



SCIENCE COUNCIL

CGIAR

Meta-Review of
CGIAR Systemwide and
Ecoregional Programs

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**META-REVIEW OF
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ACRONYMS

ACIAR	Australian Centre for International Agricultural Research
AEP	Agro-Ecological Programme
AGM	Annual General Meeting of CGIAR
AHI	African Highlands Initiative
ANEHA	Africa Network on HIV/AIDS and Agriculture
APAARI	Asia Pacific Association of Agricultural Research Institutions
ARD	Agricultural Research and/or Development
ARIs	Advanced Research Institutions (includes universities and non- CGIAR IARCs)
ASARECA	Association for Strengthening Agricultural Research in Africa
ASB	Alternatives to Slash and Burn
CA	Comprehensive Assessment of Water Management in Agriculture
CAC	The Collaborative Program for Sustainable Agricultural Development in Central Asia and the Caucasus
CAPRI	Collective Action and Priority Rights
CB	Capacity Building
CBD	United Nations Convention on Biodiversity
CBO	Community Based Organization
CCER	Centre Commissioned External Review
CDC	Centre Directors' Committee of CGIAR
CGIAR	Consultative Group on International Agricultural Research
CHC	Convening and Host CGIAR Centre for a SWEP
CIAT	International Center for Tropical Agriculture
CIFOR	Center for International Forestry Research
CIMMYT	International Maize and Wheat Improvement Centre
CIP	International Potato Centre
CONDESAN	The Consortium for Sustainable Development of the Andean Ecoregion
CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement, France
CORAF/	
WECARD	West & Central Africa Council for Agricultural Research and Development
CPs	Challenge Programmes
CP-SSA	Challenge Programme for Sub-Saharan Africa
CPWF	Challenge Programme on Water and Food
CU	Coordinating Unit for a SWEP
DFID-UK	Department for International Development, United Kingdom
DG	Director General
DGIS	Directorate-General for International Cooperation, Netherlands
DMI	Desert Margins Initiative
DMP	Desert Margins Programme
ERA	Ecoregional Approach
EPMR	External Programme and Management Review
FARA	Forum for Agricultural Research in Africa
FAO	Food and Agriculture Organization of United Nations
GA	Gender Analysis
GEF	Global Environmental Facility of United Nations
GFAR	Global Forum for Agricultural Research
GIAAFS	Global Initiative on HIV/AIDS Agriculture and Food Security
GIS	Geographic Information System
GMF	Global Mountain Forum
GMP	Global Mountain Program
GRPC	Genetic Resources Policy Committee

GSG	Global Steering Group of ASB
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
IARC	International Agricultural Research Centre
IAR4D	Integrated Agricultural Research for Development
ICER	Internally Commissioned External Review
ICIMOD	International Center for Integrated Mountain Environment and Development
ICLARM	World Fish Centre
ICRAF	World Agroforestry Centre
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
ICWG	Inter-Center Working Group
IDRC	International Development Research Centre Canada
IFAD	International Fund for Agricultural Development
IFDC	International Center for Soil Fertility
IFPRI	International Food Policy Research Institute
IGP	Indo-Gangetic Plains targeted by RWC
IITA	International Institute for Tropical Agriculture
IIWG	Inter-Institution Working Group
IK	Indigenous Knowledge
IKS	Information and Knowledge Systems
ILRI	International Livestock Research Institute
INRM	Integrated Natural Resource Management
IPG	International/Global Public Good
IPGRI	International Plant Genetic Resources Research Institute
IRD	Institut de Recherche pour le Development, France
IRRI	International Rice Research Institute
ISNAR	International Service for National Agricultural Research
iSC	interim Science Council
IT	Information Technology
IVC	The Consortium for Sustainable Development of Inland Valley Agroecosystem in Sub-Sahara Africa.
IWMI	International Water Management Institute
IWRM	Integrated Water Resources Management
LPG	Livestock Program Group
MDGs	Millennium Development Goals of United Nations
M&E	Monitoring and Evaluation
MT	Management Team of SIMA
MTM	Mid-Term Meeting
MTP	Centre or SWEP Medium Term Plan
NARES	National Agricultural Research and Extension System
NARI	National Agricultural Research Institute
NARS	National Agricultural Research System
NGO	Non-Government Organization
NRM	Natural Resources Management
NSC	National Steering Committee for in-country SWEP
NTCC	National Technical Coordinating Committee for in-country SWEP
NZODA	New Zealand Overseas Development Assistance
O&M	Operation and Management, Organization and Management
OPEC	Organization of Petroleum Exporting Countries
PRGA	Participatory Research and Gender Analysis
PAs	Priority Areas under CGIAR System Priorities 2005-2015
PIS	Project Information System
PLS	Pilot Learning Site within CP-SSA
PMR	Performance Measurement Report of Science Council
PPB	Participatory Plant Breeding
PR	Participatory Research

PRISM	Project and Research Information System Module within RWC
PROMIS	Project Knowledge and Information System within RWC
QMS	Quality Management System of IWMI
RAMSAR	Ramsar Convention on Wetlands
RBM	Results Based Management
RCTs	Resource Conserving Technologies within RWC
R&D	Research and Development
RSC	Regional Steering Committee of RWC
RTCC	Regional Technical Coordination Committee of RWC
RUL	Rural-Urban linkage
RWC	Rice-Wheat Consortium for the Indo-Gangetic Plains
SADC	Southern Africa Development Community
SARD-M	Sustainable Agriculture and Rural Development in Mountains
SC	Science Council
SINGER	Systemwide Information Network for Genetic Resources
SG	Steering Group of a SWEP
SLP	Systemwide Livestock Program
SIMA	Systemwide Initiative on Malaria and Agriculture
SP-IPM	Systemwide Program-Integrated Pest Management
SPs	CGIAR System Priorities 2005-2015
SSA	Sub-Saharan Africa
STAP	Scientific and Advisory Panel of SIMA
STAT	Scientific and Technical Advisory Team of DMP
SWEPs	Systemwide and Ecoregional Programmes
SWIHA	Systemwide Initiative on HIV/AIDS and Agriculture
SWIM-2	Systemwide Initiative on Water Management
SGRP	Systemwide Genetic Resources Program
TAC	Technical Advisory Committee of CGIAR
TOR	Terms of Reference
UNAIDS	Joint United Nations Programme on HIV/AIDS
UH	Urban Harvest-The CGIAR Systemwide Initiative on Urban and Peri-Urban Agriculture
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UPA	Urban and Peri-Urban Agriculture
USAID	United States Agency for International Development
USD	American dollars
VASAT	Virtual Academy for the Semi-Arid Tropics
WARDA	Africa Rice Center

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EXECUTIVE SUMMARY: CONCLUSIONS AND RECOMMENDATIONS

1. Introduction

Scope of the Review

The objective of this CGIAR Science Council commissioned meta-review is “to review the status of the currently existing 17 systemwide and ecoregional programs (SWEPs) as appropriate research instruments for implementing CGIAR system priorities for research.” TOR is provided at Annex 1. The SWEPs comprise nine systemwide and eight eco-regional programs, established by CGIAR from 1993 to 2001. Some of the older SWEPs underwent review, reorganization and renewal around 2000; hence this meta-review concentrates on the post2000 period up to mid 2006. Where SWEPs have three-year rolling programs as reflected in current MTPs, the period of review extends to the planning out-years. The SWEPs included in the meta-review are:

1. Alternatives to Slash and Burn (ASB): Partnership for the Tropical Forest Margins.
2. Consortium for Sustainable Development of the Andean Ecoregion (CONDESAN).
3. Systemwide Genetic Resources Programme (SGRP)
4. Consortium for Sustainable Development of the Inland Valley Agroecosystem in Sub-Saharan Africa (IVC)
5. Rice-wheat Consortium for the Indo-Gangetic Plains (RWC)
6. African Highlands Initiative (AHI)
7. Systemwide Livestock Program (SLP)
8. Collective Action and Property Rights (CAPRi)
9. Systemwide Program for Integrated Pest Management. (SP-IPM)
10. Desert Margins Program (DMP)
11. Participatory Research and Gender Analysis (PRGA)
12. Global Mountain Program (GMP)
13. Collaborative Program for Sustainable Agricultural development in Central Asia and the Caucasus (CAC)
14. Urban Harvest, the Systemwide Initiative on Urban and Peri-urban Agriculture (UH)
15. Systemwide Initiative on HIV/AIDS and Agriculture (SWIHA)
16. Systemwide Initiative on Water Management (SWIM-2): Comprehensive Assessment of Water Management in Agriculture (CA)
17. Systemwide Initiative on Malaria and Agriculture (SIMA)

The review was based on examination and assessment of existing documentation on the programs, more particularly of various CCERs and EPMRs where these were available (many of the programs had not been reviewed), complemented by relevant programme documentation of the SWEPs and their Convening Centres as appropriate. In the event, the scope, quality and availability of this documentation varied considerably among the programs and the usefulness of the CCERs and EPMRs was somewhat limited because the Terms of Reference for this meta-review covered ground not normally considered in the of scope such external reviews. The shortcomings in the source material have therefore compromised to some extent the

ability of the Panel to reach broad conclusions and formulate sound recommendations more generally applicable to the SWEPs modality as a delivery mechanism for achieving CGIAR priorities.

The Panel operated in virtual mode; no site visits were made, nor were SWEP researchers and managers interviewed. However in most instances, SWEPs' Coordinators were extremely helpful to the Panel in accessing documentation and clarifying specific points. Each Panel member reviewed five or six SWEPs and prepared individual SWEP working papers and a synthesis paper. These syntheses, which are made available in Annex 3, formed the basis for preparing this meta-review report and its recommendations.

History of review of SWEPs

The SWEPs subject to this meta-review have a variable history of previous review via CGIAR CCER and EPMR processes and in one instance independent external review by the GEF (DMP). Review processes have been applied too infrequently and variably to provide an adequate assessment of progress and outcomes in many instances. Some SWEPs have not been subject to external review during the period: some have never been reviewed until now. This history precludes equitable comparisons among the SWEPs; however the TOR did not call for this. Consequently this is not a comparative analysis in the sense of determining a utility or impact ranking among SWEPs. Individual SWEP review history is provided in the body of the report and in Annex 3.

Evolution of paradigms from the ecoregional approach (ERA) to participatory integrated natural resource management (INRM)

SWEPS have moved their research paradigm from earlier and variable interpretations of the CGIAR eco-regional and systemwide approaches to the application of participatory action research and learning approaches within the integrated natural resource management framework that has undergone strong evolution in CGIAR over the last decade. SWEPs in fact have been leaders in the CGIAR in developing the INRM conceptually and in applying it in research design and implementation. This participatory INRM paradigm has now effectually replaced the older eco-regional concept in CGIAR programming. SWEPs application of this approach has led to positive outcomes for CGIAR. ***Recommendation 1. It is recommended that CGIAR adopt the participatory integrated natural resource management approach for future SWEPs involving natural resources research for development.***

Links to Challenge Programmes

Few SWEPs have links to Challenge Programs let alone be active participants. CPs provide opportunities for SWEPs to participate and contribute in a wider R&D context and facilitate access by NARS partners and CGIAR Centres to specialist research resources than would otherwise be the case, providing opportunities to forge new alliances for increasing research capacity. New CPs can also benefit from the SWEP experience. ***Recommendation 2. It is recommended that CGIAR facilitate entry of SWEPs into relevant CPs to lever additional support and access specialist capacity that they lack.***

CGIAR launched the Challenge Program for Sub-Saharan Africa (CP-SSA) in 2004 convened by the Forum for Agricultural Research in Africa (FARA). CP-SSA has adopted a participative INRM approach in its Integrated Agricultural Research for Development - IAR4D model - that mirrors that used by the African SWEPs. Several CGIAR Centres participate variously in CP-SSA, namely IITA, CIAT, CIFOR, ICRAF, ICRISAT, CIMMYT and the AHI (all of which are also active in African SWEPs). ***Recommendation 3. There would be value in encapsulating the experiences of all the African SWEPs into this new CP-SSA; it is recommended that CGIAR act as a broker and provides incentives for formalizing linkages between them.***

IWMI has taken a lead role in CPWF and there is an extremely close relationship between IWMI, SWIM-2/CA and the CPWF. The CA is an essential component of CPWF and acts as a window for the CPWF into the global Dialogue on Water, Food and Environment. SWIM-2/CA has developed a close working relationship with CPWF and its outputs in the form of publications and assessment tools provide inputs to the CPWF. ***Recommendation 4. SWIM-2/CA completes its program at the end of 2006. It is essential that IWMI and the SWIM-2/CA Steering Committee put in place an exit strategy to ensure a seamless transition to the consequent changing relationships between IWMI, CPWF and the Dialogue.***

There are many parallels in approach and operational modality between SWEPs and CPs. It is arguable that SWEPs provided the model for partnership and collaboration upon which the CP model was built. While the two might be complementary, there is considerable potential for overlap, and in fact for one to subsume the other in particular circumstances. There is also potential for confusion among potential donors as to relationships between CPs and SWEPs that can affect channeling of donor funds. ***Recommendation 5. It is critical that CGIAR determine the appropriate modality for collaborative programs; it is recommended that CGIAR ensure that the rule of subsidiarity applies, SWEPs and CPs are indeed complementary, minimizing overlap in scope, function and operation, and eliminating perverse competition for funding and conflict of interest for those Centres involved.***

2. Contributions to CGIAR Goals

CGIAR goals are aimed at:

- poverty alleviation, improved livelihoods and sustainable management of natural resources
- fostering better institutions and policies
- production of global and regional public goods
- equitable sharing of benefits flowing from research

These goals have not changed significantly since these SWEPs were initiated, at least in their post-2000 formats, but emphases shift. Current emphases are articulated in the matrix of CGIAR System Priorities 2005-2015 that reflect the UN Millennium Development Goals.

The SWEPs objectives as a group are coherent and fully compatible with the goals of MDG and CGIAR and meet the current priorities of the CGIAR. They have produced

outputs and achieved outcomes (some to a greater or lesser degree than others depending on scope and size) that further CGIAR goals. A strength of many SWEPS is the way in which their adoption of the INRM approach has enabled them to integrate multiple priorities across the priority matrix such that no one SWEPS has a singular priority, although the order of priorities among individual SWEPS understandably differs according to their programme objectives. **Recommendation 6. It is recommended that CGIAR note the current congruence of SWEPS with overall CGIAR planning and goals, and ensure that planning of future SWEPS adopts the CGIAR matrix approach to determining priorities as part of the endorsement and approval process.**

Key research elements contributing to the general success of SWEPS as a delivery mechanism include

- building on existing successful programs or international initiatives
- adopting partnerships and consultative planning processes
- using participatory research approaches within an INRM framework
- working at benchmark reference sites with standardized methods that facilitate scaling up and across site information and technology transfer
- engaging the private sector and encouraging self-funded partners
- adopting competitive grant funding

SWEPS have included capacity building as a program objective but their modalities and emphasis vary among the programs depending on the existing capacity of NARS and degree of community involvement in producing research outputs through participatory research. Typically modalities include training in its various forms, and development of information and knowledge systems including technology transfer and formal publications. SWEPS have achieved much in the area of capacity building with limited resources; capacity building has been generally under-resourced and this has implications for them. **Recommendation 7. SWEPS need to ensure that they operate capacity building programs within their comparative advantage and that the subsidiarity principle applies.**

SWEPS' development of information and knowledge systems (IKS) is variable and hence their effectiveness for knowledge transfer is very variable. This applies to on-ground, electronic media including websites and web-based information and knowledge tools and systems, and publications. It would be possible to construct an "ideal website" and model IKS from the range of approaches used by the larger SWEPS under review. **Recommendation 8. It is recommended that the SWEPS communication staff undertake a dialogue to develop guidelines for an "ideal IKS protocol", to include training of people in its effective use that would assist existing and proposed SWEPS and CPs to maximize the utility of this critical program management modality for the production of regional and public goods.**

3. Modalities Contributing to CGIAR's System Priorities (SP)

The assessments of individual SWEPS programs have highlighted many positive attributes of SWEPS research and operational modalities. Obviously not all attributes apply to all programs but the listing below is a distillation that provides insights into a comprehensive model for a successful SWEPS. SWEPS:

- operate as innovative inter-institutional, multidisciplinary networks and consortia
- facilitate collaboration through partnerships in research for development.
- develop effective functional linkages among CGIAR Centres, NARES and ARIs that capitalize on the comparative advantages of the partners.
- apply successfully an integrated natural resource management (INRM) approach.
- strengthen the capacity and capability of all partners in the R&D challenge.
- engage policy makers at various levels and influence the direction of relevant policy development.
- are instrumental in fostering more coherent policies in the CGIAR system.
- seek to be problem driven and outcomes and impacts oriented.
- strengthen inter-centre collaboration.
- adopt a balanced approach to research for development involving an appropriate mix of action planning, strategic research, action learning and capacity building.
- promote uptake and adoption through demonstration and policy dialogue.
- facilitate involvement of the private-sector input and service providers in technology development and dissemination processes.
- adopt the benchmark site approach, standardized/harmonized methodologies and baseline studies to enable comparative research and analysis across sites and scaling up of technologies to generate global public goods.
- develop effective and readily accessible information exchange and knowledge systems as public goods.

The SWEP model using the above modalities has demonstrated its utility as an effective mechanism for delivering on CGIAR goals. ***Recommendation 9 It is recommended that in designing future SWEPS, planners should assure the adoption of the model attributes in creating the modality for programme operation and management (O&M).***

The advantages or disadvantages of SWEPS' structure as compared to other partnership programs, e.g., Challenge Programs, have not been adequately discussed in any of the external review documents available to the panel. However, based on the scant information available to the panel, it appears that there are some attributes common to them and other attributes that are distinctly different. For example, both programs use a partnership approach although with wider scope in the case of CPs, deal with problems of global/regional significance and produce international public goods. CPs differ from SWEPS in terms of management structure, duration of operations and in funding sources. Because of the short life span of CPs as compared to SWEPS, it would be premature to come to conclusion with respect to the comparative effectiveness or efficiency of these systems at this point in time.

4. Research Management

Organizational arrangements

All SWEPS have adopted essentially similar approaches to research management to accommodate their multi-organizational and regional/global nature. Management structures range from simple to complex hierarchical depending on the size of the network/consortium, its governance and funding arrangements. Simple management structures whereby a SWEP is effectually managed as a line program of its Convening Centre permits dispensing with separate program committees thus reducing transaction costs; however there are risks associated with maintaining the integrity and viability of the SWEP in such circumstances particularly if radical changes are made to Convening Centre programme organization and resourcing. Coalescence of the Chair and Coordinator within the staff structure of the Convening Centre also has potential for conflict of interest and risks to transparency of operations and decision making.

Information systems

All SWEPS have functional websites and project information management systems. Some are linked to other relevant sites to facilitate access to a wider suite of information. The variable capacity and effectiveness of these IKS have already been alluded to.

Publications

All SWEPS publish the results of their research but the record is very variable in scope, quantity and quality across the SWEPS reviewed. This affects the penetration of SWEPS outputs and outcomes into the wider global scientific and development community as a modality for generating scientific public goods external to the immediate milieu of the SWEP domain. ***Recommendation 10. It should be obligatory for SWEPS to publish formally the outputs of their research in widely and easily accessible media; not only is this critical to generation of global public goods but it serves as an effective tool for monitoring and evaluating research output for quality, relevance and quantity.***

Strategic and medium term plans and priority setting

Most SWEPS have prepared Vision Statements or Framework Documents that serve to provide the strategic direction for the program over a given time frame. These are supplemented by MTPs, either stand-alone or encapsulated within the MTP of the Convening Centre. The scope and comprehensiveness of many of these MTP's are such that they fail to provide sufficient depth to enable them to be used as effective programme implementation plans; nor do they enable ready use as monitoring and formative evaluation tools; Gantt Charts and implementation schedules are the exception rather than the rule, and seldom are the individual responsibilities of the partners articulated. There are good examples of various necessary MTP components scattered across SWEPS with no one MTP being complete in all respects. They are also variable as their usefulness as planning, priority setting and impact assessment tools. In this regard the SWEPS reflect the inadequacies of the MTPs of their

Convening Centres. **Recommendation 11. It is recommended that CGIAR convene a working group to construct a protocol for SWEPs MTPs that reflects (a) their collaborative nature and special relationship with their Convening Centre, (b) priority setting and program planning, and that facilitates their use for (c) program coordination, (d) monitoring of progress, and (d) evaluation and impact assessment.**

Subsidiarity

The close and sometime inextricable association of SWEPs with programs of Convening Centres raises issues of subsidiarity, complementarity, transparency and value adding in running and managing parallel programs at different levels. **Recommendation 12. CGIAR should ensure that the principles of subsidiarity, complementarity and comparative advantage are applied when approving Centre and SWEP programs and MTPs to ensure maximum value from the investment of donor funds.**

Achieving and benchmarking best practice

Across all the SWEPs reviewed numerous strong points as well as areas requiring closer attention by SWEP management emerged. The salient points are listed in the body of the report. **Recommendation 13. It is recommended that CGIAR could with advantage encourage consideration of these strong and weak points during the planning phase of future SWEPs and establish benchmarks for best practice; research management structures and procedures should promote the strengths and obviate the weaknesses; monitoring of practice against benchmarks should form part of the M&E protocols.**

5. Institutional Factors

Donor/CGIAR support

SWEPs were established by consensus decision of CGIAR. The key institutional factors influencing the operation of SWEPs devolve upon their:

- formal establishment arrangements
- institutional support
- effective partnerships
- donor support.
-

In their early stages, SWEPs attracted widespread institutional support that was particularly manifest during the start up planning period. This support came from CGIAR members, Centres and NARES as well as in some instances high-level international institutional and political support generated from international policy imperatives. As the programs developed they attracted the interest of other partners such as ARIs, which could play a specialist niche role in the research programs, NGOs and CBOs that could contribute social dimensions and support for outreach and technology uptake activities with farmers and communities.

However, SWEPs' ability to attract funding support from CGIAR donors has been highly variable. This is in stark contrast to the support shown by donor members of

CGIAR to the idea of the SWEP as a way of effectively marshalling the complementary resources and comparative advantage of the Centres to address a particular crosscutting development issue that was amenable to attack by the combined resources of the CGIAR in partnership with NARES. Hence institutional support for SWEPs from donors has been variously and generally poorly translated into financial support. For example, only when the DMP was raised to the status of a GEF project was sustained multi-year support forthcoming and this program provides a useful model on how to proceed. ***Recommendation 14. It is recommended that CGIAR not approve start up of any new SWEP activities in the absence of adequate and committed multi-year funding based on an approved concomitant first phase multi-year research plan and budget. Subsequent phases also should not proceed in the absence of a favourable review of an earlier phase and funding committed against an approved multi-year plan. CGIAR should provide or broker funds to enable the essential planning phase that results in the construction of the phase one multi-year work plan and budget.***

The specific role of SWEPs Convening Centres

This assessment supports the general conclusions that can be drawn from the relevant external reviews that the CGIAR Centres appointed by CGIAR as Convening and Host Centres (CHCs) for the SWEPs have been assiduous in carrying out their support and coordination responsibilities. CHCs have had to carry the burden of minimal support from CGIAR for their coordination function and have used CHC core funding and administrative resources to ensure the effective functioning of their SWEP coordinating units (CUs). Some have used core funding to support the “global synthesis” and capacity building components of SWEP programs that are nested in the CUs, and from which are generated global public goods. However the boundary between the SWEP and CHC core program is frequently blurred and the smaller SWEPs have become de facto projects within a sub-program of the CHC. While this can have efficiencies in administration it has potential for lack of transparency and conflict of interest at the CGIAR system level. It can also be a disincentive for other Centres to engage. ***Recommendation 15. It is recommended that SWEPs with the assistance of CGIAR revisit existing arrangements to clarify roles, responsibilities and administrative arrangements for coordination units. It would also be appropriate to consider the advantages of separating Centre-SWEP research program activities from the related core programmes of the Centres.***

6. Governance Structure

Involvement of NARES in SWEPs and NARES-IARC collaboration has generally been strong; SWEPs communicate and transfer information reasonably well within national programmes among NARES agencies, CGIAR Centres and communities, and upwards to the coordinating units. However they are less adept at cross-country communication and one reason for this is the constraint imposed by the governance structure of most SWEPs, reinforced in situations where donor funding has been directed specifically to NARES, or where national governments have made significant investments that raise local capacity for engagement. CGIAR-independent NARES funding has influenced the direction of the research and management structures of some SWEPs with NARES playing a significant role in their governance and

management and thus balancing the influence of CGIAR Centres, some of which, apart from the Convening Centre, at times play only a marginal role.

This NARES-centric approach has also constrained to some extent the development of active cross-country cooperation; it is highly desirable that SWEPS promote and facilitate cross-country information movement as a capacity building objective, to facilitate timely technology transfer and the research information syntheses and higher order analysis necessary to produce regional and global public goods. ***Recommendation 16. It is recommended that CGIAR promote more effective inter-NARES collaboration through consideration of incentives for mutual benefit within the SWEP frameworks. Further, it is recommended that CGIAR examine and modify SWEPS governance to ensure that planning and priority setting, and research outputs at national level flow readily and in a timely manner across borders through to regional and global levels, effectively mediated by the coordinating units. This is necessary to enable consolidation into higher order products of value to the SWEP as a whole, and to facilitate syntheses that generate regional and global public goods.***

Organizational structures circumscribing cross-country collaboration and consultation at the field research level also extend to the dissemination of research results and technology development outputs among NARES, among CGIAR Centres and between NARES and Centres; i.e., lines of communication tend to be stronger in-country and vertically to the coordinating unit than laterally to peers in NARES and Centres. ***Recommendation 17. CGIAR and SWEP management need to develop comprehensive communication strategies and open information systems for knowledge dissemination and policy outcomes that service the needs of all levels and focal points in the SWEPS.***

A strength of SWEPS has been the effective consultative and participatory mode of working among the stakeholders; this is particularly evident at the national level among researchers and farming communities. At the policy/governance/management level of some SWEPS there has been much less opportunity for all partners to participate due to the restrictive structure of representation of partners on governing steering and technical committees, national and global. ***Recommendation 18. Governance structures should reflect the multi-stakeholder nature of most SWEPS. It is recommended that SWEPS institute mechanisms whereby all significant partners can participate in the processes of programme planning, priority setting and decision-making at national and global levels.***

There is less evidence of active collaboration among CGIAR Centres within a SWEP in developing and disseminating technologies and knowledge systems and conducting higher order analyses. ***Recommendation 19. CGIAR needs to address the issue of effective inter-Centre collaboration within specific SWEPS for maximizing the flow and analysis of Centre-generated information to ensure the production of global public goods.***

7. Incentives for Cooperation and Funding

Support for coordinating units

As a rule operational funds for field activities have been easier to obtain than resources to support the central Coordinating Units. Donors have failed to recognize the importance of the CU functions including their critical role in implementing the global components of SWEPS that lead to the production of global public goods, their strategic planning responsibility and their capacity building functions: the elements that make the program a SWEPS. It is almost the general rule that Convening Centres have been forced to act donors of last resort for the CUs using their core funds. A strong CU with assured funding is essential for effective implementation of the SWEPS programs. ***Recommendation 20. It is recommended that CGIAR and SWEPS mandate that all members of a SWEPS consortium contribute, based on ability to pay, to an equitable cost-sharing arrangement for supporting the activities of their coordinating unit.***

Future funding strategies for SWEPS

SWEPS need assured multi-year funding that accords with indicative budgets in MTPs if they are to remain viable. It would be desirable that SWEPS develop funding plans to increase investor awareness and interest of donors. This entails more detailed and comprehensive plans than the current MTPs, an area where SWEPS are notably weak and consequently fail to attract the needed investments from donors. ***Recommendation 21. It is recommended that SWEPS developing comprehensive multi-year plans with associated business plans and budget lines for themes and activities supported by an assessment of impacts of and returns on earlier investments through ex-post evaluation. A complementary approach that might be considered involves the development of more comprehensive program proposals of linked projects covering biophysical, socioeconomic, capacity building and communications components, which can be presented as a package or as individual projects that may be more attractive to donors (particularly if demonstrably linked to thematic elements of the MTP).***

While CGIAR Centres are effective in their research collaboration in SWEPS, it is apparent that the level and sustainability of their input is dependent on donor special funding. Apart from the Convening Centres, which have little choice, CGIAR Centres avoid providing support to SWEPS' CUs in sister Centres. There is no incentive for Centres to cooperate in making a strong combined bid for funds to ensure adequate funding for any particular SWEPS in which they have an interest, or any other SWEPS if it means another program for which they have responsibility suffers as a result. This "buy-in challenge" is at the core of funding issues because in a tight resource environment, any SWEPS is by design going to be viewed as a potential competitor to other programs that it has been designed in fact to bridge or integrate. In such circumstances incentives push against cooperation and encourage free-riding. If the CGIAR and its funders want vibrant systemwide programs, they will have to exert some continuing high level leadership in providing positive incentives to focal points of collaboration, thus addressing the systemic funding challenges of competition and free-riding facing such programs. Leverage and

guaranteed multi-year funding are powerful drivers for cooperation and collaboration in SWEPs. ***Recommendation 22:*** *It is recommended that CGIAR develop incentives for participation by Centres in SWEPs based on elimination of free-riding and rewarding of active collaboration through leverage mechanisms and guaranteed multi-year funding against approved plans and budgets. Unless these conditions can be fulfilled through commitments from donors and Centres during the planning stage, a proposed SWEP should not proceed to implementation.*

SWEPs vary considerably in size, capacity and budget. To justify independent operation, coordination and governance, a SWEP has to have a minimum critical mass and capacity. ***Recommendation 23:*** *It is recommended that programs that do not reach a critical level in a set time not be extended as CGIAR SWEPs but may become projects of SWEP partners or CGIAR Centres.*

8. Monitoring and evaluation

CGIAR has adequate periodic review processes but they have been applied too infrequently and variably in the cases of SWEPs to provide CGIAR with an adequate comparative assessment of progress and outcomes. Periodic review facilitates application of remedial action where necessary but it is unable to provide an early warning system. However periodic external review is a necessity from the viewpoint of accountability and transparency. A combination of internal continuous formative evaluation linked to external periodic review provides the coverage necessary for fully effective M&E.

In general, SWEPs have no procedural guidelines for internal on-going monitoring and evaluation of either SWEP management or research progress, or evaluation of the impact of research outcomes. The exceptions are the DMP because of conditions imposed by GEF for monitoring research progress against planned outputs in the Project Document, and the Quality Management System used by IWMI for monitoring all aspects of the project cycle. There is no evidence yet, at least as reflected in documentation consulted for this review, that SWEPs have incorporated the Science Council's Performance Measurement Reports (PMR) for program monitoring into their M&E processes. However the emphasis that some SWEPs placed on peer-reviewed publications has provided an excellent quality control mechanism for formative evaluation of research activities, the advantage of which has not been taken by CGIAR. Lack of appropriate mechanisms for tracking and targeting technology and policy outputs into action and impact make it difficult to evaluate on-ground impact. ***Recommendation 24:*** *It is recommended that CGIAR institute a continuous improvement process with the Centres for building an effective internal M&E system that will accommodate ongoing monitoring and formative evaluation of both program management and research progress, ex ante evaluation of project proposals and ex post evaluation of outcomes impact. This system should complement and be coherent with the Performance Measurement Reports for program monitoring to the Science Council and current CGIAR external periodic review processes.*

Recommendation 25: *It is recommended that the framework M&E system proposed for development consider inclusion of the following components drawn from SWEP best practice:*

- *adopting “results-based management” for both ex-ante and ex-post evaluation; this will require the development of standard comparative metrics across the CGIAR system to enable the collation of comparable data across CGIAR centres against which to benchmark SWEPs.*
- *instituting a regular annual internal stakeholder workshop review process at the project level that will provide a formative self-evaluation mechanism for researchers and programme managers.*
- *requiring obligatory publishing of research in peer-reviewed journals and books as a means of monitoring progress and providing a quality control measure.*
- *adopting Quality Management Systems on the IWMI model for managing and monitoring the project cycle.*
- *applying the Science Council’s PMR system for program monitoring to SWEPs*
- *shortening the return time for external periodic review of SWEPs to a maximum of four years and ensure that the TOR for such reviews include M&E at both management and research program levels.*

1. INTRODUCTION

1.1 Background and Processes

This meta-review was commissioned by the Science Council under the title Meta-Review of CGIAR Systemwide and Ecoregional Programs (SWEPS). The objective of the meta-review is “to review the status of the currently existing 17 SWEPS as appropriate research instruments for implementing CGIAR System Priorities (SPs) for research” (see Annex I for Terms of Reference). The SWEPS comprise eight (8) ecoregional and nine (9) systemwide programs. They were established by the CGIAR during a nine period from 1993 to 2001.

The intention of Science Council was for the meta-review to be prepared by synthesizing the findings of various external reviews commissioned by either the Science Council/Technical Advisory Committee or by CGIAR centers that are mandated to be the convening centers of the SWEPS. The synthesis was done by a three-man team (see Annex 2 for CV of panel members) working in virtual mode. No site or program visits were made to any of the SWEPS, except to the benchmark sites of AHI in Ethiopia by one of the panel members in an individual capacity. The first task of the review panel was to prepare a synthesis of individual SWEPS which were used in preparing the final report (see Annex 3 for Working Papers, which are an integral part of this review). The main sources of information are the external review documents supplemented by strategic and medium term plans, annual reports, proceedings of meetings, workshop proceedings, and program briefs prepared by program coordinators or other relevant persons located in the convening/hosting centers, and interrogation of SWEPS and Convening Centre websites (See Annex 4 for list of documents reviewed).

It should be mentioned that all the panel members faced serious problems not only in obtaining the right documents, but also getting the data and information needed for the synthesis work even when documents were obtained. The main problem associated with this is that the TOR of the external review panels in many cases did not require the presentation of data and information required for this review. This implied that the panel had to extrapolate and interpret the information from these external review and other documents. This has contributed to the delay in preparing the synthesis reports. Since this report is partly based on reviews that often have taken place some five years ago, it may not always be up to date, although the panel worked to consult the most recent information available in MTPs, etc. Since the assessments have not been checked as yet with the SWEPS, the report is likely to have some gaps and errors.

1.2 History, evolution and links of SWEPS to Challenge Programs

Establishment history

The SWEPS reviewed here were established variously between 1993 and 2001 by formal decision of CGIAR. In some instances establishment was prompted by wider global initiatives (e.g. CBD/Agenda 21 - ASB, GMP; UNCCD - DMP) and international development policy imperatives (e.g. HIV/AIDS concerns - SWIHA); in other instances SWEPS grew out of more circumscribed though successful regional

initiatives in which CGIAR centres were active participants (e.g. RWC, SIMA, CAPRi). All followed a typical establishment pattern: formal endorsement by CGIAR of a proposal generally from a lead centre, formation of a consortium involving two or more centres with NARS partners, appointment of a convening and host centre (generally one and the same) from among the CGIAR centres, establishment of a basic governance structure, an initial intensive program planning period of 1-2 years, and approaches to donor members of CGIAR and elsewhere for funds. In some instances World Bank/CGIAR provided start-up funds particularly for the planning phase.

Evolution of paradigms

Some of the reviewed SWEPS operate under an “information synthesis and outreach” model while others are ecoregional programs focusing on natural resources management; both models have adopted participatory approaches to research planning and programming. The ecoregional model adopted by CGIAR in 1990 sought to integrate NRM with productivity by applying a systems approach, multi-disciplinarity and institutional cooperation to utilize comparative advantage in tackling development constraints in broadly defined eco-regions. SWEPS have moved their research paradigm from earlier and variable interpretations and success in application of the CGIAR ecoregional and systemwide approaches with their biophysical emphasis to the adoption of participatory action research and learning approaches within the integrated natural resource management framework that has undergone strong evolution in CGIAR over the last decade. This INRM framework now includes the integration of biophysical, socioeconomic and environmental dimensions requiring cross and multidisciplinary approaches to problem definition and resolution. SWEPS in fact have been leaders in the CGIAR in developing the INRM conceptually and in applying it in research design and implementation. This participatory INRM paradigm has now effectually replaced the older ecoregional concept in CGIAR programming. Near-universal application by SWEPS of this INRM approach has led to positive outcomes for meeting CGIAR goals.

Recommendation 1: It is recommended that CGIAR adopt the participatory integrated natural resource management approach for future SWEPS involving natural resources research for development.

Links to Challenge Programs (CPs)

There are many parallels in approach and operational modality between SWEPS and Challenge Programs. The CAPRi external review noted its structure as being similar to a CP but commended CAPRi for remaining as a SWEP because of its more compact structure and less complex management arrangements. In contrast DMP has a complex structure and control lies outside the CGIAR with the GEF; it is arguably a CP in all but name only. It is arguable that SWEPS provided the model for partnership and collaboration upon which the CP model was built. While the two might be complementary, there is considerable potential for overlap, and in fact for one to subsume the other in particular circumstances. There is also potential for confusion among potential donors as to relationships between CPs and SWEPS that can affect channeling of donor funds. It is critical that CGIAR determine the appropriate modality for collaborative programs and ensures that SWEPS and CPs are

indeed complementary, minimizing overlap in scope, function and operation, applying the rule of subsidiarity. Due attention should be given to eliminating perverse competition for funding and conflict of interest for those Centres involved.

Few SWEPS have links to Challenge Programs; AHI and SWIM-2/CA are exceptions – AHI is a partner in CP-SSA, and SWIM-2/CA is linked to CPWF. CPs provide opportunities for SWEPS to participate and contribute in a wider R&D context and facilitate access by NARS partners and CGIAR Centres to specialist research resources than would otherwise be the case, providing opportunities to forge new alliances for increasing research capacity. New CPs can also benefit from the SWEP experience that long-running SWEPS can bring from successfully operating participatory multidisciplinary partnerships.

CGIAR launched the Challenge Program for Sub-Saharan Africa (CP-SSA) in 2004 convened by the Forum for Agricultural Research in Africa (FARA). CP-SSA has adopted a participative INRM approach in its Integrated Agricultural Research for Development (IAR4D) model that mirrors that used by the African SWEPS. Several CGIAR Centres participate variously in CP-SSA, namely IITA, CIAT, CIFOR, ICRAF, ICRISAT, CIMMYT (all of which are also active in African SWEPS) and the AHI. There would be value in encapsulating the experiences of all the African SWEPS into this new CP-SSA.

IWMI has taken a lead role in CPWF and there is an extremely close relationship between IWMI, SWIM-2/CA and the CPWF. The CA is an essential component of CPWF and acts as a window for the CPWF into the global Dialogue on Water, Food and Environment. SWIM-2/CA has developed a close working relationship with CPWF and its outputs in the form of publications and assessment tools provide inputs to the CPWF. SWIM-2/CA completes its program at the end of 2006.

Recommendation 2: It is recommended that CGIAR facilitate entry of SWEPS into relevant CPs to lever additional support and access specialist capacity that they lack.

Recommendation 3: There would be value in encapsulating the experiences of all the African SWEPS into this new CP-SSA; it is recommended that CGIAR act as a broker and provides incentives for formalizing linkages between them.

Recommendation 4: SWIM-2/CA completes its program at the end of 2006. It is essential that IWMI and the SWIM-2/CA Steering Committee put in place an exit strategy to ensure a seamless transition to the consequent changing relationships between IWMI, CPWF and the Dialogue.

Recommendation 5: It is critical that CGIAR determine the appropriate modality for collaborative programs; it is recommended that CGIAR ensure that the rule of subsidiarity applies, SWEPS and CPs are indeed complementary, minimizing overlap in scope, function and operation, and eliminating perverse competition for funding and conflict of interest for those Centres involved.

2. Establishment and Current Status of SWEPs

The establishment and current status of the 17 SWEPs covered by this meta-review are briefly described to give background for the discussions to follow. These SWEPs were established during the early 1990s to the early 2000s. The coverage of the SWEPs hereunder is presented in chronological order of establishment.

The **Consortium for Sustainable Development of the Andean Ecoregion (CONDESAN)** was established in 1993 with the overall goal to improve livelihoods and the environment in the Andean eco-region, particularly in the upper catchments where rural poverty concentrates. CONDESAN is a consortium and an ecoregional partnership of some 58 organizations (30 NGOs, 5 NARSs, 9 LAC universities, 10 advanced research institutions from the North and 4 IARCs) working in the Andes of Venezuela, Colombia, Ecuador, Peru, and Bolivia. The Consortium facilitates research on cross-cutting, trans-Andean topics as well as work with benchmark watershed development teams.

Alternatives to Slash and Burn (ASB) was established in 1994. From the outset it developed a global perspective plus the adoption of an INRM approach applying ecoregional principles in key reference sites. This ensured that ASB developed as a hybrid between a Systemwide Initiative and an Ecoregional Program as conceived at the time. Its success in doing this was noted by the TAC Review 2000: “ASB program has gone further than the others in relating its research sites to the whole area over which the problem occurs, and in scaling up to the global level its findings...” The ASB EPMP 2005 considered ASB as a “prototype of successful application of INRM technology.” The ICRAF EPMP 2006 also favourably reviewed ASB.

The Desert Margin Program (DMP), formerly Desert Margin Initiative, was launched in 1994 as an ecoregional program but it took some time to settle down into this framework as conceived by CGIAR. The TAC review of ecoregional programs in 2000 noted the difficulty being faced by DMP in adapting its NRM research into the ecoregional framework and surmised that “perhaps the developmental problems...are too complex for any approach focusing on NRM.” These shortcomings were overcome when DMP was revitalised in 2002 as a GEF project. Phase 1 of the new DMP was reviewed as a component of the ICRISAT 5th EPMP 2003 and by the GEF in 2004, leading to the successful establishment of GEF funded Phase 2.

The Systemwide Genetic Resources Program (SGRP) was created in 1994 to focus the CGIAR's response to dynamic and rapidly evolving practical and policy challenges in the realm of biodiversity. It embraces all of the genetic resources activities of the CGIAR Centres. These include centre programs on crop, livestock, forestry, and aquatic biodiversity. SGRP comprises three major components: 1) the independently managed gene banks and other genetic resources activities of the CGIAR centers, 2) IPGRI and 3) specific collaborative activities and co-ordination mechanisms designed to achieve coherence with the total SGRP program. SINGER, the CGIAR System-wide Information Network for Genetic Resources, is a SGRP initiative. SGRP had an external review in 1998.

The Consortium for Sustainable Development of Inland Valley Agro-Ecosystem in Sub-Saharan Africa (IVC) is an eco-regional program for Western Africa initiated

in 1994. It covers the 12 West African countries of Benin, Burkina Faso, Cameroon, Ivory Cost, Gambia, Ghana, Guinea, Mali, Nigeria, Senegal, Sierra Leone and Togo. The program has so far undergone three external reviews, two of which were center-commissioned in 1996 and 2004 and as part of TAC-commissioned EPMR of WARDA, the convening center, in 2001.

The Rice-Wheat Consortium for the Indo-Gangetic Plain (RWC) was also established under the ERA paradigm in 1995 although it was recognized from the outset that it was not a research program in the CGIAR sense but rather a “special kind of research network” (TAC 2000). However RWC also did not fit the ERA mould as originally conceived by CGIAR; rather it focused on a geographic agro-ecoregion region, i.e. a production region based on commonalities of farming systems attendant upon broad similarities of climate and soils. TAC considered this “failed to reflect the significance of differences in social and economic conditions, market support and service sectors” that were important components of the CGIAR ERA. ICRISAT also found the TAC ecoregion concept difficult to apply in practice and developed alternative typologies of land use based on socio-economic and agroecological criteria. This approach has also been adopted by RWC in its stratification of the Indo-Gangetic Plains into five sub-regions for purposes of INRM research. TAC Review 2000 conceded the difficulties with its original concept of ERA and proposed that the term be dropped and INRM be applied where both biophysical and socio-economic dimensions are combined. Hence ERA has been subsumed into the INRM paradigm and exists only as a descriptor for some SWEPs.

The African Highland Initiative (AHI) is an eco-regional program of the CGIAR for East and Central Africa initiated in 1995. It is also a regional program operating under the aegis of the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA). The five countries covered under AHI program are Ethiopia, Kenya, Madagascar, Tanzania and Uganda. AHI has undergone two external reviews (1996 and 2000). It was also briefly commented upon in the 1998 EPMR of ICRAF, the convening center. The AHI program was also comprehensively and favorably reviewed for ASARECA and the donors supporting AHI in 1996.

The Systemwide Livestock Program (SLP) was established in 1995. It was effectively launched in 1998. The SLP strategy includes three complementary sets of activities: 1) those conducted by ILRI, 2) the research conducted by other centres, such as CIAT and ICARDA and 3) new research that could be conducted by fostering collaboration among relevant centres across the system. The SLP catalyses and facilitates the efforts of centre-led consortia. The SLP is managed by the Inter-Center Livestock Program Group (IC-LPG), comprising senior managers from nine CGIAR centres and chaired by ILRI's Director General. SLP had an external review in 2000.

The System-Wide Program for Integrated Pest Management (SP-IPM) is a global program initiated in 1995. IPM research is reported to be common in CGIAR and other centers, but collaboration at global scale necessary to impact on pest management has not been well integrated. One of the major aims of this program is, therefore, to facilitate such global collaboration though creating alliances with researchers, development workers and policy makers. The program is rated excellent in this effort and recommended as a good example to emulate. It has been reviewed twice since its establishment: as part of the TAC-commissioned external review of

IITA, the convening center, in 2001 and a more specific iSC/TAC-commissioned external review in 2002.

Collective Action and Priority Rights (CAPRI) is a system-wide program initiated in 1997. It is reported to be one of the well-managed programs under IFPRI, the convening center. Its thematic research areas focus on identifying policies and institutions that affect not only agricultural productivity through adoption of technologies but also the sustainable management of the natural resource base. Research on collective action and property rights is a serious subject that impacts on research programs of various institutions both in the CGIAR and other international research and development organizations. The program has undergone one external review in 2002 and it has also been reviewed as part of the TAC-commissioned EPMR of IFPRI, the convening center, in 2004.

The Global Mountain Program (GMP) was set up by the CGIAR in 1997. It should respond to Agenda 21 to address key issues identified in Chapter 13 on the sustainable management of fragile mountain environments. The GMP is convened by CIP. It should serve as an intellectual conceptual framework for the consortia independently developed and operating in the East African highlands, the high Andes, and the Hindu-Kush Himalayas. The GMP is intended to exchange experiences between mountain systems in Africa, Asia (Hindu Kush and Himalaya) and Latin America (High Andes) including AHI and CONDESAN components. Through its new vision, the GMP aims to support development of solutions to complex system issues and work on a third level to add value together with its principal eco-regional partners, the African Highlands Initiative (AHI), CONDESAN and the International Center for Integrated Mountain Development (ICIMOD), who work more on a second level within their regions. There are no GMP external review documents available yet.

The **Program on Participatory Research and Gender Analysis (PRGA)** for Technology Development and Institutional Innovation was established in 1997. It had an ICER in the year 2000 when CIAT also had its last EPMR. It is co-sponsored by CIAT, CIMMYT, ICARDA and IRRI. CIAT is the convening Center of this program.

The Collaborative Program for Sustainable Agricultural Development in Central Asia and the Caucasus (CAC) is an eco-regional program initiated in 1998. CAC covers the eight countries of Central Asia and the Caucasus: Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. All these countries were republics under the defunct Soviet Union. The collapse of the USSR led to the deterioration of the national agricultural research systems and institutions opening the opportunity for the CGIAR to initiate and support the CAC eco-regional program under the leadership of ICARDA. CAC as a SWEP has not undergone any external evaluation. However, it was briefly and inadequately covered in the ICARDA EPMRs in 1999 and 2003 and in ICARDA CCER 2003.

Urban Harvest, the CGIAR Systemwide Initiative on Urban and Peri-Urban Agriculture (UH)-1999 was launched in 1999 to direct and coordinate the collective knowledge and technologies of the Future Harvest Centers towards strengthening urban and peri-urban agriculture (UPA). The Initiative, formerly known as SIUPA, now called Urban Harvest, helps centers link together their own efforts and become

partners with many national and international efforts. There are no external review documents available on Urban Harvest yet.

The Systemwide Initiative on HIV/AIDS and Agriculture (SWIHA) was initiated in 2001 and exists as “an umbrella project module wherein interested CGIAR centers and their partners develop and implement projects that are complementary and that make most effective use of center resources” (SWIHA website 2006). SWIHA does not fit the INRM model, rather its modality is one of information coordination and outreach. SWIHA exists as a subprogram within the Convening Centre WARDA and there is no evidence of value adding through inter-center collaboration to maximize comparative advantage. Two centers ISNAR and IFPRI operate HIV/AIDS programs outside the purview of SWIHA. The program has not been subject to either CCER or EPMR.

The Systemwide Initiative on Water Management (SWIM-2) evolved in 2001 out of the former SWIM programme with its strong technical focus on water use efficiency. It adopted the IWRM philosophy of IWMI as concepts of INRM were evolving in the system, but went further than the CGIAR at the time with its added focus on the environment. Like ASB, SWIM-2 developed a global perspective while concentrating its research in the IWMI reference basins selected as representative of key agroecological and socioeconomic zones in developing regions of Africa, Asia and Central & South America. Its reference basin approach also has parallels with the basin stratification approach adopted by RWC, albeit the domains of the latter are regional rather than global in scope.

The Systemwide Initiative on Malaria and Agriculture (SIMA), proposed in 2001, became operational in 2003 with finalization of its Framework Document (strategic plan) and adopted an “agroecosystem”/INRM approach working in transdisciplinary participatory mode alongside more conventional multidisciplinary approaches; both were found to be effective but raised different issues in application. SIMA developed its research, capacity building and knowledge base on a holistic ecosystems approach linking health, agricultural and social sciences, and institutional entities in transdisciplinary mode, and adopting a participatory research approach involving targeted rural communities and gender issues. This model was developed under the aegis of the convening center IWMI, then active in development of the IWRM and INRM models. SIMA might be credited with providing an early successful test of the INRM model.

3. Response to the TOR

There were 17 specific questions, organized under seven headings, included in the TOR of this meta-review. The panel’s response to these questions is not uniform across SWEPS because of the variable level of information available. In some cases, when warranted, the position or status of each SWEP is described in some detail. In other cases, responses are more generalized across SWEPS with specific examples mentioned to facilitate clarity of understanding. Response to the TOR in relation to individual SWEPS are presented in Annex 3 (Working Papers).

3.1 Contribution to CGIAR goals

The goal of the CGIAR is to alleviate rural poverty, improve food security and enhance natural resource management. These goals are also concerned with the production of global public goods and the equitable sharing of benefits flowing from research. These goals have not changed significantly since the SWEPS were initiated, at least in their post-2000 format. However, there has been a reorientation in emphasis. The CGIAR, in response to the declaration of the UN Millennium Development Goals (2000-2015), has reordered its priorities and formulated the CGIAR System Priorities for the period (2005-2015). Goals are to be achieved through implementation of activities in 20 priority areas (so called CGIAR System Priorities or SPs) categorized under the following five categories:

- **Priority Area 1:** Sustaining biodiversity for current and future generations.
- **Priority Area 2:** Producing more and better food at lower cost through genetic improvement.
- **Priority Area 3:** Reducing rural poverty through agricultural diversification and emerging opportunities for high value commodities and products .
- **Priority Area 4:** Promoting poverty alleviation and sustained management of water, land forest resources
- **Priority Area 5:** Improving policies and facilitating institutional innovations to support sustainable reduction of poverty and hunger.

It would be noted that the conceptualization as well as the implementation of all these SWEPS precedes the formulation of the CGIAR SPs in 2005. Despite that, however, the success of each of the SWEPS in this synthesis in achieving the CGIAR goals will be based on their respective contributions towards these SP areas.

3.1.1 Have SWEPS been successful, through joint research and capacity building, to achieve the CGIAR goals?

Without any exception the objectives of the SWEPS subject of this meta-review strongly relate to CGIAR goals and objectives. The available information does not permit a reliable assessment of the degree to which all the SWEPS are achieving the CGIAR goals. While some SWEPS have documented impact well, others, younger ones and those with reviews done years back lack such information. Overall, SWEPS have contributed in a significant way to the achievement of CGIAR goals. A brief description of goals and achievements of each SWEP is as follows:

The goals and objectives of **CONDESAN** strongly relate to CGIAR goals. The road map approved in 2006 by the Steering Committee of CONDESAN stipulates that CONDESAN's purpose is to improve the quality and effectiveness of the work of CONDESAN's partners through alliances and interchanges. These will harness the social management and the rational and sustainable use of the Andean natural resources, the promotion of productive transformation and institutional changes that contribute to overcoming conditions of poverty, exclusion and inequality. The EPMP/ICER of CIP and CONDESAN show some outcomes of CONDESAN. The 1996 and 2002 reviews do, however, not permit an overall assessment of achievements of CGIAR goals. The CIP EPMP asked for a better balance between

process-oriented and application oriented research, implicitly calling for more directly applicable research outcomes.

The goal of **Alternative to Slash and Burn (ASB)** is “to raise productivity and incomes of rural households in the humid tropics without increasing deforestation or undermining essential environmental services.” This is fully compatible with the CGIAR goal. ASB’s objectives for technological improvement, policy and institutional development and capacity building satisfy CGIAR priorities PA4 (Poverty Alleviation and Sustainable Management of Natural Resources), PA3 (Diversification and High Value Commodities) and PA5 (Policies and Institutional Innovation). The ASB EPMR 2005 considered that “ASB’s goal is one of great importance to the world, well aligned with the MDGs for the reduction of poverty and hunger (MDG1) and ensuring environmental sustainability (MDG 7).” Science Council commentary on the EPMR endorsed the EPMR Panel’s conclusion “that the capacity created by ASB could make a unique contribution to CGIAR goals on integrated land, water and forest management at landscape level.” The EPMR also concluded that ASB provided an efficient and effective way to produce global public goods that could not be generated by any of the ASB partners acting alone. Hence the consortium added value to individual effort, one of the objectives of SWEPS.

The **Desert Margin Program (DMP)** goal is “improved rural livelihoods and food security of smallholders in Africa’s desert margins through arresting land degradation and conserving biodiversity.” The links between DMP objectives and CGIAR priorities are set out in the DMP MTPs 2006-08 and 2007-09. DMP subprojects and their objectives fully meet the priorities of CGIAR and nest comfortably with PA1 (Sustaining Biodiversity), PA4 (Poverty Alleviation and Sustainable Management of Natural Resources) and PA5 (Policies and Institutional Innovation). They are also fully coherent with the IAR4D strategy and framework for CP-SSA even though DMP is not part of that Challenge Programme. The ICRISAT 5th EPMR 2003 noted the achievements of the initial stage of DMP. A positive GEF Review in 2004 resulted in the funding of Phase 2; it found the strongest areas to be in implementation approach/strategy, attainment of objectives and outputs, and country ownership.

The Medium Term Plan (2007-09) of the Africa Rice Center (WARDA), the convening center, states the goal of **The Consortium for Sustainable Agricultural Development of Inland Valleys in Sub-Sahara Africa (IVC)** is as follows: "To improve the livelihood of rural communities through the adoption and use of sustainable technologies fulfilling the production potential of the inland valleys in Sub-Sahara Africa (SSA)". This long-term goal is to be achieved through the following objective: "to generate and transfer suitable technologies and knowledge base for integrated land and water management as well as operational support systems for intensified but sustainable use of inland valleys in SSA...." The IVC meets CGIAR SPs 2, 3 and 4 through this objective. IVC has developed plans and programs to meet its objective in an effective and efficient manner. However, despite some notable outputs, particularly in characterization of inland valleys and technology generation through two phases, the external review panel for Phase II (2004) was unable to reach definite conclusions with respect both to effectiveness and efficiency of IVC.

The **Systemwide Genetic Resources Program (SGRP)** embraces all of the genetic resources activities of the CGIAR centres. SGRP comprises 1) the independently managed gene banks and other genetic resources activities of the CGIAR centers, 2) IPGRI, and 3) specific collaborative activities and co-ordination mechanisms designed to achieve coherence with the total SGRP program. SINGER, the CGIAR System-wide Information Network for Genetic Resources, provides access to information on the collections of genetic resources held by the CGIAR Centres. It links the genetic resources databases of the CGIAR Centres and allows simultaneous searches for information concerning the identity, source, characteristics and transfer of the genetic resources in the individual Centre collections. SGRP has important functions in policy development, representation, information and public awareness

The objective of **African Highland Initiative (AHI)**, which is in its third phase of implementation, has been changing from phase to phase, particularly from Phase I to Phase II. Initially, it focused on technology generation for improved agricultural productivity and soil and water management in the densely populated highlands of Eastern and Central African countries (Ethiopia, Kenya, Madagascar, Tanzania and Uganda). This focus was drastically changed when it was decided that it should deal with developing methodologies and approaches for planning and implementing agricultural research aimed at improving agricultural productivity without jeopardizing the rapidly eroding natural environment. This has lead AHI to work with a variety of stakeholders in selected benchmark sites in the region in a transparent, participatory and interdisciplinary manner. Thus, integrated natural resource management (INRM) became the key guide. The change in focus has enabled AHI to address the goals of the CGIAR in general and meet several of the SPs (2, 3, 4 and 5) in particular. The ICRAF/EPMR 1998 has the following to say of AHI in relation to ICRAF: "Part of ICRAF's work in the Eastern and Central Africa (ECA) region is a direct contribution to the eco-regional AHI program, where the main concern is improving natural resource management within the context of improving agricultural productivity in the highlands. The AHI seems poised to make a substantial and beneficial impact on the way research is conducted in the region. The synergies accruing from the collaborations with the NARS and ICRAF and other international centres, and from concentration of efforts on well chosen representative sites, will do much to improve the capacity of the NARS to deliver outcomes that will have impact at the farmer level."

The CCER 2003 and vision 2005-2010 quote the goal of **The Rice-Wheat Consortium (RWC)** as to "strengthen existing linkages and partnerships with national research programs, other international centers, advanced institutions and private sector working in the region to develop and deploy more efficient, productive and sustainable technologies for the diverse rice-wheat production systems of the Indo-Gangetic Plains so as to produce more food at less cost and improve livelihoods of those involved with agriculture and as a consequence to decrease poverty." This is fully compatible with the CGIAR's goal and accords with all five CGIAR System PAs with the major focus within PA4 (Poverty Alleviation & Sustainable Management of Natural Resources) and PA5 (Policies and Institutional Innovation). RWC's work complements research that fits into PA2 (Genetic Improvement) and PA3 (Diversification and High Value Commodities). The CCER considered the impact of RWC technology uptake to be "a major achievement of regional significance and contributed to the global application of RCTs into a new (agro)

ecosystem” and as such must be considered a significant international public good (IPG).

The **Systemwide Livestock Program (SLP)** was established with the objective to build and strengthen linkages between livestock research and plant research and to leverage additional resources. Specifically this meant: 1) building and strengthening links between the crop-, agro forestry-, natural resource-, policy- and livestock-oriented CGIAR centres and programs, their national partners and other stakeholders to develop integrated and coherent strategic and applied research together with other activities on livestock feed development and related natural resource management and policies and 2) influencing the use of CGIAR resources invested in centres, ecoregional and other systemwide programs as well as relevant global challenge programs so as to enhance the conduct of development-oriented livestock research. SLP clearly addresses CGIAR goals, since most of the developing world’s poor, who inhabit rural areas, must make a precarious living from land that is often barely able to support them and that can often be valorised through livestock only. To better integrate their crop production with a new or existing livestock enterprise is one of the few opportunities to improve their livelihoods. SLP has managed combining efforts of increased resource productivity of feed and livestock which is crucial for achieving CGIAR goals in difficult environments.

According to the CCER 2002 document, the goal of **The Systemwide Program-Integrated Pest Management (SP-IPM)** is generally the same as that specified for CGIAR, i.e., "Reduce poverty, hunger and malnutrition by sustainably increasing the productivity of resources in agriculture, forestry and fishery." The following objectives have been set to achieve the above goal: 1) strengthen inter-center collaboration (breakdown isolation barrier), 2) enhance communication and cooperation between IARCs and partners, 3) provide collective voice and focus on IPM issues, 4) support IPM implementation through research and training and 5) promote public awareness of IARCs' IPM activities. It would be noted from these objectives that SP-IPM is quite unique among the SWEPS under review in the sense that its programs can not be categorized under any of the CGIAR SPs, although they no doubt have contributions to make, albeit indirectly, towards improving agricultural productivity (SP 2) and conserving biodiversity (SP1). It is difficult to reach conclusions with respect to the achievement of the program. In fact the external review panel has the following to say in relation to this: “In summary, the panel concludes that SP-IPM has been a useful concept for restructuring pest management research and implementation across the CGIAR to foster the idea of ‘centers without walls’ and for exploiting the potential of IPM as an example of global public good. However, the panel was hindered in its evaluations by the lack of data on a complex program whose existence was altogether too brief for a final analysis to occur. The shortcomings identified by the panel must therefore also be seen as the result of a young organization organizing itself. The panel maintains that given strong independent, proactive leadership and stable funding SP-IPM can and should make a bigger contribution to the goals of the CGIAR”.

"The overarching goal of the **Collective Action and Priority Rights (CAPRI)** program is to contribute to policies and practices that alleviate rural poverty by analyzing and disseminating knowledge on the ways that Property Rights (PR) and Collective Action (CA) institutions influence the efficiency, equity and sustainability

of natural resource use." (iSC-commissioned ER/2002). This long-term goal was to be accomplished through the following objectives: increasing knowledge, identification of concrete policy instruments and strengthening the capacity of national institutions, CGIAR and other research institutions. The above indicated external review panel has concluded that "...the review panel is positive about CAPRI's outputs and their impacts, and particularly CAPRI's role in creating increased awareness by centers and NARS of the role of CA and PR research in natural resource management and technology adoption". CAPRI's main contribution to CGIAR goals is through implementing programs addressing SP 5.

Global Mountain Program's (GMP) original objective was to improve the management of natural resources on which the sustainable supplies of food, clean water, energy, minerals and forest products depend in the diverse and vulnerable high-mountain areas of the developing world. Its mission statement is: To support the Millennium Development Goals, to bring together scientific expertise of the CGIAR, local knowledge of mountain people and partner institutions to find solutions to foster sustainable mountain development. GMP's actual broad goals are 1) increased food and economic security that improve the well being of mountain people 2) improved upper watershed management that enhance rural livelihoods and environmental services 3) conservation, understanding and use of the wealth of mountain biodiversity for the benefit of mountain people 4) better mountain policies developed through informed and participatory policy making and 5) sustainable agriculture as stated in chapter 13 of Agenda 21.

Participatory Research and Gender Analysis (PRGA) initially had two major objectives: (a) to assess and develop methodologies and to operationalize their use in plant breeding and natural-resource management research and (b) to systematize and mainstream what is being learned worldwide from the integration of gender-sensitive participatory research with plant breeding, crop and natural-resource management research. PRGA's actual objective is to mainstream gender analysis and equitable participatory research to promote learning and change in CGIAR Centers and NARS, so that they can better target the demand of beneficiary groups, particularly rural women. PRGA is co-sponsored by CIAT, CIMMYT, ICARDA and IRRI. CIAT is the convening Center of this program

The objective of **The Collaborative Program for Sustainable Agricultural Development in Central Asia and the Caucasus (CAC)** is to contribute towards achieving the overall goal of food security, economic growth, environment sustainability and poverty alleviation. Since its establishment, CAC has tackled these issues through wide ranging research and development activities under the following thematic areas: 1) productivity of agricultural systems, 2) natural resources conservation and management, 3) conservation and evaluation of genetic resources, 4) socio-economic and policy research and 5) strengthening national programs. These thematic areas represent some of the sub-sections in the CGIAR SP areas 1, 2, 3, 4 and 5. The program has made significant contributions in terms of developing technologies and management practices that enhance agricultural productivity and management of resources, particularly water resources.

The **Systemwide Initiative on Urban and Peri-urban Agriculture**, now called **Urban Harvest (UH)** has as its mission to contribute to the food security of poor urban families, and to increase the value of agricultural production in urban and peri-urban areas, whilst

ensuring the sustainable management of the urban environment. The goals of Urban Harvest are to: 1) contribute to enhanced food security, improved nutrition and higher incomes for poor urban and peri-urban families 2) reduce the negative environmental impact of urban and peri-urban agriculture (UPA) and enhance its positive potential and 3) establish the perception of UPA as a productive, essential component of sustainable cities.

The goal of **The Systemwide Initiative on HIV/AIDS (SWIHA)**: “enhancing the capacity of people to manage their agro-ecosystems in a sustainable fashion and improve their livelihoods in the face of HIV/AIDS” is highly compatible with that of CGIAR. SWIHA remains aligned with PA4 (Poverty Alleviation & Sustainable Management of Natural Resources) and 5 (Policies and Institutional Innovation) with potentially significant contribution to PA3 (Diversification and High Value Commodities). In covering such a broad spectrum of the priority matrix, SWIHA also contributes to the MDGs 1-6 concerned with poverty, hunger, education, gender disparity, child mortality and maternal health. SWIHA has achieved only limited success to date as a SWEP in achieving its goal and meeting its priorities, given it has been operational for six years. Its success has largely been derived from its position as a component of WARDA’s regional program, and this is more apparent from more recent activities in the 2005-06 period, including the establishment of ANEHA as a modality for program delivery across SSA.

The overarching goal of **The Systemwide Initiative on Water Management (SWIM-2/CA)** is to “support water investment decisions in agriculture to enhance food and environmental security and to contribute to alleviating poverty through strengthening the knowledge base on water-agriculture-environment and promoting its use in developing consensus on investment strategies.” Although CGIAR and IWMI research priorities have been re-ordered and the CPWF has emerged as a major vehicle for CGIAR-based water research, SWIM-2/CA remains highly relevant to current CGIAR priorities, covering a broad spectrum of the priority matrix, notably PA4 (Poverty Alleviation and Sustainable Management of Natural Resources), PA5 (Policies and Institutional Innovation) and the fisheries component of PA3 (Diversification and High Value Commodities). SWIM-2/CA has successfully met its goals but following its Strategic Plan timeline will cease to be a SWEP post-2006 at which time the Comprehensive Assessment is slated for publication. This seminal work of global importance encapsulates an enormous body of research and analysis. The availability of this publication, and consequent outreach activities targeting a wide spectrum of stakeholders via the CPWF and Dialogue on Water, Food and Environment, confirms the achievements of SWIM-2/CA in addressing the current priorities meeting CGIAR goals.

The reordering of priorities has affected the place of health in agriculture, which has a lower order priority and is now at best a crosscutting issue in CGIAR. This has directly affected **The Systemwide Initiative on Malaria in Agriculture (SIMA)**, which will cease to operate as a SWEP from January 2007, becoming a regional programme outside of CGIAR. This, despite the scope of SIMA as defined in its Framework Document 2003, being fully compatible with CGIAR goals and having achieved its objectives in terms of its original purpose: “to promote research and capacity building that will increase the understanding on the links between malaria and agriculture and to test interventions that would strengthen and/or complement existing malaria control strategies under different agricultural systems.” This purpose is coherent with MDGs 4-6

concerned with child mortality, maternal health and the combating of malaria, all of which are impact areas under CGIAR Priority Areas PA 2 (Genetic Improvement) and PA 5 (Policies and Institutional Innovation).

Recommendation 6: *It is recommended that CGIAR note the current congruence of SWEPs with overall CGIAR planning and goals, and ensure that planning of future SWEPs adopts the CGIAR matrix approach to determining priorities as part of the endorsement and approval process.*

3.1.2 Identify the key research elements for a successful SWEP profile.

The research elements and approaches applied by the SWEPs are generally similar, although there are noticeable variations in their applications:

- The capacity for strategic planning. Most of the SWEPs, particularly the ecoregional programs were planned in a participatory way. This sometimes resulted in a wide and diffuse research agenda. To harmonize strategic orientation, participation with a focused agenda, a strong strategic leadership and facilitator capacity in the coordination unit of the SWEP are decisive.
- Many SWEPs were built on existing successful programs or international initiatives such as **RWC** between CIMMYT/IRRI and some South-Asian countries and the **DMP** that emanated from the CGIAR involvement with UN Convention to Combat Desertification, etc. Programs like **CAPRI** and **AHI** also came about through activities by CGIAR centers and were scaled up to include a wide array of stakeholders, the former at global level and the latter at regional level. In almost all cases, they were established with clear support and commitment of the CGIAR that gave them legitimacy, although not legal status.
- Adoption of a collaborative partnership in the form of a consortium comprising representatives from CGIAR centers, NARS and R&D organizations associated with them, ARIs and other development organizations such as NGOs. These partnerships provide a forum for consultations and decision making on technical and management issues, provide opportunity for awareness raising, facilitate transfer of information and enhance the opportunity for rapid technology uptake. One of the useful outputs from such an approach is the creation of an ownership attitude by the consortium partners, especially the NARS who ultimately deal with research-development issues in their respective countries. Despite the positive contributions of this approach, there are limitations that require attention. The most pressing of these are mentioned as inequalities in representation in the decision organ (steering committees) as well as the opportunities made available to national programs (NARS) from developing countries.
- The selection of benchmark sites for research-development activities in appropriate agro-ecologies in participating countries. Although requiring, in some cases, considerable refinement, the application of standardized methodologies facilitates cross-site comparison and scaling up.
- The establishment of multi-institutional and multi-disciplinary research teams at national benchmark sites. These teams work in a participatory and transparent mode involving local technology users including farmers, development/extension workers and in some cases policy makers. The term demand-driven could be applied for the way technology is identified and developed and policy issues are

identified and passed to policy makers. The application of such an approach is well exemplified by, among others, AHI, CAPRI, PRGA and ASB.

- The use of competitive grant schemes to attract the participation of national and international scientist in the research-development work. Several of the SWEPS such as ASB, CAPRI, and SIMA, among others use this scheme to a good advantage. However. The utility of this scheme is not guaranteed mainly due to the inadequacy or total unavailability of the required funds.
- The degree of effort and resources expended, at least by several of the SWEPS, in raising the capacity of partners and stakeholders to undertake research/development activities. This is particularly important for NARS scientists in developing countries. Needless to say, the higher the technical knowledge and skill of participating scientists, the higher the outputs that can be expected from collaboration.

3.1.3 Have SWEPS contributed to regional capacity building?

Capacity building, in this context, refers not only to human resources development but also the provision of funds and facilities to build up the national research and research-related infrastructure such as laboratories, gene banks, etc. Many of the SWEPS include capacity building as a program objective but the degree and modality of implementation varies, depending upon resource availability, level of existing capacity in the research/development centers and, sadly, the willingness of the program to implement its own plans. The type and mode of activities undertaken by SWEPS could be briefly summarized as follows:

- **Training:** many SWEPS actually do training needs assessment and organize training at various levels. The most common form is short-term training conducted through workshops and special training sessions, although several SWEPS including the CAC, RWC offer training opportunities that have been favorably reviewed by external consultants.
- **Joint research and joint publication:** is also used as means of raising the capacity of scientists, particularly in NARS of developing countries. Young scientist very much value working jointly with senior scientists from international and national research institutions as a way of furthering their career. In fact, it is reported that this could be the main incentive for national scientists to join benchmark research teams in participating countries.
- **Development of information and knowledge systems:** the transfer of knowledge and information through electronic media such as websites are also used as a form of capacity building by several of the SWEPS. The most important instrument in this context is SINGER, the CGIAR System-Wide Information Network for Genetic Resources. It provides access to information on the collections of genetic resources held by the CGIAR Centres. It links the genetic resources databases of the CGIAR Centres and allows simultaneous searches.
- **Organization of inter-center networks:** have also been used as a way of capacity building by some SWEPS, e.g., SLP. New communication networks such as InfoAndina brought together professionals to exchange and capitalize their knowledge.
- **Building research-development infrastructure:** also needs to be considered as a mechanism for capacity building, as infrastructure is inadequate to enable full participation by some consortium members in developing countries. This is well

exemplified by ICARDA's program in CAC, although similar efforts, although at a lower scale, are made by other SWEPs.

Recommendation 7: *SWEPs need to ensure that they operate Capacity Building programs within their comparative advantage and that the subsidiarity principle applies.*

Recommendation 8: *It is recommended that the SWEPs communication staff undertake a dialogue to develop guidelines for an "ideal IKS protocol", to include training of people in its effective use that would assist existing and proposed SWEPs and CPs to maximize the utility of this critical programme management modality for the production of regional and international public goods.*

3.2 Modalities Contributing Best to CGIAR System Priorities (SPs)

The operational modalities of SWEPs have been briefly discussed above (2.1.2). Some of these could be elaborated further to emphasize their importance. These include:

- The establishment of a multi-stakeholder partnership that sets the stage for wide consultation and decision making to serve common interests. This partnership includes researchers, development workers, policy makers, the private business sector and NGOs.
- Programs are problem/demand-driven in the sense that technology users and promoters, both at production and policy levels, are engaged in a transparent and participatory manner. Some eco-regional programs such as AHI, IVC use a bottom-up approach with the participation of grass-root beneficiaries given opportunity to articulate and prioritize their needs.
- Research outputs are communicated through various means including publication, electronic media and even the mass media.
- Capacity building is given emphasis to ensure that scientists, development workers, policy/decision makers as well as technology users are in line with the current state of available technologies. Demonstrations using field days/farmer days, establishing the so called farmer field schools (FFS) and organizing experience sharing programs through traveling seminars all go into capacity building of technology users.

3.2.1 How can the SWEP research modality best contribute to the implementation of the CGIAR SPs?

- The SWEPs have demonstrated that complex problems requiring complex solutions can be addressed successfully and translated into practical interventions on the ground through a trans-disciplinary and multi-disciplinary participatory systems approach involving partners at all levels, maintaining focus on clear objectives and by providing strong leadership.
- Given the scarce resources of CGIAR (and some of its partners) for research on economically rather marginal but environmentally important areas such as mountain environments, the collaborative mode with a wide range of partners (research and development institutions, NGOs, communities, policy makers, business etc.) is a necessary and rewarding one.

- Some SWEPS have strengthened inter-center collaboration and interaction at the personal level among participating scientists by paying attention to group meetings and appropriate methods of collaborative work. Such interactions allowed trans-disciplinary teams to work together comfortably. The SLP review panel stated that this approach was most beneficial, and that it prepared the participating researchers for the difficult task of working harmoniously within large inter-disciplinary groups.
- SWEPS facilitate dissemination and exchange of research findings, field observations and new and appropriate technologies to a wide suite of stakeholders through a range of communication modalities including technical information exchanges, training of field and extension staff, travelling farmer seminars, workshops, web-based interactive information data bases, distance learning by radio, promoting public-private partnerships and publications.
- One of the main contributions of SWEPS in this regard would be to encourage and facilitate the institutionalization of these approaches not only into CGIAR centers but, more importantly, into the operational systems of NARS. There is a high level of compatibility between the goals of the CGIAR and those of developing countries served by the NARS and this provides strong incentives for the collaborative approach.

Recommendation 9: It is recommended that in designing future SWEPS, planners should assure the adoption of the model attributes in creating the modality for programme operation and management (O&M).

3.2.2 What are some advantages or disadvantages of using the SWEP structure as an instrument for implementation of the SPs, as compared with other partnership programs, e. g., Challenge Programs (CPs)?

From the experience of the SWEPS under review, the following advantages have been indicated by external review panels:

Advantages

- To a large extent, it enables the involvement of all relevant partners and stakeholders in the overall management of the system.
- Despite some significant limitations, it provides the opportunity for collective decision-making, thus encouraging ownership.
- The involvement of beneficiary farmers in problem identification as well as in implementing programs can contribute significantly to rapid adoption/scaling up of proven technologies and also facilitate spillovers to other agroecosystems.
- The participation of a large number of partners in terms of national and international research and development institutions provides opportunities for synergy and the possibility for emergence of innovative ideas and concepts
- Facilitates leverage of resources both in scientific skills and funding
- In addition to the above, the use of lean program coordination units could lead to cost savings (reduced transaction costs) as compared to implementation by a single center of the CGIAR, NARS or others.

Disadvantages

- Because of the necessity to minimize the number of representatives in Steering Committees, there is a degree of inequality associated with the structure.
- Another and more serious limitations with the application of the structure is the complaint by some NARS of developing countries that they are not given adequate voice in the decision making process in some of the SWEPS.
- Failure to clearly define the roles and responsibilities of partners, which has been observed in several of the SWEPS, leads to inadequate commitment and outputs (efficiency) by all concerned.
- There are also difficulties associated with effective coordination of research at global level, leading to ineffective participation by some participants.
- It generally overburdens convening centers particularly in relation to financial and administrative matters. This is particularly true in cases where coordinating units of SWEPS are unable to obtain funding from external donors or from core budgets of the CGIAR.

As indicated below, it would be premature to reach conclusions about the comparative utility of SWEPS in preference to Challenge Programs (CPs) as the better research instrument for implementing CGIAR System Priorities. It is important to note that both the SWEPS and CPs were developed as research instruments for implementing the CGIAR System Priorities, although the latter are much younger than the former. Three of the CPs (Water and Food, Harvest-Plus and Generation) were formulated in 2001 and their implementation as pilot programs did not start until 2003. A fourth CP (Integrated Agricultural Research for Development or IAR4D for short) was proposed later and still is not at the implementation stage. Based on available documents, the following conclusions can be drawn with respect to these program modalities:

- Both are based on partnership arrangements, although the CPs were designed to involve a wider set of partners, including those outside the traditional CGIAR network of institutions, compared to the SWEPS. However, based on the recent recommendation of an external review of the currently operating CPs, it appears that the selection and inclusion of partners was considered not adequately satisfactory and need to be reviewed.
- The CPs were supposed to be organized and led differently from the SWEPS. While the SWEPS have developed a standard management structure and are IARC-led, the CPs were to be organized in a different manner and need not necessarily be led by IARCs. The advantages or disadvantages of such an approach still needs to be identified.
- The CPs were not only expected to leverage additional funding from non-traditional CGIAR sources but were also not expected to compete with SWEPS or IARC centers in terms of funding sources. These appear to be confirmed from the recently conducted external evaluation of the three CPs mentioned above.
- Both the SWEPS and the CPs were intended to deliver international public goods that have relevance to the CGIAR goals and priorities at global or regional levels. The scope of CPs in terms of scientific research and delivery of research outputs was expected to be more than what could be delivered by

SWEPs. But, this has not been confirmed to date at least partly due to the short life span of all the CPs mentioned above. However, it should be noted that at least some of the SWEPs have proved their effectiveness and efficiency in both the quality and quantity of their scientific research as well as in the delivery of their research output to user communities including technology users and policy makers. As it stands now, it would appear that whatever gains made in these aspects by CPs may have to be assessed in terms of cost and benefits. The failure of some SWEPs not to meet expectations may not be necessarily related to the SWEPs' structure *per se* but rather due to failure to use it effectively, or chronic under-funding, as have been clearly indicated by some external review documents.

- Another characteristic of CPs is the time-bound nature of their implementation duration while the SWEPs were designed as long-term programs with, in many cases, no specific time limit given at their design stage. The pros and cons for this arrangement has not been adequately discussed in any of the external review documents although it appears intuitively that it is highly desirable to set time limits for any project implementation.
- While the outputs and, in some cases, the impacts from some of the SWEPs have been documented in external review documents, there are no such clear data and information with respect to the CPs currently under implementation.

Therefore, based on the above-mentioned criteria for comparing the utility of SWEPs and CPs as appropriate instruments for implementing CGIAR system priorities, there appears to be no clear ground for choosing one from the other at the present moment. Indeed, such a choice may not be necessary or even desirable given the scope for complementarity between CPs and SWEPs. There appears to be a need for CGIAR to undertake a focused external comparative assessment of the two systems in the near future to identify the benefits and costs of implementing such programs. This implies that the CGIAR allow the implementation of both programs until such a review shows conclusive merit or demerit of the two systems and elements of complementarity that are worthy of preservation as research delivery systems.

3.2.3 Identify those SWEPs that with no, or some, modifications could serve as vehicles for the implementation of any of the 20 CGIAR SPs?

The position of SWEPs' as best bet mechanisms for the implementation of any of the 20 CGIAR SPs has not been specifically assessed by any of the external review panels. Their focus has been to assess the effectiveness and/or efficiency of SWEPs in discharging their specific mandates. In that context, their respective review reports indicate that most have demonstrated their utility as an effective mechanism for delivering outcomes that meet CGIAR goals by dealing with some of the SPs. Based on the external reviews and other documents, there are evidences to indicate that the limited success of several of the SWEPs to make significant headway towards achieving their respective objective(s) may not necessarily be due to the inadequacy or inappropriateness of the SWEPs structure *per se* to implement the CGIAR System Priorities. The following brief review of the individual SWEPs under consideration in this meta-review serves to substantiate the above statement. Further details are provided in Annex 3.

CONDESAN is working towards all five PA of CGIAR. Working on the SPs in an ecologically fragile and economically marginal environment such as the Andes requires going beyond classical commodity-and NRM research. Association of interest groups and policy makers to research and consultations are elements CONDESAN has successfully practiced. In view of the scarcity of resources of CGIAR (and of some of the partners in the region) for research on mountain economy and ecology, the collaborative mode of CONDESAN with a wide range of partners (research and development institutions, NGOs, communities, policy makers etc.) is appropriate one to work towards CGIAR SPs.

ASB “ has played a significant role in transforming the way decision makers think about the factors shaping land use at the forest-agriculture interfaces in the humid tropics”. ASB results are recognized through citation in the literature by the world’s relevant scientific and policy communities, not only as a natural science programme, but as a policy programme as well. The panel finds that ASB is recognized by researchers and institutions working on poverty alleviation and conservation at the tropical forest margin as the world’s leader in integrated, interdisciplinary research on the human and environmental consequences of land use choices in that domain.”

DMP: GEF became involved with DMP in 2002 and revitalized and rebuilt the programme with an initial 6-year design life 2002-08. It is in essence a GEF project (GF/2711-02-4516). UNEP and ICRISAT share management responsibilities. In this regard DMP is more akin to a Challenge Programme with ultimate authority lying outside of CGIAR. However it has demonstrated that it can operate effectively as a SWEP under the aegis of CGIAR, utilizing CGIAR MTP modalities within the overall ICRISAT planning and organizational structures. DMP has demonstrated the utility of the INRM model to facilitate a holistic approach to resolving the problems of resource management in the desert margins and has developed several appropriate low intensity resource use technologies based on the benchmark characterization research, and has done this effectively in the context of the SWEP model using farmer and NARES participatory research.

IVC: The medium-Term Plan of WARDA defines the goal of IVC as “improvement in the livelihood of rural communities through the adoption and use of sustainable technologies fulfilling the production potential of inland valleys in Sub-Saharan Africa (SSA)”. To achieve this goal, IVC has developed and utilized an operational model that integrates various approaches. Thus, it addresses several aspects of the CGIAR SP areas 2, 3 and 4. Although not clearly mentioned in the review reports, it would appear that both bio-diversity conservation and policy issues could be addressed through this approach, possibly in cooperation with appropriate CGIAR centers or SWEPs like SGRP.

AHI is considered effective in the implementation of at least some aspects of four of the five categories of the CGIAR SPs. The application of the INRM model in large watershed areas using a transparent, participatory approach is an example that can be replicated. In actual fact, this approach can also be expanded to include the issue of bio-diversity conservation in the highlands of Eastern and Central Africa where severe population pressure is threatening the complete destruction of natural resources, including the rich variation in plant and animal life.

RWC: “The RWC has emerged as an innovative model for regional and international collaboration, which is now beginning to develop a credible record of achievements” (CCER 2003). The CCER 2003 recommended, “RWC should continue to play its central focused role...it remains NARS driven, focused on new innovations for the rice-wheat systems, open to emerging needs and opportunities, open to new committed members, promoting greater collaboration between NARS as well as with IARCs, and has a time-bound and adaptable agenda modest in coordination and facilitation resources.” “The rice-wheat system development in South Asia is an outstanding success in the CGIAR System. This success should be used as an example of technology development and dissemination in collaboration with many partners and be applied for other regions (CIMMYT EPMP 2003)

The value added of **SLP** is that it sharpened and focused new and existing inter-center collaboration around livestock feed-related and NRM issues that fit within the existing farming systems in specific target areas. The SLP review analyzed the continuing relevance of the SLP. SLP not only responds to the needs for inter-center collaboration and the sharing of expertise, knowledge and information. SLP’s need remains strong, given that particularly in difficult environments several SPs have to be addressed by an integrated systems approach where crop-livestock interface with particular emphasis on livestock feed and related resource management and policy issues continue to be important.

SP-IPM differs from most SWEPs in the sense that its focus does not seem to be amenable to categorizing under any of the CGIAR SP areas, although there is no doubt that it ultimately contributes to many of them in one way or another. There is also a variation in its management structure, as it does not seem to have a central coordination. However, the external review panel for SP-IPM states “...the panel concluded that SP-IPM has been a useful concept for restructuring pest management research and implementation across the CGIAR to foster the idea of centers without walls and for exploiting the potential of IPM as an example of global public good....” SP-IPM represents a development model dissimilar to the other SWEPs considered in this meta-review, which have either an INRM or outreach approach.

CAPRI is a systemwide initiative with particular focus on research related to policies and institutions that impact on the adoption of technologies that could contribute towards agricultural productivity and environment management, the twin goals of the CGIAR. Thus, in its current operational scheme, its focus is strictly on CGIAR SP area 5, thus precluding possibilities for dealing with the wider agenda of CGIAR SPs.

SGRP was created to focus the CGIAR's response to dynamic and rapidly evolving practical and policy challenges in the realm of biodiversity. The operation as a SWEP was decisive to fulfill its major tasks, which include coordination, consultation with partners, information sharing, policy formulation, public awareness, representation and impact assessment. With the operation of a scientifically sound and financially sustainable gene bank system, SGRP can contribute significantly to PA 1 (Sustaining Biodiversity).

GMP goals are closely linked to the CGIAR goals and SPs since GMP is dealing with economically often marginal and ecological fragile regions and with disadvantaged population groups. GMP intends to be a leading integrator of CGIAR activities in

mountains, spearheading systemwide discussion and research in key areas, collecting and sharing knowledge associated with poverty alleviation, food security, NRM and environment in mountains.

PRGA has made good progress in capacity building on the design, planning, and implementation of participatory research and gender analysis. Participatory methodologies and gender sensitivity can contribute to enhance research efficiency and targeting research for the poor. PRGA has intensively worked and published on impact assessment. It raised awareness on the primary links between agricultural technology and poverty, and key conditioning factors affecting adoption and impact. The developed and promoted methodologies have also the potential to contribute to sustaining and enhancing biodiversity. PPB and GA could make a contribution to crop diversification and high value crops.

CAC was initiated to deal with the complex agricultural and development problems of the countries of Central Asia and the Caucuses after the collapse of the Soviet Union. It was given a wide mandate aimed at meeting the goals of the CGIAR related to food security, reduced poverty and environment conservation. Through the development of its operational paradigm, it has managed to address several aspects of the CGIAR SPs. Although it operates through a consortium, there is no mention of its adoption of the INRM model as such in the reports available. In fact, it operates as part and parcel of ICARDA's Outreach Program.

UH was established to tackle urban poverty, food insecurity and environmental vulnerability. Its programme can contribute mainly to SP 3, 4 and 5. Contributions shall come from the three pillars of UH, stakeholder and policy analysis, livelihoods and markets and urban ecosystem health.

SWIHA: was established as a SWEP with no Strategic Plan or time frame, and initially somewhat diffuse objectives within WARDA's project system. SWIHA tends to operate as a program within WARDA and in this context has made some gains with NARES. However there is little evidence of active inter-centre collaboration; there has been some outreach to other centres via WARDA but not so much in the context of a SWEP. The 2005 Cotonou workshop constructed a comprehensive log-frame and plan of operations for ANEHA. This raises the question – will ANEHA operate as a component of SWIHA, or will SWIHA be subsumed by default into ANEHA? What will be the future working relationship between ANEHA and CP-SSA?

SWIM-2/CA: SWIM-2/CA was established as a SWEP with an initial 5-year design life 2002-2006. It has demonstrated conclusively that the utility of the INRM/IWRM model in the context of a SWEP approach was effective for tackling the complex problem of water in agriculture in a broad global developmental context, and in doing so validates the SWEP model for addressing complex issues requiring contributions from many disciplines and research and policy organizations.

SIMA was designed to run from 2002-06. It has been able to demonstrate that application of its ecosystem/INRM model within the framework of the SWEP organization was effective for addressing the complex issues of malaria in agriculture, requiring contributions from many disciplines and sectors to address the crosscutting

issues involved. While SIMA's outputs are significant, in particular in documenting the complexity of the system and providing a knowledge base for policy makers, much remains to be done. Proponents plan to continue SIMA as a regional programme outside of CGIAR post 2006.

3.3 Research Management

3.3.1 To what extent have the SWEPS contributed to the knowledge pool in research management?

Organizational arrangements

To a large extent, all SWEPS have adopted similar management systems designed to include all partners and stakeholders in an open and participatory decision-making process. They have introduced a basic management structure that includes the following:

Global level

- **Convening center** to catalyse the establishment of a SWEP and to act as host and/or scientific leader.
- **Steering Committee** made up of representatives of some or all consortium members and responsible for decision making on priorities, resource allocations and oversight functions. Chairmanship of the SC is usually taken by CG center and is on a rotating basis (though not in all cases), with a co-chair given to one of participating NARS (in some cases).
- **Executive Committee** made up of a smaller number of consortium members and responsible for awarding research grants and follow up progress of activities.
- **Coordination Unit** (also goes by other names) that serves as **Secretariat** to the program and is responsible for a variety of activities, including program coordination, gathering and publishing research results and deals with day-to-day activities.
- **Special panels** (only in some cases) made of a few selected external scientists to review and recommend research proposals or to organize other activities.
- **Workshops**, when used for technical and management purposes.

National level

- **National Coordinator**, usually taken by a NARI Director or his deputy and represents the NARS (national program) at the SC, if indeed a member, since all NARS are not represented in steering committees.
- **Site Coordinator**, accountable to the NC, and is responsible for coordinating activities at national benchmark sites.

Program implementation and monitoring

- Research proposals are developed beginning at benchmark sites and going up in a hierarchical fashion for approval by national authorities.

- Research teams at benchmark sites develop their programs with full participation of concerned individuals and institutions including farmers, development workers and, in some cases, policy makers.
- Program implementation at benchmark sites is the responsibility of NARS using their own staff and facilities with some limited financial and material support from the SWEP. This, of course, entails substantial costs to national programs.
- Monitoring of activities and reporting outcomes is also the responsibility of national programs.
- This management arrangement has the potential for enhancing close collaboration between national and regional/global systems and contributes to capacity building and reduced transaction costs.

Information Systems

All SWEPS have functional websites and project information systems (PIS), some linked to other relevant sites. The information available from these sites is variable among the SWEPS; some PIS contain highly sophisticated search routines that enhance their value.

Publications

All SWEPS publish the results of their research but the record is again highly variable. In a number of cases, reviews have questioned the penetration of SWEPS' publications as a modality for generating public goods external to the milieu of the SWEP domain.

Recommendation 10: It should be obligatory for SWEPS to publish formally the outputs of their research in widely and easily accessible media; not only is this critical to generation of global public goods but it serves as an effective tool for monitoring and evaluating research output for quality, relevance and quantity.

Strategic and Medium Term Plans and Priority Setting

Most SWEPS have prepared Vision Statements of Framework Documents that serve to provide the strategic direction of the program over a given timeframe. These are supplemented by MTPs either stand-alone or encapsulated within the MTP of the Convening Centre. These vary greatly in scope and comprehensiveness and this compromises their usefulness as planning and program management tools. Gantt Charts and implementation schedules are the exception rather than the rule and seldom are the responsibilities of the partners articulated.

Recommendation 11: It is recommended that CGIAR convene a working group to construct a protocol for SWEPS MTPs that reflects (a) their collaborative nature and special relationship with their Convening Centre, (b) priority setting and programme planning, and that facilitates their use for (c) programme coordination, (d) monitoring of progress, and (d) evaluation and impact assessment.

Subsidiarity

The close and inextricable association of SWEPs with programs of Convening Centres raises issues of subsidiarity, complementarity, transparency and value adding in running and managing parallel programs at different organizational levels.

Recommendation 12: *CGIAR should ensure that the principles of subsidiarity, complementarity and comparative advantage are applied when approving Centre and SWEP programmes and MTPs to ensure maximum value from the investment of donor funds.*

3.3.2 How have SWEPs influenced current research management practices in the CGIAR?

- Research management practices in CGIAR may have only marginal similarity to the research management set up in SWEPs, eco-regional or systemwide. The similarity may be related to the collective decision-making process through the assembly of research departments convened by DDG of a center. SWEPs are managed through an assembly of a wide variety of partners in a consortium and chaired by an elected or appointed chairperson, who may be replaced by another after a given period of service. Also, the management processes in research program development, appraisal, approval and implementation is very distinct. The participatory management process characteristic of SWEPs is not reflected in CGIAR systems of programme management, even though many SWEPs are nested within Convening Centre programs. Convening Centers have fiduciary responsibility for their SWEP and provide its administrative support through the Centre's management systems.
- The SWEPs' research management practices, as indicated in other sections of this report, involves a wide array of partners and stakeholders including CGIAR centers, NARS, ARIs, public and private development organizations including NGOs and policy makers. While this large-scale partnership is a general feature, the degree of involvement and, more importantly, commitment of CGIAR centers varies enormously from SWEP to SWEP. SWEPs such as CAPRi and RWC, for example, have succeeded in attracting the participation and commitment of a large number of CGIAR centers, while others have only a very small number of CGIAR centers' involvement and much less commitment. The reasons for this success or failures have not been adequately analyzed, but it seems that the role of convening centers, the competence and drive of program coordinators and the degree of incentives (such as funding) that can be marshaled could make a difference.
- It is reported that the NARS are, in almost all cases, the most committed partners in SWEPs management system. This appears to be due to the fact that they stand to gain more from the partnership, both in terms of skilled expertise they can draw from international research partners and also from the greater potential of obtaining funds through collaborative programs with international partners. It should also be added that because of their participation in the consortium, the NARS, with some exceptions, do make significant inputs into the research agenda of the SWEP consortium as compared to their influence in the research agendas of CGIAR or other IARCs.
- Another important feature of SWEPs is their ability to handle complex issues that are much too big for any single international center or for regular partnership

programs. The guiding concept of integrated natural research management that links agricultural productivity with sustainable management of natural resources, particularly in poor developing countries where agricultural encroachment into marginal lands has become a necessary step to ensure family food security, can only be handled through the committed participation of biophysical and social scientists as well as farmers, development workers and policy makers. SWEPs have clearly demonstrated their capacity to deal with such issues in a manner that is potentially fruitful.

- Because of their participation in SWEPs, there is no question that CGIAR centers are not only aware of the implications of the SWEP model but also seem to feel that is the way of the future. CPs are an increasing manifestation of this. The issue is when, how and in what time frame.

3.3.3 Identify best practices as well as bottlenecks to successful implementation SWEPs.

In considering this topic across all the 17 SWEPs under this meta-review, it should be noted that all are not externally reviewed; hence comments made here may not be applicable or accurate to all. The comments of external review panels in relation to the reviewed SWEPs can be generalized as follows, although there are variations among them. Not all best practices or bottlenecks apply to all SWEPs, rather this listing is an amalgam of strongest and weakest elements across the suite of SWEPs.

Best practices

- A broad vision of participating scientists in CG centers and NARS away from a commodity approach with productivity enhancement as a primary objective to examining socio-economic factors such as input-saving and cost reduction strategies as legitimate goals of research.
- A focused and strategic research agenda
- Clear leadership and management responsibility - in most cases - assigned to CGIAR centers
- Partnerships, with participatory planning and joint implementation and control
- A clear set of guiding principles for the management of the program
- Use of a holistic, multidisciplinary approach to research developed and applied through consortia. Such an approach allows multiple objectives to be pursued through research and multiple perspectives to be taken into account when setting research priorities or evaluating the impact of research
- Organization of a strong advisory capacity that in addition to the scientific strength includes adequate competence in process and consultation facilitation/management, strategic planning and participatory implementation and controlling
- Development and application of mechanisms and processes for capacity building in terms of not only human resources but also in building up of research-development infrastructure.
- Organization of a management system that is lean, efficient and effective.

Bottlenecks

- Inadequate participation and/or commitment of CG centers
- Inadequate capacity in some of the Coordination Units due to shortage of skilled human and/or financial resources or the support of convening centers
- Greater focus on bio-physical aspects with limited attention given to social science aspects
- In some cases, research agendas are driven by donor interests, while the real needs and priorities of technology users and policy makers pushed to marginal positions
- Organization of research teams at benchmark sites is not only weak but also contact and experience sharing among benchmark research teams is poorly developed or totally lacking
- Communication of research outputs and experiences is not always well organized or implemented. It is reported that the number of peer-reviewed articles in international journals or the publication of book chapters and/or books is absent or minimal for a number of SWEPS. This is considered an important bottleneck considering that a large amount of resources have been used in the research-development process.

Recommendation 13: It is recommended that CGIAR could with advantage encourage consideration of these strong and weak points during the planning phase of future SWEPS and establish benchmarks for best practice; research management structures and procedures should promote the strengths and obviate the weaknesses; monitoring of practice against benchmarks should form part of the M&E protocols.

3.4 Institutional factors

3.4.1 Identify key institutional factors for the success of a SWEPS

Although there are variations among SWEPS, the following factors are reported to contribute to success:

- **Formal establishment:**
 - All SWEPS were established through the CGIAR consultative process
 - All followed a typical establishment pattern involving formal proposal from a lead center; formation of a consortium made of CGIAR and other international center, NARS, public/private development organizations and public policy makers; and assigning a lead/convening center
- **Institutional support:**
 - All have the support of the CGIAR and, initially at least, of CG centers, NARS and other relevant stakeholders
 - They attracted donor funding because of their agenda generally focusing on the linkage between research and development
- **Effective partnership**
 - The consortium approach has provided opportunity for effective partnership in dealing with complex issues of linking agricultural productivity to sustainable management of the environment.

- The management set up, to a large extent, has encouraged partners not only in the decision making process but also in taking responsibility for implementation. Although most steering committees have sufficient decision-making authority, it is suggested by some external review panels that the partnership would benefit more by allowing them more power in resource allocation.
- It enhanced the feeling of ownership and encouraged NARS in particular in meeting some of the costs associated with the program. The NARS take responsibility to implement, monitor and report activities and outputs using their own human and financial resources.
- Such partnership has created synergy and facilitated efficiency, but it is stated that there is inadequate data to actually cost the level of savings made.
- **Donor support**
 - Although SWEPs generally have been attractive to donors, the level of support obtained varies significantly not only among SWEPs but also within projects in the same SWEP. This is well exemplified in the case of SP-IPM where only three of the initial Task Forces (later renamed IIWG) were able to attract enough funds to implement programs while the majority was largely unfunded and thus they were late or unable to start their research activities.
 - Not only the amount of donor support varies but also the consistency of support, even by the same donor, varies over project cycles.

Recommendation 14: *It is recommended that CGIAR not approve start up of any new SWEP activities in the absence of adequate and committed multi-year funding based on an approved concomitant first phase multi-year research plan and budget. Subsequent phases also should not proceed in the absence of a favourable review of an earlier phase and funding committed against an approved multi-year plan. CGIAR should provide or broker funds to enable the essential planning phase that results in the construction of the phase one multi-year work plan and budget.*

3.4.2 Analyze the specific role of the convening center, as this center generally has higher responsibility and transaction costs with respect to the SWEP

- In a number of cases, there is inadequate clarity between a SWEP's research programs and those of a convening center. In a number of instances, the SWEP component of a convening/hosting center own program is nested within a broader research programs/sub-programs, with or without a separate budget line. In that sense, SWEPs run the risk of being absorbed by the convening center or to become orphans in the CGIAR.
- Despite these quite serious issues that need resolving, the roles and responsibilities of convening centers can be generalized as follows:
 - They are generally responsible for initiating and/or catalyzing the establishment of SWEPs that fall within their technical expertise
 - They play the role of a lead institution providing scientific leadership, although the Science Council has indicated that it is not a necessary requirement for a convening center to also provide scientific leadership
 - They host a SWEP by providing a home base for the Secretariat of the program headed by a full- or part-time coordinator and supported by a few

- technical experts
- They also allow the use of their facilities such as libraries, publication facilities, communication services and website, etc
 - They provide administrative and financial support for the SWEP, sometimes becoming the last resort for funding the Secretariat which is not always financed by outside donors and/or CGIAR core funds, although this has been recommended by the SC and a number of external review panels. That said, however, many of the external review panels have found it difficult to quantify the exact level of financial costs associated with hosting SWEPs, although all accept that hosting a SWEP does entail financial burden to the convening center.
- Although the roles and responsibilities of convening centers can be described as above, there are variations in the implementation of such roles and responsibilities. It is reported that some centers have played an “exemplary role” in meeting their obligations, while others have been described as "supportive but benevolent".
 - It is also reported that some centers have been over-dominating, at least at the initial stages of SWEPs establishment, to the extent that they have acted as a disincentive for participation by even CGIAR centers.
 - There is also a perception creating resentment that some convening centers have benefited more from the SWEP rather than the reverse.

Recommendation 15: It is recommended that SWEPs with the assistance of CGIAR revisit existing arrangements to clarify roles, responsibilities and administrative arrangements for coordination units. It would also be appropriate to consider the advantages of separating Centre-SWEP research programme activities from the related core programmes of the Centres.

3.5 Governance structure

3.5.1 How has the governance structure of SWEPs worked in terms of effectiveness and efficiency?

- The basic governance mechanisms and arrangements have been described elsewhere in this report. Generally, they follow a hierarchical structure comprising of an upper decision making body (Steering Committee), a leaner operational body (Executive Committee), a body for day-to-day follow up and coordination (Coordination Unit) and specialized panel of experts (in some cases).
- The chairperson of the Steering Committee, whose is generally from the CGIAR center, has a major role to play in the effectiveness of the structure. In some SWEPs, a co-chairperson from one of the participating NARS is also elected. In many cases, the chair and co-chair are elected by the SC for a period of time and thus there is a rotation, giving opportunity for representatives of other partners to assume positions of authority. In other cases, the chairperson is appointed from the staff of the convening center.
- In one SWEP, the position of the chairperson and program coordinator is vested in one and the same person who is a staff member of the convening center. Such an arrangement has potential for conflict of interest in allocating and managing the SWEP resources.

- Membership in the SC is an important consideration in the management structure. Since one of the important aims in establishing a SWEP is to enhance partnership and collaborative research, the inclusion of all relevant stakeholders in the decision making process should improve effectiveness and efficiency. In addition, the satisfaction of members, particularly NARS, in the process is crucial. There are cases where this satisfaction is compromised because of the restricted membership of the SC, leading to alienation and lack of commitment.
- The role of a convening center in the management structure has also been briefly touched upon. The effectiveness in the implementation of the structure can be influenced by the attitude and commitment of the convening center. In several SWEPs, the convening center has been supportive thus enhancing the function of the structure, while in others the type and level of support has been less than desired thus weakening the functionality of the structure.
- The effectiveness of the structure could be positively or negatively influenced by the capacity and commitment of the Coordinator. In some SWEPs, the Coordinator is a full-time or part-time staff of the convening center and thus faced with dual and usually competing responsibilities both in terms of loyalty and available time.
- The external review panel for one of the SWEPs has identified problems with continuity and accountability of members in the management structure, factors that could lead to inefficiency and ineffectiveness.
- Generally, SWEPs with simple and open/transparent management structures that have taken steps to minimize problems such as have been mentioned above have been reported to be both effective and efficient; unfortunately, such conclusions have not been quantitatively substantiated. Those SWEPs with complex structures and long line of reporting procedure have been reported to have problems with communication and coordination.

3.5.2 Are there clear roles and responsibilities of all partners that also reflect their respective comparative advantages?

- On the clarity of roles and responsibilities, there is variation among the SWEPS. Roles and responsibilities have repeatedly been an issue, were discussed and largely cleared. Often partners have been pulled in as collaborators for a specific project only.
- The very reason for establishing a consortium type of management arrangement is to create opportunity for all players not only to have a say so that their respective interests are served but also their varied expertise can be harnessed to complement each others deficiencies. How far has this ideal become an actual reality?
- The first issue to consider in addressing this point is the existence of a written agreement that clearly defines the roles and responsibilities of each member of the participating members, i.e., CGIAR centers, NARS, etc. Members of this meta-review have not been able to obtain documents that clearly show the roles and responsibilities of participating members of the consortium for each of the SWEPs.
- The external review panels that dealt with some of the SWEPs have indicated a lack of such agreements and have recommended corrective measures. In the few cases where such agreements are made, especially between the SWEP and the NARS, the scientists working at benchmark sites in such countries are reported to be not aware of them.

- That said, however, there seems to be a general understanding on the modalities of cooperation in designing and implementing programs:
 - CGIAR centers have accepted responsibility to fund their staff in program activities such as travels for workshops. However, despite the good will, several centers have failed to discharge such commitments due to a variety of factors including fund shortages.
 - NARS have accepted responsibility to implement the agreed upon program at national benchmark sites using their own resources with some financial and technical support from the SWEF. In some cases, they are provided financial and logistics support by the national authorities in cases where SWEFs' funds are inadequate or late in transfer

Recommendation 16: *It is recommended that CGIAR promote more effective inter-NARES collaboration through consideration of incentives for mutual benefit within the SWEF frameworks. Further, it is recommended that CGIAR examine and modify SWEFs governance to ensure that planning and priority setting, and research outputs at national level flow readily and in a timely manner across borders through to regional and global levels, effectively mediated by the coordinating units. This is necessary to enable consolidation into higher order products of value to the SWEF as a whole, and to facilitate syntheses that generate regional and global public goods.*

3.5.3 Is there clear evidence of a consultative process among research partners and stakeholders?

- A strength of all SWEFs has been the highly effective consultative and participatory mode of working among the stakeholders; this is particularly evident at the national level among researchers and farming communities.
- SWEFs have acted as consultation and decision making platform among CGIAR Centers. Consultations are most prominent at the program or project planning and in implementation. A number of SWEFs have invited partners to participate in strategy development.
- In almost all cases, the main mechanisms for consultations are annual meetings and workshops organized at global, regional or national levels. These are regular events organized for various purposes, including:
 - Annual meetings of Steering Committees are organized for discussing and approving research/development plans and programs, and consider research results. Steering Committees can meet more than once a year when needed
 - Workshops involving participating scientists from NARS, ARIs and Centres are aimed at imparting knowledge and skill as well as sharing experiences
 - In cases of eco-regional programs, benchmark teams at national level meet frequently to consult on project development and/or progress of activities
 - Other means of consultations include personal contacts as well as written communications using various media.
- Despite some limitations, these mechanisms are reported to provide considerable opportunities for consultations among consortium members as well as field scientists. One of the limitations associated with these mechanisms are reported to be the inadequacy in the frequency of meetings, particularly at regional and/or

global levels. It is reported that the level of contact and consultations between field level scientists in NARS with scientists of international centers could be improved.

- At the policy/governance/management level of some SWEPS – notably RWC and ASB- there has been less opportunity for all partners to participate due to the restrictive structure of representation of partners on the governing Steering Committee. The ASB EPMP 2005, for example, recommended that “ASB should continue the effort to formalize its governance structures... In so doing it should pay special attention as to how the admirable collegial procedures of its Global Steering Group can be adjusted to assure that decision making is open to input by GSG new members and from stakeholders in the ASB domain not formally represented on the GSG.” ASB has responded positively to this recommendation by including in its MTP 2007-09 provision for broadening stakeholder input to ASB governance by:
 - Clarification of roles of the actors operating at different levels within the programme
 - Terms of reference for an external advisory committee
 - Institutional mechanisms enabling input to decision making by GSG new members and other stakeholders
 - Comprehensive communication strategies to knowledge dissemination, a policy outcomes resulting from ASB activities.
- There is less evidence of active collaboration among CGIAR Centres in developing and disseminating technologies and knowledge systems to generate global public goods. A similar problem arises with the DMP where cross-country collaboration and consultation is circumscribed by the organizational structures imposed by the GEF funding modality, as previously discussed, thus limiting the production of regional public goods.

Recommendation 17: CGIAR and SWEP management need to develop comprehensive communication strategies and open information systems for knowledge dissemination and policy outcomes that service the needs of all levels and focal points in the SWEPS.

Recommendation 18: Governance structures should reflect the multi-stakeholder nature of most SWEPS. It is recommended that SWEPS institute mechanisms whereby all significant partners can participate in the processes of programme planning, priority setting and decision-making at national and global levels.

Recommendation 19: CGIAR needs to address the issue of effective inter-Centre collaboration within specific SWEPS for maximizing the flow and analysis of Centre-generated information to ensure the production of global public goods.

3.5.4 Is the governance and coordination structure of each SWEP suited to meet its research objectives?

- The interlinked nature of SWEP objectives and desired outcomes has demanded a holistic approach to research among the partners and a high degree of interaction between researchers, technology developers and farmers. The organization structures adopted by SWEPS generally serve this approach very effectively particularly at field level.

- However, the governance structure of some SWEPs serves them less well in terms of member participation in priority setting, programme planning and policy formulation. As has been indicated elsewhere in this report, the restricted number of participants in steering committees leaves much to be desired in terms of equity in priority setting and resources allocation.
- Generally, it is also indicated that SWEPs' management is not as strong as might be expected considering the number of senior managers of CGIAR centers in SWEP steering committees. In SWEPs such as SGRP, the weakness of the governance structure allows too much authority and autonomy to individual centers, thus indicating a need for a more central and forward looking body.

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3.6 Incentives for cooperation and funding

3.6.1 Comment on whether the incentives currently in place in the CGIAR are effective in encouraging scientists (CGIAR and partners) to engage in collective action for their research and fund raising activities.

The incentives currently in place to encourage scientists to participate in collective action could be discussed under the following categories:

Funding

Funding constitutes the most important of the incentives currently available in the CGIAR. In fact, it is reported that the effective and consistent participation of scientists in the CGIAR, NARS and other centers is very much dependent on the availability and ready accessibility of funds. There are complexities in funding availability and/or accessibility:

CGIAR centers vis a vis SWEPs

- The level of funds commonly obtained from donors such as The World Bank, regional development banks as well as other financial institutions and governments is quite low and inconsistent compared to what is made available to CGIAR centers. It is therefore reported that most SWEPs have been chronically under-funded in relation to indicative planning budgets.
- Although SWEPs have attracted a variety of partners who can potentially bring some resources with them, these resources are generally small and/or usually in-kind. It has also been found difficult to quantify the level of resources coming from such sources, particularly from the NARS.
- It has also been reported that there have been difficulties in funding coordination units, which in several cases, forces the convening centers of many SWEPs to act as donors of last resort thus adding extra burden on core funds of such centers.
- In a situation of financial constraints, it is inevitable that there will be competition for funds between SWEPs and the convening centers, as they commonly tap the same sources for funds. This creates tension leading to reduced support and commitment by centers.
- A special case in funding is the availability and allocation of funds for competitive research grant schemes. It is reported that such funds are generally limited and may not be sustained over a long period of time.

Under such conditions, centers competing with SWEPs for the limited funds may lead to dissatisfaction. However, there are cases where centers deliberately abstain from such competition, e.g., IFPRI and ICRAF are noted as good examples.

NARS vis-à-vis SWEPs

As NARS in developing countries are uniformly constrained by financial shortages, the availability of external funding for their programs acts as a strong magnet for joining SWEPs. As indicated above, they do make limited contributions to the SWEPs, usually in-kind. However, there are also other forms of incentives that attract NARS scientists to participate in systemwide and/or eco-regional programs. The pulling-power of such incentives should not be underestimated. These include:

- Most members of research teams in benchmark sites are young and look forward to enhancing their career through training, possibly for advanced degrees. Thus SWEPs that provide reliable opportunity for advanced training have a better chance of attracting their participation and, more importantly, their commitments.
- SWEPs offer good opportunity for personal contact and collegiality through annual meetings and workshops.
- Finally, the opportunity for joint research and joint publication also acts as a strong incentive for participation in global and/or regional programs.

Recommendation 20: It is recommended that CGIAR and SWEPs mandate that all members of a SWEP consortium contribute, based on ability to pay, to an equitable cost-sharing arrangement for supporting the activities of their coordinating unit.

Recommendation 21: It is recommended that SWEPs developing comprehensive multi-year plans with associated business plans and budget lines for themes and activities supported by an assessment of impacts of and returns on earlier investments through ex-post evaluation. A complementary approach that might be considered involves the development of more comprehensive program proposals of linked projects covering biophysical, socioeconomic, capacity building and communications components, which can be presented as a package or as individual projects that may be more attractive to donors (particularly if demonstrably linked to thematic elements of the MTP).

Recommendation 22: It is recommended that CGIAR develop incentives for participation by Centres in SWEPs based on elimination of free-riding and rewarding of active collaboration through leverage mechanisms and guaranteed multi-year funding against approved plans and budgets. Unless these conditions can be fulfilled through commitments from donors and Centres during the planning stage, a proposed SWEP should not proceed to implementation.

SWEPs vary considerably in size, capacity and budget. To justify independent operation, coordination and governance, a SWEP has to have a minimum critical mass and capacity.

Recommendation 23: *It is recommended that programs that do not reach a critical level in a set time not be extended as CGIAR SWEPs but may become projects of SWEP partners or CGIAR Centres.*

3.7 Monitoring and evaluation

3.7.1 Are there adequate monitoring and evaluation mechanisms in place to assess the performance of each SWEP?

The CGIAR has adequate review process, but they have been applied too infrequently to provide an adequate assessment of progress and outcomes. Also, the quality of monitoring varies widely among SWEPs. A review of the reports of external review panels of various, not all, SWEPs can be summarized as follows:

ASB underwent periodic non-CGIAR external reviews in 1995, 1997, 1998 associated with bids for donor funding (GEF, UNEP, and UNDP respectively) and was included in the systemwide TAC review of ecoregional programs (Henzell 2000). ASB was subject to external program monitoring and evaluation (EPMR) in 2005 and was included in the ICRAF EPMR 2006. ASB was also assessed towards the end of 2005 as one of the SWEPs bidding for World Bank/CGIAR funding (CGIAR 2006). The EPMR 2005 found the exceptionally heavy emphasis that the program placed on peer-reviewed publications has provided quality control in the best way possible. However lack of appropriate mechanisms for tracking and targeting its technology and policy outputs into action and impact make it difficult to evaluate the on-ground impact form ASB work.

DMP Phase I was evaluated by GEF in 2004 and included in the ICRISAT EPMR 2003. DMP was assessed towards the end of 2005 as one of the SWEPs bidding for World Bank/CGIAR funding (CGIAR 2006). **DMP** has a formal process for program monitoring and evaluation set out in its Project document, which contains performance indicators for both project execution and outputs. This provides for internal M&E managed through the DMP-CU, based on regular country reporting, the facility for STAT project and program reviews, and external M&E managed by UNEP for the GF component of the program. External M&E of DMP as a whole however is not covered by these arrangements, although it would be difficult for UNEP to evaluate only the GEF component as all activities are linked through the MTP. There is adequate provision in CGIAR processes for external M&E of DMP via the 6th EPMR of ICRISAT. DMP has a weak track record of peer-reviewed publication so is missing an opportunity for timely quality control monitoring of its research outputs.

The 2000 ICER of **PRGA** rated impact assessment research of PRGA in general as highly commendable. Following the ICER request for quantitative demonstration of the effectiveness of the PRGA approaches, PRGA has made a large effort to develop impact assessment methodologies and to document impact. PRGA's annual programs and the respective logical frameworks provide substantial information on program outputs and outcomes

Deleted:

The **IVC** has undergone two specific external reviews (1996 and 2004) and also as part of the external program and management review of **WARDA** (2001). Particularly

the external review panel of 2004 has clearly indicated, "A monitoring and evaluation mechanism is introduced as a matter of priority to allow proper tackling and quantification of future outputs and impact".

AHI has undergone two external reviews (1996 and 2000) since its establishment and has been under constant internal monitoring over the years of its existence. In fact, the external review panel at the end of Phase II concluded, "Monitoring and evaluation have also been integrated in **AHI** as a key component of the program's capacity building effort.... Site teams were exposed to the core concepts in monitoring and evaluation and they assessed their experience with participatory research, interdisciplinary research and research linkages with development and policy actors".

At the time of the **SLP** review, projects were not subjected to independent external review, but were circulated among participants in the LPG to assess relevance in terms of objectives and adequacy in methodology. The SLP review panel was not aware of any specific mechanism put in place for monitoring and enhancing the quality of outputs of the various activities. The SLP panel therefore recommended establishing a peer review mechanism. At present, the attribution of core funding to LPG programs is based on an evaluation of proposals by external (non CGIAR) reviewers.

RWC underwent CCER in 2003 and was reviewed as part of the CIMMYT EPMR in 2006. RWC was included in the systemwide TAC review of ecoregional programmes (Henzell 2000). RWC was also assessed towards the end of 2005 as one of the SWEPS bidding for World Bank/CGIAR funding (CGIAR 2006). The CCER 2003 did not specifically address internal monitoring and evaluation within the RWC, i.e. of its administrative/governance processes or research programs. It recorded however that under the governance arrangements, the RSC and RTCC have respective responsibility for monitoring progress and providing quality assurance. However, there is no procedural documentation or M&E guideline for these functions. While not targeting RWC specifically, the CIMMYT EPMR noted the "total lack of ex-ante assessment in CIMMYT's economic work. This was also a concern of Science Council, as it did not regard CIMMYT's Resource Allocation Tool as a substitute for more explicit ex ante impact assessments.

SGRP is reviewed and monitored as part of IPGRI's program. One of the SGRP's most significant actions was the commissioning of the CGIAR Genebank Operations Review which, *inter alia*, monitored the effectiveness of the Centers in adhering to the conditions set by the Agreement with FAO on plant germplasm conservation.

SP-IPM was externally reviewed once (2002) since its establishment. The TOR of this external review panel of **SP-IPM** did require comments and suggestions on the adequacy of the monitoring and evaluation mechanism of the SWEP, but the panel chose to be silent about it. **IITA**, the convening center, did indicate that the SP-IPM Secretariat has to organize monitoring and evaluation of the program on a periodic basis. It should also be mentioned that the annual meetings of the Steering Committee and the Inter-Institution Working Group would also provide opportunities for monitoring project activities. It would, therefore, appear that implementation of such mechanisms should be adequate to assess progress in implementation.

CAPRI has undergone two external reviews since its establishment: the one in 2002 was specific to **CAPRI** and another in 2004 as part of the EPMP of ICRAF, the convening center. It is also reported that it undergoes frequent internal review organized by its coordinating office/secretariat. However, the external review panel in 2002 has indicated that this level of monitoring could not be adequate and needs to be improved.

The **CAC** has not been subjected to external review specific to itself but has been covered to a certain extent as part of the external program management review of **ICARDA's** outreach activities in 2003. Unfortunately, this review document has very little to say with respect to the mechanisms instituted for monitoring and evaluation of **CAC's** activities. It appears that the annual meetings of the consortium/steering committee are probably the only means for monitoring progress. Needless to say, these could not be considered adequate for the purpose.

SWIM-2/CA has not been reviewed but the IWMI CCER 2003 was referred to as this SWEP is closely aligned with the IWMI programme and is managed under IWMI administrative arrangements. The IWMI CCER 2003 concluded that while IWMI was aware of the need for formative evaluation of its work, it did not have a formalized documented M&E system for either the management of research or progress on research projects. IWMI has since developed a Quality Management System (QMS) that addresses all aspects of the project cycle. As the management of **SWIM-2/CA** is integrated into IWMI, it would also be subject to QMS. The QMS relates more to the monitoring and formative evaluation of project management than it does to evaluation of research outputs to assess their impact. While there is an impressive list of outputs, these have yet to be evaluated. That said, the linked nature of these outputs to the production of the Comprehensive Assessment itself provides a valuable formative evaluation tool. The regular workshop mode adopted by **SWIM-2/CA** as part of the CA development formed an important component of this formative evaluation process.

SWIHA and **WARDA** have not been reviewed in the period of assessment. **SWIHA** was assessed towards the end of 2005 as one of the SWEPs bidding for World Bank/CGIAR funding (CGIAR 2006). **SWIHA** and **WARDA** do not appear from their documentation to have any formalized M&E process. There is no evidence of formative evaluation of any **SWIHA** activities conducted to date. However the participatory workshop modality employed by **SWIHA** has potential to be a vehicle for formative evaluation.

SIMA had not been externally reviewed until 2006 (currently a CCER by IDRC) but was assessed as a component of the IWMI-WHE CCER in 2002. CDC included **SIMA** in its 2004 review of SWEPs receiving World Bank funding. **SIMA's** Framework Document 2003 indicates the preparation of a QMS. In the meantime as part of IWMI, **SIMA** uses IWMI's QMS. **SIMA** has undertaken internal project reviews as part of its annual workshop format. The most comprehensive of these was in November 2005. **SIMA** is currently (2006) evaluating its Kenya Mwea project.

3.7.2 How can planning, monitoring and evaluation of SWEPs be improved in the future?

Planning:

- All SWEPs have developed a planning process that serves their purpose. Few of the external review panels have comments that reflect negatively on the planning process used by SWEPs, although some had reservations as to the extent of planning desirable for effective program management. However, the level of detail in planning could vary among SWEPs.
- Some ecoregional programs, particularly those working in benchmark sites, have developed a bottom-up approach using well-developed diagnostic survey systems. This allows the participation of grass-root farmers to actively participate both in the diagnosis and program formulation stages.
- The Science Council has now implemented a planning process that requires constant adjustment as implementation progresses. The rolling Three-year Medium Term Plan is one such mechanism.
- The log-frame approach is now being used not only by some SWEPs but also development organizations in many countries and circumstances. Log-frames and linked activity matrices (e.g. Gantt Charts) facilitate the defining of clear goals and objectives as well as articulating activities and expected outputs along with responsible agencies and funding requirements. This more refined process is used to advantage by some SWEPs to complement their MTPs.
- Thus, there is no shortage of mechanisms for use in the planning process, and SWEPs that are not already using these mechanisms should be encouraged to adapt and adopt them.

Monitoring and evaluation

- Though a very important process in following project progress, monitoring is reported to be generally unsatisfactory across SWEPs, as indicated by several of the external reviews. They indicate that there is a strong need for setting up mechanisms for monitoring in many of the SWEPs.
- Some external review panels have indicated that although there have been noticeable achievements/outcomes from project implementation, they are unable to confirm their impact due to either unavailability of hard data or projects have been implemented over too a short period of time to measure their impact, particularly in relation to introduction of improved technologies and practices for increased agricultural productivity or natural resources management.
- As indicated earlier, SWEPs such **AHI** have introduced a workable system of monitoring as "part and parcel" of the training of benchmark staff at national level. It is, therefore, suggested that such mechanisms should be adopted by all SWEPs adapting to local circumstances as needed. Such mechanisms include internal monitoring through workshops, progress reports and field visits.
- Evaluation for assessing impact of research interventions needs to be mainstreamed into all significant R&D activities to demonstrate the links between research and poverty alleviation. SWEPs can play an important role in identifying constraints to adoption by input to design and planning of national research programmes through ex ante analysis of adoption pathways.

- Publishing of research in peer-reviewed journals and books is a useful monitoring and quality control measure and should be obligatory for all research staff.
- Periodic external review is a necessity from the viewpoint of accountability, but it suffers from lack of capacity to act as an early warning system. A combination of internal continuous formative evaluation linked to external periodic review provides the coverage necessary for fully effective monitoring and evaluation.

Recommendation 24: *It is recommended that CGIAR institute a continuous improvement process with the Centres for building an effective internal M&E system that will accommodate ongoing monitoring and formative evaluation of both program management and research progress, ex ante evaluation of project proposals and ex post evaluation of outcomes impact. This system should complement and be coherent with the Performance Measurement Reports (PMR) for program monitoring to the Science Council and current CGIAR external periodic review processes.*

Recommendation 25: *It is recommended that the framework M&E system proposed for development consider inclusion of the following components drawn from SWEP best practice:*

- *adopting “results-based management” for both ex ante and ex post evaluation; this will require the development of standard comparative metrics across the CGIAR system to enable the collation of comparable data across CGIAR centres against which to benchmark SWEPS.*
- *instituting a regular annual internal stakeholder workshop review process at the project level that will provide a formative self-evaluation mechanism for researchers and programme managers.*
- *requiring obligatory publishing of research in peer-reviewed journals and books as a means of monitoring progress and providing a quality control measure.*
- *adopting Quality Management Systems on the IWMI model for managing and monitoring the project cycle.*
- *applying the Science Council PMR system for program monitoring to SWEPS.*
- *shortening the return time for external periodic review to a maximum of four years and ensure that the TOR for such reviews include M&E at both management and research program levels.*