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Reducing Poverty through Cutting-edge Science

Focus on Africa - Strategy for the CGIAR in Africa

Attached is the Executive Summary of a report prepared by the CDC on a Strategy for the CGIAR in Africa. The report is for discussion under Agenda Item 3(e) *Proposals for an African Research Strategy*.

Towards a Strategy for the
Consultative Group on International Agricultural Research (CGIAR)
in sub-Saharan Africa
Abidjan, Côte d'Ivoire, 1- 3 September, 1999

Executive Summary

Economic growth in sub-Saharan Africa (henceforth Africa) over the last decade has been limited by slow agricultural growth, a rapidly increasing population and degrading natural resources. Recognising that agriculture, including crops, livestock, fisheries and forestry, will continue to be the engine for economic growth, African leaders have called for African agricultural production to grow at 6% annually through 2020 while improving the natural resource base to support future generations.

Agricultural research is important for identifying and proposing ways of eliminating constraints to agricultural development and for providing the steady flow of technologies adapted to local conditions that will be necessary to transform and raise the productivity of African agriculture and to improve food security for the poor. For this reason, the Special Programme for African Agricultural Research (SPAAR) and the Forum for Agricultural Research in Africa (FARA) have developed a '*Vision for African Agricultural Research*', which has as its long term goals:

- Food security and poverty alleviation;
- Competitiveness of African agriculture; and
- Enhancement and sustainability of the natural resource base.

Over the past twenty-five years the CGIAR has contributed through agricultural research to the needs of the region. These contributions have led to significant improvements in some areas. However, if the CGIAR is to contribute significantly to the goal of 6% annual growth in agricultural production, there is need for new focus, new partnerships and a new strategy.

The CGIAR Centres are uniquely placed to bring global resources to support this vision in the key areas of frontier technologies, natural resource management, policy research, capacity building and networking. Such resources will help develop and disseminate environmentally sound technologies based on effective blends of traditional and modern scientific methods.

The CGIAR Centres share the SPAAR/FARA vision, and are developing a common strategy for their research in Africa with their African partners. This strategy is based on the following jointly developed vision statement:

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 eradication through research, policy support and capacity building based on the environmentally sound management of natural resources.

The strategy will be centered on the following four elements:

1. Germplasm and natural resource management technologies that offer clients a wide range of options for enhancing productivity in an environmentally sustainable manner.
2. Technology dissemination and farmer empowerment to catalyse the adoption of innovations that will increase food security and incomes of the poor.
3. Policy research to provide options that foster enabling environments for the adoption of these innovations and strengthens NARS in this area.
4. Capacity building in frontier topics to help develop further a cadre of qualified, experienced, and motivated African research and development specialists, managers and policy makers who will lead the region in attaining the goals of the shared vision for Africa.

Most importantly, this strategy will be implemented through innovative and effective partnership mechanisms based on joint planning, execution and evaluation of future activities, effective communication, and mutual trust and respect among all partners.

Towards a Strategy for the**Consultative Group on International Agricultural Research (CGIAR)
in sub-Saharan Africa****1 Introduction**

Africa faces major challenges in increasing agricultural productivity to achieve food security, higher rural incomes and sustainable economic growth while maintaining and improving the natural resource base. Over past decades, the annual 2-3% growth in agricultural production in Africa has been exceeded by the increase in human population, and this disparity has brought hunger, poverty and environmental degradation. To make a significant improvement in the welfare of African people, SPAAR/FARA have determined the need for a 6% annual growth in agricultural production by 2020. This ambitious goal cannot be achieved without effective and focused agricultural research.

Sharing this belief in the need for more effective agricultural research, the 3^d CGIAR System Review Panel led by Maurice Strong recommended '*a special collaborative focus on (sub-Saharan) Africa to create an effective strategy for African agriculture that complements the efforts of other organisations*'.

Currently the CGIAR accounts for approximately 15% of the total annual expenditure in agricultural research in the region. The challenge is to ensure that this relatively small investment has the greatest catalytic effect. The CGIAR's strategy for research in Africa, developed with its African partners is therefore aimed at reinforcing the greater investment in agricultural research by the national agricultural research systems to increase impact.

The strategy reflects the view that targets for increased agricultural productivity in Africa will not be achieved without the application of cutting edge science and that the CGIAR

Centres' programmes should move more upstream. The CGIAR Centres will also play a catalytic role in encouraging advanced research institutions to collaborate in technology development, capacity building, technology transfer, and policy research in Africa. The Centres will devolve their present roles in applied research, such as traditional and classical breeding and agronomy, to the NARS but will continue to be involved in a facilitative and backstopping role.

2 Developing a Strategy for the CGIAR in Africa

In response to the SPAAR/FARA Vision for African Agricultural Research and the 3rd CGIAR System Review, the CGIAR Centre Directors Committee have convened three meetings with African partners—*Meeting of Minds I* in Nairobi, 10-11 May 1999; *Stakeholder Meeting* in Beijing, 22 May 1999; and *Meeting of Minds II* in Abidjan, 1-3 September 1999. These meetings brought together senior representatives from African national and regional research organisations and their colleagues in the CGIAR Centres to jointly develop this strategy. The participants in Meeting of Minds II are listed in Annex 3.

This series of meetings was characterised by a **new** atmosphere of partnership and optimism that the required impact will be realised through collaboration, which will be facilitated by the three strong sub-regional agricultural research organisations of NARS.

3 A Shared Vision

The CGIAR's African partners voiced support for the CGIAR mission as being fully congruent with and supportive of the Vision for African Agricultural Research, with the following long-term goals:

- Food security and poverty alleviation;
- Competitiveness of African agriculture; and
- Enhancement and sustainability of the natural resource base.

The CGIAR with African partners developed the following joint vision statement:

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 eradication through research, policy support and capacity building based on the environmentally sound management of natural resources.

The elements of this vision are described in more detail in Annex 2.

4 Key Result Areas

Agricultural development in sub-Saharan Africa faces tremendous challenges in achieving the goal of 6% annual growth in agricultural production by 2020. Appropriate technologies, conducive policies, viable markets, institutional capacities of the main actors are required as well as effective resource management by farmers who are empowered to articulate themselves and have the capacity to manage their land. Research can significantly contribute to these challenges through informing the other actors with sound analysis and development of technologies and through piloting new approaches and strategies, which other stakeholders can use effectively.

A focused set of key result areas was identified to enable the Centres to fulfil the shared vision. These will bring the best and most appropriate science to bear through the development, adaptation and dissemination of new technologies and by improving the policy environments in which farmers operate. These key result areas include building the capacity of African agricultural researchers to lead the development of efficient, demand-driven, participatory and pluralistic national agricultural research systems (NARS).

As the core of the research required to enhance agricultural development is carried out through 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 CGIAR is well aware that substantial impact of their contribution depends on a variety of other actors in agricultural development. The potential impact is based on many assumptions on their effectiveness and efficiency. The CGIAR will monitor these assumptions on which this strategy is built and re-assess the strategy as necessary.

The following elements were identified as the foundations of 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.
- Capacity building.

4.1 *Technology for Sustainable Development*

The African Vision envisages that *the best of science should be harnessed for the development of advanced but appropriate agricultural technologies that are adapted to local conditions and take into account socio-cultural characteristics and value systems*'. This vision implies that researchers must be aware of the rapid changes in science in the world scene that often make new technological advances almost obsolete before they are applied in Africa. It notes that this is particularly true in the field of biotechnology where science is increasingly constrained by issues such as intellectual property rights and patents and is posing new questions to ethics, biosafety and the environment. It points out that Africa has yet to capitalise on its rich indigenous knowledge or to develop

mechanisms that will enable its institutions to acquire and absorb relevant new technologies. It argues that this is basic to the region's harnessing of the best of science and technology in overcoming constraints to agricultural productivity in advancing overall national development.

In concert with the African Vision, the strategy pays greater attention to the synergy between genetic improvement and natural resource management that incorporate social, economic, gender and environmental dimensions at different times and geographical scales (field, community, national, sub-regional, regional, global). This synergy will be expressed in on-going debates in the areas of soil and water management, integrated systems management, biotechnology and biosafety issues, genetic resources conservation and biodiversity of crop, livestock, tree and fish resources.

The African Vision calls for increased gender-sensitivity in the generation of technologies that address the needs of the target group. Other areas include the efficiency of energy utilisation and labour productivity; expanding and enhancing yield potential especially in marginal and degraded areas; judicious use of high potential agro-ecologies; and the exploitation of Africa's orphan crops as viable alternative sources of food. Research should not be undertaken for its own sake but with a balanced approach to technology development that addresses the complete value chain, from production, processing, marketing, to value-adding concerns that are linked to nutritional aspects, health, income and overall food security. The African Vision encourages a pragmatic approach to planning, program development, monitoring and evaluation involving key stakeholders (producers, processors, policy-makers, market agents and consumers) in partnership with those in public and private domains and the international community.

The strategy incorporates participatory, integrated approaches to increasing sustainable market-oriented production in crop, livestock, fisheries, forestry and agroforestry systems. The elements are committed to integrating gene management improvement and enhanced natural resource management as the basis for sustainable agricultural development.

More specifically the CGIAR centres will focus in the following areas:

- The application of cutting edge science, particularly in the rapidly advancing field of biotechnology;
- Integrated gene management, including the use of functional genomics and molecular plant breeding as well as Mendelian methods of breeding, coupled to sustainable and equitable use of biodiversity;
- Integrated natural resource management, incorporating efficient water and soil nutrient management and conservation of animal and plant genetic resources;
- Integrated pest management;
- The exploitation of advanced data processing and information and communication technologies such as bioinformatics, geographic information systems, remote sensing and spatial analysis; and
- Value adding post-harvest technologies and processing.

4.2 *Technology Dissemination and Farmer Empowerment*

The impact of research depends on farmers' access to new technologies and on their capacity to selectively adapt and adopt them according to their needs and circumstances. Establishing favourable circumstances for technology adoption requires partnerships among many actors in the lab-to-land continuum identified by the 3rd CGIAR System Review Panel. Responsibility for disseminating agricultural technologies within individual countries lies with national extension institutions, farmer organisations, non-governmental organisations and development organisations working in pilot projects or large-scale development programmes. The CGIAR Centres will collaborate with these partners in determining means of improving the uptake of new technologies and obtain the feedback to re-orient the Centers' research programs when needed. This is particularly critical in the delivery of natural resource management innovations, which is a research subject in itself. Such efforts will ensure that CGIAR research is demand driven and responsive to clients' needs through the empowerment of farmers' organisations and their active participation across the full research-development continuum.

The CGIAR centres will help strengthen NARS capacity for technology dissemination and promoting farmer empowerment through:

- Experimenting with and documenting innovative approaches to dissemination of knowledge-based technologies including those emerging from innovative natural resource management research;
- Facilitating intra- and inter-regional exchanges of technology and experience in technology dissemination;
- Developing new methods of exchanging biotechnology, complying with biosafety regulations and negotiating issues of intellectual property rights;
- Supporting NARS in assessing adoption and farmer-level impact of research products;
- Developing more effective techniques and methods for participatory research, gender analysis, and scaling-up of research products for wider impact; and
- Being a creditable partner in the African research-development continuum.

4.3 Policy research

The search for food security and poverty elimination at the farm level in Africa is widely constrained by inappropriate policies that affect smallholders' access to input and output markets and to land, capital and new technologies. The CGIAR has a comparative advantage in facilitating cross-country comparisons by being able to bring together NARS scientists from different countries to develop policy options jointly upon request or for consideration by policy makers. Such policy research must be closely co-ordinated with technology development and research on natural resource management, as they are two sides of the same coin. The potential impact of climate and demographic changes on the temporal and spatial distribution of food demand and production should be evaluated. The strategy recognises the need for the CGIAR in partnership with national and regional collaborators to create more opportunities to enhance the awareness of policy and decision makers of the impacts of policy research so as to mobilise national and regional support for policy research.

The CGIAR and NARS partners will develop policy research as a strengthened area of collaboration, with emphasis at the national and local levels and building NARS capacity for policy research through:

- Conducting joint policy research analysis on areas such as barriers to technology adoption, access to input and product markets and common property at the community level, the impact of sector-specific and macro-level policies on natural resources;
- Developing primary databases and methodologies that will facilitate cross-country policy analysis;
- Conducting joint NARS-CGIAR high level dialogues with key African policy makers, particularly those from outside the agricultural sector, to gain greater political commitment to agricultural research; and
- Assisting NARS to be more credible and influential with policy makers in their own countries.

4.4 Capacity Building

In recommending the special collaborative focus on Africa, the 3rd CGIAR Review Panel included the suggestion to '*set up an African Capacity Building Initiative for Sustainable Food Security as a major inter-Centre initiative. It should help train a cadre of African leaders who can assist the political leadership in their countries to remove policy constraints and develop a well-conceived strategy for food security*'. In turn, an important goal stated in the African Vision for Agricultural Research is '*to achieve a cadre of qualified, experienced and motivated agricultural research and development specialists, managers, and policy makers to lead the region towards achieving its long-term goals*'.

Over the past 20 years there has been significant progress in building human and material capacity for agricultural research in Africa. However, capacity still falls far short of meeting Africa's needs. Improvements are required not only in the amount and quality of technical resources but also in research programme planning, systems management and governance. There is need for revitalising degree training programmes in order to capitalise on the rich academic resources in African universities. A consultative process to assure that training responds to African needs has been established through the CGIAR-NARS Training Group.

The CGIAR will contribute to:

- Enhancing NARS capacities in natural resource management research, policy research, biotechnology, information technology, technology dissemination and farm-level impact assessment;
- Assisting NARS to develop systems for increased public awareness and resource mobilisation;
- Organising training for more efficient use of human resources, available physical facilities and priority setting;

- Developing NARS skills in managing organisational change and managing partnerships; and
- Devolving of training in well-developed subject areas to African universities, allowing the CGIAR to focus on the subjects listed above.

5 Operationalising the Strategy

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:

- An effective research-to-development continuum;
- Better collaboration with African partners; and
- Improved co-ordination among the CGIAR Centres working in Africa.

5.1 *The Lab-to-land Development Continuum*

The strategy recognises that the research process must ensure that the research products will reflect farmers' demand and that farmers must have access to the results. Achieving this in an efficient and effective manner will be ensured by participatory research with farmers and extension staff in sustainable, cost-effective national approaches to farmer empowerment and technology delivery. Facilitating iterative cycles of research and development that inextricably link science to development will complete the Centres' move away from the former linear models of research-to-technology-transfer. While clarification is still needed on the extent of the Centres' roles in this shift, the main elements will include:

- Primary focus upon developing approaches and methods through collaboration with national, non-governmental and user organisations in case studies across the research-development continuum;
- Wider promotion of the best practices through networks; and
- CGIAR/NARS collaboration to catalyse wherever possible greater involvement by the private sector.

5.2 *Improved Collaboration with African Partners*

The principal objective of the strategy is to promote both new and more effective collaboration between the CGIAR Centres and their African partner institutions. These partnerships will have shared commitments to excellence in science and capacity building for the long-term viability and sustainability of the national research systems.

In collaboration with the CGIAR Organisational Change Programme, the strategy has established the following principles by which collaboration among and between the NARS and the CGIAR Centres will be achieved:

- A compelling shared vision, which has already been agreed.

- Dynamic leadership.
- Joint definition of the problems to be addressed.
- Power equity, complementarity and interdependency.
- Mutual accountability.
- Careful attention to process.
- Communication linkages.
- Explicit decision-making processes.
- Shared recognition.
- A sense of trust and commitment.

Partnerships will be facilitated by the three African sub-regional associations of NARS – the Association for Strengthening Agricultural Research in East and Central Africa (ASARECA), the West and Central African Council for Research and Development/Conseil Ouest et Centre Africain pour la Recherche et le Développement Agricole (WECARD/CORAF) and the Southern African Centre for Cooperation in Agricultural Research and Training (SACCAR). Each has its own distinct constitution and is a member of FARA whose coordinating role is still evolving with guidance from SPAAR. These organisations, and the relatively long history of informal intra-regional collaboration in agricultural research in Africa, offer a potentially strong mechanism for ensuring partnership. However, the development of the strategy for the CGIAR in Africa acknowledges and accommodates the need for future adjustments and realignments with the evolving sub-regional organisations (SRO) and FARA strategies. Further influences are also anticipated from FARA's participation in the Global Forum for Agricultural Research (GFAR).

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 co-ordinated 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.

5.3 *Internalising the Strategy within the CGIAR Centres*

Each CGIAR Centre has its own long-term strategy, which is operationalised through a series of rolling three-year Medium-Term Plans. The strategy for the CGIAR in Africa will be internalised by the Centres through progressive modifications to their Medium-Term Plans. It is anticipated that the changes in what the Centres do will become apparent in the priorities and *modus operandi* of the ecoregional and systemwide programmes active in Africa.

As previously noted, the CGIAR Centres have identified the CGIAR Programme for Organisational Change as a means of harnessing and improving the processes of change that have been initiated in developing the strategy and for making the new partnerships more effective and sustainable.

5.4 Co-ordination Among CGIAR Centres

The strategy will ensure improved co-ordination 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 programs, 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;
- Co-ordination driven by national and regional partners, e.g. through crosscutting national workshops and SRO-convened scientific meetings; and
- Common host country agreements that simplify administrative demands upon both NARIs and CGIAR Centres.

6 Stakeholder Commitments

This draft strategy for the CGIAR in Africa reflects the CGIAR Centers' commitment to the goal of achieving 6% annual growth in agricultural productivity by 2020. Its objective is to focus the CGIAR's contribution on adding value to the much larger investment in agricultural research through the NARS and thereby make the most efficient use of the total investment in agricultural research in Africa. The amount and quality of that investment and the environment in which it is deployed will substantially determine the effectiveness of the strategy.

Successful implementation of this strategy is predicated on sufficient resources for all partners that will facilitate the retention and functioning of high calibre scientists to produce the required technical and policy innovations. The CGIAR will work with the SROs and NARS in developing best practices for resource mobilisation and in joint fund raising. It is envisaged that FARA will monitor the progress of the strategy and assess its impact and advise the stakeholders about its success and recommend changes to make it more effective

The economic prospects of the countries in Africa indicate that meeting the above prerequisites will require joint commitments by African governments and the international development community to meeting both the funding and supportive policy conditions necessary for agricultural research to contribute successfully to the productivity goals. Success will also depend on governments supporting smallholders with enabling policies, efficient and reliable access to input and output markets and effective channels for accessing innovations.

In committing themselves to this strategy, the CGIAR and its African partners will work hard to assure that these conditions will be met and sustained in the decades ahead. The CGIAR centres look forward to the future with renewed confidence based on this shared vision and in anticipation of increased political and material support of the NARS by African governments and bilateral and international aid agencies.

7 Next steps

This document is a work in progress requiring more input from stakeholders before submission to the CGIAR members for their endorsement. Next steps in the process are:

- Submission to TAC as “work in progress” for their preliminary review at their next meeting 20 – 24 September, 1999;
- Comments from TAC will be submitted to the CGIAR Secretariat by 1 October 1999 for inclusion with this draft for ICW-99;
- Further development of the strategy by a working group comprised of three from the Centres and three from African partners. The Centre representatives are Hank Fitzhugh, Kanayo Nwanze and Stein Bie. The three Africans leaders are Romano Kiome from KARI representing the NARS, Moctar Toure representing SPAAR and FARA and a representative from the SROs to be determined by them;
- Following discussions at ICW99, the Working Group will submit a further draft for review by SPAAR/FARA by 15 December 1999;
- After incorporation of SPAAR/FARA comments, a final draft will be submitted for endorsement at the SPAAR/FARA meeting in Guinea in February, and to TAC in March for their commentary, and finally to the CGIAR at the Mid-term Meeting in May 2000 for their approval; and
- The approved strategy will be progressively incorporated into the Centres’ Medium-term plans during the annual revisions.

Annex 2 Elements of the Shared Vision developed at the Meeting of Minds I

The CGIAR centres support the shared vision through the added value that they bring to collaborative activities. In particular, the CGIAR centres contribute new research approaches in natural resource management and policy, the strengthening of management sciences, the leveraging of funds and fortifying the research development continuum. In addition the CGIAR Centres occupy a strategic place in the NARI to ARI partnership continuum. Based on the discussions among participants, the following elements and key principles emerged to guide the development of the strategy to implement the shared vision

1. In support of the African Vision: CGIAR Centres will, in collaboration with National Agricultural Research Institutes (NARI's) and other African partners, contribute to the generation of international public goods in support of the African vision. The CGIAR centres are committed to enhancing African leadership at all levels of the research development continuum with collaboration based on African priorities.
2. Identification of Strategic Partners: In order to accelerate impact at the farm level, the CGIAR recognises the need to work with a broader range of partners directly involved in agricultural research and development. Emphasis will be on collaborative activities where impact is achieved at the farmer level through demand-driven participatory research.
3. Capacity Building: Through the NARS, the CGIAR Centres will contribute to strengthening human and institutional capacity. These needs include, but go well beyond, the strengthening of research skills. There is urgent need for strengthening capacity in the management and leadership of collaborative research and resource mobilisation. Technological and policy research are both essential in tackling these complex issues and are inexorably inter-linked. The CGIAR intends to strengthen the policy research capacity of NARS, through joint research on methodologies, multi-country comparisons, and responding to requests from policymakers as joint NARS-CGIAR activities.
4. Promotion of Increased Public Investment: Through the demonstration and documentation of large-scale impact from research, the CGIAR will assist NARS to encourage decision makers to increase investments in the public financing of agricultural research. The CGIAR will apply whatever leverage its components have to help attain the goal of increased public investment for all concerned in agricultural research.
5. Fostering Institutional Innovation: The CGIAR will foster innovations in partner organisations through appropriate methods including participatory research, integrated natural resource management approaches, and will contribute through action research to development of alternative institutional arrangements for technology development and delivery systems. The CGIAR Centres will facilitate access to information and enhance communication between NARS and CGIAR Centres and among NARS partners

6. Mutual Ownership: As a guiding principle, mutual ownership of collaborative activities will be enhanced through full commitment of NARS and CGIAR Centres to joint planning and implementation, monitoring and evaluation. The purpose is to achieve interdependence between the NARS and the CGIAR Centres to help attain the goals of all concerned. To ensure complementarity and added value, collaborative activities between NARS and CGIAR Centres will be based on comparative advantages to ensure efficient use of limited human and physical resources.

- 7 Coordination among CGIAR Centres: CGIAR centres that are actively involved in SSA will coordinate their activities at the national, sub regional and regional level, with the oversight of the Committee on Sub-Saharan Africa of the CDC.

Annex: Address List of Participants

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