

Planning in Muddy Waters - Orientation for Strategic Planning in CGIAR Centers

Written and compiled by
Peter Gardiner, Jürgen Hagmann and Gunther Hahne



Planning in Muddy Waters – Orientation for Strategic Planning in CGIAR Centers

The report has been written and compiled by
Peter Gardiner, Jürgen Hagmann and Gunther Hahne



Planning in Muddy Waters – Orientation for Strategic Planning in CGIAR Centers

Peter Gardiner
Jürgen Hagmann
Gunther Hahne

2003

Published by WorldFish Center
PO Box 500 GPO
10670 Penang, Malaysia

Gardiner, P.R., J. Hagmann and G. Hahne. 2003. Planning in Muddy Waters - Orientation for Strategic Planning in CGIAR Centers. WorldFish Center Conference Proceedings 66, 38 p.

Perpustakaan Negara Malaysia. Cataloguing-in-Publication Data

Gardiner, Peter

Planning in muddy waters – orientation for strategic planning in CGIAR Centers / the report has been written and compiled by Peter Gardiner, Jürgen Hagmann and Gunther Hane.

ISBN 983-2346-18-5

1. Water resources development.

2. Environment. I. Hagmann, Jürgen. II. Hahne, Gunther. III. Title. 333.91

Editor: Patricia Munro

Cover design: Garrick Tan

Layout and design: C-Square Sdn. Bhd., Penang

Cover photos and illustrations by: http://www.cgiar.org/who/wwa_album.html - IITA, IFPRI, CIMMYT, CIP, IRRI, and WorldFish photo collection

ISBN 983-2346-18-5

WorldFish Center Contribution No. 1691

Printed by Jutaprint, Penang, Malaysia

Planning in Muddy Waters – Orientation for Strategic Planning in CGIAR Centers

**The report has been written and compiled by
Peter Gardiner, Jürgen Hagmann and Gunther Hahne**

The content of this report is grounded in the outcomes of a Research Priority Setting Workshop held from the 28 to 30 May 2002 amongst research planners from Consultative Group on International Agricultural Research (CGIAR) Centers, on behalf of the Center Deputy Director Generals' Committee (CDDC). The original Workshop documentation and outcomes have been distributed, unprocessed, to participants. Whilst the Executive Summary reflects the agreed outcomes and recommendations of the Workshop, this report has been synthesized and developed by the authors who take responsibility for the subsequent changes.

Participants in the Workshop were:

Doug Pachico, CIAT
Ken MacDicken, CIFOR and Workshop co-convener
Mike Spilsbury, CIFOR
Prabhu Pingali, CIMMYT
Hugo Li Pun, CIP
William Erskine, ICARDA
Peter Gardiner, WorldFish Center (previously ICLARM – The World Fish Center)
and Workshop convener
Anne-Marie Izac, ICRAF
Cynthia Bantilan, ICRISAT
Lyndsey Withers, IPGRI
Ren Wang, IRRI
Gunther Hahne, WARDA

Jürgen Hagmann, Workshop Facilitator

With the support of Lim Li Sze, WorldFish Center

Foreword

At the annual meeting of the Center Deputy-Directors' Committee (CDDC) in Washington in October 2001, a conscious effort was made to allow scope for the research managers of the system to discuss issues relating to the science program, and not just the administrative and logistical functions of the Centers. Chief amongst the concerns of the research managers is the setting of priorities – both at the strategic and operational levels – within the Centers they represent. The discussion session led by Ken MacDicken of Center for International Forestry Research (CIFOR), helped identify the range of approaches being attempted, and the difficulties encountered in tackling this common issue. The level of interest immediately identified this topic as one worthy of further deliberation and debate, best undertaken away from the constraints of the Annual General Meeting. The suggestion that the CDDC should hold a meeting for research managers and planners from the Centers to discuss priority setting was endorsed by Center Directors' Committee, and WorldFish Center offered to host such a meeting in Penang, Malaysia.

The group engaged Jürgen Hagmann to help guide the conceptual process and to facilitate the Workshop as he has close knowledge of the CGIAR system, and CIFOR and WorldFish worked with the facilitator during early 2002 to develop the meeting format. Eleven Centers participated directly in the Workshop in May at their own cost; fourteen Centers provided background information on priority setting processes at their Centers. We suggest that the outcomes of the Workshop, which was conducted informally and in a most cooperative atmosphere, provide important building blocks to guide the process of strategic priority setting at the Centers in the future. The report includes an additional “check list” approach to assist Centers and others implement strategic planning processes. We believe there are important messages in this synthesis report for the Centers themselves, but also particularly for the CGIAR system (and its component parts) as it grapples with the establishment of a common identity and unified approaches to its portfolio of research. All need to consider how strategic priorities have and are being set, and to put in place processes that respond to the system's overall goals, and which can guide the component parts through the inevitable changes and shocks that a large body encounters.

A major, if perhaps less tangible, outcome of the Workshop is the beginnings of a collegial community of practice amongst the research managers and planners of the Centers. This is key to developing broadly applicable, flexible processes and methods of use to the system as a whole. We believe that the understandings and processes started in Penang, can be used for the benefit of many issues currently confronting the CGIAR. These include placing the system in its rightful place in the “research for development” community, planning for sectors, regions and collaborative research developments, including Challenge Programs, and assisting day to day operational management in a different and broader partner environment.

Peter Gardiner
Workshop Convener,
WorldFish Center, Penang, Malaysia, May 2002

Executive Summary

This synthesis report provides the outcomes of a workshop on Strategic Planning and Priority Setting in the CGIAR. The Workshop for research managers and planners was held over three days under the auspices of the CDDC of the CGIAR at WorldFish Center in Penang, Malaysia in May 2002. Participants representing eleven CGIAR Centers took part in the Workshop, and fourteen Centers provided background information on priority setting processes through the provision of completed questionnaires and related publications.

The Workshop considered the changing research and development environments in which the CGIAR Centers operate and identified the major objectives for undertaking research priority setting and strategic planning processes. Strategic planning was defined to include “visioning” and planning for regional and natural resource/commodity research and higher-level programs, whereas the Center Medium Term Plans (and annual operational plans) were considered aspects of operational planning.

The participants reviewed and analyzed the collective experiences of Centers in priority setting (which revealed a rather large array of approaches nevertheless geared to generally similar goals). For the analysis and conceptualization of the diverse experiences, a methodology called LearningWheel[®], developed by Hagmann, was utilized. It is based on the analysis of the success factors in the different experiences, which then provides the basis for defining four major elements or “cornerstones” for managing a successful strategic planning process. These are,

- Firstly, *Process design and management*, which includes identification of the essential elements in a planning process, adoption of appropriate strategies and processes, and possible ways of implementation.
- Secondly, *Understanding the external environment*, which includes analysis of mega trends in key areas of relevance to a Center (e.g. projected demand for a given commodity).
- Thirdly, *Stakeholder involvement*, which includes the effective participation of internal and external stakeholders.
- Fourthly, *Updating and adapting to changes*, which consists of ensuring that the entire process remains flexible in a changing external environment. This is because strategic planning is a continuous process, rather than an event which results in a final document with a fixed lifespan.

The cornerstones help define a framework for strategic and operational planning which was explored in detail by the Workshop, and is provided here in terms of a best practice guide. It is intended that appropriate consideration and application of the framework serve the development of flexible strategic planning in the Centers. Elements of the framework are characterized by examples from the experience of the Centers, so that more and less successful cases can be compared for their efficacy in serving the needs of individual Centers or levels of planning.

To ensure the utility of the recommended framework, it was “ground truthed” by being applied to the cases of two Centers that have undertaken, or will shortly

undertake, strategic planning exercises. The framework was found to be generally useful to senior managers in the development of the components of a thorough strategic planning approach, including research priority setting, thinking through the most appropriate allocation of responsibilities within a Center, and the scheduling of the different elements of the process.

One of the key considerations in the success of a strategic planning process is the ability of the plan, and the consensus generated in the planning process, to help link and lead to implementation of operational projects, to maintain direction in the face of financial and other shocks, and to help recognize the incremental processes that can often lead to distortion of the portfolio and “mission creep”. Whilst the outcomes of the Workshop recognize these factors, so that they can be more explicitly taken into account, the major recommendation is that strategic planning should be undertaken with the express purpose of being immediately linked to operational plans. The utility of cascading or interlinked planning processes, that relate strategic, regional, and benchmark site research activities, for instance, is key in this regard, as are the review and subsequent adaptation steps. The Workshop did not specifically consider the efficiency (costs, benefits, risks) of different operational planning processes and methods, and this is highlighted as an area for further analysis. Certainly Centers that have embarked, at least once, on major quantitative approaches seem best placed subsequently to review and revise both their strategic and operational research portfolios.

The findings of the Workshop are germane not just to the Centers themselves but to many of the component elements of the CGIAR:

The Workshop recommends that **the interim Science Council (iSC)** and the **Systems Office** agree with the Centers on the way that information relevant to strategic planning and priority setting, including global trend analyses (useful subsequently for reviews and impact assessment) can be centralized and made widely available to the Centers.

The **donors and investors** in the CGIAR system will gain from collaboration in, and support for, Center strategic planning processes through the development of agreed priority research plans for regions, commodities, or natural resource systems of interest. However, more quantitative approaches are data intensive and costly. Development of background data and methods to inform priority setting should be recognized as project activities of the Centers and supported, as declining core budgets do not leave Centers the flexibility to conduct such “planning research” or pilot studies.

It is suggested that the **External Program and Management Review Panels** may benefit from this analysis which supplies both a framework, and the realistic capacity that is required for Centers to undertake various types of priority setting processes according to their levels of support. It may therefore help to provide a common understanding and expectation of Centers in relation to priority setting.

Challenge Programs potentially provide a number of new opportunities for the CGIAR Centers, but there is concern about planning for these new initiatives at the system,

consortium and Center levels. On the one hand they can be considered as additions to an operational portfolio of a Center; on the other, the relationship between Centers and a global group of partners in a single program requires investment in extra planning, as well as planning skills (including for instance, negotiation, and business-plan development) on a generally larger scale than the Centers have addressed before. The participants to the Workshop urge that clear and transparent strategic planning processes be applied to programmatic developments at the system level to avoid the piecemeal selection of Challenge Programs which may, in sum, be less than the current aggregation of Center-led and System-wide activities.

A major, if perhaps less tangible, outcome of the Workshop is the beginnings of a **collegial community of practice amongst the research managers and planners of the Centers**. This is key to developing broadly applicable, flexible processes and methods of use to support the CGIAR change process.

Contents

Foreword	iv
Executive Summary	v
1. Background	3
2. Strategic Planning in the Management System of CGIAR Centers	5
2.1 The Past and Present Planning System and its Underlying Assumptions	5
2.2 Challenges for Strategic Planning in the Future are Shared by Most Centers and Planning Levels	5
3. A Framework for Managing Strategic Planning Processes	7
3.1 Cornerstones of Strategic Planning Processes	7
3.2 Cornerstone 1: Process Design and Management	8
3.2.1 Institutional commitment	9
3.2.2 Leadership, roles and responsibilities	9
3.2.3 Skills and framework for priority setting	10
3.2.4 External inputs	10
3.3 Cornerstone 2: Understanding the External Environment	10
3.3.1 Socio-economic trends	13
3.3.2 Environmental trends	13
3.3.3 Political and institutional context	13
3.3.4 Science and technology context	13
3.3.5 Implications of lessons learned from impact assessment studies, reviews, self reflection/evaluation	13
3.4 Cornerstone 3: Stakeholder Involvement	13
3.4.1 Stakeholder involvement and acceptance	14
3.5 Cornerstone 4: Updating and Adapting to Change	14
4. How to Put the Framework into Practice	19
4.1 General Procedure	19
4.2 Guiding Principles and Core Values	21
4.3 Pre-conditions	22
5. Implications for the CGIAR	23
5.1 Strategic Planning as a Starting Point Towards Managing Change and Organizational Performance	23
5.2 System Requirements	23
Outlook	25
Annex: Planning for Strategic Planning	26
List of Acronyms	30

1. Background

The changing CGIAR – Setting priorities for research is challenging at the best of times, but it is evident that the issues confronting the CGIAR system today are several degrees more complicated than in the CGIAR of the past. The idea of centers of agricultural research excellence, their situation in developing countries and the focus on breeding approaches to the improvement of the staple food commodities of developing countries, were all strategic choices, brilliantly realized. This was accomplished by a single-minded, but long term focus and relatively stable core funding for the early Centers. Now, in the evolution of the CGIAR, the publicly-funded, component Centers of the system are being asked to continue to conduct research to meet the pressing food security needs in the world today, but also to perform a set of integrated, development-related functions. The budgets of the individual Centers today are largely stationary or falling, with reducing influence of core or fungible resources within the applicable totals.

Agricultural research, or research for development? – Charged only with a research mandate, institutes apply the logic of research to priority setting i.e. the definition of problems, ideas for their solution and the generation of research projects to test the methods and to improve materials. Research on germplasm enhancement for improved productivity arose from this thinking. In the past, the CGIAR Centers enjoyed a more linear relationship with National Agricultural Research Services (NARS) in the research and dissemination functions. Now, with mandates changed explicitly or implicitly to providing research for development and the alleviation of poverty, there must be a conscious adoption of development logic. This is different, focused on people-centered outcomes, encompassing not only productivity but also environmental concerns and resource sustainability, situational analysis, poverty alleviation, enhancing institutes, delivery systems and policy. Many actors are needed to contribute to the several products. The Centers are now confronted by defining “What is the path to an optimal product?” It is now necessary to distil what the development issues and the related individual research questions are in several fields and how they are balanced, and research scheduled. Development outcomes will not be met by single commodity approaches, or by single agencies,

and the modern CGIAR acknowledges the complexity in partnership arrangements for research and for delivery.

Impact orientation – With a large percentage of the funds which support the activities of the CGIAR Centers coming from the development budget, there is a need for the Centers to demonstrate the impact of their research (in development terms). This leads the Centers to greater involvement in downstream partnerships, and to the commissioning of scientific inputs from upstream providers. Just as the strategic issue requires planning for outputs to which multiple actors are asked to play contributory roles, so success also depends upon a convincing strategy and the means (and funds) to mobilize those actors.

Multiple objectives for outputs; temporal trends in support – The existence of multiple development objectives is further confounded by the fact that the system as a whole, and each Center individually, is funded by consortia of independent donors. There is an inevitable wish by the Centers, as research providers, to join with the donors as partners in development; but the several donors are not unified in outlook, regional interests or funding capacity. The donors are subject to their own national structures and political realities that can interrupt, redirect or temporally constrain funding to agriculture and development issues. From the standpoint of the implementation of Center plans, vogues in donor support can lead to distortion of the intended portfolio and to mission creep. From the Center standpoint, there are perceived trends to move from the support of the Center-led research projects, to the contracting of the Center’s analytical and project management expertise in developing countries to enhance donor activities or goals. As the core budget goes down, or is increasingly earmarked for certain activities, there is the tendency of Centers to seek research agency, Foundation and private sector support to cover the research activities. These new opportunities can bring new constraints on flexibility, and complexity to the path of technology delivery.

Challenges in Strategic and Operational Planning – Diminishing core resources and the “projectisation” of

research, lead to a more piecemeal approach to the overall research requirement according to which piece of the jigsaw can be funded. With fewer uncommitted resources in Centers' budget mosaic, there are associated effects on the reduction in flexibility for planning, project development and the conduct of pilot studies. The requirements of the Strategic Plan for a Center under these circumstances are therefore to establish boundaries, and to provide guidelines to lower level planning horizons when confronted with new opportunities, shocks and demands. For instance, a concerted research agenda to tackle the immediate aspects of poverty (with impact derived from agricultural research) must take into account globalization, trade and economic growth, but not necessarily climate change as a proximal driving issue. However, CGIAR Centers are being asked to address wider and wider concerns with implications for mission creep, short term/long term trade-offs, overload and appropriate staffing. The advent of a more programmatic approach within the CGIAR, particularly the trial of the Challenge Program concept, brings additional considerations at two planning levels; namely the inclusion of Challenge Program activities within operational planning and secondly, the need for the CGIAR system in general to plan for a comprehensive portfolio of new programs.

Roles and partners – As discussed, the Centers have gone from lone providers of commodity research to one of many actors in the research-for-development chain. As well as conducting research for the benefit of many nations simultaneously, the outputs of international public goods research include synthesized knowledge, coordination, analysis and capacity building for individuals, sectors and institutes for each to play their roles more efficiently. The changing research strength of NARS the sources of new science and the complexity of delivery partnerships, including civil society, makes placement of the CGIAR effort increasingly difficult but important. Raising the game to the level of provision of support for international conventions means that Center and system planning must encompass the potential contributions of multinational agencies down to the local partners in delivery. Planning for the present, and for the evolution of change in the system and its environment, requires comprehensive knowledge of the institutional components and trends in the external environment and the adoption of flexible planning processes.

The changes described need to be reflected in the planning processes and methodologies used for strategic planning in the CGIAR in the future.

2. Strategic Planning in the Management System of CGIAR Centers

Strategic planning has always had a place in the management systems of CGIAR Centers. However, the rationale and role for planning, and the way it has been implemented, has changed over time and will continue changing in future.

2.1 The Past and Present Planning System and its Underlying Assumptions

Strategic planning and priority setting, in the present planning system in most CGIAR Centers, is reflected in the long-term strategic plan. In most cases this document was developed on the basis of expert knowledge and particular studies. Formerly, external consultants often drew up these plans until the need for more and varied partnerships led the Centers to involve stakeholders through consultations.

The long term strategic plan affects planning at lower levels e.g. at the regional level, at program level, or at times around commodities or environmental systems. These lower level plans are thus supposed to focus the strategic plan on given units. They are exemplified by medium-term plans, developed with a three to five year horizon, which are then operationalised through annual work plans.

In recent years, a major modification has emerged through donor pressure to introduce log frames. Many Centers have made use of this tool to advantage to make the different planning levels more coherent with clear interfaces (cascading log frames).

This general planning system has been in place for a long time, in some cases having been developed more than two to three decades ago under a set of assumptions and criteria which need to be revisited in a changing environment. Some of those assumptions were:

- The understanding of CGIAR Centers as being 'centers of excellence in science' with mandates that focused on the provision of upstream research on

clearly defined commodities.

- That Center mandates were relatively narrow and defined the focus and priorities. In fact, the mandate itself was already a clear prioritization at a level above an individual Center.
- The products of science were seen as high quality peer-reviewed publications on commodities and their environment, based on data gathered from controlled experiments. Another category of major product was the prototype technology which was to be delivered to research agents who would take it further through downstream research, and to extension agents who should have spread the messages. The role of CGIAR Centers in the research and development (R&D) continuum was clearly outlined.
- That all the other parts of the innovation system (NARS and extension agents) were functioning and performing their mandated jobs which would ensure the delivery of the products of CGIAR to spread downstream through these agents.
- The Centers and the other partners had a high degree of commonality in objectives and control over the factors governing pathways for delivery (partly encouraged through direct financing of partners' services to CGIAR projects).

The progressive changes in expectation and environment have left many of the assumptions above untenable.

2.2 Challenges for Strategic Planning in the Future are Shared by Most Centers and Planning Levels

The recognition of an increasing complexity in the problems to be solved has rendered reductionist and linear approaches and methods ineffective, and often even counterproductive. While in the 1960s the problems related to one commodity, in the 1970s they had already begun to relate to the production system. In the 1980s the problem was seen more broadly within

the farming system and in the 1990s, within livelihood and food security systems. Currently, research is required to deal with poverty alleviation and its effectiveness is to be measured in terms of impact on poverty reduction. The change in the level of complexity of the problem to be dealt with has increased exponentially, whereas the research responses have often remained rather simple and linear.

This has posed many challenges to the planning systems:

- The strong pressure to produce impacts on poverty reduction implies a high responsibility of the Centers for the impacts downstream – which are predominantly outside the classical research areas. Therefore the planning has to take into account complex actor and innovation systems. However, CGIAR research, as only one minor actor, has little direct control over these variables. Planning requires the development of greater ownership by the many actors in order to achieve common purpose in research, dissemination and implementation functions. Planning is thus much more than producing a plan; it is part of a strategy to get the actors to develop a vision and to identify the required interfaces, roles, relationships and boundaries in an evolving manner. It needs to include a process of ‘organising’ the players and learning to play the roles¹.
- The mandates, roles and boundaries of the Centers in dealing with such a complex environment are being widened. Approaches need to become more interdisciplinary and integrated as no one single discipline can solve the envisaged problems. Some of the research concepts – like integrated natural resources management (INRM) – work in different, process-oriented, non-linear paradigms which cannot be planned in a linear mode. Planning thus

needs to deal with ‘new science’ approaches, the combination of concept development (with new conceptual frameworks and modes of integration) and the actual planning of actions. It needs to deal with process rather than programmatic procedures.

- The rapid changes (in science, technology and economic globalization) require a much better understanding of the external environment to define priorities and abilities to adapt. The challenge is to keep focus while reacting flexibly to a highly dynamic milieu.
- Changes in the mode of funding and pressure by donors have made the ‘grand plan’ obsolete. The more volatile and competitive funding environment, and variability of project funds beyond three year cycles, have resulted in a survival pressure and swings towards more readily fundable activities. This has sometimes led to a “disconnect” between the strategic plan and the operational plan/reality. Planning therefore needs to generate a clear focus, while allowing for permitted deviations – a ‘flexible frame’
- Earlier, strategic planning was predominantly seen as a task of research managers. Within the changing environment as outlined above, each and every researcher, even every technician, has to be aware of the external environment and to engage in strategic thinking and planning processes as a means to continuously improve effectiveness and impact. As well as questioning the overall planning process, this challenges the role and profile of scientists and other staff to plan and deliver agricultural research for human development.

In light of the changes described above, the present document examines some of the key elements of strategic planning processes that are required.

1 Hagmann, J. Learning Wheel® – Creating common learning frames for joint action: a workshop methodology for conceptualizing experiences among multiple stakeholders towards learning together (In press). (More information: Jhagmann@aol.com)

3. A Framework for Managing Strategic Planning Processes

From the foregoing, strategic planning processes will have to be focused on the continuous process of orientation, adaptation and navigation in a rapidly changing environment rather than on a 'strategic plan'. The document itself will be a secondary output, which will be of short validity. The primary outcomes of strategic planning will be:

- A plan which guides daily decision making strategically
- Maximized synergy with partners and leverage in obtaining mutual goals
- Provision of a frame and direction in strategic choices of donor
- Synchronization of Center activities with current, real world situation
- Enhanced consistency of programmatic activities with agreed goals and focus
- Enhanced staff and stakeholder buy-in and partnership
- Identification and validation of assumptions and research approaches used by the Center and a stimulus to innovation
- Provision of a foundation for future adaptation

Benefits can be drawn not only from the product of the strategic planning process, i.e. the strategic plan itself, but also from the planning process. If it is well conducted, a strategic planning process is an asset in itself and provides a number of spin-off products. It increases the participating parties' awareness of the issues at stake. Ownership of the process by intended beneficiaries inside and outside the Center will lead to institutional integration, acceptance of and adherence to the Center's principles and values, and changes that may become necessary to adapt the Center to upcoming challenges.

The impact of a strategic plan on a Center's activities can be measured on daily, medium term and long-term scales. It provides guidance for daily decisions and helps align them with the overall strategy and with the declared goals. It will help provide a rational basis for establishing alliances with donors, and maximize

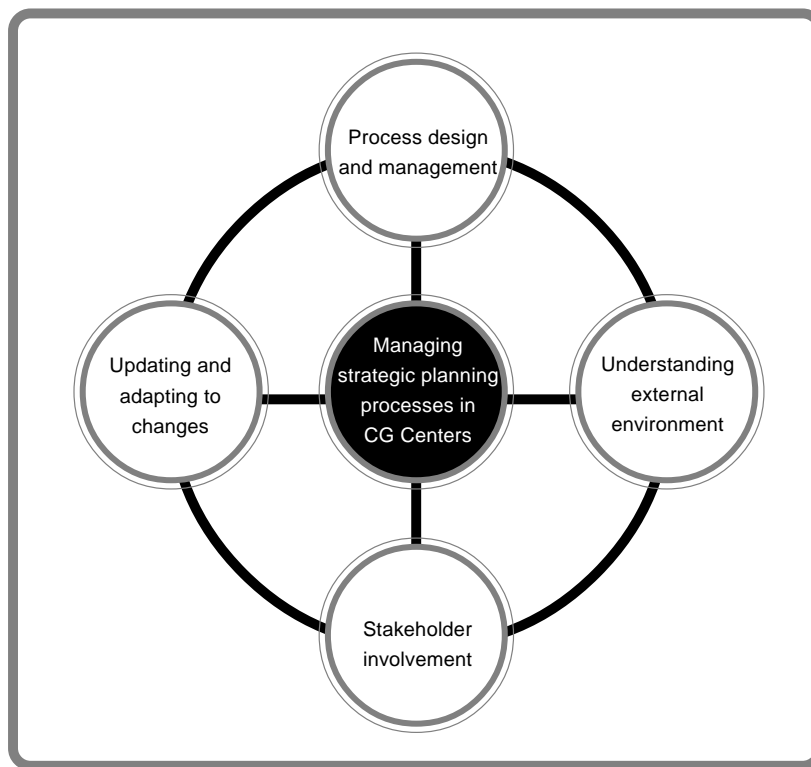
leverage and synergy with partners. Centers' activities can be synchronized with the changing reality in a more efficient way when the activities are guided by a coherent long-term vision. Buy-in and adherence by operational partners, as well as donors, will be enhanced by the availability of a clearly defined mission, identified goals, and a clear and legible strategy.

A strategic plan is a reference document intended to provide binding guidance in all operative questions over the entire planning period, yet must be sufficiently flexible and general to allow for unforeseen changes and developments. It should provide a concise, concrete yet broad framework for the operation of the Center. Clear boundaries and criteria are essential ingredients of a useful strategic plan although there must be room for a certain "drift", within those boundaries, of the main thrust and objectives in response to changing environment. Consequently, a strategic plan needs to be very clear about the mission and the goals, and about the target areas and the general nature of the means mobilized to achieve those goals. However, planning in too great a detail is counterproductive.

3.1 Cornerstones of Strategic Planning Processes

The planning process is influenced by a number of factors that contribute, to different degrees, to the success or failure of the overall process. Although these factors or components need to be assembled in a logically coherent way in order to produce a useful final document, they can also be considered as systemic building blocks. These can be constructed individually before the final assembly – as long as the individual and systemic interactions between blocks are recognized at all times. Building on an analysis of success factors from the planning experiences of the CGIAR research managers, several factors were considered to be greatly influenced by the specific context in which the planning exercise is conducted. Depending on the context, some factors may prove of marginal importance while others

Figure 1. Learning Wheel for Strategic Planning



become decisive. However, a number of factors are of fundamental importance under all circumstances - inappropriate means of dealing with these factors will invariably lead to failure of the entire process or significant parts of it. We have defined these four fundamental elements as 'cornerstones' (see Figure 1). They are:

- Process design and management
- Understanding of the external environment
- Stakeholder involvement
- Updating and adapting the strategic plan to change

Cornerstones are (by definition in the Learning Wheel methodology) indispensable. Analysis and understanding of these cornerstones, and the cross references between them, will largely contribute to the ability to organize an efficient and successful strategic planning exercise. In order to facilitate the design of the overall process, the participants in the Workshop analyzed the cornerstones in a systematic way and organized the results in tables (for a working example

see the Appendix: Item 6). This facilitates analysis of the necessary components and the design of a systematic approach for mobilization of resources. Every component of the matrix can be checked individually for its availability, soundness of the respective background data and relative importance in the specific context of the planning exercise. Once all elements are in place and conform to the specified quality standards, the process can be completed and the strategic plan assembled (see section 4 and the checklist approach in the Annex).

It will be important for any new planning process to determine whether these cornerstones are in place or need to be developed by the Center. For example, if a high-quality monitoring system for external trends is part of an existing monitoring and evaluation system in a Center, this cornerstone might not

require very much focus as the information might be there already. In this sense, the cornerstones and the components defined below serve as a 'checklist' ensuring that important components and their inter-linkages are not forgotten.

In the following, the individual cornerstones and their components are analyzed separately.

3.2 Cornerstone 1: Process Design and Management

Essential elements of this cornerstone are given in Cornerstone 1 and include:

- Institutional commitment
- Leadership
- Clear roles and responsibilities
- Assembly of skills
- Framework for priority setting
- External inputs (solicit stakeholder inputs)

Cornerstone 1: Process Design and Management

Objective: to identify the general framework for the planning process, the actors in the planning process, and availability of the means required for the efficient conduct of the exercise.

- Institutional commitment
 - ~ Send a clear message that emphasizes the commitment of top management and Board of Trustees (BoT) to all stakeholders and all staff categories
- Planning team
 - ~ Establish clear Terms of Reference
 - ~ Define roles clearly
 - ~ Maintain motivation through frequent feedback
- Skills
 - ~ Assess skills available in-house
 - ~ Identify skills that must be acquired from outside

► Focus: Clearly define the objectives and purpose of the planning process

Additional explanations:

- Board and Director General (DG) provide commitment and resources. External forces drive their involvement. They should be involved throughout the process, provide constructive feedback, be committed to consultation and commit resources within their Center, or commission them externally, appropriate to the agreed task.
- Staff provide content and direction to the strategy through volunteering, being nominated/tasked, put on task forces and through providing and managing the large amounts of information involved in the work of developing the strategy.
- External facilitator can provide neutrality to help the consultative process and by giving a “bird’s eye view”. Important to hire a good one identified by track record.
- Partners provide content and direction through consultative process including questionnaires, workshops etc.
- Writer – possibly identified amongst staff, possibly hired from outside – to develop the message in a style suitable for all audiences.
- Architect – responsibility for process design – could be a staff member or a consultant.
- Champion – responsible for implementation and providing momentum. Could be external but ideally internal (DG).

The elements will be described in more detail in the following section.

3.2.1 Institutional commitment

Strong commitment by the driving forces within the planning institution is one of the most important factors for success. Without conviction and active support by the BoT, the DG, and top management, a strategic planning exercise is doomed for failure from the outset. Only strong commitment from the top can mobilize the forces and create the adherence and dynamics necessary to complete the demanding process.

Commitment in all these layers must be verified and, if necessary, solicited and reinforced before the start of any further planning activity.

3.2.2 Leadership, roles and responsibilities

Successful completion of the planning exercise critically depends on strong leadership. The complex process needs dynamic and careful coaching through its different phases. Key actors must be identified internally and externally, and their respective roles and responsibilities clearly defined from the outset. Only a clear and transparent process conducted by accepted leaders can yield a quality process and product (and see paragraph 4.3) which is compelling and authoritative enough to orient staff and stakeholders.

3.2.3 Skills and framework for priority setting

The skills necessary for the successful completion of the diverse tasks throughout the process must be assembled carefully. Availability of the necessary competences within the Center is a first step. Missing skills will then have to be complemented by acquisition of external competence.

Once all necessary skills are available, the framework for priority setting must be established². It consists of logical steps, building one upon another. Clear criteria are necessary for the decision-making process, and mechanisms for the resolution of possible conflicts must be established from the outset.

3.2.4 External inputs

Involvement of stakeholders at an early point, and in critical phases, is an important component of a successful planning process (see below). Which inputs, and how they are to be solicited from stakeholders, are to be carefully considered in the phase of setting up the planning process.

These elements of the first cornerstone (Process design and management) are integrally linked with all the other cornerstones, as the process design and sequencing depends on the state of knowledge in the other cornerstones.

3.3 Cornerstone 2: Understanding the External Environment

Essential elements of this cornerstone are given in Cornerstone 2 and include understanding of:

- Socio-economic trends
- Environmental trends
- Political/institutional context
- Science and technology context
- Implications of lessons learnt from impact assessment studies, reviews, self reflection/evaluation.

Cornerstone 2: Understanding the external environment

Objective: to position the Center with respect to its present and future environment and partners

- Assess trends
 - ~ Socio-economic trends (poverty)
 - ~ Commodity and farming systems
 - ~ Environmental changes and global processes
- Understand the political and institutional context
 - ~ International conventions and issues
 - ~ Funding trends
 - ~ Institutional changes
 - ~ Changing partnerships
- Evaluate the scientific and technological context
 - ~ Assessment of progress and methodology
 - ~ Matching of tools with objectives
 - ~ Identification of key actors upstream and downstream
- Make a self-assessment and definition of your Center's own position, knowledge, strengths and weaknesses

► Interpret your assessments and customize the results in the light of the objectives and purpose of the planning process as defined according to cornerstone 1

² Although this document does not deal with the mechanisms of priority setting one very useful publication based on the ILRI experience is: "Ranking Programmes: A framework for priority setting in international livestock research." Randolph, T.F., P.M. Kristjanson, S.W. Omamo, A.N. Odera, P.K. Thornton, R.S. Reid, T. Robinson and J.G. Ryan. 2001. Research Evaluation. 10(3):142-160. As with other Center-specific examples given in this document, it is provided as useful key experience to draw on, and not as a definitive prescription for all Centers.

Box 1. Understanding the External Environment: The SAT Futures Approach (ICRISAT)

The agricultural environment in the semi-arid tropics (SAT) is constantly changing, in terms of cropping patterns, income opportunities, trade externalities, liberalization, etc. In order to remain relevant, International Center for Research in the Semi-Arid Tropics (ICRISAT) continually monitors these changes, and their implications for the research agenda. This monitoring process is formalized as a global research theme (one of six themes at ICRISAT) titled *SAT Futures and Development Pathways*. This global theme has three broad objectives:

- To track changes in the external environment, and better understand the factors driving these changes
- Correspondingly, review (and adjust where needed) ICRISAT's research agenda, priorities, and funding allocations among alternative research areas
- Provide an analytic, objective basis for research management decisions, i.e. a decision support system for senior management.

The SAT Futures project will include strategic socio-economic research in specific areas, for example commodity trends and market outlooks for our mandate crops, input supply and access constraints, patterns and determinants of technology adoption, institutional innovations, and the dynamics and determinants of poverty. These studies will help identify technological, policy, and institutional alternatives and development pathways to enhance the livelihoods of smallholder farmers in the SAT. They will also inform and direct ICRISAT's research investment towards the most crucial areas.

The project uses a participatory approach. ICRISAT has organized a series of brainstorming meetings to discuss poverty-related (or poverty-inducing) problems and their implications for research priorities. All key stakeholders were involved; national and international institutes, development investors, universities, the private sector, extension, non-governmental organizations (NGOs), and farmer organizations, ensuring that the final outputs reflected the diversity of views and experiences. This broad involvement also enabled us to tap a large, multidisciplinary pool of expertise – policy and planning, sustainable development, rain-fed agriculture, agricultural economics, farming systems research, germplasm enhancement, environmental conservation, etc. Focus group meetings were also conducted in each region (East Africa, West and Central Africa, Southern Africa, South Asia, Southeast Asia), involving scientists from ICRISAT and partner institutions.

The SAT Futures approach follows a systematic procedure: literature survey, data analysis, stakeholder consultations, and synthesis of the major issues. It seeks to identify the unique features of the SAT, and understand the differences in agricultural trends between the SAT and other regions of the developing world. During ICRISAT's recent research priority setting and visioning exercise, the process was supported by a review of major trends in SAT agriculture using available data from 1960 to 2000. The review summarized the major constraints limiting income growth, poverty alleviation, food security and environmental sustainability now and towards 2020, the implications for future R&D strategies and priorities for the SAT, and the roles for ICRISAT, NARS, NGOs and the private sector in implementing these R&D strategies.

In sum, these consultations have led to:

- Development of guidelines to harmonize the participatory process (better methodology to enhance participation).
- Clear identification of key issues and external factors affecting SAT agriculture; emerging challenges and opportunities; strengths as well as gaps in existing research systems.
- Documentation: synthesis report summarizing responses from the baseline survey, as well as collation of relevant literature from other sources (e.g. World Bank, Food and Agricultural Organization of the United Nations (FAO)).
- Development of framework that underpins the critical issues in SAT agriculture, linking productivity, food security and poverty reduction.
- Construction and analysis of micro-level data and macro-level statistics (both demographic and agricultural) to support further analysis. The database is being expanded to include changes in biodiversity and estimates of the nature and extent of land degradation.
- Design of appropriate development strategies for the SAT.

Continue next page

Continued from previous page

Several important position papers have been published or are under preparation:

- Future challenges and opportunities for agricultural R&D in the SAT.
- Future of agriculture in the SAT of Africa: an issues paper.
- Vision on SAT agriculture for Asia.

The SAT Futures project too has evolved in response to this consultative exercise. Research now focuses on three areas:

- Strategic assessments for agriculture and economic growth in the SAT of Asia and Africa and implications for agricultural research priorities.
- Development pathways and policies for rural livelihoods.
- Synthesis studies: lessons learned from impact studies, institutional arrangements and implications for research spill-overs across regions.

The key question is, "How can agricultural research improve the payoffs to diverse and changing investment opportunities?" The ultimate objective is to steer development towards a more sustainable pathway, that directly addresses poverty and environmental degradation.

Box 2. Understanding the External Environment: Determining "Mega-trends" (provided by ICARDA)

One approach to understanding the externalities to a Center's current and future activities was pursued at International Center for Research in Dry Areas (ICARDA) through a workshop geared to assist the Center chart its way forward. The occasion was provided by the Center's 25th Anniversary in May 2002 attended by the heads of all National Agricultural Research Institutes (NARI) in the region. A workshop was held in conjunction with the anniversary entitled "Agriculture, Environment and Human Welfare in West Asia and North Africa: The Search for Sustainability" which was organized to allow the attendance of ICARDA senior management, the Board of Trustees and scientists, to ensure their 'buy-in' through their active participation. The workshop explored the links between agricultural land use, factors affecting production systems and associated research, human welfare and poverty agendas in the region.

The goals of the workshop were:

- To explore the medium term implications of global, especially climate, change to agricultural production scenarios and human livelihoods for the West Asia-North Africa (WANA) region.
- To seek to develop an approach to sustainable natural resource use which creates a common cause between the agricultural research for development and the global (climate) change/environmental and sustainable development agendas.
- To examine the current interdependencies between the rural and urban populations in WANA, to consider the roles of agricultural research and rural/agricultural development in regional economic development and to identify some of the most critical issues for medium term socio-economic sustainability.
- To seek to build a research/policy/applications framework to deliver science based sustainability policy through the partnerships between the biophysical and the socio-economic research communities, and between the public and private sectors, required to tackle the major inter-disciplinary and cross-sectoral problems.

The workshop was designed to promote a dialogue, and to develop a set of outcomes/recommendations, which will help guide ICARDA's strategy and generate new partnerships to enhance the Center's contribution to improve human well being in the region.

3.3.1 Socio-economic trends

Necessary information on important socio-economic trends includes information about poverty distribution, markets, commodities, production trends, price trends etc. Knowledge about production conditions such as farm size (e.g. large farms vs. smallholder production, input levels etc.) and credit availability is also necessary.

3.3.2 Environmental trends

The importance of environmental issues and foreseeable changes in natural resources (including land and water, biodiversity and genetic resources) and risks from processes such as climate change, are central in the planning of the long-term perspective of a Center engaged in agricultural and environmental research.

3.3.3 Political and institutional context

The relevant political/institutional context includes issues such as changes within the CGIAR (present and anticipated), funding trends within the community of traditional donors, and possibilities to solicit novel, non-traditional funding sources. International conventions may be very significant for the planning of the activities of a Center engaged in developmental activities – and treaties negotiated by the World Trade Organization (WTO) or FAO may have consequences for the free flow of goods or resources. Changes in international policy, or in the public conscience, can have profound influences on the way a Center will do business in the future. Specific current examples include the discussions on intellectual property rights and genetically modified organisms. More generally, ethical issues and the evolution of values can be anticipated to have subtle but important influences on developmental approaches. The landscape of the traditional alliances with partners – be it collaborative or funding partners – merits close scrutiny and possible developments should be anticipated with the best possible precision. Notably, the relations of a Center with the evolving private and NGO sectors merit evaluation. In many disciplines, notably the so-called high-tech disciplines, the innovation potential and the investment capacity of the private sector largely exceed that of the public sector.

3.3.4 Science and technology context

The technological basis is and remains the driving force for all knowledge improvement in the sector of agricultural research and development. Where, and to

what degree, recent technological progress can contribute to advances in research on poverty reduction merits close scrutiny. Some modern fields of science are costly to implement and high-tech solutions could preferentially benefit cost-efficient high-input production systems. It will be necessary therefore to not only review new developments in science but also their applicability. Similarly, old alliances and new possibilities for extended collaborations need to be explored carefully.

3.3.5 Implications of lessons learned from impact assessment studies, reviews, self reflection/evaluation

Information for the understanding of the external environment does not only come from external sources. Knowledge, or lessons learned from past experiences or studies completed by the Center itself are often neglected. It is important to be aware of the existence of such information (through project and knowledge management systems), because its use will greatly improve the quality of the planning process and contribute to reducing its cost. Examples of how Centers have tackled reviews of the external environment can be found in Boxes 1-4.

The cornerstone ‘Understanding the external environment’ described here is closely linked to the next one on ‘Stakeholder involvement’. Studies on the external environment provide the information, but the negotiation to create a common perspective together with stakeholders is essential for a sound foundation in collaboration with stakeholders.

3.4 Cornerstone 3: Stakeholder Involvement

Essential elements of this cornerstone are given in Cornerstone 3 and include:

- Process design and management: identify key stakeholders.
- Define roles of stakeholders in the planning process.
- Create common perspective of the future direction of a Center – assemble information, synthesize different world views, exchange key information and agree on its interpretation.
- Approval of strategic plan – staff ownership, stakeholder acceptance, final approval by BoT, iSC.

Cornerstone 3: Stakeholder involvement

Objective: to create a common sense of commitment of all personnel, partners and stakeholders.

- Identify all stakeholders
- Assure a common understanding and interpretation of Center's role and position in stakeholder community and the current and future external environment
- Define common objectives together with all stakeholders and personnel
- Define roles, partnerships and respective contributions.

► **Negotiation:** During the negotiation phase, maintain your focus on the objectives and purpose of the planning process as defined according to cornerstone 1

3.4.1 Stakeholder involvement and acceptance

Stakeholder involvement and acceptance are factors in a strategic planning process that are often neglected yet are of utmost importance. A strategic plan is only as good as the adherence it can solicit. Within the Center, a widely accepted long-term and compelling vision can mobilize unexpected enthusiasm and resources. General acceptance in the donor community will certainly translate into a greater appreciation of the Center's program and stability of funding. The Center will also gain in visibility, and credibility with its collaborating partners, both Advanced Research Institute(s) (ARI) and National Agricultural Research and Extension Services (NAR(E)S), if its long-term strategy sets clear and acceptable boundaries for future collaboration.

Essential elements for the acceptance of the strategic plan by the stakeholders include (i) a careful identification of the key stakeholders, (ii) a clear definition of their roles in the different stages of the planning process, (iii) an open attitude towards their contributions and (iv) an acceptance without prejudice of the information and views provided by the stakeholders.

All the three cornerstones previously described provide inputs into a continuous learning and adaptation process towards a clear strategic orientation. The next cornerstone is equally essential.

3.5 Cornerstone 4: Updating and Adapting to Change

Essential elements of this cornerstone are given in Cornerstone 4 and include:

- Re-evaluation of key assumptions (periodic or event-related evaluation of strategic assumptions – boundaries, modalities, partner efficiencies)
- Consciously detecting important changes (constant review of the sector's development; new scientific developments; analysis of mega-trends and their implications for strategy; funding situation)
- Learning from experience (capture both positive and negative experiences; extract implications for key assumptions and rate of progress)
- Allowing for innovation (survey external environment and incorporate changes; maintain space and opportunity for creativity and innovation; provide means to stay in touch with new developments).

Cornerstone 4: Updating and adapting to changes

Objective: to keep the planning process on target in a world of moving targets.

Put in place the mechanisms for:

- Continuous monitoring for important changes
- Periodic evaluation of key assumptions
- Capturing experience and implications, and incorporating lessons learned in the planning process
- Keeping the process fluid and adaptable as planning proceeds and assuring a flexible product

► **Evolution of the planning process:** adapt the planning process to the new information and experiences arising from the process itself but maintain your focus on the objectives and purpose of the planning process as initially defined according to cornerstone 1

Box 3. Periodic review of specific commodities (provided by CIMMYT)

As part of its continuing scan of the external environment and technological opportunities for its research, Centro Internacional de Mejoramiento de Maiz y Trigo (CIMMYT) conducts periodic, formal, crop-specific planning exercises. A review for wheat was conducted in 1998/9, and a review of maize trends in 1999/2000³. The reviews were designed to contribute to the strategic direction of research taken by the Center on these crops. The maize review was a collaborative effort of two CIMMYT programs (the economics and maize programs) in consultation with the DG and the Center's Research Coordination Committee. The analytical process used formal scoring and ranking methods for identifying priority research activities to pursue. Trade-offs between multiple objectives such as efficiency, poverty and subsistence were explicitly considered in the evaluation of alternatives. Where possible, ex ante impact assessment methods were also applied. An iterative link between the analytical and consultative processes is an important issue for all Centers to bear in mind in planning. A wide, participatory regional planning exercise was also undertaken in Asia to help CIMMYT, as well as the countries of the region, assess the implications of a rapid growth in maize demand, primarily for livestock, as well as the rapid growth in private sector investments in maize R&D in the region. The consultative processes and the published documents are considered successful, albeit demanding of heavy investments of senior staff time. The crop-specific reviews have been used to influence Center strategy and medium term plan development.

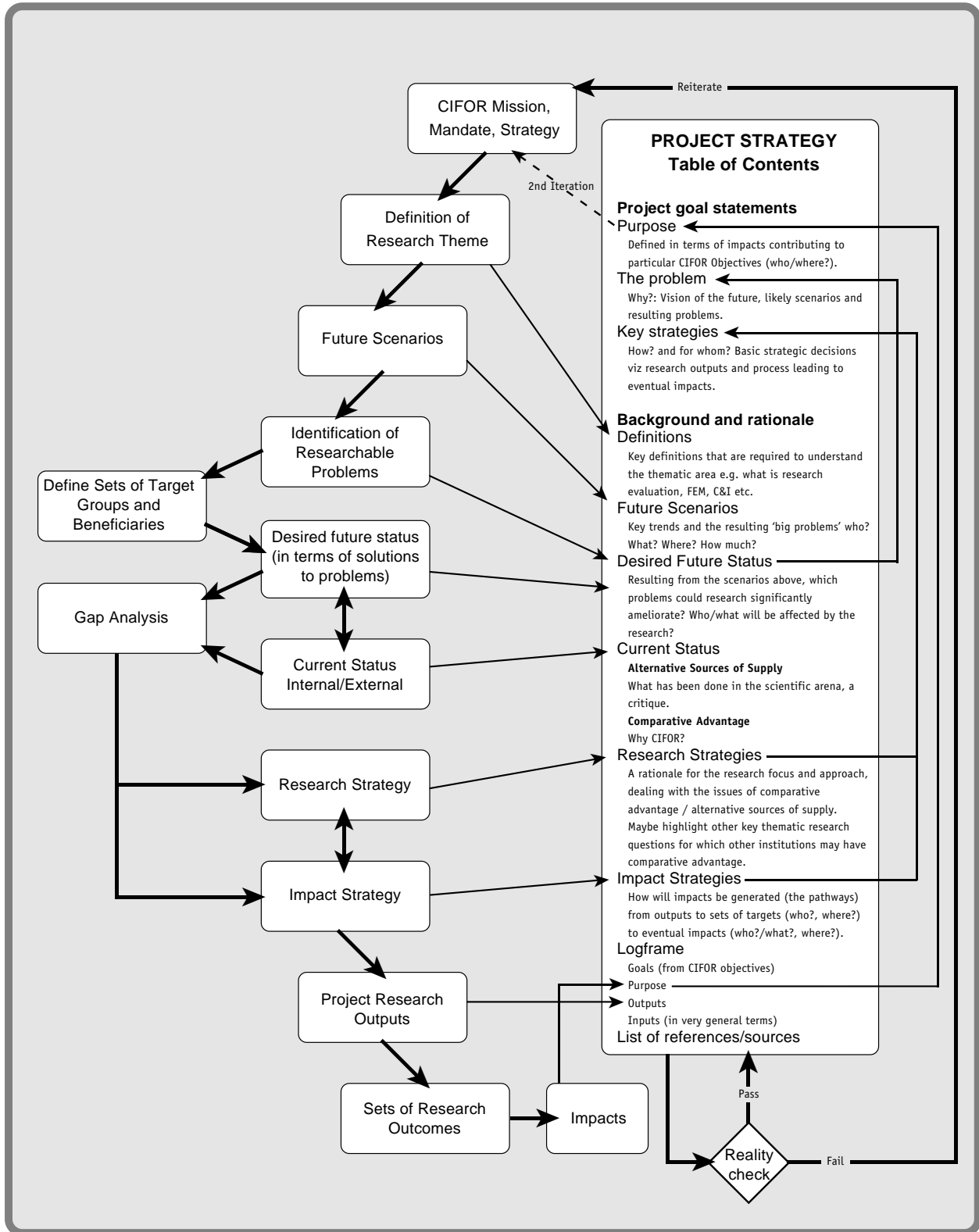
Box 4. Review of the sector and resource systems (provided by WorldFish)

As a preface to the development of The WorldFish Center's strategic planning for the early part of the new century, WorldFish adopted an aquatic resource system approach to attempt to analyze trends in the wider fisheries sector. It was necessary to unpack global and national statistics so as to separate capture fisheries from aquaculture, marine from inland water production, water issues in continental states from those in island and archipelagic countries, national population/poverty levels from populations most dependent on aquatic resource issues etc. Amongst other things, the analysis highlighted the stagnation of global capture fisheries and the tremendous growth of aquaculture and its relevance to developing country livelihoods since WorldFish Center's first strategic plan was developed in the early 1990s. The data so assembled was analyzed both by resource system and by geographical region⁴, and the data used to inform staff and partner groups as a common preface to a facilitated Delphi approach to priority setting. Simple scoring approaches provided general priorities by regions and resource systems, and identified potential research areas through consideration of four criteria: potential benefits, ability to utilize benefits, scientific potential and research capacity. A fully quantitative approach was not feasible at the time, as whilst impact studies for production technology research were available it was not felt that these could be easily compared against economic returns to INRM research where the methods for determination are more tenuous. The participatory process, and the wide-spread sharing of the products of the planning workshop, helped refine the outcomes of the planning phase which were used to develop a successful Strategic Plan. The change in the planning unit, from the large continental groupings or terrestrial production systems used by much of the CGIAR, to a more "aquatic resources dependent" approach to nations and regions, made the process more relevant to the sector, and more approachable to the WorldFish Center's partners. Because of the number of dimensions to be considered in any aquatic resources research portfolio, continuous work on data collection and analysis by aquatic ecosystem (generally not the means by which global data sets are developed), beneficiary populations, and environmental methods development, will be required to move to fully quantitative priority setting in the future.

3 Pingali, P.L., Editor. 2001. CIMMYT 1999-2000 World maize facts and trends. Meeting world maize needs: technological opportunities and priorities for the public sector. 60p. D.F.: CIMMYT, Mexico.

4 ICLARM. 1999. Aquatic resources research in developing countries: data and evaluation by region and resource system. Supplement to the ICLARM Strategic Plan 2000-2020. ICLARM Working Document 4, ICLARM, Penang, Malaysia.

Box 5. An example of an iterative planning framework (provided by CIFOR)



A strategic plan is not a document cast in stone. It reflects the appreciation and interpretation of the signals received by a Center from its environment at a given point in time, and the conclusions drawn from the available information at that particular time. However, the environment of a CG Center is fluid and in constant change. A projection that is lucid and valid at a particular moment may become insignificant in the light of changes occurring after its formulation. It is extremely important that the analytical processes operating during the different phases of the strategic planning process remain activated and operational and that the scanning of the environment continues in order to adapt the plan according to needs (see Box 5).

This need for possible adaptation of more or less important portions of the entire plan requires that the formulation of the strategic plan take this necessity into account from the early phases of its planning. It must be formulated as a broad, flexible, modular framework that supports and encourages changes in certain parts while maintaining the validity of the overall document. Incremental changes are more easily incorporated than great leaps necessitated by the rigid structure of a plan that did not envisage the possibility for future development.

Section 3 discusses the development of cornerstones for best practice in strategic planning and Section 4 treats these cornerstones as the basis for a practical implementation framework. More specific implications for the CGIAR are found in Section 5.

4. How to Put the Framework into Practice

4.1 General Procedure

When envisaging a strategic planning exercise, a helpful starting point is the development of a matrix relating the requirements imposed by the four planning cornerstones with the principles and approaches necessary to obtain the required information (an illustrative example from the Workshop is shown in Annex Item 6). Once the availability, completeness and quality of all required data and other necessary elements have been checked against the matrix, the sequence in which the building blocks of the planning process will be assembled can be organized. The exact sequence depends on the specific needs and conditions in which the planning exercise will take place. Some elements of the actual planning process may be started while the information pertaining to other cornerstones is still being gathered.

The schedule and checklist proposed in the Annex (checklists 1-5) provide a synthesis of the steps to be followed and help in management and oversight of the planning exercise.

Participants in the Workshop applied the recommended cornerstone framework to earlier Centro International de la Papa (CIP) and anticipated West African Rice Development Association (WARDA) planning processes. In particular, the cornerstone framework was helpful in designing the following aspects of the process:

Examples where the cornerstone concept was found helpful

- Definition of why the planning process was to be undertaken (whole Center strategy, new area, revision of regional focus etc.)
- Detailing all necessary components
- Definition of the actors (architect, champion, stakeholders and the assembly of a design team)
- Ensuring commitment by DG, BoT, and the need to generate commitment by scientists
- Assembly of skills (and to ensure appropriate coverage in such areas as social science, writing skills etc.)
- Definition of a realistic schedule.

Participants suggested that the analysis of the external environment could be undertaken with stakeholders (such as the Mega-trend workshop – see Box 2) and could serve to invigorate staff and partners alike fatigued by earlier strategic revisions, as well as to help explain wider implementation issues with partners. The focus on inventories of current activities, lessons learned and scans of the realistic implications of new science, was also a useful reality check. It became clear in planning such processes that those charged with implementation should be involved from the outset. The assembly of skills, and the definition of the process and sequence to be undertaken, depends on the needs and capacities of the different Centers (or partner consortia) and there will thus be some variability in implementation of different planning events. The process development steps would necessarily form part of a feedback loop with budget projections (or applications to donors) to support a process of sufficient rigor to meet the objectives.

The strategic planning exercise is a negotiation process, between the Center and its diverse partners, about how the future – uncertain by nature – is to be interpreted. The appreciation of the future is usually built up to the greatest advantage of all concerned parties, and the negotiations include how best the path to the preferred future is to be translated into concrete actions. As in all negotiations, the different steps are not “one-off” events. Most of them are meant to be evolutionary –

they will change their importance and contents in accordance with information gathered and advances made in other fields (see Boxes 5 and 6). It is therefore important to conceive the different steps as an iterative process. For example, the information about the external environment or the appreciation of the key stakeholders may change considerably after holding a stakeholder workshop, necessitating a thorough revision of the interpretation of the information made after the first round. Feedback loops should be included between the different cornerstones.

Box 6: A process plan for strategic planning (provided by CIAT)

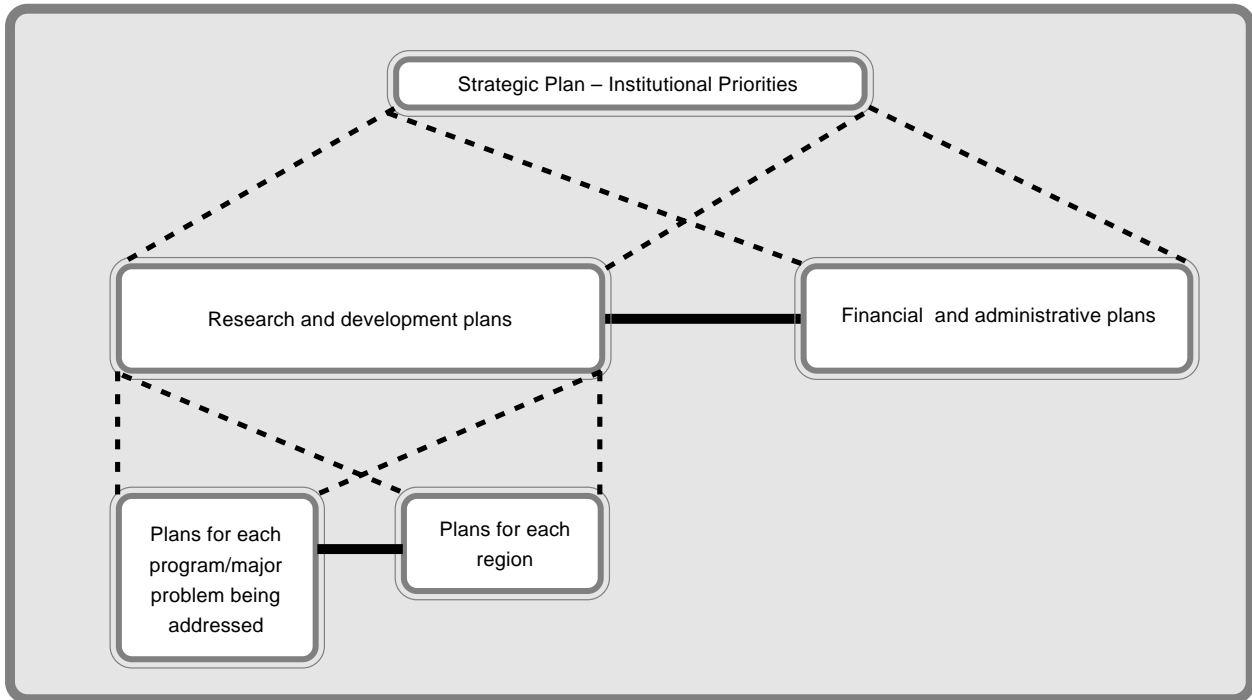
The development of the Centro Internacional de Agricultura Tropical (CIAT) Strategic Plan 2001-2010 followed a process that involved three parallel lines of activities: an appraisal of the external environment; consultation with stakeholders and partners; and internal reflection by CIAT staff. The appraisal of the external environment entailed two main activities at the outset of the process. In September 1999, CIAT organized an international conference to examine the relationships between agricultural research and poverty. Then, in November 1999, the CIAT Annual Review looked first at alternative scenarios for the future of CIAT; secondly, at the past and expected impacts of alternative lines of CIAT research; and thirdly, analyzed the recent advances and future directions in different areas of science (including for example, biotechnology, pest management, soils, and geographical information systems). This appraisal of the external environment in terms of socio-economic trends and scientific opportunities provided an overall context within which to frame the plan. This material is presented in the introduction in the final plan document.

Because CIAT cannot alone achieve its research objectives, consultations with partners and stakeholders were crucial. Partners work along with CIAT to do research together around a common research agenda, while stakeholders finance CIAT's research. To be effective, CIAT's new strategic plan must be aligned with both partners and stakeholders. Partners were consulted through three mechanisms. First, there were specific planning meetings with key research partners in Colombia and Brazil. Second, there was an ongoing discussion with key national and regional systems through the regular meetings of the Director of International Cooperation both bilaterally and through regional bodies such as Foro Regional de Investigacion y Desarrollo Tecnológico (FORAGRO), Program Cooperativo de Investigacion y Transferencia de Tecnología Agropecuario para los Tropicos-Suramericanos (PROCITROPICOS), Program Cooperative de Investigacion y Transferencia de Tecnología Agropecuario para la subregion Andina (PROCIANDINO), and Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA). Third, groups of senior national research system leaders were invited to CIAT for consultation. These included a group each from Latin America, Africa and Asia. Consultations with stakeholders occurred through two main mechanisms. First, in 1999, there was a CGIAR External Program and Management Review which provided a basis for assessing with stakeholders CIAT's performance and future directions. Second, the DG personally visited over a dozen of the major investors in CIAT to discuss with them future directions for CIAT. These consultations provided key elements to CIAT's strategic plan, not only in its regional strategies as laid out in the plan but also in some of the major foci of the plan.

The knowledge of the CIAT scientific community provided key input to the design of the plan, while the commitment of CIAT scientists to the plan is vital to its implementation. Staff consultation was initiated through a working group that developed four scenarios for the future of CIAT. These scenarios were discussed with the BoT at the 1999 Annual Review. Subsequently, four working groups were formed to consider the future vision of CIAT. Two working groups were comprised of experienced internationally recruited staff; one group of more recently recruited international staff; and one group of nationally recruited staff. Out of the work of these groups came a brief three-page document laying out the guiding principles for the development of the strategic plan. These were considered and endorsed at a BoT meeting in May 2000 as "CIAT's Strategic Vision." To translate this into a full plan, a second set of internal working groups were formed around five scientific areas: agro-biodiversity and genetics; integrated pest management; soils; geographical information systems; and socio-economics. Based on these reports, and the other elements developed to date, the CIAT Management Team drafted the definitive Strategic Plan that was considered and approved by the BoT in November 2000.

The Strategic Plan presents the future vision of CIAT and the major elements of its research agenda. It does not, however, lay out the specific research objectives, projects, organization, or assignment of resources. These instead are included in rolling three year Medium Term Plans, the first of which, under the new Strategic Plan, was presented to the Board for 2002-2004 in November 2001. Most of the work to develop this Medium Term Plan was carried out by the project teams that were formed earlier around the different elements of the research agenda of the Strategic Plan.

Box 7. The interaction between planning levels (an example provided by ICRAF)



4.2 Guiding Principles and Core Values

A successful completion of the planning (negotiation with partners) process, and a satisfactory product, can only be expected when the negotiating partners share a number of core values, and when they agree on a few principles that guide them through the ups and downs of the negotiation process.

Some important core values have been identified by the participants of the Workshop. A common denominator is that all contribute to the building of a climate of trust between the negotiating partners, the creation of conditions that produce the degree of confidence necessary for a Center and its partners to commit themselves to undertake a long-term collaborative endeavor.

These principles appear to be generally applicable. However, the list could be amended by “enlightened self interest” i.e. the consciousness of all partners that they are indeed engaged in a process and development of a product which will be useful to their respective communities in the future, but where all concerned

partners will have to cede in some areas in order to gain in others.

Some important core values

- Commitment to quality
- Solidity of background knowledge
- Transparency of the process
- Accountability of the process to stakeholders
- Subsidiarity
- Inclusiveness of stakeholders
- Democratic Leadership
- Credibility

In order to produce a document that will be useful in the long term, it is necessary that the process be characterized by clarity of purpose, a clear vision, rigor in the process and logic in its design, by a sense of ‘adaptiveness’ to changes occurring during the negotiation process, and foreseeing adaptation in response to future changes and challenges. The whole process can only be completed successfully if all stakeholders participate with conviction about the

importance of the exercise, the integrity of the process, and the quality of the contributions. Finally, important as the strategic planning might be, the partners should keep a keen eye on the cost-effectiveness of the mobilized resources and envisaged approaches. These attributes of a sound process can be summarized:

Some attributes of a sound strategic planning process

- Strategic planning as a negotiation process
- Clarity of purpose
- Clear vision
- Rigor and logic in process design
- Adaptativeness
- Participation (stakeholder Buy-in)
- Broad acceptance
- Cost effectiveness

4.3 Pre-conditions

A number of pre-conditions represent absolute requirements in order for the strategic planning process to have a chance of success. As we have seen (paragraph 3.1), top management, in particular the DG, must be firmly committed to the exercise and demonstrate this commitment through the allocation of adequate financial resources and through personal involvement in the process. Support by the BoT is an indispensable moral support without which it will be difficult to mobilize the enthusiasm and engagement necessary for successful completion of the process and the production of a quality product.

The identification, nomination and support of an active and capable champion that coaches the process dynamically and diplomatically through all its phases are a further set of requirements of absolute importance.

The champion is a person that drives the planning process in a competent and dynamic way. Her/his main attributes are conviction, clear vision and understanding of the process, and a diplomatic approach to convincing all planning partners. It is helpful if the champion has a strong hierarchical weight, ideally the DG or another member of top management. However, the task of the champion is very demanding on her/his time; if the task of champion is delegated to a person who is not from top management, Center management should take every measure possible to invest the champion with similar institutional weight and credibility. All other pre-conditions fulfilled, it is the character of the champion that can make the difference between the success and the failure of the strategic planning process.

The strategic planning process must be adapted to the needs and requirements of each institution as well as to the objectives that are to be achieved through the strategic plan and planning process. The process itself will take very different shapes depending upon these needs, and funding requirements can be expected to vary within a wide scope. An institution that is fully aware of all factors relating to its external environment has a clear advantage over another that does not. The latter institution will be obliged to carry out such studies before the planning process can even be started. However, it must be stressed that there is no one absolute quality for a strategic plan, except that it must match the expectations and requirements, and it must fulfill the task for which it was designed.

Some indispensable pre-conditions

- Commitment by DG
- Commitment by BoT
- Active and capable champion to drive the process (preferably enjoying an 'integrative' reputation within the organization and among stakeholders)

5. Implications for the CGIAR

5.1 Strategic Planning as a Starting Point Towards Managing Change and Organizational Performance

This booklet with its focus on strategic planning can only be a start. The techniques and practices of operational planning and the organization of Centers to reach their targets are other major areas that require conceptualization and adaptation in the light of the CGIAR's dynamic environment. They, with the strategic planning discussed here, represent parts of a whole coherent planning, management and organizational system which must be dovetailed (see Boxes 6 and 7) in order to maintain flexibility in management while not losing the Center's research focus.

Firstly, options for solid operational planning need to be explored in more detail. The aim will be to highlight and reach consensus on methods that will translate the clear focus of the strategy into implications for organizational structure, systems and processes. The major issues which will arise will be different ways of working together in teams; the integration of scientists amongst themselves and with different organizational units; and different ways of communication, self-reflection and feedback in order to move towards fast-adapting, learning organizations. Development of new competencies and knowledge management have to become an integral part of the management and learning system, rather than being ad-hoc ventures or being reduced to information technology and data management.

A fundamental issue for managing change among scientists is performance management. The reward and recognition systems based on published papers, (often bearing the names of one or a few authors) does not at all correspond to the needs of multi-actor collaboration and partnerships required to make a real impact, and may be counterproductive for both partners and the scientists willing to transform their roles. New competencies, distinctly different from those imbued by scientific training, will require conscious development processes and a learning culture.

All these issues deserve to be dealt with systematically. We believe that the approach taken here i.e. to bring

together the experiences of the different Centers and conceptualizing them, has been very effective and created a spirit of joint learning among Centers. Participants in the Workshop expressed the wish that such an approach could be applied to a number of other common challenges in the management among the Centers. Success in managing change in the Centers, the CGIAR and its wider environment will be closely related to the integration of all these requirements in a consistent and coherent management and planning system.

5.2 System Requirements

From the foregoing analysis it will be apparent that each of the CGIAR Centers has a common need to assemble knowledge and data on the external environment affecting poverty and development, and agricultural and environmental research. Although each Center will need to extend the analysis in relation to their particular regional, sectoral or commodity mandate, it is recommended that the System as a whole consider the best means through which to assemble and make available the basic data (e.g. demography, Geographical information system(s) (GIS)) based poverty maps, production system and resource distributions) and economic and other political trend analyses. Whilst this should most logically be provided in relation to the CGIAR's impact and review management functions, a centralized service function could also be considered to help provide this type of information to Centers.

The review of case studies of planning by Centers, particularly those involving substantial stakeholder consultations, showed that each cost in the range of US\$150 000 to US\$1 million – which is a heavy investment of core resources for the Centers. We suggest that such planning exercises should be viewed by the donor community as providing opportunities to set the international agenda in various aspects of agricultural research and that such exercises might be more routinely considered for project support. Certainly, to move from Delphi approaches towards the adoption of more quantitative approaches to priority setting usually involves a long term requirement of Centers to

accumulate data, and to conduct trials in various systems to provide useful measures and methods e.g. of adoption rates, measures of resource sustainability under different practices, and tests of the efficacy of chosen indicator systems. However, the Workshop experience showed that each Center which had attempted a major quantitative priority setting exercise at least once found great benefit subsequently in reviewing progress, refining earlier, rule-of-thumb parameters to improve planning and in gauging the rate of change in the external environment. In the move to a more programmatic make up of the CGIAR, room must be found to support individual and collective planning exercises which are required more than ever in times of change, and expected by the External Program and Management Reviews of the Centers conducted on behalf of the CGIAR investors.

Outlook

This framework is an attempt to synthesize present experiences. It is a learning frame and we hope that more experiences will be processed and contribute to its further development.

Much of what has been considered in this document is also generically important to the planning of the new Challenge Programs. The planning (negotiation) and operational implementation of large consortia-led programs is also an area which could benefit from discussions amongst the CGIAR and its research managers and the establishment of best practices.

The Workshop, and the commonality of priority setting requirements and processes which emerged, underscore the great scope for collaboration in the development of the future CGIAR agenda. The need for appropriate planning methods is common to all, and such strategic

planning should not just be thought of as a Center responsibility, but as a system-level responsibility. Strategic planning must be applied to all levels of the system (at the Center level, for System-wide and Challenge Programs, and across the CGIAR portfolio to determine what those Challenge Programs should be). Indeed, it will not be possible to move to a more programmatic approach to the CGIAR unless the system as a whole develops a rational and transparent approach to priority setting for the portfolio of research to be undertaken by the consortium of Centers. Planning for, and addressing challenges one by one provides no indication that these are the right challenges for the CGIAR to undertake, particularly when the approach of alleviating poverty through improved agricultural productivity and resource use has still to be completed.

Annex: Planning for Strategic Planning

1. Checklist: Laying of the foundations

Did you:	YES	NO
Assure institutional commitment?	<input type="checkbox"/>	<input type="checkbox"/>
Allocate an adequate budget?	<input type="checkbox"/>	<input type="checkbox"/>
Clearly define the purpose and objectives of the planning process?	<input type="checkbox"/>	<input type="checkbox"/>
Think about leadership and identify a “Champion” who will lead the planning process?	<input type="checkbox"/>	<input type="checkbox"/>
Establish an efficient planning team?		
Terms of Reference established?	<input type="checkbox"/>	<input type="checkbox"/>
Composition defined, formal time allocation for members?	<input type="checkbox"/>	<input type="checkbox"/>
Assess the availability of the necessary skills?		
In-house?	<input type="checkbox"/>	<input type="checkbox"/>
Outside?	<input type="checkbox"/>	<input type="checkbox"/>
Make sure that your institution understands its external environment?	<input type="checkbox"/>	<input type="checkbox"/>
Socio-economic trends?	<input type="checkbox"/>	<input type="checkbox"/>
Political, institutional context?	<input type="checkbox"/>	<input type="checkbox"/>
Scientific and technological context?	<input type="checkbox"/>	<input type="checkbox"/>
Matching of means and goals?	<input type="checkbox"/>	<input type="checkbox"/>
Conduct a self-assessment of your institution's own position, its strengths and weaknesses?	<input type="checkbox"/>	<input type="checkbox"/>
Identify all stakeholders?	<input type="checkbox"/>	<input type="checkbox"/>

2. Checklist: Planning of the planning

Did you:	YES	NO
Create a working environment for the planning team that is conducive to innovative thinking?	<input type="checkbox"/>	<input type="checkbox"/>
Establish a detailed workplan according to your specific needs?	<input type="checkbox"/>	<input type="checkbox"/>
Define a realistic schedule?	<input type="checkbox"/>	<input type="checkbox"/>
Commit adequate funds dedicated to the planning process?	<input type="checkbox"/>	<input type="checkbox"/>
Acquire all lacking skills, e.g. by outsourcing?	<input type="checkbox"/>	<input type="checkbox"/>
Define practically useful criteria for continuous control of quality, performance and progress?	<input type="checkbox"/>	<input type="checkbox"/>
Define mechanisms for capturing experience and implications throughout the planning process, and incorporation of the lessons learned in the process?	<input type="checkbox"/>	<input type="checkbox"/>

3. Checklist: Negotiating the plan

Can you/did you:	YES	NO
Demonstrate continuous and firm commitment by top management?	<input type="checkbox"/>	<input type="checkbox"/>
Seek input and buy-in from all staff categories?	<input type="checkbox"/>	<input type="checkbox"/>
Consult with all stakeholders: negotiate common vision, define Center's position in the geographic, socio-economic, and technological continuum?	<input type="checkbox"/>	<input type="checkbox"/>
Involve all stakeholders in the analysis of the external environment?	<input type="checkbox"/>	<input type="checkbox"/>
Obtain agreement of all stakeholders on your institution's guiding principles and core values?	<input type="checkbox"/>	<input type="checkbox"/>
Keep in mind that your institution's strategic plan should become an integral part of the global perspective of the stakeholders' community?	<input type="checkbox"/>	<input type="checkbox"/>
Allow for feedback mechanisms to ensure evolution of the planning process, and revision of key assumptions, partnerships and procedures throughout the planning process?	<input type="checkbox"/>	<input type="checkbox"/>

4. Checklist: Producing the product

Did you put in place schedules to:	YES	NO
Review and assess the planning process regularly, in order to ensure conformity with the goals and purpose defined at the outset?	<input type="checkbox"/>	<input type="checkbox"/>
Integrate feedback-loops in order to ensure:		
Re-assessment of key assumptions?	<input type="checkbox"/>	<input type="checkbox"/>
Integrate lessons learned during the planning process and modification of original plan where necessary, while respecting the originally defined goals and purposes of the planning process?	<input type="checkbox"/>	<input type="checkbox"/>
Monitor continuously for important changes?	<input type="checkbox"/>	<input type="checkbox"/>
Consider that the achievements of the planning process (reinforced partnerships, common understanding etc.) are products as much as the final document itself, and define how to use these?	<input type="checkbox"/>	<input type="checkbox"/>

5. The final document

The final strategic plan should be:

- Concise
- Flexible, and allow for reaction and adaptation to unexpected changes in the environment
- Validated by all stakeholders
- Be clear and explicit about
 - ~ The mission
 - ~ The vision
 - ~ The context of the operation
 - ~ The means mobilized
 - ~ Indicators to measure success
 - ~ Indicators to evaluate coherence of future actions with the spirit of the plan
 - ~ Clear boundaries not to be trespassed
 - ~ Guidelines for strategic alliances
 - ~ Organizational principles

The final strategic plan should not be:

- Long and voluminous
- Rigid
- Specific about objectives, projects, organization and assignment of resources
- An exhaustive study of the present and future operational context of the Center
- A binding contractual or legal document between partners

6. Working example of matrix used in the analysis of components of a "Cornerstone" (the example of Cornerstone 4, Updating and Adapting to Changes)

Corner-Stone	Content (elements/ ingredients)	Key Strategies & Processes	Possible ways to implement	Quality/ Performance Criteria	Good case/ example
UPDATING AND ADAPTING TO CHANGES	Consciously detecting important change	Up to date contact with the sector, development and new science. Analysis of mega-trends' implications for Center strategy.	Assignment of staff responsibilities. Proactive collection of data. Monitoring of key data sources/ focus workshops. Means to correlate and interpret. Centralized system capacity for such analysis/data collection. Detailing implication for Center/sector strategy.	Demonstration of up to date knowledge of the external environment. Peer review. Effective knowledge management. Defined and flexible partnerships with key actors. Implications described/reported in a timely manner.	ICRISAT SAT futures (see Box 1). CIMMYT special topic reviews (see Box 3).
	Re-evaluating key assumptions	Interpretation of changes.	Periodic or event-related evaluation of strategic assumptions (e.g. boundaries, modalities, partner efficiency, feedback to priority setting process) related to major external change or shocks.	New knowledge reviewed and applied to key elements of strategy. Updated assumptions. Revision of (components of) strategy.	WorldFish review of sector and resource systems (see Box 4).
	Allowing for innovation	Understanding new possibilities and applications from "external" environment. Maintaining an environment conducive for innovation.	Means to stay in touch with new developments. (conference, parallel fields, visiting scientists, feasibility or pilot studies). Donor support for venture science. Maintaining space and opportunity for creativity and new applications.	Evidence of application of new and relevant science in research program. Support for new area of development. Seminal papers. Center-led ideas incorporated into effective project and adopted by others. Research staff satisfaction and more.	CIAT fund International Plant Genetic Resources Institute (IPGRI)
	Learning from experience	Capturing both positive and negative experiences and implications for key strategic assumptions and rate of progress.	Program review. Impact audit. Periodic/structured evaluation of Center and partner experiences in relation to key assumptions (including process of priority setting and adaptation to change).	Substantive reviews and evaluation held. Findings applied to strategic mission.	

List of Acronyms

The 16 Centers of the CGIAR are:

CIAT	Centro Internacional de Agricultura Tropical
CIFOR	Center for International Forestry Research
CIP	Centro Internacional de la Papa
CIMMYT	Centro Internacional de Mejoramiento de Maiz y Trigo
ICARDA	International Center for Research in Dry Areas
ICRAF	International Center for Research on Agroforestry (recently renamed the World Agroforestry Center)
ICLARM	International Center for Living Aquatic Resources Management (recently renamed the WorldFish Center)
ICRISAT	International Center for Research in the Semi-Arid Tropics
IFPRI	International Food Policy Research Institute
IITA	International Institute for Tropical Agriculture
ILRI	International Livestock Research Institute
IPGRI	International Plant Genetic Resources Institute
IRRI	International Rice Research Institute
ISNAR	International Service for National Agricultural Research
IWMI	International Water Management Institute
WARDA	West African Rice Development Association

Other Acronyms:

ARI	Advanced Research Institute
ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa
BoT	Board of Trustees (of the individual centers)
CDDC	Center Deputy Director Generals' Committee
CGIAR	Consultative Group on International Agricultural Research
DG	Director General
FAO	Food and Agricultural Organization of the United Nations
FORAGRO	Foro Regional de Investigacion y Desarrollo Tecnológico Agropecuario
GIS	Geographical information systems
INRM	Integrated Natural Resources Management
iSC	interim Science Council (of the CGIAR)
NARI	National Agricultural Research Institutes
NARS	National Agricultural Research Services
NARES	National Agricultural Research and Extension Services
NGO	Non-governmental Organization
PROCITROPICOS	Program Cooperativo de Investigacion y Transferencia de Tecnologia Agropecuario para los Tropicos Suramericanos
PROCIANDINO	Program Cooperativo de Investigacion y Transferencia de Tecnologia Agropecuario para la subregion Andina
R&D	Research and Development
SAT	Semi-arid tropics
WANA	The West Asia-North Africa region
WTO	World Trade Organization

The Network of Research Centers



- CGIAR - Consultative Group on International Agricultural Research
- CIAT - International Center for Tropical Agriculture
| CIFOR - Center for International Forestry Research | |
- CIMMYT - International Maize and Wheat Improvement Center
- CIP - International Potato Center
- ICARDA - International Center for Agricultural Research in the Dry Areas
- ICRISAT - International Crops Research Institute for the Semi-Arid Tropics
- IFPRI - International Food Policy Research Institute
- IITA - International Institute of Tropical Agriculture
- ILRI - International Livestock Research Institute
- IPGRI - International Plant Genetic Resources Institute
- IRRI - International Rice Research Institute
- ISNAR - International Service for National Agricultural Research
- IWMI - International Water Management Institute
- WARDA - West Africa Rice Development Association
- ICRAF - World Agroforestry Center
- WorldFish - WorldFish Center

