EXPERIENCES FROM FORESTRY RESEARCH NETWORKS.

A paper presented by

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To Regional Workshop on the Formation of an African Forest Pest Network held in Nairobi, Kenya, 24 to 28 April 1995

SUMMARY

It is observed that poor inter-African communication systems and lack of fora for information exchange is leading to duplication of efforts and waste of scarce resources. More over current underfunding of forestry research programmes and related factors have weakened the ability of many institutions in Sub-Saharan Africa (SSA) to respond to pest outbreaks. On the other hand, forest pests move freely in all areas where their hosts occur, in defiance of territorial boundaries. Recognizing that the countries of the SSA region constitute one major quarantine block; it is recommended that the region should impose identical quarantine restrictions, and to observe common pest monitoring systems.

Available experiences show that these weaknesses can be addressed effectively through an African forest pest network. The paper cognizes a range of existing forest and forest-related networks in Africa. Factors that favour and enhance the success of a network are acknowledged. The significance of a strong leadership with demonstrable stature and scholarship in the field of study is noted and the imperatives of involving all players from the planning stage and throughout all stages of project implementation, including data analysis and dissemination of results are stressed. It is urged that these attributes accord credit of visibility in the roll of partnership and ownership of the network and over time cultivate confidence and commitment to collaboration. A conceptual framework of a model network based on the FAO's proposed Forestry Research Network for Sub-Saharan Africa (FORNESSA) is presented for the workshop's consideration.

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1.0 Introduction

Effective national agricultural research systems are critical for the reversal of the progressive decline in **per capita** food and agricultural production, and the escalating rates of deforestation in Eastern and Southern Africa. For various reasons, investments in forestry research (through national, regional or international programmes) have not been able to deliver higher yielding and pest resistant clones, locally adapted and economically viable technologies. While additional and continuing investment will be necessary, the key to improved productivity and efficiency is shared between enhancing the performance of existing institutions, optimizing inter-institutional co-ordination and maintenance of adequate funding. Donor involvement has typically been piecemeal and of limited duration, while the effectiveness of national research programmes has been constrained by recurrent budgetary deficiencies for operational activities. Unless the national research systems are substantially strengthened, the effectiveness of the work of international research systems and regional centres will remain marginal and therefore, susceptible to uncoordinated efforts from outside which, while well-intended may further weaken national programmes.

Inter-institutional coordination is often cost effectively realized through networking. Indeed forestry and agricultural research in developing countries have used informal and formal networks as vehicles for cooperation. On the whole, networks have become attractive with world wide declining funds for research, and are particularly appealing to research communities in countries with limited resources and scientific manpower. According to Burley (1987) a network reduces costs, minimizes duplication, boosts efficiencies,

strengthens national capacities. Indeed many development agencies and developing countries have accepted networks as a cost-effective mechanism for strengthening institutional capacity and causing noticeable impact in the application of research findings.

However, networks are not easy to create, manage and maintain; they require great dedication on the part of the network supporters to be sustained over a long period of time. But, in the absence of a network, neighbouring countries are obliged to individually repeat similar work due to lack of information exchange. In addition there are often within the same country barriers between the various institutions and hardly any framework for cooperation to make good use of research results.

2.0 TYPES OF NETWORKS

Networks range from simple informal exchange of information on experiences touching on work done, methodology followed and names of participating scientists etc., effected through correspondence and or newsletters; to a more formal structured systems governed by a contract or a memorandum of understanding involving a number of actors and coordinated by a secretariat. The following models are common among forest scientists in Africa.

2.1 Twinnings

Consist of an agreement between two institutions to strengthen one of them by sharing of information, skills or resources particularly through the contribution of staff, training, equipment, materials, or finance. Twinning is often common between an institution in a developing country and one in a developed country. Technical cooperation models adopted by some agencies of the United Nations and bilateral donors operate along this model.

2.2 The Union of Forestry Research Institutions

The International Union of Forestry Research Organization (IUFRO) provides a good example of a forum that is over 100 years old for forest scientists for the discussion of research plans, methods and results, instruments, standards and harmonized operational rules aimed at enhancement of quality and excellence. Its vision is to bring together scientific knowledge from all aspects of forestry, forest products and forest operations for the sustainable use of forest ecosystems. The Union is governed by the General Assembly and the World Congress, The International Council made up of representatives of the national research institutions and an Executive Board, elected by the Council. The Union does its work through the Subject Groups (36), the Project Groups (28) and the Working Parties (220). All these groups are run by IUFRO's officers on a voluntary basis. Co-ordination is effected by correspondence with intermittent meetings, training workshops and seminars. The IUFRO World Congress is held once in four years and is hosted by one of its member institutions. This provides a venue for presentation of the thematic invited and voluntary papers.

Costs of communications are borne by the member organizations: currently standing at about 730 forestry research institutes, faculties and enterprises. The members support the organization through a small membership fee based on the number of scientists working in the institution. But trials and research may be initiated at the pleasure of member institutes. Currently paucity of resources among third world countries has tended to restrict participation of scientists from the South, a development that continues to erode the impact of IUFRO's international networks.

2.3 International Networks

A number of international networks of provenance trials have been implemented for a range of species by different institutions. The Oxford Forestry Institute (OFI), working on Central

American Tropical Pines; Australian Centre for International Agricultural Research (ACIAR) focussing on Australian species of ***Acacia, Casaurina*** and ***Eucalyptus***; the Centre Technique Forestier Tropical (CTFT) working on African Hardwoods and Pacific insular eucalypts; and the FAO sponsored Asia Pacific Agroforestry Network (APAN) based in Indonesia are noteworthy.

2.4 CGIAR - Centre Driven Networks

A large number of commodity based CGIAR centre driven networks are currently operating in Africa. Many of these are concerned with comparative testing of improved crop germplasm, with a few dealing with agronomic problems and farming systems. In agroforestry, AFNETA and AFRENA networks have been running for some time in nearly all regions of Africa.

2.5 Collaborative Contract Research

Collaborative research implemented through a contractual bond has become popular funding vehicles by European based funding agencies, particularly the European Union (EU). The collaboration often involves two to three institutions, one of which must be based in an EU member country. The programme is implemented by a contractor who is also the co-ordinator affiliated to an institution based in an EU member country; and associate contractors based in other participating countries. Quite often the northern based institutions tend to focus on basic/tactical research; while southern based ones concentrate on applied/process oriented research, field validation and pilot testing. Other collaborative contract research types include:

(i) International Network for Bamboo and Rattan (INBAR) established in 1993 and is funded by IDRC of Canada and the International Fund for Agricultural Development (IFAD).

(ii) Forestry research support programmes for Asia and the Pacific (FORSPA) developed by FAO and funded by the Asia Development Bank and the UNDP.

(iii) FAO is currently steering the formation of a Forestry Research Network for Sub-Saharan Africa (FORNESSA).

3.0 WHY AN AFRICAN FORESTRY PEST NETWORK?

Forestry research programmes in Sub-Saharan Africa (SSA) are currently starved of resources. National expenditure on research only average 0.3% of GNP and less than 0.1% of the value of the forest products is spent in research in SSA. Moreover, the research environment is often stifled with inexperienced staff, some of whom are inappropriately or insufficiently trained, and poor information dissemination (Odera and Sall, 1994). It is noted further that poor information dissemination, lack of fora and dialogue is leading to duplication of effort and waste of scarce resources. This concern is particularly significant in the management of forest pests and diseases; organisms which do not recognize territorial boundaries. In this regard, the entire SSA is virtually one geographical block and once a foreign pest or disease gains a foothold in any one country in the region, then it is sure to spread to every country in the region where its host trees occur. The recent experiences with exotic forest and agricultural pests, such as the conifer aphids, the leucaena psyllid etc. clearly underscore this concern.

Since the SSA countries share the same geographical land mass and are still free from many destructive forest pests and diseases, it is necessary for the region to impose identical restrictions, reflecting introduction of plant materials from outside; observe a common pest monitoring system to enable an early detection of arrival of new pests and possible build up of endemic ones. This would enable prompt suppression of pest outbreaks, with substantial savings of the crop.

This situation together with the existing low level of funding of R & D and scarcities of quality scientific staff, call for teaming up of available resources in tackling many problems of common regional concerns.

A network strategy is proposed because:

(i) It is cost effective especially in monitoring pest distribution, epidemiologies and in mounting control interventions.

(ii) Forestalls duplication, provides efficient use of scarce manpower.

(iii) Has capacity for addressing all relevant agro-ecosystems where the pests occur, in consistence with pests bioecology, outside national boundaries.

Plucknett and Smith (1984) have recognized seven main principles for success in networking. Burley (1987) has observed that a network must further strive to encourage participants to disseminate the results through formal publications, informal reports, newsletters etc.; and promote application of technological findings by users. Odera and Sall (1994) have recently developed a network model for a SSA forestry research network, which can provide a useful frame of reference in the development of an African pest network. The following considerations are particularly important in the development and management of a network:

- The problem must be clearly defined and a research agenda drawn up, jointly by all players working as equal partners on a level playing ground. Governance should be collegiate with powers vested on its members and committees, which should in turn provide desirable moral and substantive support to the coordinator.

- The problem should be common to the participating countries, and the network should strive to promote equal partnership of participants who should work in an open participatory system.

- Strong self-interest must exist in each collaborator, but the activities of the network should remain driven by needs, and be geared to stimulate upstream, downstream and horizontal linkages, promote N-S partnerships, and where necessary spinning research activities to national programmes.

- Participants must be willing to commit resources, but some outside funding should be made available to facilitate the birth and early functioning of a network, with built in mechanisms that would promote eventual self-reliance even if this be on a gradual basis.

- The network secretariat/coordinator should strive to mobilize additional resources to enable the network establish efficient conduits for corporate interventions and feedbacks, and to meet the challenges for innovation and new technologies which can contribute to more dynamic SSA strategy that would in turn nurture maximum synergies for sustainable production of healthy crops.

- Staff from participating institutions should have sufficient training and expertise to generate self-confidence, quality and to assure reliable contribution.

- The network must be guided by strong and efficient leaders who have the confidence, support and acceptance of the participants.

A conceptual framework of a possible network model with instruments for governance, coordination and linkages is shown in Figure 1.

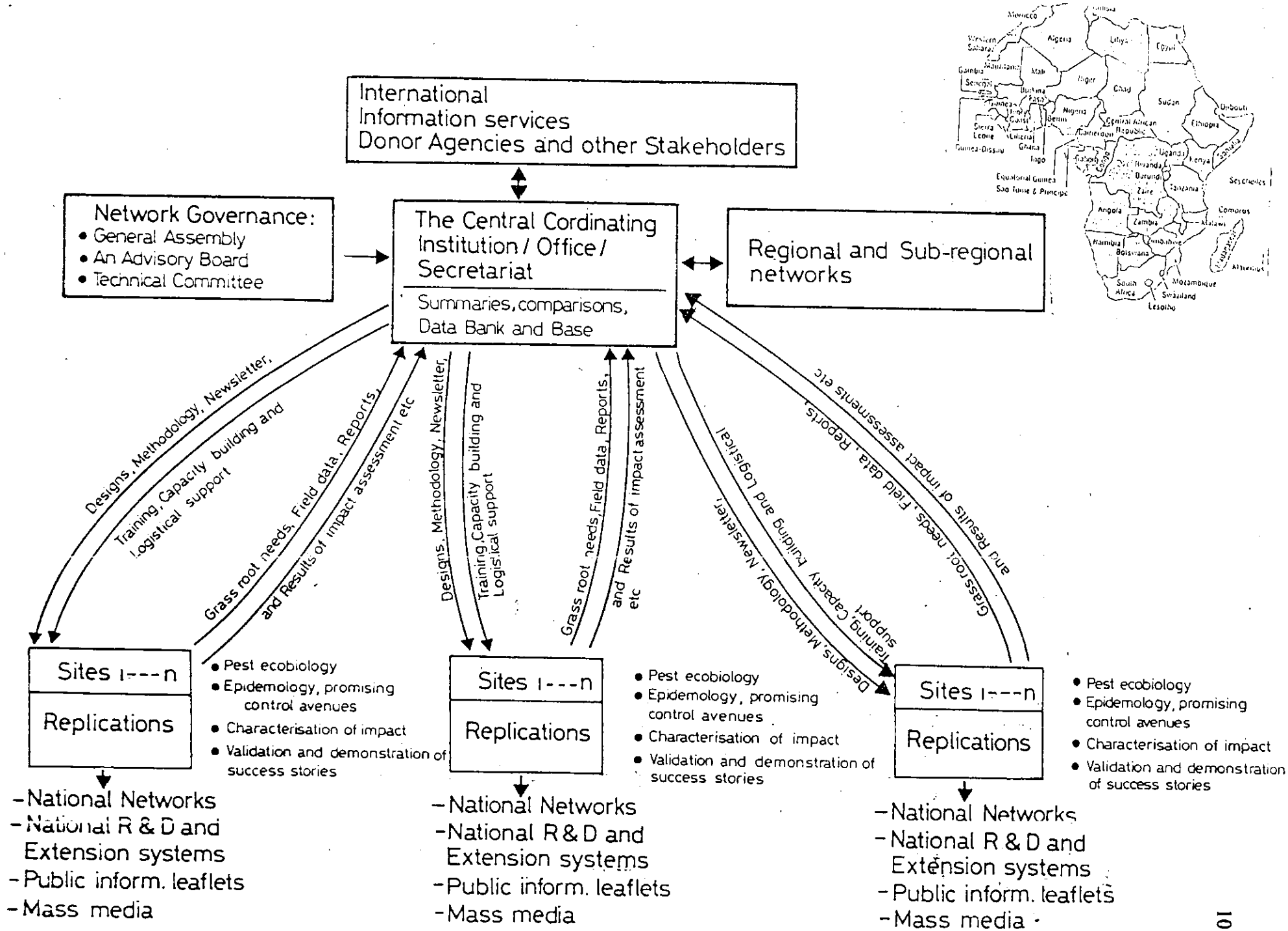

Fig 1: A conceptual model of possible institutional-linkages in an African Forestry Pest Network

5.0 CONCLUSION

The performance of forestry research programmes and ability of national institutions to respond to forest pest outbreaks in SSA region are relatively weak. This situation is exacerbated by declining funding of the R & D programmes and shortfalls in scientific manpower. It is noted further that the national programmes tend to be repetitive and fail to address the range of crops and ecosystems.

Although the development of a network is proposed as a strategy for solving constraints to pest management, it is noted that networks are not easy to create, manage or operate. For smooth function of a network, common aspirations must be evident and should be perceived as such by all partners. While the importance of having a solid and firm leadership, remains a leading ingredient for ensuring the success of a network; the coordinator should be professionally competent and experienced in the field of study.

Cultivating effective partnerships by involving all players from conception of the research agenda, and throughout all stages of planning, including choice of methodology, implementation processes, data analysis and dissemination of results remains an imperative task. Equitable and transparent allocation of roles and resources cultivate a sense of ownership and belonging.

Clearly defined roles, and areas of responsibility, would generate mutual acceptance, ownership and over time build confidence and commitment. A strong commitment at the departmental and institutional levels ensures sustainability of the network.

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