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**Guarding the Quality and Relevance  
of Science in the CGIAR: A Conceptual Framework**

(Agenda Item 3)

**For Discussion:** The attached working draft paper will be introduced by Dr. Elias Fereres for discussion. The iSC Members are invited to comment on the report, and to provide suggestions for revision.

iSC SECRETARIAT  
FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS  
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### ***Annex 1 -- The Responsibilities of the Science Council***

### ***Annex 2 -- AGM'01 Summary Record of Discussions and Decisions on the Science Council (SC)***

# **Guarding the Relevance and Quality of Science in the CGIAR: A Conceptual Framework<sup>1</sup>**

## **1. Introduction**

At AGM2001, the Group decided to transform TAC into a Science Council (SC) by 1 January 2003, with an interim Science Council (iSC) operating during 2002.

The Group also approved responsibilities for the Science Council and for other units of the System and these are summarized in Annex 1. The AGM2001 Summary Records of Proceedings and Decisions pertaining to the SC are given in Annex 2.

This discussion working paper has been prepared by iSC to formulate a conceptual framework to delineate the overall responsibilities of the SC, advancing concepts and avenues needed to carry out the advisory and evaluation tasks assigned by the Group to the SC. The paper is to serve as a starting point for the development of specific criteria, procedures and guidelines for the various types of assessments required by the CGIAR System and to offer the iSC's views to the Working Group set up by the CGIAR ExCo to facilitate the transformation of TAC into a Science Council.

The paper first sets the context, in Section 2, by describing the special circumstances of the CGIAR scientific environment in terms of strategic and operational planning and a typology of how CGIAR has organized its research and research-related activities in terms of Centre core programmes, Systemwide Programmes and Challenge Programmes<sup>2</sup>. Section 3 conceptualizes the advisory and evaluation roles of the SC on relevance and quality of science. Section 4 deals with the set of internal evaluation processes overseen and managed by the Centres and Programmes as assurance mechanisms for scientific relevance and quality. Section 5 outlines the external independent set of evaluation processes overseen and managed by the SC. Section 6 offers closing comments on the way ahead and the work that is underway in the iSC to define the criteria, procedures and guidelines for the various types of evaluations and assessments required by the CGIAR System.

## **2. The CGIAR Science Environment**

The main business of the CGIAR is the application of science for development. The CGIAR System's current mission is to contribute to food security and poverty eradication in developing countries through research, partnership, capacity building and policy support to promote sustainable agricultural development based on the environmentally sound management of natural resources. Its overarching goal is to reduce poverty and protect natural resources in order to achieve sustainable food security. The CGIAR's intermediate goals are to increase the productivity of resources in agriculture, forestry and fisheries, and to improve the sustainable management of natural resources.

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<sup>1</sup> Prepared by the iSC to facilitate the transformation of TAC into SC.

<sup>2</sup> Programme with a capital 'P' refers to Systemwide Programmes and Challenge Programmes; programme with a small 'p' refers to programmes at the lower level of organization within a Centre or a Programme composed of projects.

The new CGIAR vision and strategy calls for, *inter alia*, an increased emphasis on pro-poor relevant research, on regional and bottom up orientation, on bringing new science to bear on the often difficult-to-address causes of poverty and food insecurity, on the restructuring of the CGIAR towards undertaking critical Challenge Programmes. With these fundamental changes, the CGIAR is entering a new phase in its development, and it is the content of the new phase that imperatively demands a much stronger concern for higher standards of scientific relevance and quality, for keeping pace with state of the art world research, and for being relevant, selective and targeted.

Given that the CGIAR accounts for only some 4% of agricultural research in the developing regions, it focuses mainly on strategic and applied research of an international public goods nature, thus respecting the notion of division of labour between itself and its national partners, the NARS. As the ultimate responsibility for the adaptation and dissemination of improved knowledge and technologies rests with NARS and extension and development agencies, the CGIAR plays a catalytic role in the delivery of research products to the beneficiaries with whom it conducts participatory research and technology development work. It for this reason that the capacity strengthening (research-related) role of the CGIAR is considered to be important and necessary.

The CGIAR science environment is an integral subset of the global agricultural (crop and animal), forestry and fisheries science environment. To serve as guardian of science relevance and quality in the CGIAR, the Science Council must:

- monitor the changes in the global science environment and appropriately engage in the strategic and operational planning processes for scientific research in the CGIAR;
- monitor and evaluate the performance of research conducted by the CGIAR Centres with their partners.

## 2.1 Strategy Development and Operational Planning

The programme content of the CGIAR-supported research and related-activities are derived in a consultative, sequential and iterative manner as follows:

- The Group, with the assistance of the Science Council, the Centres and their Boards, the partnership committees, articulates and adopts a Group mission, vision and strategy.
- The Science Council keeps a watching brief on the global external environment and advises the Group and its Centres of the context and significant strategic trajectories in the environment for the next planning period.
- Independently, the Centres and their Boards scan the horizon, and, informed with the Group's mission, vision and strategy and planning guidelines, prepare, in consultation with stakeholders, their respective Centre strategic and long-term plans (LTPs). And, proceed to draw up operational medium-term plans (MTPs), which are three-year programme and resource allocation plans, consistent with the Groups mission, vision and strategy at both global and regional level.



- The Science Council advises the Group on the coherence and alignment of the Centre MTPs with the Group mission, vision and strategy.
- The Centre Boards approve their respective Centre annual work plans and budgets, derived from the MTPs, and submit the same to the Group, collectively and individually, for funding and support.
- The cycle is repeated during the succeeding years with rolled-over MTPs and updated annual work programmes and budgets until the Group, with advice of the Science Council, adopts a new mission, vision and strategy.

## 2.2 Organization of Research<sup>3</sup>

Research and research-related activities in the CGIAR are organized as a continuum of three basic types or categories of programmatic arrangements, namely: (i) Centre Core Programmes<sup>4</sup>; (ii) Systemwide Programmes<sup>5</sup>; and (iii) Challenge Programmes whose key features are summarised herebelow.

### *Centre Core Programmes:*

- All research and research-related activities as approved by their respective Centre Boards, may include regular inter-Centre collaborative activities that are normally reflected in the individual Centre report of activities and budgets.
- Conceptualization, *ex-ante* peer review, approval, implementation, monitoring and evaluation and impact assessment under Centre-managed processes.
- Periodic external evaluation by the *Science Council*.

### *Systemwide Programmes:*

- Research and research-related activities requiring inter-Centre collaboration for more effective and efficient implementation; mainly involving the Centres and their NARS partners but may also involve other non-CGIAR entities.
- Formally approved, recognised and funded as such by the CGIAR.
- Includes facilitation and co-ordination activities plus new activities beyond the Centre core programmes, which provide clear value added to the totality of CGIAR System activities in the topic/problem area (e.g. SINGER in the Systemwide Genetic Resources Programme).
- Managed by a *Lead Centre*/convenor on behalf of the CGIAR and the partner institutions;

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<sup>3</sup> While this is not a final and definitive outline of programme organization, it is necessary to lay out the broad programme thrust in order to be more specific on assessing relevance and quality of research.

<sup>4</sup> Research in the Centre Core Programme is supported through unrestricted and restricted donor funding.

<sup>5</sup> Include global and regional subject matter or thematic programmes, and programmes with an ecoregional approach.

- through a Scientific *Steering Committee* (or equivalent) with representatives from among the partners institutions to provide coherence, cohesion, direction, priorities.
- Members of Scientific *Steering Committee* are recognized practitioners in their specializations; need continuity and empowered with adequate authority by the Centres to promote decision making and implementation.
- Led by a SWP leader (director, co-ordinator, etc.) selected by the *Steering Committee* and appointed by the *Lead Centre* empowered by partners and *Lead Centre* to make certain levels of decisions on behalf of the SWP<sup>6</sup>.
- For larger SWPs and/or those with broad participation from non-CGIAR stakeholders, a more formal governance entity (a Stakeholder Board) may be more appropriate; need to balance additional transaction costs with perceived benefits.
- Internal research planning, *ex-ante* peer review, monitoring and evaluation and impact assessment by Scientific *Steering Committee*.
- Periodic external evaluation by the *Science Council*.

#### ***Challenge Programmes:***

- Research and research-related activities requiring inter-centre collaboration and significant external CGIAR partnerships for more effective and efficient research planning and implementation, and adoption for impact.
- Formally approved, recognised and funded as such by the CGIAR.
- Clear specific objectives, milestones and deliverables, fixed time horizons and assured minimum levels of budget and other resources.
- Governed and managed on behalf of the CGIAR and partner institutions by a *Stakeholder Board*.
- Led by a CP Director with fixed appointment, responsible to the *Stakeholder Board*.
- Assisted by a Scientific *Steering Committee*.
- Internal research planning, *ex-ante* peer review, monitoring and evaluation and impact assessment by Scientific *Steering Committee* and *Stakeholder Board*.
- Periodic external evaluation by the *Science Council*.

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<sup>6</sup> There is a need for greater clarity in the governance and reporting channels for these programmes to permit adequate scientific monitoring and evaluation.

Thus, the totality of the CGIAR research effort on any particular topic/problem area is the sum of the individual Centre Core Programmes plus the relevant Systemwide Programmes and the Challenge Programmes and their interactions.

The Systemwide Programmes and Challenge Programmes include facilitation and co-ordination activities and whatever additional activities/projects are conducted under the direct auspices of the proponent SWP or CP (consortium/alliance/partnerships). These additional activities enable the CGIAR System to capture synergies and added value which otherwise are not possible when Centres operate very much on their own.

Both Systemwide Programmes and Challenge Programmes involve inter-Centre collaboration for effective research planning and execution. Challenge Programmes may be distinguished from Systemwide Programmes in the sense that CPs represent a more proactive effort on the part of the CGIAR to link the research of the CGIAR Centres and their NARS partners with development actors, both public and private, thereby raising the visibility of the CGIAR and increasing support (political and funding).

One other possible distinction is the degree of formality of governance (and structure) between SWPs and CPs. For the SWPs, a Scientific *Steering Committee* would normally suffice to provide direction, priority, coherence and cohesion to the research effort to minimize transaction costs. (However, for the bigger SWPs, a more formal *Stakeholder Board* may be more appropriate and/or necessary to effectively articulate research with development (such as extension, investments, and civil society governance).

On the other hand, since Challenge Programmes are expected to reach out to a wider audience of researchers, investors, clients and stakeholders, a *Stakeholder Board* with formal authority and corresponding structure is almost mandatory.

For purposes of planning, *ex-ante* peer review, monitoring and evaluation, and impact assessment, the Centre Boards, the SWP Steering Committees, and the CP Stakeholder Boards, respectively, will be accountable to the Group. These responsible bodies are expected to install the appropriate built-in internal mechanisms to establish standards and monitor progress towards attaining the agreed standards.

Independent, external evaluation and impact assessment will be conducted by the *Science Council* at periodic intervals to assure the Group of the relevance and quality of the science of those programmes, as explained in more detail in the following sections.

### **3. Strategic Advisory and Evaluation Roles of the Science Council on Science Quality and Relevance**

#### **3.1 Strategic Advisory Role**

This is a fundamental anchor role of the SC in CGIAR System as part of the overall responsibility (b) and specific responsibility (i)<sup>7</sup> (Annex 1) in that the SC keeps a watching brief on the global and regional external research and development environment and provides

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<sup>7</sup> Overall responsibility (b) and the specific responsibility (i) are seen by the iSC as being the enabling responsibilities for the effective implementation of the overall responsibility (a) and the specific responsibilities (i), (ii) and (iii).

ongoing independent objective advice to the Group and its Centres of the context and significant strategic trajectories in the environment to inform the priority setting and strategy development processes in the CGIAR. An important role for the SC here is also to keep the CGIAR informed on stakeholders' demands for new research and collaboration. This can be done through special studies (poverty analyses, regional analyses, etc.) but also through interactions with stakeholders (voices of the poor, interactions with regional organizations, etc.). This provides a basis for formulating the strategic planning context at the CGIAR System level.

This role involves analysing the external environment, identifying strategic developments, trends and directions in science, and formulating advice on science policy and strategy. To implement this role, the SC will conduct periodic assessments of global and regional trends, scientific challenges and research opportunities. These assessments will normally be focussed on specific challenges or on the potential for scientific application. It will deploy a wide range of experts and peers from the global scientific community to assist in strategic studies and in formulating science strategy and policy advice. The SC will commission or mount *ex-ante* and *ex-post* strategic studies of relevant cross-centre themes and activities (also of interest to CGIAR Members and the Centres) to formulate science policy and strategies as well as preparing the planning context and guidance for strategic planning at the System level; undertake periodic stripe evaluations of cross-centre themes and topics to monitor science relevance and quality and formulate future directions in such cross-centre research; organize and implement studies of regional research commitments of CGIAR in the context of Plank 4 of the CGIAR vision and strategy; and commission evaluation of *ex-post* impact assessments of CGIAR research. All of these activities should allow for the periodic assessment of the overall research agenda of the CGIAR.

### 3.2 Evaluation Role on Science Relevance and Quality

#### 3.2.1 Definition of Science Relevance and Quality

In science, *relevance* can be viewed as addressing the "right things" and *quality* as "doing the right things well"<sup>8</sup>.

For science to be *relevant* in the context of the CGIAR, it should address problems and issues whose solutions will have measurable, significant impact on the goals of the System. Thus, the relevance of the identified research priorities and strategies to the CGIAR goals and mission, and the nature of the planning and consultation process<sup>9</sup>, including *ex-ante* analyses of need and potential impact to formulate the priorities and strategies, are important elements in defining relevance. The CGIAR vision and strategy provides a comprehensive framework for judging relevance.

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<sup>8</sup> This definition of relevance and quality does not exclude the treatment of relevance as a dimension of quality, and *vice versa*.

<sup>9</sup> Planning for relevance is increasingly seen as an inclusive process requiring greater interface with the stakeholders of CGIAR research, not only donors, NARS and NGOs, but also organized groups of poor people (producer organizations, grassroots organizations). Demand for CGIAR research services should really originate in part from these stakeholder groups, particularly as they must also be involved in facilitating the effective implementation of research. This bottom up process of planning for relevance and coordinated implementation has been stressed in the CGIAR vision and strategy. This is an important aspect of the SC's role and that it needs to define a strategy that will enable it to guard relevance effectively.

*Quality* of science has three dimensions, namely: inputs, processes, and outputs and outcomes. It has to do with the correct formulation of hypotheses, and with the appropriateness of scientific inputs, research processes and methods, and research outputs and outcomes. At the input end, the research “tools” (whether analytical, instrumental etc.) and scientific and disciplinary expertise being applied to do the research work are important quality parameters. Are tools and disciplines appropriate to the task being employed? Are new methods and techniques and new science being judiciously introduced? Thus quality of research inputs has to do with the appropriateness of the tools, methods and disciplines employed. As for quality of research process, what is the evidence that the research work being done is well executed and managed, including how effectively are the research milestones being achieved? At the output end, quality of research products has to do with scientific achievements and intermediate and ultimate outcome or impact. Thus, scientific quality deals with the deployment of good research methodologies at a reasonable cost and within an appropriate time frame.

### 3.2.2 Guiding Principles

Any scientific endeavour that aims at being relevant and of high quality should be both effective and efficient in its conduct. In most, if not all, scientific institutions, there exist mechanisms to ensure that research programmes are carried out as effectively and efficiently as possible, as part of the process of self-accountability as well as of accounting to Investors for resources utilized in research. Such mechanisms are based on both internal or self and external evaluation<sup>10</sup> processes.

Self-evaluation and assessment is an integral part of responsible management. Performing institutions invariably have quality control mechanisms in place to set benchmarks or standards as well as for monitoring progress (or lack of) towards meeting the agreed standards.

In the CGIAR Centres, this function of assurance of relevance and quality of science is implemented through:

- Self-assessments and internally managed external or peer reviews as an integral part of responsible management and governance;
- Built-in mechanisms for supervision and personnel evaluations by the Centre managements and the Boards;
- Recruitment and retention of world class scientists, including attractive conditions of service;
- Supervision exercised through research programme leaders, research directors, DDG-Research;

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<sup>10</sup> Evaluation is an abstract noun, and can mean different things to different people. Evaluation is to do with finding or ascertaining or appraising or assessing the value of an activity, event, object, etc. The word value refers to the worth, desirability, utility and the qualities on which these depend. Thus, in the context of science relevance and quality, evaluation is defined as a process and products thereof undertaken to examine the value in terms of relevance and quality of past, present or proposed activities in relation to their purpose and context. Evaluation of a proposed activity or theme is referred to as *ex-ante* evaluation, and so are evaluations (perspective studies, strategic studies) undertaken for planning or setting planning context and formulating priorities and strategies; evaluation undertaken during the implementation of an activity is referred to as *performance monitoring or monitoring and evaluation*; and evaluation undertaken on a completed or a past activity is referred to as *ex-post* evaluation which may also include *ex-post* impact assessment.



- Policy oversight by Programme Committees of the Boards which are guided by the longer-term strategic plans and medium-term operational plans;
- *Ex-ante* reviews of projects and programmes by programme leaders and Directors of Research, sometimes with external peer input; and the various internally managed review and evaluation processes, including peer reviews of particular projects and activities, peer participation in annual programme reviews.
- *Ex-post* reviews which have included the strengthening of impact assessment in recent years.

While self-assessment processes involving internal experts is a necessary element, Centres have realized the value of deploying external experts and peers in assisting to assure relevance and quality of science. In the same vein, there is now a better appreciation of the pivotal role of the Centre Boards and management on quality assurance. However, the iSC considers that there is a need to strengthen *ex-ante* science review processes in the Centres. Further, given the need for incorporating greater concern for higher standards of quality in the CGIAR science culture, the achievement of highest scientific relevance and quality must become more than ever before the personal cause and the guiding value for each researcher in the System, for each research manager, for each Centre Director and administrator.

Donors also undertake evaluation specially for restricted research projects, but also when they provide fully or targeted unrestricted support in which case broad strategies and outputs and outcomes are examined.

However, for scientific research, the necessary internal assessments, however effective, are not deemed sufficient. Independent external evaluations by peers, both *ex-ante* and *ex-post* are *de rigueur* to establish and maintain scientific credibility as well as to foster accountability to investors for resources expended in the enterprise. While some progress has been made recently in promoting *ex-post* peer assessments, systematic *ex-ante* peer evaluation processes have yet to be introduced in the CGIAR System.

Thus, the relevance and quality of the research practised in the CGIAR should continue to be assessed through both internal and external evaluation processes. There is a need to build a genuine evaluation and impact culture in the System, including amongst Investors, within the SC, the Centres and with each scientist in the Centres. Within such a culture, a much clearer focus on outputs and impacts within the Centres and in other entities within the System is highly desirable.

The key to independence in assessment is that it be transparent, objective, and unbiased in terms of selection of subject (programmes and projects) and in process. Consequently, even when major proportions of the Centres' portfolios are made up of special projects reviewed directly by investors, there was a perceived need for independent evaluation by external peer sources that do not have a vested interest in the activity being evaluated.

While accountability assurance is a main purpose for much of the evaluation in the System, an equally important and closely linked purpose is to provide information and feedback for the strategic planning of new areas of emphasis and areas to diminish or phase out. It is evident that such planning should draw heavily on the self-evaluations and impact assessments carried out in the Centres and within the context of the regional fora and other groups focusing on regional research needs and priorities. Also, in shifting the focus towards

CGIAR outputs and impacts, special care needs to be taken to ensure balance between immediate or short term outputs/impacts and the quality of science and research that will help ensure the flow of future outputs and impacts.

#### 4. Internal Evaluation Processes

The iSC proposes that, at the Centre level, the internal evaluation process<sup>11</sup> would proceed as follows:

With oversight from the BOT, Centre management will design and implement a comprehensive continuous self-evaluation procedure. It will cover the relevance of research and related activities, including planning for relevance and stakeholder consultations; the quality of scientific inputs and research methodologies, outputs, intermediate outcomes and impacts; and the efficiency and effectiveness of operations, including research partnerships and delivery of research products. Centres should develop procedures for in-house peer assessments of research proposals both *ex-ante* and *ex-post*, making use of the existing expertise in the network of CGIAR Centres, as well as procedures for the review of specific areas and programmes. To the extent necessary, keeping in mind the costs involved, the Centres are encouraged to engage external expert reviewers in these processes.

At the programme level, there should be mechanisms to operate the internal monitoring and review of planning processes, achievement of milestones, roles of partnerships and all other specific activities. The template for these has been installed in the log frame planning format. In all cases, the output from the internal evaluation processes are expected to provide an input into the external independent processes overseen by the SC which also assesses the appropriateness and effectiveness of the internal evaluation processes for assurance of science relevance and quality.

iSC considers that it is extremely important to set out clearly the positive image of *ex-ante* peer evaluation as an instrument for enriching each research proposal before it is approved for funding, with benefits of knowledge and creative suggestions from groups of researchers invited to join in the peer evaluation process. The author of each proposed research project will gain from the state of the art knowledge on the subject and from additional suggestions from peers regarding investigation techniques, design of experiments, consultation with beneficiaries, etc. This should counter in a positive and constructive way the fear about *ex-ante* peer evaluation as a simple administrative or “police” procedure. Peer evaluation can also sharpen the relevance of science, not only its quality, and could definitely help promote the best use of financial resources in the service of the most relevant and high quality research proposal. Further, *ex-ante* peer evaluations will facilitate bringing into the CGIAR System ideas, knowledge, and techniques from outside the System by inviting outside researchers to mix with in-house researchers in the peer evaluation rounds. In short, to use the words employed during the AGM2001, “we need a world class peer review system to help produce world class quality research.”

While the Boards’ oversight role of the internal evaluation processes has improved in recent years, there is much more potential for incisive and in-depth engagement of Boards in quality assurance processes beyond their traditional role of monitoring and approving overall

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<sup>11</sup> The SC should provide guidelines for the design of an internal evaluation process, and periodically review its effectiveness (see Section 6).



programmes and LTPs and MTPs. There is enormous scientific competence embodied in the memberships of Centre Boards and Board members should be used more intensively for quality enhancement purposes. For instance, working groups could be constituted among members of each Board requiring them to participate in the *ex-ante* peer evaluations of individual projects.

[Note: The Centres as long standing structures are well-placed to install and maintain the self-assessment mechanisms described above. The ISC considers that since SWP and CPs could very well be transitory structures, the emphases may be better directed in the case of the SWPs and CPs on the external evaluation processes commissioned by the Science Council (rather than the internal processes) to moderate the burden (and bureaucracy) on the scientific teams carrying out the Programmes. This however can be resolved after the CGIAR has gained some experience particularly with the new CPs.]

## 5. External Independent Evaluation Processes

External independent<sup>12</sup> assessment and advice had always been a key pillar in the organizational design of the CGIAR. From its inception, a Technical Advisory Committee (TAC) composed of outstanding scientists representing a broad range of disciplines drawn from all over the world was organized to provide the Members of the Group as well as the Centres independent, objective and rigorous advice on research objectives, directions, priorities and strategies as well as assurance of relevance and quality of science practised at the Centres.

The external evaluation at the Centre level will be of two kinds:

Periodically (roughly every five years), an independent external programme (or science) evaluation of each Centre will be commissioned by the Science Council<sup>13</sup>. The evaluation will be organized and managed by the Science Council with the help of its Secretariat. The evaluation will concentrate on the Centre's *processes* for assessing the relevance, quality and impact of research and related activities, and on the efficiency of resource use. The evaluation will also help the Centre reassess its strategic vision and set new research priorities. The evaluation will draw heavily on the results of the internal evaluations and assessments, and thus will supplement the Centre-managed process. It may thus be considered to be an 'audit of audit processes' and will be far less time consuming than the current external programme and management reviews.

The second kind of external evaluation at the Centre level should address the medium-term plans (MTPs). Centre MTPs will be assessed as a group every 3 years by the SC, to provide the CGIAR with a regular, complete overview of the System's research agenda and apparent gaps, and an evaluation of the overall agenda in the context of the CGIAR's mission

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<sup>12</sup> The word independent here refers to the basic purpose of the SC which is to ensure that its advice to the Group and CGIAR System is objective and impartial in addition to being transparent in terms of the advice is formed or developed..

<sup>13</sup> When the SC commissions an independent evaluation, it does so on behalf of the Group, deploying expert panels or individual experts depending on the task at hand. The experts serve in a personal capacity.

and goals. Information from the external evaluations will feed into this process. The MTPs will then constitute the basic documents against which Centre performance will be evaluated.

At the Programme level, the SC will commission external science evaluations at the various stages of Programme development and implementation in the context of System level resource allocation to geographical regions, sectors, commodities, Centres, Programmes, enterprises and outputs.

Based on the AGM2001 interpretation of the new responsibilities (Annexes 1 and 2), the SC is expected to undertake periodic science evaluations of individual Centre project portfolio when Centres produce fresh MTPs every 3 years, and of the total project portfolio of the CGIAR System, referred to as the CGIAR research agenda. Also, the SC is expected to undertake *ex-ante* evaluation of Challenge Programmes, and monitor and evaluate their performance during implementation in terms of science relevance and quality. The focus on outputs and impact requires that emphasis is placed in the SC to carry out impact assessment studies in a systematic fashion.

*(Need section on evaluation processes for SWPs and CPs)*

To summarize, Figures 1 and 2 present the main elements of the conceptual framework outlined above. Figure 1 illustrates the main elements that contribute to the development of the CGIAR science agenda. A range of stakeholders feed information to the development of the CGIAR research agenda that will be monitored and periodically evaluated by the SC for the Group. Figure 2 illustrates the evaluation processes that will assure relevance and quality of science in the CGIAR. The SC will assist in the evaluation of Centre activities and Programmes as well as in the study of strategic scientific issues and trends. Figures 1 and 2 also illustrate the primary role that the SC would play in the evaluation and assessment of each specific System scientific component in serving as the guardian of science relevance and quality in the CGIAR.

## 6. The Way Ahead

The framework outlined above represents a comprehensive but summary view of how iSC perceives its roles and responsibilities as science advisor and guardian to the Group. However, the iSC considers that more specific ideas are needed before each of the processes that have been described in the previous pages, can be thoroughly analysed and formulated for application and use by the CGIAR. Many questions may be raised on issues relative to roles and responsibilities for each evaluation process, criteria and guidelines, implementation procedures, etc. The iSC plans to expand the present framework document by developing in the next three months (iSC/TAC 83) a set of four companion papers that will describe in detail the following:

- (i) ***Strategic Planning: Strategic evaluation of scientific challenges and perspective studies of research opportunities in the CGIAR.***

These *ex-ante* strategic evaluations and perspective studies are undertaken for planning and formulating science policy, priorities and strategies relevant to implementing the CGIAR vision and strategy, for providing scientific advice and the strategic framework and

set of priorities conducive to achieving CGIAR objectives, and for preparing the planning context and guidance for the System level strategic planning. These strategic evaluations and studies have been handled through stripe and inter-centre evaluations (e.g. farming systems, training, rice), strategic studies (e.g. plant genetic resources, soil and water, marginal lands, roots and tubers, post harvest), and regional studies (e.g. West Africa, Latin America). The SC would continue this strategic analysis. The iSC intends to revise its existing basic document on strategic planning, in consultation with CBC and CDC and other stakeholders, in the light of the new responsibilities of the SC.

**(ii) *Guidelines and Criteria for Assessing the Science Strategy and Agenda of the CGIAR.***

The science strategy and agenda of the CGIAR includes the System level strategic plan and the CGIAR project portfolio. TAC/iSC has begun preparing a set of guidelines, criteria and an analytical framework for assessing the System level science strategy (when the next System level strategic plan is produced) and CGIAR project portfolio based on holistic analysis of MTPs of Centres and Programmes. This will allow the Science Council to check the System strategy and agenda against System goals, global and regional priorities and activities, expected outputs and outcomes etc. The iSC will revise the current procedures in consultation with CBC and CDC and other stakeholders, in line with the new responsibilities of the SC.

**(iii) *Evaluation of Centre Core Programmes in the CGIAR System.***

TAC/iSC has been exploring over the last year and a half new approaches for Centre internal and external evaluations, in consultation with CBC and CDC and numerous other stakeholders. The work is in its final stages and the final draft of this first paper will be available shortly.

**(iv) *Evaluation of Systemwide Programmes and Challenge Programmes in the CGIAR System.***

The iSC has had to develop initial criteria and procedures for evaluation of concept notes and pre-proposals on the new CPs. Further analyses and refinements of such criteria are being carried out as well as the guidelines and criteria for evaluation of the final CP proposals. Similar approaches will be proposed for the evaluation of Systemwide programmes based on the revision, in consultation with CBC and CDC and other stakeholders, of the current TAC/iSC document on the external evaluation process for Systemwide Programmes.

## FIGURE LEGENDS

Figure 1: Interactions and information flow among CGIAR components in the domain of strategic objectives and the development of the science agenda.

Figure 2: Interactions among components in the CGIAR System in the process of performance evaluation and impact assessment.

### **The Responsibilities of the Science Council**

“The primary responsibilities<sup>14</sup> of the Science Council are to:

- (a) serve as guardian of the relevance and quality of science in the CGIAR, and
- (b) advise the CGIAR on strategic scientific issues relevant to the Group’s goals and mission.

The SC should assist the ExCo and its Programme and Finance committees by providing them with scientific advice on the strategic framework and set of priorities conducive to achieving CGIAR objectives.

Specifically, the SC would:

- (i) conduct periodic assessments of global and regional trends, scientific challenges, and research opportunities; and prepare the planning context at the System level;
- (ii) provide a critical review of System-level strategic plans and the CGIAR project portfolio;
- (iii) review Challenge Programme proposals; mount peer review mechanisms, as necessary, for review of the proposals; and
- (iv) coordinate the CGIAR’s science monitoring and evaluation (including oversight of the peer-review and other quality assurance mechanisms used by the Centres) as well as System-level impact assessment activities.”

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<sup>14</sup> From Attachment 5, Science Council Responsibilities and Composition and Transition from TAC to Science Council, CGIAR AGM2001, Washington.

### Matrix of Responsibilities<sup>15</sup>

Product	Timing	Stakeholders	CGIAR	Executive Council	Science Council	System Office	Centres and Challenge Programs
Planning Context	5 Years	Collaborate	Approval	Oversight	Prepare	Facilitate	Collaborate
Planning Guidance	3 – 5 years	Collaborate	Approval	Oversight	Collaborate	Prepare	Collaborate
Medium Term Plans	Rolling						
i] Periodic	3years	Collaborate	Approval	Oversight	Review of Science	Consolidate	Prepare
ii] Project Portfolio	as required	Collaborate		Approval		Consolidate	Prepare
Annual Operating Plan						Consolidate	Prepare and Approve
Annual Financing Plans	October		Approval	Oversight		Consolidate	Prepare
Evaluation & Impact Assessment	Periodic	Collaborate	Decision	Oversight, follow-up	Commission (program-matic)	Commission (manage-ment)	Collaborate
Annual Ex-post Report	April			Oversight		Consolidate	Prepare

<sup>15</sup> From Attachment 1, Functions of the CGIAR Executive Council (ExCo), CGIAR AGM2001, Washington.

***AGM'01 Summary Record of Discussions and Decisions  
on the Science Council (SC)***

**Recommendations 7, 8, and 9** which covered the transformation of TAC into a Science Council of eight members plus the Chair were considered together. The recommendations were endorsed on the basis of comments, clarifications, and modifications. There was general agreement that the transformation should be carefully managed, and that a working group should be created by the ExCo to prepare a detailed proposal, including composition, functions, alignment with ExCo and the System Office, costs, and operational and administrative aspects of the transition. The size of the SC was discussed, as well, with some members suggesting that it should eventually be set at a maximum of twelve, with balance and diversity.

The need for the SC to draw on international networks of scientists was reiterated, and it was suggested that the range of skills of SC members should be kept under review. Quality, perspective, and diversity were considered as essential criteria applicable to the Science Council. Science management, some members felt, should be added to the core competencies of the SC, and different forms of science including traditional knowledge should be part of the council's skills mix. There was a strong sense expressed that resource allocation related to key programmatic matters should be among the topics on which the SC could comment, and that this should be reflected in its terms-of-reference. Peer review should also be a responsibility of the SC. The SC was expected to advise the ExCo's Program and Finance Committees, and to report to the full CGIAR through the annual general meeting.

Members stressed the importance of ensuring that the regional priority setting work undertaken so far by TAC should be continued, and that a smooth transition from TAC to the SC should be ensured.

**Decision 7:**

The primary responsibilities of the Science Council will be: (a) to serve as guardian of relevance and quality of science in the CGIAR, and, (b) to advise the CGIAR on strategic scientific issues relevant to the Group's goals and mission. SC should also function as a strategic adviser to ExCo and its Program and Finance Committees and should ensure that a system of peer reviews is in place across the System. The functions of SC are described in Attachment 5, and its roles and responsibilities in relation to CPs is described in Attachment 4.

**Decision 8:**

The SC will be composed of up to eight (8) individuals plus the Chair. The members should be eminent scientists in relevant disciplines in the biological, physical, and social sciences. While solid scientific stature should be a major selection criterion, the members of the Council should have strong science policy and development experience, with the overall composition of the Council reflecting diversity in forms of science and understanding of science management. The size and the range of skills required of SC members should be kept under review by the ExCo.



**Decision 9:**

The SC and its Secretariat should have its operational costs covered by the Cosponsors and should be hosted by FAO. An agreement among cosponsors covering the terms of FAO's hosting of the SC Secretariat should be prepared and formalized. This agreement should cover, among others, an institutional arrangement permitting greater latitude to the SC in recruitment of staff and provision of services to SC members while satisfying any legal obligations of FAO as host organization.

The present TAC should be phased out as of December 31, 2001, and an interim SC should be constituted at the beginning of 2002, when the transition from the TAC Secretariat to SC Secretariat would commence. The ExCo should establish a working group to prepare a detailed proposal on the SC's composition, functions, alignments with the CGIAR's governance units, and operational, and administrative aspects of the transition from TAC to the SC, including its cost structure and mechanisms of financing, in the context of the broad decisions taken by the CGIAR at AGM2001. The transition arrangements recommended by the Science Council Task Force (described in Attachment 5) should be considered as background for the ExCo working group.