TASK FORCE 2 ON STRUCTURAL OPTIONS AND ORGANISATIONAL ALIGNMENT OF CGIAR ACTIVITIES IN SUB-SAHARAN AFRICA

Review of publications on developments in international agricultural research in Sub-Saharan Africa

This review has been carried out to collect background information for the Task Force on Structural Options and Organisational Alignment in Sub-Saharan Africa. From the various publications paragraphs and statements have been taken that are considered of relevance to the work of the task force.

Review of CGIAR priorities and strategies – part II (1992)¹

In this report TAC recommended a broadening of the CGIAR’s mission and goals to include sustainability, natural resource management and food self-reliance. It proposes ecoregional and global research mechanisms. TAC notes that the biggest challenge facing the international development community in the medium term is to work with national partners in developing countries to strengthen national research programmes and trans-national mechanisms of scientific collaboration. Success in these efforts is an absolute prerequisite for CGIAR success.

TAC stresses that as the CGIAR undertakes consideration of restructuring it should attempt to correct past weaknesses. A sharper delineation between global and ecoregional mechanisms should help to:
- rationalize overlapping commodity mandates;
- remove overlapping resource management activities;
- fill gaps in resource management coverage and strengthen areas of weakness;
- delineate clear global responsibilities for strategic research on resource management concerns;
- provide clear focal points for coordinating decentralized activities in many commodities;
- reduce the difficulties of national programmes in dealing with a multiplicity of commodity institutes; and
- ensure better coordination of the CGIAR strengthening efforts and donor technical areas and programmes.

TAC is not necessarily recommending separate institutes for each major ecoregion, but rather suggests exploring modifications of existing institutes and searching for alternative mechanisms of linking strong national programmes or using existing mechanisms of trans-national collaboration. For Sub-Saharan Africa the option of two ecoregional institutes are discussed for respectively (i) the warm humid and sub-humid tropics, and (ii) the warm arid and semi-arid tropics, or some modifications of these two zones. The report does not present a definite conclusion on this matter.

However, this was done by the 61st meeting of TAC during which two ecoregional programmes for Sub-Saharan Africa are proposed.²

The CGIAR in the 21st Century: Options for Structural Change (1994)³

The CGIAR had requested TAC to initiate a critical examination of the present coverage of activities, programmes and regions because the current funding levels in the medium term will require a repositioning of programmes and institutions. The guiding principles that TAC used to evaluate institutional attributes and cost-effectiveness include:

- whenever possible, change should build on what exists that is of quality and efficiently operated, and has proven competence and delivery capacity;
- CGIAR Centres should be institutions of excellence, focusing on research of high priority and international importance;
- overlap in responsibilities should be avoided;
- the basis for programme integration would be to achieve synergy between the activities involved;
- CGIAR programmes and institutes should have critical mass allowing them to address their mandates effectively; and
- cost of governance, management and administration should be a reasonable share of overall expenditures, in order to maximize resources available for research.

The rationale for developing options for change in the CGIAR is to expedite the process of implementing the long-term vision by improving efficiency and effectiveness of the System. Given the widespread poverty in the region and the limited national research systems, TAC considers that the Sub-Saharan Africa region remains of the highest priority to the CGIAR. TAC had evaluated each Centre according to a set of largely supply-oriented criteria, which were equally weighted. These were:

- the strategic character of the Centre’s research programme;
- the potential for breakthroughs;
- past performance and likelihood of continuance or improvement;
- the external environment, institutional health and quality of management; and
- capacity to collaborate with NARS, other CGIAR Centres, and advanced institutions.

TAC notes that because of the measures taken by individual centres in response to financial stringencies over the last few years, there are very few opportunities left to improve cost-efficiency at the Centre level. However, because of their independence, every centre has been required to provide a full spectrum of research support and research-related activities. Further efficiency gains could possibly be achieved by taking a System perspective in the organization of some of this work.

The CGIAR should position itself with an effective organization so as to meet the challenges for the 21st century and to implement its long-term vision. Such a task requires a review of the structure of the System to:
- eliminate current overlaps in centre mandates; strengthen resource management research and its integration with commodity research;
- delineate clear responsibilities for global and regional research activities;
- provide clear focal points for the coordination of decentralized activities;
- streamline relations with national and regional research systems; and
- provide a bridge with basic research efforts in advanced institutions.

The main aim of restructuring should be the way research is conducted, rather than to change what research is done. The Group had already endorsed TAC’s recommendations regarding the implementation of the ecoregional approach to research, for which the ecoregion is the basis. An alternative way of organizing CGIAR activities would be a geographic sub-region where most ecoregions are presented, or a combination of geographic regions which have a common and overriding ecological constraint. In Sub-Saharan Africa, for example, West and Central Africa, and East and Southern Africa form two logistical regions for the organization of research activities of most centres.

In West and Central Africa one possible model would comprise a coordinated set of decentralized but focused programmes which would make effective use of almost all the existing CGIAR structures in this sub-region. Such a mechanism would allow for a CGIAR presence in all the major agroecological zones of West and Central Africa, a better integration of CGIAR research activities, and for a coordinated network programme in both the francophone and the anglophone countries of the sub-region. The mechanism could be governed by a single Board of Trustees for CGIAR activities. A similar model could be developed for East and Southern Africa. The alternative would be to proceed as now planned on an ecoregional model where programmes for the humid and sub-humid tropics would span East, Southern, Central and West Africa, as would those of the semi-arid tropics.


IARC 1992 commitments in West Africa were about US$55 million or some 25-30% of the total of NARS plus IARCs. It is noted that this is perhaps the highest regional share in the world and is higher than can be justified on allocative efficiency grounds. Reasons for this overinvestment are: (i) weak national capacity; (ii) unusual importance of livestock; (iii) a complex set of technical problems; (iv) inability to transfer wheat, rice and potato germplasm from abroad on the same wide scale that had been done elsewhere, making it imperative to concentrate on difficult crops like millet, sorghum and rainfed maize; (v) rice is mainly rainfed, grown in disparate environments, and hence more costly to improve than irrigated rice in Asia; (vi) yam is rare elsewhere making West Africa necessarily the focus with attendant high fixed costs; (vii) almost complete dependence on a single food grain legume, cowpea, which is a multipurpose crop that has been particularly difficult to improve; and (viii) political balkanization, which raises costs of political and economic interaction.

With respect to organisational matters the Panel (J. McIntyre and B. Ouayogode) recommends a common Board of Trustees for WARDA and IITA with ex-officio representation of ICRISAT, ICRAF, and IRRI, as a means of harmonizing research between the two institutions. The WARDA Council of Ministers should serve in an advisory capacity to the Common Board. This recommendation was made because several interviews argued that consolidation of some Boards would be effective. It is noted that, with respect to the research undertaken by the Centres in the region, duplication is not a significant issue and that contacts with national programs are on the whole efficient. The Centres have many mechanisms to inform themselves about national activities, to receive input into their research planning, and to collaborate substantially on common problems.


The Centre Directors Committee had prepared jointly with African partners a report on a strategy for the CGIAR in Africa, which has been presented to International Centres Week 1999.

The following joint mission statement had been developed: The CGIAR Centres, in partnership, see their role in Sub-Saharan Africa by the year 2020 as having contributed to the goals of the African agricultural research community of attaining food security and poverty alleviation through research, policy support and capacity building based on the environmentally sound management of natural resources.

As the core of the research required to enhance agricultural development is carried out by the NARS, the Centres’ contributions must be complementary and based on their comparative advantage. However, their future strategy will be focused towards systematically identifying interventions, which will maximise the impact of the CGIAR’s contribution to the total effort of agricultural research.

The following elements were identified as the foundation for the strategy for the CGIAR in Africa, among which the first will absorb the majority of the effort:

- technologies for sustainable development;
- technology dissemination and farmer empowerment;
- policy research; and
- capacity building.

The CGIAR recognises that an array of partners is necessary to achieve impact from agricultural research; this includes researchers, policy makers, public and NGO extension workers, the private sector, farmer organisations and most of all the individual farmers. The strategy will position the Centres to more effectively address three strategic elements:

(i) an effective research-to-development continuum;
(ii) better collaboration with Africa partners; and
(iii) improved coordination among the CGIAR Centres working in Africa.

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Mechanisms for improved collaboration include:
- existing collaborative networks for technology development, information transfer and cross-border policy analyses;
- collaboration with relevant stakeholders through theme or agroecology based working groups or consortia;
- better integration and sharing of responsibilities through joint planning, project formulation, training and meetings;
- joint activities initiated, led and coordinated by either African partners or the Centres on the basis of comparative advantage for leveraging resources, formulating projects and programmes, and collaboration in competitive grant mechanisms at both national and regional levels;
- research contracted from Centres to NARS, and vice versa, with joint monitoring and evaluation, shared credit and joint publication of outputs; facilities and expertise shared by Centres and NARS through exchanges of staff on consultancies, outsourcing, secondment of national staff to Centres and through visiting scientist schemes; and
- transferring responsibilities for project and network management and administration to national partners whenever appropriate.

The strategy will ensure improved coordination among CGIAR Centres at all levels, centres, programmes and scientists, especially within sub-regions. The mechanisms for achieving this will include:
- increased authority and responsibility for implementing the strategy by the CGIAR Committee of Centre Directors, with annual meetings among Directors of Centres working in Africa;
- strengthening of existing mechanisms of ecoregional programmes, systemwide initiatives and joint projects, including cross-membership on oversight committees, alignment of personnel policies and operating procedures across Centres, joint appointments, common services and shared information/databases;
- coordination driven by national and regional partners, e.g. through cross-cutting national workshops and scientific meetings convened by Sub-Regional Organizations (SROs); and
- common host country agreements that simplify administrative demands upon both NARIs and CGIAR Centres.

Vision of Leaders of African NARS (2000)\(^6\)

During International Centers Week 2000 African leaders presented their views on the future governance, organization and structure of the CGIAR activities in Africa. The paper contained ten propositions that are presented in the following.

(i) The CGIAR system and the IARCs it superintends should be structured and organised taking cognisance of the level of technological development of the different regions of the world. From the African perspective, the structure should facilitate and catalyse the goals of African NARS and countries to increase agricultural productivity, as well as natural resource management and achieve much higher

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growths in agricultural production than was achieved in the 1960s to the 1990s. In other words Africans have to run while others are walking.

(ii) The structure of the system should be such that the IARC scientists add value to what the NARS are doing. The Centres should be reorganised to ensure that their role in the different regions is clearly defined and the two systems, IARCs and NARS, complement each other.

(iii) The structure and objectives of the CGIAR centres in Africa should be such that they enable the NARSs and other technology development and transfer institutions operating in the sub-region to become efficient and effective institutions and organisations serving the farmers of the region to increase productivity and production not only to meet national and regional food demands but also to increase production of export crops to increasingly competitive global markets.

Such a role for the IARCs can best be achieved by having an integrated regional centre which helps the NARSs and farmers in the sub-region/region to identify and exploit technical and economic opportunities for increased agricultural production and thus leading to poverty eradication through economic growth.

Further, the IARC in a sub-region/region should provide specialist and technical; services in areas in which it is uneconomical to establish such facilities at national level. This can be done for a fee or gratis.

(iv) In considering the structure of the CGIAR, it is important to factor in the role which the private sector will play in the development of propriety products for agricultural production. Many of these products being developed by the private sector will need to be tested and/or licensed to ensure maximum environmental and human health safety. Further, there is also a need to ensure that the private sector does not unfairly expropriate the natural resources of these regions and turn them into propriety products. Given the complexities of all these issues and technologies, and the expensive nature of the facilities required, the NARSs in SSA will be greatly facilitated if they have a nationally and internationally accepted pubic centre within the region to undertake these tasks. This will also be to the benefit of the private sector.

(v) The structure of the CGIAR should provide for a limited number of global centres, which should deal with advanced, globally cross-cutting issues/factors on their own or in collaboration with the regional centres and advanced research institutes. The principal of subsidiarity should be observed in deciding what they should be doing.

(vi) In restructuring the IARCs, the long-term needs of the NARSs in a region should be considered. Long-term, in this regard, is beyond 40 years. The structure to be put in place should be such that the sub-regional and regional centres should evolve into permanent, not-for-profit, non-political research centres, which ultimately will be responsible for those activities which cannot be undertaken economically at national level.
(vii) The structure should remain under one institutional and organisational umbrella and maintain its international features with the sponsorship of the World BANK/UNDP/FAO, whether for the regional centres or the global ones.

(viii) The structure to be installed should factor in long-term sustainable financing of the centres in particular the regional ones. Ultimately, such centres should be increasingly financed either directly or indirectly by those who benefit from the public goods and services produced by them. The key issue is to design financing systems which facilitate and enable countries in a region to contribute to the funding of the core budget of the centres. Also, there will be need to ensure that such centres are seen to clearly add value to the work of the NARSs and demonstrate impact. A similar effort could be initiated for the global centres.

(ix) The CGIAR and IARCs in Africa should be reorganised into two regional centres – one for western and central Africa and the other for eastern and southern Africa. Countries in these two sub-regions should be encouraged and facilitated towards contributing to a sustainable financing mechanism for a portion of the core budget of these two centres. Donor agencies should be encouraged to assist these two centres, and synergise their assistance such that the regional programmes and the two systems complement each other. The centres should retain their non-political, not-for-profit and international character.

(x) The structure should retain a central and coordinating apex mechanism or organ for the global and regional centres. It should be neutral and have a legal charter to operate globally and be inviolable. It should also be non-political, and not-for-profit.

Towards a Federation of Centres (2000)\(^7\)

The CBC and CDC considered and endorsed nine basic principles that should underpin change at the Centre and System level, namely:

(i) the CGIAR is a system, not an institution;
(ii) a well functioning system is self-renewing;
(iii) there is a need for responsible, professional, and accountable decision-making;
(iv) a system based on the principle of pluralism calls for open consultation and participation;
(v) to enhance a system, a reachable enhancement objective needs to be identified, and only then the most efficient single instrument for achieving that objective be sought;
(vi) decentralization and devolution with accountability;
(vii) the size of an organisation is limited by the level of relative transaction costs;
(viii) marketization of public goods; and
(ix) the principle of revealed preferences.

Based on these objectives and principles and after a thorough analysis and discussion of various approaches and modules for achieving the objectives, the Board Chairs and Centre Directors recommended the creation of a Federation of Centres, as a legal

entity, that would be comprised of Centres, a Federation Office with a Board for the Federation and a small support staff.

The Board Chairs and DGs strongly believed that the proposed Federation of Centres would create the opportunity for the Centres supported by the CGIAR to function fully as a system of interrelated units, not a loose coalition of independent Centres. In so doing, it would catalyze enhanced performance within the context of its vision and strategy. The Board Chairs and DGs also believed that the creation of the Federation should occur through the devolution of certain powers from the Centres to the Federation and the addition of critical coordination mechanisms through the Federation Office.


In this consultation various elements of the Strategy for the CGIAR in Africa were further developed. There was strong consensus for greater integration among Centres in recognition of significant payoffs. The group recognized that every anticipated step in the integration process should be evaluated to make clear its value added in achieving the goals of the process itself. One key issue emerging was the role of structural and evolutionary change in bringing about regional integration. It was agreed that, whether or not the ongoing efforts end in structural change, the meeting clearly endorses the integration process and agreed to work together to carry it forward.

Several critical factors were identified to carry the integration process successfully forward. These are (i) the quality of partnership relations as a key to ensuring continuing progress, (ii) that issues concerning the substance of the agenda should drive discussions of options concerning structure, so that form should follow function in bringing about change, (iii) that regional programmes should build upon existing activities, and (iv) that all activities/changes should be put to the value added test before being undertaken.

The consultation adopted the following elements for a strategic action plan:

- the SPAAR/FARA Vision for Africa and the Strategy for the CGIAR in Sub-Saharan Africa provide the necessary framework for an action plan;
- based on four pillars identified in the CGIAR Strategy for SSA
  (i) germplasm and natural resource management,
  (ii) technology dissemination and farmer empowerment,
  (iii) policy research,
  (iv) capacity building;
- comprehensive analysis of CG Centres activities in SSA with articulation of gaps, duplications and synergies;
- identification of partners, analysis of strengths, opportunities, added value and comparative advantages;
- roles/niches of partners;

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- regional/sub-regional priorities;
- modes of collaboration and partnerships;
- ecoregional programmes, consortia and networks and modes of operation;
- thematic research areas, areas of intersection, convergence and integration;
- human resources development strategy;
- options for managing regional integration; and timeframe for items in the action plan.

Integration of agricultural research in West and Central Africa: priorities and mechanisms (2001)

In the workshop report it is noted that the regional integration process in West and Central Africa (WCA) has been progressing steadily as part of the continent-wide renewal activities of the CGIAR and its partners. It has been a joint CORAF/WECARD – CGIAR activity from the beginning, with planning carried out in a series of consultations initially involving the three principal CGIAR Centres operating in WCA – IITA, WARDA and ICRISAT. At the occasion of its General Assembly held at Libreville in July 2001 CORAF/WECARD and its member NARSSs reiterated their intention to work together with the CG and other partners to better integrate and coordinate regional research. Further, it was decided to now bring into the process the NARSSs, the other CG Centres, as well as other partners operating in the sub-region.

The purpose of the workshop was to identify research priorities for agricultural research integration and mechanisms to operationalise research topics appropriate for regional integration. The Executive Secretary of CORAF pointed out that internal development of human resources and institutions in the WCA sub-region has created conducive conditions for more effective integration:

- at the national level, NARSSs have evolved substantially and are becoming better organized and more effective; and
- CORAF/WECARD, the sub-regional research coordinating body, has evolved, has finalized its Strategic Plan, and is now functioning effectively.

The CORAF/WECARD – IARCs Consultation on sub-regional collaboration/integration in West and Central Africa was held in Dakar, Senegal, 27-28 January 2001. There was general agreement on the steps taken so far, and recommendations on how to improve and broaden the process as it is carried forward.

Other recent activities and achievements included:
- a working document on WCA Integration was submitted to a meeting of all stakeholders in Africa held in Nairobi in March 2001 and later was presented to the SPAAR/FARA Annual Plenary in April 2001 at Addis Ababa;
- analysis of WCA CG activity synergies, complementarities, and overlap to promote better coordination has begun, and continues to be updated; and
- participation in CORAF General Assembly held at Libreville from 16-20 July - CORAF Members led to the endorsement of working together with the International Centres and other partners to move forward on regional research integration.

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Report of a workshop held at IITA from 10-12 September 2001
The Durban Statement (2001)\textsuperscript{10}

This is a brief statement emphasizing the need for increased investments in agricultural research and development. It calls, among others, upon:

- the international investor community to coordinate its efforts and significantly increase and sustain financial support for African agricultural research;
- the international agricultural research system, including the CGIAR Centres and advanced research institutions, to forge more effective and efficient partnerships with African NARS and achieve greater programmatic integration; and
- the CGIAR system to ensure that the proposed changes in programme, governance structure and funding mechanisms are consistent and reinforce the efforts to achieve the African Vision.

Designing and Managing Change in the CGIAR (2001)\textsuperscript{11}

The recommendations proposed by the Change Design and Management Team (CDMT) have been largely adopted by the CGIAR. It resulted in the launching and development of Global Challenge Programmes (GCPs) and a number of other significant changes. Various matters with respect to the future structure of the System have also been addressed by the team. It stresses the importance of effective National Agricultural Research Systems for the overall success of the work of the Centres and recommends enhancing these systems. The team notes that global public goods research must be applied at local level, and local needs must influence the global research agenda.

The CGIAR System procedures need to be designed to bring in an even wider range of partnerships. The changes should establish linkages that would enable NARS, GFAR, and regional organizations to be fully engaged with CGIAR Centres in a united effort to meet common goals. The GCPs should be designed and implemented in such a way that the capabilities of the NARS are fully mobilized. And the CG Chair should spearhead an initiative with CGIAR investors to promote support to NARS as a complement to the investments being made in the network of Centres and other components of the global research System.

With respect to restructuring issues the team states that there is a widespread but not universal view that the mandate of the CGIAR can be executed by fewer than 16 Centres, creating better science, with easier interface to the national research systems, and with simplified administration for the donors. However, experience shows that closure action threatens to disrupt relations with host countries that view the Centres as manifestations of their valued participation in the international scientific community and as considerable contributions to national scientific challenges. Experience has also shown that different donors act to protect the interests of the different Centres with which they have ties, creating tensions in the donor community.

\textsuperscript{10}The Durban Statement, the way forward for agricultural research and development in sub-Saharan Africa. Durban, 22 May 2001.
Subsequently the report reviews the advantages and disadvantages of reducing the number of Centres, which are presented in the following.

The case for reducing the number of Centres.

In relation to science, the purpose of the System must be to provide ever more efficient means of delivering impact through high quality, relevant science necessitating:

- reduced overlaps in responsibilities and unattended gaps;
- lower administrative, overhead and transaction costs, leaving more funds for science;
- greater potential to act in scientific unison, as a System;
- sufficient critical mass in new areas of science;
- simplified science relations with NARS partners; and
- increased likelihood of impact through consolidation of effort.

The Change Design and Management Team agrees with these arguments.

Arguments for the case to easing the interface with national agricultural research systems include:

- some national systems may not be able to handle relations with many strong international centres;
- national research institutions become enmeshed in the positioning efforts of international centres;
- national research institutions become lesser participants in joint research projects as their resources are stretched; and
- national research institutions cannot significantly influence the research agendas of many Centres simultaneously.

The CMDT notes that the above concerns have been voiced by some but not all of the NARS. It considers that there is such a wide divergence of opinion among shareholders and stakeholders that there is unlikely to be a consensus on major changes at the present time. It favours adopting an evolutionary approach which focuses on the needs for which mergers are sought and considers that other measures proposed in the report go some distance in meeting the substantive rationales generally brought forward by advocates of mergers and closures. It notes among others that the new approach proposed for the System will probably pull funding away from regular Centre activities which, together with the trend of reduced core resources, will hasten the rate of attrition of those centres that are not part of programmatic approaches.

The CMDT stresses the usefulness of two or more Centres grouping themselves into a cluster with a common supervisory board, and possibly one CEO. By forming clusters Centres retain their legal persona and continue to benefit fully from existing headquarters and host country agreements. Therefore, clusters could overcome most national and political reluctance to change in the status of Centres. In the illustrative list of clusters the grouping of ICRISAT, IITA and WARDA is shown for Africa.
The NEPAD Comprehensive Africa Agriculture Development Programme focuses on investment in three pillars that can make the earliest difference to Africa’s agricultural crisis, plus a forth long-term pillar for research and technology. The three pillars are:

(i) extending the area under sustainable land management and reliable water control systems;
(ii) improving rural infrastructure and trade-related capabilities for market access; and
(iii) increasing food supply and reducing hunger.

The long-term pillar for research and technology will require:

- an enhanced rate of adoption of the most promising available technologies, to support the immediate expansion of African production through the more efficient linking of research and extension systems to producers;
- technology delivery systems that rapidly bring innovations to farmers and agribusinesses;
- renewing the ability of agricultural research systems to efficiently and effectively generate and adapt new knowledge and technologies, including biotechnology, to Africa; and
- mechanisms that reduce the costs and risks of adopting new technologies.

It is noted that investment in agricultural research and extension is a key factor in increasing agricultural productivity and thereby helping to stimulate growth, generate income, and reduce poverty. However, public spending for agricultural research in Africa has been stagnating for the last 20 years. And unlike in other regions the private sector is not increasing its research efforts in Africa, which represents currently only 2 percent of total research spending in this region. In addition donor support for agricultural research has declined because of shifting priorities. Moreover, resources for agricultural research and extension are in many countries not being used effectively, for a variety of reasons:

- available resources are spread too thinly over too many staff and programmes;
- regional and sub-regional collaboration in research is not fully exploited;
- policies impede access to global knowledge and technology;
- linkages between research systems, extension services and farmers are weak;
- small farmers lack ways to reduce risks of adopting new technologies; and
- financing of research and extension services is not sustainable.

Some useful reforms of research institutions at regional level and in some countries have already taken place. The following key reforms that need to be deepened and extended are listed:

- involving all stakeholders in the governance of the agricultural research and extension institutions;
- diversifying the sources of income of research and extension institutions;
- expanding the use of competitive funding mechanisms;
- opening up the agricultural system to more actors such as universities, NGOs and civil society;
- provide resources to user groups that they can use to purchase services;

NEPAD, 2002. Comprehensive Africa Agriculture Development Programme
- linking agricultural research to extension services;
- providing attractive salaries and benefits; and
- systematically monitoring and evaluating programmes.

A new funding framework is proposed to promote a research system that is efficient, effective and has rapid and wide spread impact on agricultural productivity. This will be achieved by giving farmers, agribusinesses and other clients a much greater role in funding and governing the system. It will require increased government commitment to and leadership for agricultural research.

The objectives are (i) to increase the level and stability of funding, (ii) to achieve a better balance in resource allocations (iii) to encourage institutional reforms that will increase the impact of research, including through regional integration and harmonisation of research programmes in the three main agro-geopolitical regions of Sub-Saharan Africa and through stronger partnerships with advanced academic and research institutions. The proposed new system will have four interrelated components:

(i) national agricultural research institutions;
(ii) sub-regional organisations;
(iii) international agricultural research institutions, FARA and the CGIAR;
(iv) extension services.

Under challenges and opportunities for agricultural research it is emphasized that Africa’s natural resources are rapidly being degraded. There is growing acceptance that the agricultural research problems remain intractable because of the failure to deal with the issue in a sufficiently holistic way. Tackling agricultural research issues thus requires a long-term perspective and holistic approach of the kinds embodied in the concept of integrated agricultural research that embraces the full range of driving factors and consequences of soil degradation, and a strong emphasis on understanding and seeking to manage the processes that contribute to change. The need to improve labour efficiency is also stressed as a means to improve livelihoods.

The NEPAD agricultural research programme will address the need to make the paradigm shift away from a principally commodity-driven technological package approach to a truly integrated agricultural research approach and to ensuring that researchers, national and international, work together with smallholders and extension agencies, the private sector and NGOs, to have impact on the ground. The Programme’s governance and funding mechanisms will be organised through FARA and its members ASARECA, CORAF/WECARD and SADC/SACCAR, to provide incentives for scientists to make fundamental changes rather than presenting old approaches in a new way.

Goal: attaining food security and poverty alleviation through research, policy support and capacity building based on the environmentally sound management of natural resources.

Purpose: to overcome the constraints to the sustainable use of Africa’s natural resources with improved technologies and policies that will enable resource-poor smallholders and livestock producers in Africa to achieve sustainable improvements in their livelihoods and thereby secure the future of Africa’s children.
Objectives:

(i) to design technologies, policies and institutional options that provide solutions to the acceleration of poverty and resources degradation in Africa;
(ii) to test the adoptability of these options in a totally participatory and iterative fashion, from farm to regional scale;
(iii) to develop appropriate mechanisms for the wide scale dissemination and adoption of the technologies and for implementation of sustainable and supportive policy and institutional options; and
(iv) to empower resource-poor farmers in Africa to manage their natural resources and systems in a sustainable manner in the face of change.

The NEPAD research programme will be comprised of four sub-themes that will collectively contribute to testing the central hypothesis that conservation and efficiency of use of soil and other natural resources will be optimised under conditions of market and/or policy and institution-driven productivity. Scientific capacity building is proposed as an cross-cutting initiative. The four research themes are:

(i) integrated natural resource management;
(ii) adaptive management of appropriate germplasm;
(iii) development of sustainable market chains; and
(iv) policies for sustainable agriculture.

Review of Science and Technology plans in ACP countries (2003)\textsuperscript{13}

The main conclusions of this review are:

- Agriculture in general and science and technology (S&T) in particular do not have the priority which could be expected on the basis of the sector’s importance in the countries’ GDP;
- ACP Country Strategy Studies confirm that no priority exists for S&T policies; and
- Agricultural S&T development has suffered a steady decline over the 1980’s and 1990’s coinciding with a declining donor priority for this sub-sector. One may even ask to what extent tropical agricultural S&T development is surviving as a global public good.

FARA Strategic Plan (2003)\textsuperscript{14}

FARA’s vision: to enable Africa to achieve at least a 6% annual growth rate in agriculture by the year 2020 through enhanced research and value adding to its products, consequently increasing food security, poverty alleviation and economic growth in a sustainable way.

\textsuperscript{13} CTA and University of Maastricht, 2003. Review of science and technology plans in ACP countries.

The mission of FARA is to enhance and add value to the effectiveness and efficiency of agricultural research systems in Africa in order to contribute to agricultural development and economic growth and sustainable use of natural resources.

FARA’s objectives are:
(i) to promote pan-African agricultural research for development through enhanced support by national governments, development partners and private sector;
(ii) to promote and strengthen effective and efficient SROs (ASARECA, CORAF/WECARD and SACCAR) and NARS to achieve their vision, mission and objectives;
(iii) to facilitate the exchange of agricultural technologies, knowledge and experiences by building mutual partnerships between SROs, IARCs, ARIs, NGOs, the private sector, farmers and producers in Africa.
(iv) to support relevant and cost-effective regional research programmes; and
(v) to catalyze the process of agricultural technology and knowledge dissemination relevant and appropriate for Africa.

FARA serves as an umbrella organisation forming a coalition of stakeholders in agricultural research in Africa. It will play a lead role in bringing the various stakeholders together encouraging them to negotiate and cooperate on matters of common interest with regard to agricultural research for development. It will play advocacy and co-ordination roles for agricultural R&D, while the NARS and ARIs, working on priorities defined jointly with the SROs, will develop improved technologies along the research to development continuum in their respective countries and coverage areas. SROs and NARS will be the key partners of FARA. Others like IARCs, NGOs, universities, policymakers and farmer organisations will be more actively involved in the research to development continuum.

FARA has formulated five cross cutting themes to provide value added services for the SROs.
(i) advocacy for the role of research for development;
(ii) promotion of functional partnerships and strategic alliances;
(iii) stimulation of development and dissemination of new technologies and methodologies;
(iv) sharing and exchange of knowledge; and
(v) promotion of capacity building.

FARA will strengthen its position as a knowledge hub for agricultural R&D. Alliances with advanced research institutes in developed and developing countries will be extensively used to speed up strategic research within Africa. FARA will explore ways and means to promote SRO and NARS collaboration with the private sector, while ensuring that the research outputs remain accessible to the farmers. FARA will advocate upgrading of ICT capacity to compile existing literature sources for wide dissemination to partners in the region. The strategic research plan wants to ensure that agricultural R&D programmes are truly demand driven, addressing the needs of the poor.

With respect to the partnership with the CGIAR the following is noted in the strategic plan. “There have been, over the last few years, wide-ranging discussions on how the
CGIAR Centres are to evolve to better serve the needs and priorities of their NARS partners. One factor driving this process is a perceived need among all stakeholders for the Centres to be more effective and efficient, as well as to improve cooperation and coordination with their principal partners in each region. There have been calls for regional planning and priority setting, consistency in methodologies, programme coherence, and integration of Centre activities with sub-regional activities, in order to achieve more operational efficiency and programmatic effectiveness.

Recognizing the FARA vision for agricultural research in Africa and the need for the CGIAR Centre activities to be driven by the African research agenda when addressing the agricultural challenges in Africa, FARA will work closely with the Centres to ensure that the Centres and their partners are committed to the integration of research activities in Africa, based on the work currently undertaken by the SROs. Programme integration will be developed in the context of established sub-regional priorities and must be based upon partnership between NARSs, SROs and Centres. FARA will play several roles in this process, including further development of the strategic action plan for the CGIAR in Africa. FARA will also help to strengthen the participation of various stakeholders through supporting their participation in relevant meetings. FARA will provide a link with broader regional priority-setting exercises, including those of other stakeholders. It will also help identify potential areas of synergy within the broader context of institutions and programmes in the region”.

In Annex I of the Strategic Plan a brief description is given of the history of CGIAR and NARS partnership in Africa. In the following the main elements are presented. It is noted that prior to 1994 the African NARSs felt somewhat isolated, particularly in relation to the CGIAR partnership. Partnership was mentioned in the very early modus operandi for the CGIAR. Indeed, the Centres have always tried to incorporate some degree of joint activity with the NARSs. However, in the African continent, where the NARSs were nearly all nascent, partnerships were not very strong or even structured.

The basic contention was that the NARSs were not included in the priority-setting process and there was therefore no true ownership of the programmes. The NARSs asserted that the CGIAR Centres were detached from them and even when they worked together in one-off projects, the NARSs’ role went unrecognized. Feeling disappointed by the CGIAR, the African countries in particular turned to the World Bank supported SPAAR. It was during the SPAAR meetings that the African group developed plans on how to bargain for meaningful partnerships.

Since 1994 some efforts were made to address this matter. It was addressed in particular in a meeting held in 1994 in Rome under the auspices of IFAD, the CGIAR mid-term meeting in Nairobi in 1994 and the CGIAR special meeting held in Lucerne in 1995. The Centres based in Africa, ILRI, ICRAF, IITA and WARDA and others with regional offices, initiated serious consultations, referred to as “meeting of minds”. However, the NARS also hoped that the process could culminate in sharing, not just the work, but the resources as well. This suggestion was rejected.

Sub-Regional Organizations and National Agricultural Research Systems
In Sub-Saharan Africa the NARSs have developed their own national agricultural research plans. The NARSs are now organized within the three SROs, the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA)\textsuperscript{15}, the West and Central Africa Council for Agricultural Research and Development (CORAF/WECARD)\textsuperscript{16}, and the Southern Africa Centre for Cooperation in Agricultural Research and Training (SACCAR)\textsuperscript{17}. Each of these regional bodies has developed a regional strategic plan, which includes priority setting at the regional level.

In its strategic plan, ASARECA highlights the need to focus on activities that are likely to provide the highest return to research investment. It notes that food security can best be met by stimulating growth in market-oriented production systems which should generate additional cash for smallholders and increase off-farm employment for rural and urban poor.

The following challenges facing the agricultural sector are highlighted:
- increased utilization of modern technological inputs to increase on-farm production and productivity;
- the development of an appropriate technology transfer system to ensure its efficient supply and utilization;
- a system, which should be largely privately owned, needs to be developed to ensure that agricultural produce is efficiently stored, transported, processed, and marketed in the urban areas and to export markets; and
- maintenance of the sustainability of the agricultural resource base.

The CORAF/WECARD strategic plan lists the following guiding principles for regional collaboration:
- regional collaboration must allow for the efficient and effective use of resources to overcome the constraints to agricultural production improvement and to reduce the effects of natural resource degradation;
- the NARS should be considered as the basic elements for effective and sustainable regional collaboration in the area of agricultural research; and
- regional collaboration is expected to assist and not to replace the efforts of the NARS.

SACCAR emphasizes that it will strengthen the capacity of the NARIs, Universities, their scientists, scientific and professional associations and societies, extension services, NGOs, private sector, end-users and policy makers, to collectively adapt to the changing environment, to address the challenges they face, as well as to contribute to and benefit from partnerships and collaboration with the global scientific community. SACCAR will therefore support these institutions to conduct relevant activities, taking full advantage of external support, and will develop mechanisms for making regional cooperation and integration an efficient way to address the needs of the agricultural sector at regional, national and local levels.

The priority setting exercises of the SROs highlight the need for:
- crop improvement research for the major food crops, with increased emphasis on food quality and stress resistance, and an increased demand for research on cash crops, vegetables, fruits and tree crops:
- research on market-oriented production systems, in particular crop processing and commercialisation to raise income for farmers:
- development and implementation of sustainable production practices, including crop-livestock integration, ensuring significantly higher yields, soil fertility improvement, and effective integrated weed and pest management;
- exploiting effectively the synergy between genetic improvement and natural resource management research, incorporating social, economic, gender, and environmental dimensions;
- policy research to create a supportive environment for agricultural development; and
- continued strengthening of the research capacity of the NARS and their partners.

The CGIAR at 31: An independent meta-evaluation of the Consultative Group on International Agricultural Research (2003)\textsuperscript{18}.

The evaluation considers strong NARS to be critical to ensure the CGIAR’s impacts. Most notably in Africa under-investment in NARS has adversely affected their strength and capacity. This weakness has been compounded by economy-wide and sector-level policy and institutional failures that inhibit the development of rural infrastructure, input delivery systems, and output markets. In this respect, the CGIAR faces structural issues in Africa. Eighty percent of Africa’s agricultural researchers are concentrated in 13 large countries. The other 30 plus countries face diseconomies of scale in organizing and managing their own agricultural research and lack the capacity to negotiate with the 16 CGIAR Centres. This highlights the importance of relying on sub-regional research organizations in Africa if the African agricultural productivity challenge is to be addressed.

For the evaluation a questionnaire was sent to various CGIAR stakeholders. Seventy-nine percent of the respondents believed that a consolidation in the number and functions of the Centres is advisable. But, it is noted that getting key stakeholders to agree that the time has come for both real reform and organizational change remains a major challenge. It is proposed that the governance of the CGIAR should be reconfigured to promote greater efficiency, tougher priority setting, and scientific excellence without sacrificing legitimacy and ownership.

The evaluation highlights a number of issues with respect to the collaboration between the Centres and NARS.

(i) Despite the major contributions of the CGIAR-NARS partnership to the CGIAR success, the limited credit awarded to the NARS weakens the

mutual trust needed to sustain that outcome and detracts from identification and prioritization of NARS’ needs.

(ii) The CGIAR is not keeping pace with the global challenges facing NARS such as modern biotechnology, intellectual property rights, private sector growth, trade liberalization, and the impact of non-tariff barriers and agricultural subsidies in industrial economies.

(iii) The donor community has become increasingly unwilling to fund activities that address these global challenges.

(iv) Centres have in a number of cases become a conduit for donor funding to NARS, further complicating the bureaucratic and financial processes facing NARS and exacerbating the historic teacher-student relationship between the CGIAR and NARS.

In the technical report a special chapter is devoted to the CGIAR and Sub-Saharan Africa. It notes that while the CGIAR has made many useful contributions to African agriculture, there is far greater potential in the region yet to be realized. Every African consulted for this review agrees that the pipeline of new technologies produced by the CGIAR has been important and must be continue. However, from Africa’s perspective, the current configuration of CGIAR Centres in Africa compound Africa’s technology problems. African countries incur high transaction costs in dealing with multiple CGIAR Centres, a cost that could be reduced under a service agreement arrangement set up regionally to exploit economies of scale and scope. To have an impact in the region, the CGIAR needs to play a greater role in addressing science and technology gaps, and needs to structure its engagement in the region in a way that is more conducive to forming an effective strategy to this end.

A regional approach to research is necessitated because Sub-Saharan Africa consists of many small countries with diverse agro-climatic conditions, thereby limiting opportunities for continent-wide economies of scale in research, and because most of the region’s NARS lack the resources and capacity to contribute to research effectively.