources of multipurpose woody species.

15.3 Quantitative and qualitative improvement in multipurpose tree seed supplies.

15.4 Coordination of species and provenance selection of multipurpose woody species.

16. Developing and using biotechnologies in forestry and agroforestry in the Sahelian and Sudano-Sahelian zones. There were two subprojects:

16.1 Selection and genetic improvement of ligneous material.

16.2 Biotechnology of the symbiotic microorganisms.

17. Research and development of nursery practices and techniques for the establishment and management of fuelwood plantations including water harvesting and distribution. Eight subprojects were proposed:

17.1 Continued training for forestry staff, including: evaluation and preparation of a project document, and establishment and operation of training units.

17.2 Preparation of analytical bibliographies specific to dry tropical regions in the field of nurseries, plantation establishment and management, with triennial revision.

17.3 Directory of forestry research in dry tropical Africa, with triennial revision.

17.4 Directory of forestry development in dry tropical Africa, with triennial revision.

17.5 Nurseries: evaluation of techniques used, dissemination of knowledge, planning of further research, including: evaluation of existing techniques and practices, distribution of technical data sheets and extension manuals, preparation of project documents, and performance of research contracts.

17.6 Plantations: evaluation of techniques used, dissemination of knowledge, planning of further research, including: evaluation of existing techniques and practices, distribution of technical data sheets and extension manuals, preparation of project documents, and performance of research contracts.

17.7 Development of a method for site description, including: theoretical approach and preliminary data

collection, testing of the method through a network of observation areas (a case study), appraisal and final adjustment of the method.

17.8 Hardening under Sahelian conditions of gum acacias propagated by tissue culture.

18. Nursery and fuelwood plantation practices in arid and semi-arid zones of North-East Africa. This document did not propose any particular projects but discussed points to be considered in the preparation of projects. A checklist of topics worthy of further research included the following ten main subjects:

18.1 Sociology and institutions

18.2 Choice of species and provenances.

18.3 Seed handling

18.4 Nursery practices.

18.5 Plantation establishment.

18.6 Plantation management and protection.

18.7 Soil relations

18.8 Tree improvement.

18.9 Economics

18.10 Ergonomics

19. At the close of the Nairobi I workshop participants were asked to state their level of interest in each proposed program and component research projects. Interest was rated subjectively as low, medium, or high. Scores were tallied with respect to replies from representatives of the country or countries involved in a project, donor agencies, and other participants at the workshop. Two proposed programs received high ratings and were discussed at the Nairobi II meeting in early 1987. The other projects await attention of donor agencies.

Nairobi II, Kenya, 1987

20. Two program proposals were carried forward from the Nairobi I workshop to a second meeting in the same city during February-March 1987. The second workshop at Nairobi was organized to develop in depth and detail its subject topics "Tree Improvement and Silvo-pastoral Management of Savanna Woodlands in the Sahel and North Sudanian zones of Africa". An outline for selection and genetic improvement of multipurpose trees and shrubs (see paragraph 15 above) was of high interest to 89 per cent of the African participants and 82 per cent of the forestry advisers of the donor agencies at Nairobi I. Directors of research and tree breeders from 14 of the 16 countries concerned then met to refine the outline. A revised draft project document was presented at the meeting of the Special Program for African Agricultural Research (SPAAR) in Paris, France, in May 1987. France has agreed to fund the

international coordination of this sub-regional project for an initial period of 19 months. FAO is the executive agency and the coordinator has just taken up his appointment, based in Djibouti. Total cost of this project is estimated at US\$32.4 million spread over 5 years; the coordination component is estimated to cost US\$2.6 million.

21. The second highly-rated proposal at Nairobi I was for research and development of techniques for natural regeneration in silvo-pastoral management of existing forest resources (see paragraph 13 above). This proposal was rated highly by 50 percent of the African participants and 70 per cent of the forestry advisers at Nairobi I. The revised project document prepared at Nairobi II was also presented to SPAAR at Paris in May 1987. Each pilot management center has been estimated to cost one million dollars spread over 5 years and 10,000 hectares. Four centers are envisaged, to cover the four combinations of continental versus maritime climate and Sahelian (200-600 mm) versus Sudanian (600-800 mm) rainfall.

22. The proceedings of the Nairobi II meeting are now being printed. However, the coordinator of IUFRO's special program for developing countries prepared a summary in November 1987 giving the gist of the two proposals. This summary differentiates clearly between the international and national financial contributions required for each project. It was circulated to the forestry advisers of the donor agencies at the TFAP meeting in December 1987. Both proposals will be reviewed by the Forestry Working Group of SPAAR in May 1988.

Huaraz, Peru, 1987

23. The fourth of the regional research planning workshops organized by IUFRO's special program for developing countries covered tropical Latin America. It was held in Huaraz, Peru, in July 1987 and titled "The Role of Multipurpose Tree Species in the Life of Rural Communities" (Palmer *et al.* 1988, in preparation).

24. Planning for the workshop began with a region-wide tour by Oscar Fugalli (IUFRO) and Les Whitmore (USFS) in 1984. During 1985 and 1986 consultants funded by FAO and US-AID's ROCAP prepared background papers. These were discussed during a preliminary meeting at CATIE in Costa Rica in February 1986. Pairs of authors (one Latin American and one nonlatino) were identified and invited to contribute to the workshop. Latin America was divided into six ecogeographic zones and one document was commissioned for each zone.

25. In addition, two "umbrella" papers were requested. One paper covered research into the social cultural and economic factors which have tended to be neglected or under-rated in social forestry projects. A second paper covered the role of management information systems. It was not possible to obtain a document in the form of a project proposal for the social factors. However, these factors have been taken into account in some of the other documents.

26. During the preliminary meeting at CATIE, short-lists were prepared of the top priority MPTS for each of the six zones.

The premise was that major advances in productivity would be obtained only by concentrating efforts on a very limited number of species, as has been demonstrated vividly in agriculture. The lists were circulated to the concerned countries and amended by the national forest services.

27. There were 28 participants from 16 countries of Latin America, but donor agencies were much reduced in representation compared with previous meetings in Asia and Africa.

28. Revised versions of the Huaraz papers, when compared with papers from preceding workshops, showed improvement by clearly indicating responsibilities. A criticism of previous proposals had been that they gave too little recognition of preferences among donors for bilateral funding; it was difficult to separate regional from national components of networks. Papers from Huaraz showed what was required to establish the regional office of coordination, as well as the individual national contributions, for each project. There was also more emphasis on diffusion of results and application of technology generated by the projects. Six papers discussed at the workshop are summarized in paragraphs 29-34.

29. A paper covering MPTS in dry zones of Mexico, Central America and the Caribbean proposed 5 projects:

29.1 More widespread application of techniques for MPTS cultivation which were developed during the ROCAP-financed Central American regional fuelwood project (1980-85). The project would help to strengthen the capability of public and private forestry organizations to undertake their own development, as well as extension work.

29.2 Development of agroforestry systems, including living fences, alley cropping, garden orchards, forage production, and improvements to shifting cultivation practices. Diffusion of techniques through in-service training and participation in the research, as well as through formal courses, was included in the project proposal.

29.3 Evaluation and conservation of species and provenances of *Leucaena*. This project would extend: the scope of existing studies on the genus through the establishment of a network of standardized trials and seed production areas; the conservation *in situ* and *ex situ* of species in danger of extinction; and basic studies on taxonomy, natural geographic distribution, phenology and genetic variation.

29.4 Management of secondary vegetation, secondary in the sense of arising naturally on land previously cleared, farmed and then abandoned. The study would concentrate on techniques for degraded secondary vegetation and for management of areas affected by invasive weeds.

29.5 Evaluation of the agroforestry potential of *Crescentia alata*. The basic biology of this definitely multiple-use and quite abundantly fruiting tree is poorly known. Justification for the project is the high potential of the species as a dry-season forage.

30. A second paper discussed at Huaraz for the region of Mexico, Central America and the Caribbean concerned a single project, genetic improvement of MPTS. Work already under way in the region needs to be supplemented by formally designed trials networked through participating countries, to cover more ecological zones. The project would supply certified seed of improved species and develop techniques for their vegetative propagation.

31. An equivalent paper on MPTS in the dry zones of South America proposed two projects, one on genetic resources and one on management of woody vegetation.

31.1 The first project, on the exploration, evaluation and use of genetic resources, included conventional aspects of botanical exploration, taxonomic studies, seed collection and establishment of networks of trials with standardized procedures, together with evaluation of the trials. Provision was made also for conservation *in situ* and *ex situ* of species under study and, as a late phase in the project, establishment of bulk supplies of improved genetic material.

31.2 The second project was closely linked to the first and covered conservation, management and sensible use of existing natural woody vegetation. Executors would compile case studies on existing management methods and evaluate impacts of various land uses on genetic resources. Demonstrations would be established to show possible and sustainable combinations of conservation of genetic resources and continued provision of goods and services.

32. The lowland humid zone of South America was covered by a single project proposal with four components. The original document was more orientated to production of timber than to MPTS, arguing that there was little shortage of forest products for domestic consumption within the humid zone and that the priority was for more and better research on conventional silviculture. Participants at the workshop worked with the author to produce suggestions for a second draft more in keeping with the title of the meeting. Recommendations involved more emphasis on agroforestry and planted MPTS and less on management of natural forest.

33. Two draft papers covering the northern and southern parts of the South American highlands were amalgamated by consensus at Huaraz into a single document. Nine projects were proposed:

33.1 Conservation of genetic resources of MPTS, especially species of *Buddleia* and *Polylepis*, in the high Andes, and their vegetative propagation. This project included preparation of a field guide to identification of species, *in situ* and *ex situ* conservation, and development of techniques for vegetative propagation of shy-seeding species and those in danger of extinction.

33.2 Bulk supply of genetic material for trials and pilot plantations, through identification and protection of suitable plantations. These would be thinned to encourage seed production and improve availability of material for vegetative propagation. Genetic material would be distributed widely.

33.3 Establishment of a network of yield plots and preparation of a field guide to selection of species for different sites, and their silviculture.

33.4 Selection of species and provenances suitable for compacted soils and development of economic techniques for soil amelioration to improve growth of MPTS.

33.5 Documentation of case studies of existing silvo-pastoral systems and development of improved techniques for the northern Andes.

33.6 Socioeconomic evaluation of sample situations selected from a preliminary inventory of reforestation programs. This evaluation would be the basis for development of incentive systems for non-government reforestation schemes. A large number of associated studies are proposed on yields of different products, costs and benefits, marketing, social/financial/ economic analysis of reforestation projects, etc. The ultimate intention is to produce complete packages of techniques and information to help promotion of new reforestation projects.

33.7 Establishment of a regional network for forestry information, through creation of documentation centers, bibliographic databases and printed catalogues and distribution of summaries from selected literature.

33.8 Training of staff in methods of silvicultural research, including application of standard techniques for establishment of trials, their evaluation and processing of the data into a regional database.

33.9 Updating inventories of research activities related to silviculture, sociology, and economics in existing and proposed projects concerning MPTS. This would lead to establishment of coordinated research and wide dissemination of results.

34. The last of the six documents discussed at Huaraz concerned the management information system (MIS) for the ROCAP-financed Central American regional project "Madelena", the follow-on to the regional fuelwood project, and its proposed extension to other countries of the region.

35. The proceedings of this meeting are still in preparation, owing to the long period needed by some authors to revise their proposals after discussions at the workshop.

Manaus, Brazil, 1984

36. The preceding four regional research planning workshops were planned and organized by the coordinator of the special program for developing countries and covered the "growing side" of forestry. The products or utilization side of IUFRO's special program has been covered, through mutual agreement, by IUFRO's Project Group P5.01-Properties and Utilization of Tropical Woods.

37. The first tropically-oriented action by P5.01 was a survey of opinions in South America. The surveyor visited 9 countries to discuss possibilities of improved utilization of trees grown in natural or man-made forests. The report

summarizing opinions of the senior research engineers and technical officers concerning research priorities was discussed at a meeting of the Project Group at Manaus, Brazil, in November 1984, just a few months after the July-August survey. The meeting was attended by 54 research workers, of whom 16 were from Brazil, 16 from other Latin American countries and 9 from 7 countries in Africa, Asia, and Oceania.

38. The survey report was supplemented by discussions at Manaus and issued as a draft Program for Action (Freitas *et al.* 1986). Six subject areas were proposed (see paragraphs 39-44). For each area a lead agency would establish and coordinate a network. Subject areas (called "goals" in the Program for Action) were related, but projects within each could be executed independently. The draft program stressed that the intention is not accumulation of knowledge but use of knowledge for betterment of living conditions of people in the countries concerned.

39. The first subject area concerned housing. The objective is to produce designs of houses to be constructed partly or wholly of wood from presently less-accepted species and to construct prototypes based on structural systems developed in local laboratories. Cooperation of builders, business interests and government or private agencies will be sought to ensure a sound commercial basis. A publicity campaign will be launched to promote the housing and prepare the way for establishment of housing estates using new designs and experience.

40. Wood properties was the second subject area and is basic to all other work. Technological properties must be known with adequate accuracy, particularly for introduction of commercially less-accepted species. An initial quick screening will provide preliminary results for use by other subject areas, followed by more detailed determination, testing and establishment of rules for grading, derivation of design stresses, etc.

41. The third subject area, wood processing, is designed to provide direct assistance to the wood conversion industry in basic processes such as sawing, drying, glueing, preservation and surface finishing.

42. Residues, the fourth subject area, should be minimized in harvesting and processing and if unavoidable should be utilized profitably. Studies will include production of energy, in cooperation with other ventures looking at the fuelwood problem.

43. The fifth subject area is conceived as organized coordination of the whole program through networks, strengthening of institutions, and fellowships. Exchange of research staff and twinning of institutions are also contemplated.

44. Finally, a sixth and key subject area is technology transfer, to bring results of other research to the industry and consumer and to ensure applications and profitable uses.

45. At the end of 1987 IDRC indicated possible support for a "South America Technology Transfer Training Session", as a first step in implementation of the Program for Action.

Southeast Asian Forest Products

46. A similar Program for Action to improve utilization of timber resources in Southeast Asia, has been prepared by IUFRO's P5.01 (Kauman, Tesoro and Wong 1987). Like the program for South America, the proposal for Southeast Asia has been based on a survey by a consultant financed by IDRC. Eight countries were visited in May 1985. The results were discussed at a Project Group meeting during August 1985 at Singapore. Five main and two supplementary subject areas were proposed. These are mentioned briefly in paragraphs 47-53.

47. Light building components are the first subject area. The objective is to assist small industrial enterprises and cottage-type industries in manufacturing building materials and components for low-cost dwellings for under-privileged parts of urban and rural populations. The program would feature using local timbers, particularly lesser-known species, in the form of scantling or derived products. This project would involve work on wood preservation, fire retardants and social acceptability of timber components.

48. The second subject area concerns utilization of plantation-grown timber and of lesser-known species from natural forests. The work will concentrate on those species available in appreciable volumes and for uses primarily in domestic markets.

49. Cottage industries are addressed in the third subject area, use of rattan, bamboo, and rubberwood in products for local markets. More advanced processing to furniture might be considered for rubberwood. Preservation with readily available chemicals would be studied.

50. Stemwood from palms is the fourth subject area, especially from oil palms. Five individual projects proposals have been prepared, for submission to IDRC and UNDP.

51. The fifth and last main subject area concerns residues. Several topics are proposed for possible projects: improved logging techniques to reduce waste left in the forest, collection of unavoidable logging waste for fuel and other uses, improvement of primary techniques of conversion, and adaptation of manufacturing methods for obtaining

secondary products from residues of primary conversion processes.

52. The first supplementary subject area is development of networks for utilization research, to support the networks on MPTS for the "growing side" which were suggested at the meeting in 1984 at Kandy, Sri Lanka.

53. The second supplementary subject area is application of research, mainly through training of extension staff to work with local industries.

54. Apart from proposals prepared in the fourth subject area (utilization of palm wood), the outlines prepared by Kauman, Tesoro and Wong (1987) are quite brief. A meeting has been suggested by IUFRO's P5.01 to prepare draft project documents for submission to donor agencies.

African Forest Products

55. Continue the work of IUFRO's P5.01 to a third continent, Sales (1987) prepared a proposal for another questionnaire survey of research needs on wood technology. The large number of countries in Africa and the limited time available do not allow individual visits. The Project Group decided after the 18th IUFRO World Congress in 1986 to limit the survey to 18 countries. Criteria for choosing sample countries are given by Sales (ibid). The survey may take place during 1988.

Other Workshops Planned

56. Obviously, the coverage of regional research planning workshops is incomplete. The special program for developing countries of IUFRO has draft plans for meetings to cover the dry lowlands of eastern and southern Africa, the "miombo" woodland zone, in 1988 and the anglophone Caribbean in 1989. The Caribbean workshop will take into account outcome of the TFAP mission for the same region and of TFAP's forestry sector review planned for an individual country in the Caribbean. Both are proposed for 1988.

ANNEX 2

Past Financial Support to the IUFRO Special Programme for Developing countries and Current Budgetary Status

Early Sponsors and Contributions to SPDC

Funding for IUFRO's special co-ordinator and his programme of work has been sporadic, piece-meal, and inadequate. In 1983 the World Bank and UNDP provided US\$65,000 to start work. The following year their second contribution was US\$55,000. Starting in 1984 the Government of Austria provided a forest scientist and a quadrilingual translator plus office space and part of the operational expenses. Other cash came in 1984 to the co-ordinator's office from USAID (US\$12,000) and from the U.S. Forest Service (US\$23,000). Cash contributions for the office of the special co-ordinator have only totaled US\$155,600 between June 1983 and February 1988.

The funds provided have not covered the costs of the co-ordinator and his office. Part of the costs of the co-ordinator and his office have had to be charged to the budget of the planning workshops and other financial sources. This awkward financial position has been aggravated further by delays in transmission of funds by some sponsors.

The World Bank agreed late in 1986 to provide core support for IUFRO's special programme for Africa south of the Sahara. The grant of US\$270,000 each year for three years has been used to appoint a regional co-ordinator and to fund the second regional planning workshop for eastern and southern Africa and a proposed training course or workshop for managers of RD and A in Africa.

IUFRO's special programme, by means of planning workshops and training courses, has attracted substantial contributions for field activities from a number of sponsors. By the end of 1987 cash totalling more than US\$360,000 and in-kind contributions summing probably to a larger amount have resulted. Field activities include:

- The regional planning workshop at Kandy, Sri Lanka, in 1984 brought forth cash contributions totalling US\$113,500 from four sponsors (ADAB, GTZ, UNESCO/MAB, and USAID), and at least ten sponsors made in-kind contributions.

- The first regional RD and A planning workshop at Nairobi, Kenya, in 1986 was financed by cash contributions of US\$117,200 from five sponsors (ADAB, GTZ, UNESCO/MAB, UNESCO/ROSTA, and USAID), and in-kind contributions from at least ten sponsors.

Annex 2 (continued)

- . The full cost, US\$87,300 of the second regional planning workshop at Nairobi was met from the contribution of the World Bank for its crash programme in Africa south of the Sahara.
- . The regional planning workshop at Huaraz, Peru in 1987 resulted in cash contributions of US\$10,900 from GTZ and US\$25,000 from USAID plus in-kind contributions from 14 sponsors.

The surveys of needs in forest products research in Southeast Asia and in Latin America were largely paid for by IDRC. The training course in management of forestry research at Nairobi in 1986 was totally financed by the Government of Finland. The training course in statistical methods for forestry research at Gmunden, Austria, was shared by the Government of Austria, FAO, and savings from the first workshop at Nairobi.

All cash contributions to support the co-ordinator and his programme have totalled during four and one half years almost US\$750,000. Contributions in kind, especially those from FAO, USDA Forest Service, and IDRC, have been substantial. These contributions demonstrate strong support for and confidence in IUFRO's SPDC.

SPDC's Current Budget, 1987-1988

On an annual basis the funds in hand (January 1988) AND PROMISED FOR THE SPDC add up to approximately US\$645,000. The continuing contribution from the World Bank provides US\$345,000 for activities in Africa south of the Sahara and some core-support financing for the Vienna office. UNDP is providing US\$150,000 for a two-year period. USAID has provided US\$150,000 for one year to support assistance to networking of forestry RD and A in developing countries. The Government of Austria contributes personnel space, and services valued at approximately US\$35,000 annually. FAO has continued to provide technical and logistical support to the SPDC including direct substantial investment for the workshop at Huaraz, Peru. IDRC and USDA Forest Service are contributing substantial funding and critically needed in-kind services.

At this level of financing the staff of the special programme can include the half-time co-ordinator, one regional co-ordinator in Africa, and the translator and professional forester at headquarters. Activities can include one workshop and a training courses plus some work toward other objectives.

ANNEX 3

LIST OF REFERENCES

The proceedings of the various workshops organized by the SPDC are included in this list.

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Annex 3 (Continued)

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ANNEX 4

ADDITIONAL NETWORKS BEING PLANNED BASED ON SPDC WORKSHOP ACTIVITY

Genetic improvement of MPTS

- (a) The IGADD countries. In-country research proposals need to be completed. A prior meeting is needed to select the lead institution, to agree upon its role, and to discuss the co-ordination required by the network.
- (b) Mexico, Central America, and the Spanish-speaking Caribbean region. The second set of country research programmes will build on the proposal of the Huaraz workshop for regional tree improvement of both MPTS and timber species. A document on the co-ordination unit is required to supplement those for the individual ten countries.
- (c) South America: Argentina, Brazil, Chile, Peru and Venezuela. This project on tree improvement of arid zone species has a complementary component on the management of the natural vegetation to conserve its genetic potential. A document on the co-ordination unit is required to supplement those for the individual countries.
- (d) East and Southern Africa SADCC countries: Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, Zambia and Zimbabwe). A ninth country, Tanzania, was covered by FAO-GCP/RAF/234/FRA. The SPDC Lilongwe (Malawi) workshop was the starting point for this network.

Reclamation of degraded forest lands

- (e) South American highlands : Argentina, Bolivia, Chile, Colombia, Ecuador, Peru and Venezuela. This network was proposed at the 1987 Huaraz workshop. Participation in the various component sub-projects will be ascertained during the preparation of country proposals. Again, a document is required on the co-ordinating lead agency.
- (f) SADCC countries. A network on the rehabilitation of degraded lands through the planting of trees and shrubs has been requested by the SADCC countries. Country research programmes are needed for the nine member states and the co-ordination unit.

Transfer of technology in wood utilization

- (g) South America
- (h) South East Asia

Two networks for the transfer of technology on wood utilization, from research to extension agencies and users, have been initiated. Both networks require country research programmes and proposals on the co-ordination units.

Regional workshops for planning six new in-country research network activities

- (a) a Caribbean workshop has been planned for May 1990. The priority areas of interest tentatively suggested by research staff in the region are: watershed management, forest ecosystem conservation, management of secondary forest, agroforestry and industrial forest plantations. UNDP has already provided \$145,000 of the \$155,000 required. A first priority is to narrow down this range of topics to focus on those which will most rapidly resolve constraints to sustainable forest resources land-use management;
- (b) two workshops have been requested for Asia:
- (i) a preliminary survey of the capabilities and interests of institutions concerned with analysis and research on policy and socio-economics in 1989 would be followed by a meeting to discuss the results and to determine the needs for future work;
- (ii) a second Asia regional meeting would cover the seven countries not actively involved in the multi-purpose tree species network co-ordinated by the USAID-funded F/FRED project. (Since the Kandy workshop in 1984 there have been shifts in the priorities of several countries. A fact-finding mission before the workshop would determine the degree of commonality among these seven countries and in particular examine the possibilities for three new species networks);
- (c) a fourth workshop is proposed for North Africa and the Near/Middle East region to focus on problems and arid-zone land-use, forest-resource management. This meeting also would be preceded by a fact-finding mission to determine interests and capabilities;
- (d) two missions have been requested, both concerned with the management of tropical rain forest for sustainable production and the conservation of genetic resources:
- (i) IUCN has a seven-country programme in Central Africa which is now in its second planning stage. There is a proposal to establish a research/demonstration project in the Central African Republic, based on the pilot management scheme in the Forêt de Yapo in Côte d'Ivoire. The fact-finding mission would determine the possibilities for replicating this work in the other countries. The mission and subsequent workshop would involve continued close collaboration with IUCN; and
- (ii) a fact-finding mission in conjunction with the ASEAN Institute of Forest Management has been requested for South East Asia. The pressure on those countries of the region, where productive areas of tropical rain forest still exist, is increasing rapidly from many quarters. There is some evidence that a different approach to research and the communication of results is now appropriate.