The Eighth International Workshop of BIO-REFOR was held in Nepal and focused on “Biotechnology Applications for Reforestation and Biodiversity Conservation.” The local organizing committee, co-chaired by Mr. R.B. Bista, Mr. M.S. Bista and Mr. R. B. Joshi, and all those involved in Nepal did a superb job in managing the workshop and the post-workshop field excursion. The workshop was organized by BIO-REFOR-Japan, and the Departments of Plant Resources and Forest Research and Survey of the Ministry of Forest and Soil Conservation, His Majesty’s Government, Nepal. More than 150 participants enjoyed the Keynote Address delivered by IUFRO President Professor Jeffery Burley and the Opening Address by Dr. Kazuo Suzuki. It was an extremely exciting workshop that summarized the knowledge gained over the course of the BIO-REFOR Workshop series in preparation for future research in the next millennium.

Technical papers dealt with a variety of topics including man-made forests, ecological processes in forest rehabilitation, propagation techniques, soil conditions and mycorrhiza, and biodiversity conservation. Highlights of the field excursion included sunrise views of the Himalayas from the Everest Panorama Resort in Daman and observations of White Rhinos from the back of elephants in Royal Chitwan National Park.

The workshop recognized that biotechnology will continue to increase in importance, both in agriculture and forestry, and could play an important role in the sustainability of the world’s forests, while also providing forest products. With a growing pressure on air, water and land resources, global attention has focused in recent years on finding new ways to sustain and manage the environment. Yet, we cannot move forward without examining the role that biotechnology, as an essential tool, can play in this endeavor. Increasing attention has been placed on the security risks of biogenetically modified organisms, especially in food crops. Concerns for bioengineered trees have not yet reached the same level. It is up to us to ensure that our practices are safe and will not have any disastrous environmental consequences. We must demonstrate that we have taken every precaution and that its potential benefits outweigh the risks.

As IUFRO-SPDC moves into the 21st century we would like to recognize the support we have received over the years from the Japanese Ministry of Foreign Affairs’ Official Development Assistance Programme. We are especially grateful to the Multilateral Cooperation Division of that Ministry and to all of the members of IUFRO-Japan for their support of SPDC and the series of workshops conducted by BIO-REFOR. IUFRO-SPDC looks forward to continuing our close working relationship with BIO-REFOR-Japan and its Coordinator, Professor Kazuo Suzuki, well into this millennium.

Dr. Robert Szaro
Coordinator of IUFRO-SPDC

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**NEWS FROM EASTERN EUROPE**

Our project in Eastern Europe “Effects of Forest Health on Biodiversity with Emphasis on Air Pollution in the Carpathian Mountains” continued its high level of activity in 1999. The project built on last year’s efforts by examining in greater depth several additional aspects of the potential impact of stress on forests.

**Bark beetles:** The quantity and quality of data improved significantly in 1999 because (1) measures were taken to ensure that all cooperators had the necessary supplies and equipment earlier in the season; and (2) a standardized data form was provided to investigators. Preliminary observations on two years’ data suggests that the more polluted sites are characterized by higher beetle captures in pheromone traps over time and higher beetle densities in sections dissected from infested trees.

Some anomalies in the data, such as the significantly higher numbers of *Ips typographus* adults trapped in the least polluted site, will require a more in-depth analysis of the local weather conditions and stand history that are peculiar to those sites.

**Dendrochronology:** Sample areas for the dendrochronology project were selected using the preliminary phyto-sociological information. This information was used to determine overstory dominants on the plots to provide some consistency in species collections and to emphasize only certain species on each site. Although an important species, *Abies alba* dominates only on a few sites of the 26 monitoring plots, so it was decided to focus only on *Picea abies* and *Fagus sylvatica*. Core sampling was finished on all sites and analyses will start in Spring 2000.

**Tree Genetics:** The genetics team selected the trees, collected samples,
and started isozyme analyses of all samples. Preliminary spruce results suggest that sensitive trees have a greater number of rare alleles than do tolerant trees.

Foliation and humus sampling: The objectives of this part of the study were to collect plant (beech leaves, spruce needles) and soil (litter) materials at all 26 permanent monitoring sites. Samples from all sites were prepared for analyses and then delivered to the Forest Research Institute in Zvolen, where all analyses are being done. The foliar surfaces of the selected forest tree species will be assessed on the basis of the chemical composition of settled particles, simultaneously with assessing an epicuticular wax structure. Direct observation of foliar surfaces will be examined using scanning electron microscopy.

**Summary:** The project is moving into its last year and we hope to finish sampling and analyses by this time next year. Next spring we will hold a synthesis workshop to bring all the results together for a book on “The Effects of Forest Stress on Biodiversity in the Carpathian Mountains.”

Dr. Robert C. Szaro
IUFRO-SPDC Coordinator

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**IUFRO News Vol. 29, 2000, Issue 1**

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**Renewed Focus on Latin America**

Since his arrival, the IUFRO-SPDC Deputy Coordinator has focused most of his efforts towards strengthening forest research capacity in Latin America and to forging partnerships with other national and international organizations to facilitate achieving this objective. To aid our ability to assess capacity building needs and possible opportunities he attended a meeting on Forest Research in Latin America (held jointly with the 6th Meeting of the Forest Information Network for Latin America and the Caribbean) organized by IUFRO 6.03.04 and FAO in Curitiba, Brazil, 23-26 November 1999.

The meeting included papers and working sessions that aimed to summarize the status of forestry research in the region with respect to capacity, challenges, potential and priorities. Although the degree of forest research capacity and the research priorities vary by country and sub-region, it was clear that the challenges confronting forestry science in Latin America are enormous. Obviously, considerable effort and resources targeted at building individual, institutional, and national research capacity are needed to help the region achieve its potential to sustainably manage its forest research capacity and the research priorities.

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1) Science-Policy Interface: It was generally perceived that science had little influence on forest policy, and that this contributed to poor government policies, inadequate forest management and a general discouragement in scientific ranks. This dilemma may be eased by some effort to bring together scientists and policy-makers (or at least the advisors to policy-makers) for some training and information exchange regarding the needs and roles of both parties and the rationale, benefits and means of fostering better interchange between science and policy.

2) Information Access: It is recognized that there is a relatively poor exchange of information within and especially between countries in the region. Even within institutions a great deal of data is relatively inaccessible and therefore underutilized. This has led to research duplication, poor transfer of information to users and a loss of collaborative opportunities. Some effort to assist institutions in making information and data more accessible, e.g., through the Internet, would pay good dividends. Clearly, it is important to provide institutions with technology and training so as to encourage their participation in the Global Forest Information Service.

3) Forest Valuation: The woeful lack of resources for forest research is unanimously recognized. In part, this is thought to result from a lack of appreciation of the broader values of forests (e.g., social, environmental, tourism) by policy-makers and stakeholders. Furthermore, sustainable forest management demands consideration of the full range of human values. Thus, there is recognition among scientists of a need for training in the understanding, application and refinement of methods and tools for forest valuation.

IUFRO-SPDC recognizes that these are major needs and is committed to working with partners in Latin America and with other national and international organizations in addressing these and other regional capacity-building issues. We are already involved in activities to secure funding support for several new initiatives. Proposals have been prepared and submitted to develop new training courses and workshops on the topics of “Evaluation and Maintenance of Forest Health” and “Forest Valuation.” Furthermore, resources are also being sought to support conferences on these topics in Latin America. In an effort to meet the demand for affordable textbooks in Spanish, we have solicited funding to support publication of several books on regional topics. We look forward to seeing implementation of some of this work in the near future.

Dr. David W. Langor
IUFRO-SPDC Deputy Coordinator
Emerging Political and Technological Changes Influencing Forestry Research in Africa

By Dr. Atse M. Yapi,
IUFRO-SPDC Deputy Coordinator for Africa

In the issues 2/99 and 3/99 of IUFRO News I discussed emerging changes in the \"African social and economic environments\" and their impacts on the future performance of national forestry research institutions. It was argued that change is inevitable, and that national research institutions need to anticipate external changes and internalize them within their strategic plans in order to enjoy continued success. In this first issue of the new millennium, we examine emerging changes in the \"political and technological environments\" and the challenges and opportunities they bring to bear on African national forestry research institutions.

Indeed, as we move into the third millennium, we are embarking on a global cultural revolution characterized by a worldwide drive for democracy and pluralism, and also by an overwhelming expansion of information technologies which tend to reduce the world to a global village. These indeed will not be without impact on forestry research in Africa.

Emerging Political changes in Africa and their impacts on Forest Research

The most significant emerging change in the political environment of Africa is undoubtedly the drive for pluralistic and democratic systems of governance and management. This new trend, strongly encouraged by the international community of nations and by world financial institutions (i.e., World Bank, IMF), has important implications - challenges and opportunities - for the development and performance of national forestry research institutions in Africa.

Pluralism, democracy and challenges for forestry research in Africa:

Pluralism can be defined in simple terms as the existence within a given society of a variety of groups with different, autonomous and sometimes conflicting interests, values and perspectives. Conflicting interests cannot easily be reduced to a common perspective by simple reference to an absolute standard (FAO 1999). From being dominated by single political party regimes before, governments in Africa are now increasingly chosen democratically through multiparty elections. Natural resources management (NRM) is also evolving in pluralistic directions. National forest programmes (NFPs), the Intergovernmental Forum on Forests (IFF) and the Intergovernmental Panel on Forests (IPF) are excellent examples of emerging platforms of multiple NRM stakeholders.

The drive toward pluralism in NRM is largely motivated by dissatisfaction with the present state of affairs. In most African countries, forests have been held in trust and controlled by the State and have become increasingly degraded over time. Local populations are at best given only a user right to these resources. It has become clear that exclusive management of natural resources by \"single entities\", be it public, private, NGO or local community, has quite frequently been inadequate (FAO 1999). What is needed are fora where autonomous interest groups can come together, build consensus around NRM issues and make mutually acceptable plans to address these problems. This obviously challenges forestry research scientists and their institutions in at least two ways: First, it establishes that, besides government, other equally important stakeholders (e.g., villagers, farmers, sawmill owners) exist in the forest sector, and that government forestry objectives may not be always in line with those of the other stakeholders. This challenges research scientists and their respective institutions to review their research assumptions and design new strategies for forest sector development. Such strategies, to be valid, must account for all individual objectives held by the different stake-holders involved in the sector. This, in itself, poses another challenge, as researchers move from the unidimensional forestry strategy traditionally postulated to a multidimensional one. An added challenge associated with pluralism is the need to build consensus around issues in order to reconcile differing views and interests. The reconciliation must involve equitable weighting of these differing interests. This obviously requires a tedious process and good conflict resolution skills, which research scientists may not possess.

Pluralism, democracy and opportunities for forestry research in Africa:

The evolution of natural resource management in pluralistic directions offers a number of opportunities to forestry research in Africa. First of all, it opens a window to address important questions for researchers, including: Who owns the forests? What is sustainability in a pluralistic context? Indeed sustainability means different...
things to different people, and unless the ownership question is properly addressed, one may not be able to define and develop meaningful criteria and indicators for sustainable forest development. Second, the evolution of forestry in pluralistic directions offers forest scientists the unique opportunity to develop research proposals and plans acceptable to the stakeholders most concerned for the different types of forests. Since research activities must focus on real issues identified with the active participation of the concerned stakeholders, forest scientists stand a chance to benefit from stronger political commitment and public support. This should lead to increased public and private funding of national forest research.

Emerging Technological changes in Africa and their impacts on Research

Undoubtedly, the most significant emerging technological change in Africa is related to communication/information. Progress in this area is not uniform across the continent, but it is seen and welcomed enthusiastically everywhere. From being dominated by a single “state owned” newspaper and radio station before, the media in most African countries are now evolving in pluralistic directions. Freedom of expression and of the press is visibly becoming a reality. Populations are becoming increasingly and more rapidly well-informed. The good old traditional regular mail system is now being replaced or supplemented by e-mail and the Internet. These extraordinary developments are expected to accelerate and invade every aspect of human life, including education at all levels. How will forest research institutions and individual researchers take on the challenges and opportunities associated with these tremendous changes?

Opportunities associated with the emerging technological changes: Opportunities emanating from these emerging technological changes are many for forestry research and include the following:

- Timely availability of, and greater access to, relevant background information on forest issues and past and ongoing research efforts through the Internet and other electronic media. This naturally increases research planning efficiency and effectiveness.
- Availability of background information on potential donors on the Internet may also enhance research proposal writing and their timely submission to potential donors and funding agencies.
- E-mail facilities present a real opportunity for research scientists to communicate and collaborate more efficiently and effectively. This reduces the risk of duplication of research efforts to a great extent and can break the tendency to “re-invent the wheel”.
- Internet and E-mail facilities also favour the development of strong friendships and ties between researchers through networking and frequent exchange of messages on issues of common interests. Such informal relationships will no doubt lead to enhanced cooperation and understanding between nations.

Conclusions

In recent years, Africa has been overtaken by political and technological revolutions. The political environment is evolving rapidly in pluralistic directions. More specifically, it has become clear in Africa that management of natural resources - including people - by “single entities”, whether political party, government, private, non-governmental organization, or local community, is not the best way to operate. The stakeholders in natural resource sectors are many and have frequently very conflicting interests and views, which cannot easily be reduced to a common perspective by means of an absolute standard. On the technological side, the revolution is mostly in the area of information technology, with the extraordinary expansion of computerized communication and information systems. All these important developments represent great challenges for forest scientists and research institutions. They also offer great opportunities, which must be seized and internalized for more efficiency and effectiveness in forestry research and development in Africa.
The project, as part of the Global Forest Information Service (GFIS), will establish five regional nodes within African, Caribbean and Pacific countries (those countries who are parties to the Lomé Convention) that will facilitate access to and dissemination of scientific and technical information on forests and their utilization. The location of four of these nodes has been determined while we are in the process of selecting the fifth node to provide a better geographic and/or ecological balance. Those already selected are Western Africa (Ghana and Senegal), Eastern Africa (Kenya), and Southern Africa (Zimbabwe).

Our objectives are: (1) to improve access to reliable scientifically based information on forests in ACP countries and their utilization, (2) to build capacity in selected regional research institutions to develop and manage internet-based systems to facilitate broad access to research information on forests in the ACP countries, (3) to share experience and good practice in information management between ACP countries, and (4) to enhance integration and comparability between national data on forests throughout the ACP countries.

Specific objectives and a work plan for the first year will be developed at an organizational workshop to be held sometime in May at one of the nodal locations. We will rely on the needs of our nodal cooperators to help set the priorities for the types of information that will be shared and who will have access. We envision starting with a trial set-up at one of the nodes to trouble shoot potential problems and then replicating the set-ups at the other nodes before the end of this year. In future issues of IUFRO News we will highlight our progress and give the address of nodal web sites at each node (URLs) as they come online.

Robert C. Szaro, IUFRO-SPDC Coordinator

**GFIS - AFRICA**

We have expanded our partnership with FAO to ensure that these efforts are coordinated and fit within an overall global system. As a result two project staff members will be co-located at FAO in Rome. These positions will be for (1) an Internet specialist with experience in establishing Internet applications in developing countries and (2) a web publishing specialist. These specialists will have responsibility of developing the interfaces for GFIS-AFRICA and for helping to set up equipment. At each node we will provide equipment, training, salary for an information specialist and operational costs. As we implement the project we will include a wide variety of other partners to help us develop the network.

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**SPDC MEETING REPORTS**

Workshop on Research Proposal Writing

The International Foundation for Science and IUFRO-SPDC conducted a workshop on research proposal writing in Kadoma, Zimbabwe, October, 19-22, 1999. The workshop was based on our newly developed manual “Handbook for Preparing and Writing Research Proposals” written by Dr. C.P. Patrick Reid of the University of Arizona, Tucson, USA. The workshop instructors were Drs. C.P. Patrick Reid and Kent Reid (no relation). Peter Wood assisted by giving his thought on the logframe format commonly used in proposals throughout Europe. Workshop participants were also given an overview of CIFOR activities in Africa by Godwin Kowero and Ravi Prabhu.

The African Academy of Science was also represented by Dr. Iba Kone and several members of AFORNET regional nodes.

The workshop was attended by more than 25 participants from Benin, Burkina Faso, Cameroon, Ethiopia, Ghana, Kenya, Madagascar, Malawi, Namibia, Nigeria, Senegal, Sudan, Tanzania, Uganda, Zambia, and Zimbabwe.


IUFRO-SPDC is extremely indebted to the International Foundation for Science and its Forestry Programme Officer, Dr. Per Ekman, for taking charge of the organizational arrangements and for providing most of the financial resources for the workshop. We would also like to express our thanks to the Forestry Commission of Zimbabwe and in particular Dr. Enos Shumba for their
Individual Travel Grants Discontinued

Over most of its existence IUFRO-SPDC has been able to sponsor a number of scientists to attend IUFRO sponsored meetings, conferences, and workshops. This aspect of our programme has been a great success to all those who have benefited from our travel grants. However, with great regret we now find it necessary to terminate these grants as a result of changes in how our donors wish to distribute their support. We are no longer able to find the financial resources to maintain our small discretionary travel grants as donors wish their funds to be project-driven and product-oriented. All future assistance for IUFRO events must be restricted to those meetings for which we can successfully compete for additional support from other sources.

We will no longer consider or give individual travel grants. All our future support will be given directly to high profile meetings (e.g. Inter-divisional, Divisional, or those dealing with issues of international policy importance) whose organizers work closely with us in developing funding proposals. Decisions concerning who gets funded will be made jointly by the meeting organizers and IUFRO-SPDC. Because of the time demands in searching for such funds, we anticipate being able to work with only 4 or 5 meeting organizers in any calendar year.

We will try to schedule our future training workshops concurrently with IUFRO meetings in order to allow workshop participants to also attend such meetings. This approach worked extremely well in January 1999 when we hosted a training workshop in Pretoria, South Africa, just after the Division 6 meeting.

All scientist assistance funding for the year 2000, and our time to work on funding proposals have already been totally committed to the IUFRO Congress in Kuala Lumpur, Malaysia. As a result, we will be unable to assist meeting organizers in securing funds for any other event this year. We hope that all our colleagues throughout IUFRO will understand our need for making these changes.

Robert C. Szaro
IUFRO-SPDC Coordinator

Announcement

SHORT COURSE ON
Tree Breeding Strategies
2 – 6 October 2000
in Pretoria, South Africa

The course is aimed at tree breeders and forest geneticists. Its objective is to empower participants to optimise and implement effective breeding strategies for forest tree species. Participants who are actively involved in the development, management or implementation of breeding strategies will benefit most from the course.

Course Fee
a) Early registration and payment (before 2 July 2000): US$ 950
b) Late registration and payment (after 2 July 2000): US$ 1100

Organized by: CSIR
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