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**SCIENTIFIC, TECHNICAL AND RESEARCH COMMISSION
COMMISSION SCIENTIFIQUE, TECHNIQUE ET
DE LA RECHERCHE**



**Semi-Arid Food Grain Research And Development
Recherche et Développement des Cultures Vivrières dans les Zones Semi-Arides**

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**COLLABORATIVE RESEARCH NETWORKS:
COMMENTS ON ISSUES AND THE COMPARATIVE
ADVANTAGES OF SAFGRAD.**

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I. BACKGROUND.

In conformity with the 1985 Special Programme for African Agricultural Research (SPAAR) Guidelines, SAFGRAD II was developed mainly to enhance NARS scientific and research management leadership and to make collaborative research networking central to its activities. This led to the establishment of the SAFGRAD model involving NARS management entities, namely the Council of National Agricultural Research Directors of member countries, the Oversight Committee and Steering Committees of respective networks. Thus, a dynamic, functional relationship among these network entities, NARS scientists, including the SAFGRAD Coordination Office (SCO) and the IARCs (IITA and ICRISAT) was put into place.

In collaboration with the International Agricultural Research Centres, the networks administered under the SAFGRAD are:

- a) The West and Central Africa Maize Network
- b) The West and Central Africa Sorghum Network
- c) The Eastern Africa Sorghum and Millet Network
- d) The West and Central Africa Cowpea Network
- e) The West African Farming Systems Research Network
- f) The Semi-Arid Lowlands Agroforestry Network.

The International Agricultural Research Centres (IITA, ICRISAT, ICRAF, etc..) provide technical backstopping. The SAFGRAD Coordination Office is the legal and political umbrella for networks. It mobilizes resources of national systems by bringing together governments and institutional efforts, persuades NARS to strive towards research self-reliance, promotes policy reforms and provides feedback information to OAU with regard to agricultural research and development issues.

There is evidence that SAFGRAD has significantly influenced the development of agricultural research among its member countries by fostering professional growth and commitment as well as inducing considerable policy reforms in respective member countries.

It is noticeable that previous investments in agricultural research, through SAFGRAD, have started to bear fruit. For example, emergence of a cadre of NARS scientific leadership, diffusion of better yielding technologies to member countries, relatively improved capabilities of the NARS to choose and utilize technological options available to them, and the slow but convincing increase in food production in the semi-arid savannas using technologies developed through the networks.

II. SOME ISSUES

- (1) Complementarity between OAU/STRC-SAFGRAD and SPAAR:

- a) SAFGRAD II was designed in conformity with SPAAR guidelines. Since 1987, the guidelines were fully implemented by the SAFGRAD collaborative research networks.

 - b) While SPAAR major effort has been to revitalize national agricultural research systems through the coordination of donor support, that of SAFGRAD has been to mobilize the resources of NARS and IARCs for the development of agricultural research networks, in general, and the food grain networks, in particular.
- 2) Strategic differences:
- a) SPAAR utilizes existing political entities (CILSS, SADCC, etc.) in order to revitalize agricultural research in each NARS.

 - b) Networking that transcends geo-political boundaries is central to the activities of SAFGRAD.

 - c) As NARS research capability becomes significantly improved, the two strategies could converge to impart synergistic effects on research and development.

(3) Is there an African led alternative to OAU/STRC/SCO?

This issue has been debated since the beginning of SAFGRAD II. Two schools of thought prevail: One contends that there could be an alternative to SCO to coordinate and manage networks. For example, the Institute of Sahel (INSAH) in West Africa, which is limited in its activities to eight Sahelian countries, the Southern Africa Coordinating Centre for Agric. Research (SACCAR) serves only 10 SADDC countries. The other view is that there is no better network coordinating alternative to OAU/STRC/SCO. For example, in West, Central and Eastern Africa, SAFGRAD networks serve 25 countries, cutting across geo-political and linguistic barriers with its activities being concentrated in the semi-arid, agro-ecological zones.

An important dimension in networking is also to pool together natural and developed research resources for the benefitting countries. For example, major resources of germplasm and technology for sorghum, maize, millet and cowpea reside outside the Sahelian countries. On the other hand, some of the Sahelian countries have strong programmes. As a result, they have provided leadership and shared research results with other countries outside the CILSS political entity.

Some conclusions of the 1988 and 1991 evaluations of SAFGRAD II by external experts as well as results of appraisals by peer groups of national scientists and research managers, representing different member countries, concluded that the Organization of

African Unity is an appropriate organization and political framework within which to manage and maximize the benefits of collaborative research networks in order to confront common research challenges within the sub-Saharan Africa.

Furthermore, the SAFGRAD II mid-project evaluation (1988) recommended SCO not to diversify its programmes; rather, to consolidate its efforts (including financial systems) in managing the existing networks. As a result, the SCO encouraged NARS to define their own medium and long-term network plans.

(3) Transferring network coordination and leadership to NARS.

SAFGRAD II was designed to bring NARS leadership to the forefront. It was only after the IARCs had established partnership with OAU/STRC, through networking, that the shift of network management from IARCs to NARS began to take place. The SCO has persistently^{ent} persuaded NARS to strive towards research self-reliance both at regional and national levels. Inter-governmental interactions, policy reforms, issues from dependency to self-reliance, matching-up of resources to networking were also dealt with from African perspectives among NARS.

The current model of networking (which has been interactive) should not be disrupted, especially since it helps to sustain the development of NARS leadership and to speed up the process of technology transformation into extension recommendations and production.

Along this line the following progress was made:

✓ ✓ i) SCO played a catalytic role in promoting self-reliance in agricultural research and leadership development through out SAFGRAD II. This aspect of networking also involved convincing individual governments to reorient programmes, initiate policy reforms and increase support to network research, etc. As amply documented in the Strategic Plan of SAFGRAD Networks, NARS are in general agreement to assume regional leadership of network activities before the end of the decade.

ii) Pooling together NARS scientific talents and resources.

✓ ✓ This has induced new alignments of research responsibilities at regional and IARC levels. Lead and Associate NARS Centres have increasingly assumed regional responsibility to undertake applied and adaptive research. NARS undertake a broad analysis of agricultural problems, set their own production programmes to research priorities and identify research programmes of common interest being undertaken by networks. Through the active participation of national scientists, Steering Committee members of respective networks, research managers and policy makers, the long-term Strategic Plan was developed.

Applied and basic research themes that could not be undertaken by national programmes are undertaken by the IARCS.

The plan calls for NARS coordinators to be based in national institutions within the next 3-5 years. Donor support for research, training, workshops, etc. is expected to continue for several years. The plan proposes alternative modes of IARC collaboration in network support.

(4) Institutional issues.

- ✓ i) Institutional weaknesses such as improving the research environment, policy reforms, priority for allocation of resources to the agricultural sector, promotion of the private sector in research, etc, still place major limitations on research efficiency.

- ✓ ii) Furthermore, donor financial support and that of IARCS' technical backstopping are unlikely to bear fruit without gradual matching-up of resources and commitment by beneficiary African Governments. The OAU/STRC has a unique experience and comparative advantage in dealing with inter-governmental issues related to agricultural research and development.

- iv) Sustainability of networks could be attained through increased government commitments. The OAU/STRC is an

appropriate organization to interact with NARS governments so that more resources are allocated to agricultural research and networks, in the long-run.

III. SOME COMPARATIVE ADVANTAGES OF THE SCO

- 1.0 Since 1987, the SCO has developed its capacity through USAID's financial assistance to be particularly responsive in managing regional research in general and networks in particular. It has a sound financial management system as well as, technical and administrative experience.

- 2.0 The SAFGRAD Coordination Office (SCO) is in the unique institutional setting to provide feedback to OAU Headquarters with regard to agricultural research and development issues that could emanate from national structures.

Evidence:

The deliberations of the National Agricultural Research Directors, the Oversight Committee and the overall SAFGRAD activities are reported to the Council of Ministers of the OAU.

The recent resolution of the OAU Council of Ministers regarding SAFGRAD has been to consider its institutionalization as a permanent agency.

3.0 The OAU umbrella provides smooth and unimpeded movement of scientists, equipment and germplasm across national frontiers of member states of SAFGRAD. This has enabled SAFGRAD to forge cooperative links among NARS and with other regional organizations and agricultural research centres.

Evidence:

- a) SAFGRAD staff, IARC and NARS scientists as well as occasional consultants are provided with "laissez-passers", identity cards and "Mission orders" to facilitate their travel, etc. from one member state to an other.
- b) Smooth transit of germplasm, equipment etc. across member countries.

4.0 As an OAU entity, the SCO imparted research policies for streamlining and orientation of regional research to be more NARS-driven.

Evidence:

Using the "bottom-up" analysis approach NARS, researchers identified food grain production constraints, prioritized research; the steering committees developed network programmes and provided technical guidance for project implementation in participating NARS; the Oversight Committee managed the overall SAFGRAD

activities; while the Directors of Agricultural Research resolved common research problems and provided policy and operational framework for networks. Thus, the research coordinating efforts through the SAFGRAD system, drastically removed duplication of research efforts in areas of food grain research and development among national systems and between IARCS and NARS.

5.0 SAFGRAD as an OAU project received good ambiance of collaboration and in-kind contribution from beneficiary member countries.

Evidence:

- a) Greater cooperation in the technical implementation of activities of the food grain networks. Acceptance of regional research responsibilities by the relatively strong NARS as "Lead Centres" as well as sharing of research facilities and results.
- b) Allocation of land and time of NARS staff for research, office space, as well as laboratories, at no cost, to SAFGRAD (for example, in Burkina Faso, Nigeria, Ghana, Cameroon, Kenya, Sudan, Mali etc.). This in-kind contribution is estimated at about \$3 million during SAFGRAD II.

- c) Unquestioned willingness to allow scientists from one national programme to offer technical expertise to another member country through the networks (Among several examples, the Cameroon NARS scientists were able to provide research assistance to neighboring NARS such as Chad and Central African Republic).

✓ 6.0 OAU/SAFGRAD in general and its coordination Office in particular, has a comparative advantage in consolidating research efforts and expanding the benefits of collaborative networks beyond political boundaries and across linguistic barriers.

Evidence:

- a) In West and Central Africa 17 countries (Francophone, Anglophone and Lusophone) participate in each of SAFGRAD's food grain collaborative research networks. Under its OAU umbrella, national programme scientists and research managers have addressed common problems and issues of agricultural research and development from an African perspective with minimum external influence.
- b) In Eastern Africa 8 countries participate in the sorghum and millet collaborative research network. OAU's office provides research facilities, diplomatic privileges, tax-free and legal immunities to network

staff in Kenya. This makes the ICRISAT/SAFGRAD collaborative research network more effective.

- c) Furthermore, the SAFGRAD II evaluation also concluded that "The Organization of African Unity is an appropriate organization and political framework within which to manage agricultural research networks. It may offer the most effective auspices under which to continue truly regional networking that successfully cuts across political boundaries and (crumbling) language barriers, thereby enhancing the capacity of African scientists to confront common research challenges within far-ranging agro-ecological zones".

- d) The SCO, as an OAU agency has effectively mobilized a "pool of scientific manpower, research infrastructure, etc. of participating countries. Consequently, NARS were categorized according to their level of research development (Lead Centres, Associate Centres and Technology Adapting NARS). The relatively few stronger NARS not only assumed regional research responsibility in the area of their research comparative advantage, but also provided direct research assistance to minimize research weaknesses in the small national systems.

7.0 Among the indigenous regional agencies, the SCO has relatively long experience in research coordination, sound

financial management and administrative capabilities to implement regional research projects. This includes the disbursement of funds to NARS for different research and on-farm verification trials under SCO financial control systems.

Evidence:

The political entity of OAU/STRC/SAFGRAD that SCO embodies, is desired by other networks. Those networks already accepted (by the Oversight Committee) to operate under the OAU/SAFGRAD umbrella include the West African Farming Systems Research and the semi-arid lowlands agroforestry networks for Sahelian countries.

8.0 The SCO's continuous interaction with national agricultural research institutions and their respective governments and international research centres, has facilitated the emergence and development of scientific and research management leadership.

Evidence:

a) Research Management

- 52 research managers from 22 countries actively participated and provided policy guidance and operational framework for network activities.

- 7 eminent senior research managers and university professors, as members of the Oversight Committee, serve as a "Management Board" for SAFGRAD.

- 40 technical scientists have actively participated in the management of four collaborative food grain research networks.

- b) Scientific Leadership was provided particularly by Lead Centres to implement 25-30 collaborative projects to alleviate constraints to the production of food grains (i.e. drought, Striga, diseases and pests, soil fertility, yield, utilization etc.). For example 35, 40 and 37 senior scientists conduct research at Lead Centres for sorghum, maize and cowpea networks, respectively in West and Central Africa. Also, 45 scientists have collaborative research activities (in the five Lead Centres) for sorghum and millet improvement in Eastern Africa.

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