



SCIENCE COUNCIL  
**CGIAR**

Report of the  
Sixth External Program  
and Management Review  
(EPMR) of the International  
Institute of Tropical  
Agriculture  
(IITA)

February 2008



SCIENCE COUNCIL

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CGIAR

Report of the  
Sixth External Program and  
Management Review (EPMR) of  
the International Institute of  
Tropical Agriculture  
(IITA)

Review Panel: Cyrus Ndiritu(Chair)  
Gebisa Ejeta  
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JANUARY 2008

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**THIS DOCUMENT CONTAINS:**

- Extracts from the Summary Record of Proceedings of the Annual General Meeting 2007 (AGM07)
- Science Council Commentary
- IITA Response to the Sixth EPMR
- Transmittal letter and Report of the Panel on the Sixth IITA EPMR





## **Consultative Group on International Agricultural Research (CGIAR)**

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CGIAR Annual General Meeting, 2007 (AGM07)<sup>1</sup>

### **Agenda Item 11. Evaluation (cont'd)**

#### **11.a IITA EPMR**

K. Sierra invited IITA EPMR Panel Chair Cyrus Ndiritu (who participated through videoconference) to make brief remarks. Unfortunately, technical problems resulting in videoconference disconnection prevented him from participating further in the discussion.

R. Wang presented the ExCo13 recommendations.

#### **Decision:**

- Members were pleased with the review panel's assessment that IITA is in good institutional and financial health.
- SC Chair R. Rabbinge remarked that IITA's research for development model/approach has unique features that should be shared with other Centers.
- EIARD expressed support for the panel's recommendations with regard to enhancing partnerships between IITA and CIAT, ILRI, and in particular, FARA.
- They also emphasized the important role of IITA in the regional MTPs.
- IITA Board Chair Brian Harvey assured Members that efforts are being made to resolve the cassava research issue with CIAT.

#### ***Conclusion and Decisions:***

*The CGIAR endorsed the ExCo recommendations on the 6th IITA EPMR.*

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<sup>1</sup> Extract from the Summary record of Proceedings of Annual General Meeting, 6-7 December 2006



**Science Council Commentary**  
**on the Sixth External Program and Management Review of the**  
**International Institute for Tropical Agriculture (IITA)**

*September 2007*

The Council considered the Report of the Sixth External Program and Management Review of IITA, and the Center's response, at the Science Council's eighth Meeting at Bioversity International, Maccaresse, Italy on the 28th of August 2007. The principle findings and recommendations of the EPMR Panel were presented by the Panel Chair, Dr Cyrus Ndiritu. Responses on behalf of the Center were made by Professor Bryan Harvey, IITA Board Chair and by IITA Director General Hartmann.

**Overview**

The SC notes that the Panel had treated IITA's paradigm for R4D (Research for Development) as an important experiment, including as it did an increased focus on the production to market chain and value addition. The Panel's major recommendations were therefore for the Center to develop an overall strategy to contribute to R4D and to strengthen the alignment between such a Strategy and the Center's MTP Projects and individual grant projects. In addition there was a strong recommendation for IITA to focus more effectively on the management of its science. The SC is pleased to note that the quality of IITA's science is not considered a constraint at the present time but that additional skills and areas for development have been identified so that IITA can match its project research and services to its ambitions for African agricultural development.

The SC strongly supports the need for IITA to complete the development of a new strategic plan to help describe and ensure the longer term focus for its research and show how it contributes to the System Priorities and to the regional alignment. It also supports the Panel's observation that the drawing together of experiences (the synthesis of results in different areas, and evaluation of long- and short-term science) and a thoughtful approach to partnership development (see below) are important inputs into effective strategic planning. A well focused strategic plan linked directly to a business plan for guiding the financing of the strategy is required in order to maintain focus in the R4D approach. The Science Council therefore will, as part of the follow up process to this EPMR, review and comment on the new draft of IITA's strategic plan as soon as it is available, and before SC09.

In the new plan, the SC expects IITA to lay out its definition of the R4D approach (which may also help the development of a CGIAR-wide definition of this term) and the IPG research within that approach. The approach encompasses research on commodity value addition and agribusiness. In this context the Panel advises that IITA's role cannot be to develop and deploy new producer organizations, seed enterprises or agribusiness ventures, but rather to assess which approaches and methods are most effective and to ensure that partners at the national level are able to act on this information. For example, because of the lack of a seed industry in West Africa, there are a number of instances where IITA projects feature community (or other local-level) seed multiplication schemes. Although such schemes may be useful for diffusing new varieties, there is no evidence from IITA that they lead to any sustainable seed production capacity. In addition, the investment in such schemes may dampen incentives for the development of private seed production capacity. It would be appropriate for IITA to address



this dilemma in a more organized way, as it seriously affects the capacities for widespread diffusion of its products. A review and synthesis of its experiences in this field would be in order (for instance with other CGIAR Centers in the implementation of System Priorities or the regional plan). The Science Council supports the Panel's advice for IITA to look more at input markets relevant to its own research products rather than involve itself in research on output markets. The distinction between investing research resources to engage in pilot activities in order to learn lessons from specific experiences, and assuming coordination responsibility for development projects conceived by external donors or national government production campaigns, needs to be made clear in IITA's policy and strategic vision.

### **Research relevance**

The Council is pleased to note that the Panel finds large impacts on cassava production based on IITA's cassava varieties and biocontrol agents, and the Panel commends IITA scientists for communicating these results through a very good publication record. The Panel found that IITA's approaches to crop improvement and plant protection research continue to hold out major opportunities for impact, although in contrast to cassava, there is little published work or impact documented on cowpeas.

The SC agrees with the Panel that research on NRM including soil fertility remains a key issue in Africa and IITA must define its strategy and research in this area in relation to recent developments in fertilizer use such as the Abuja declaration. It would be wise to capitalize on the experiences of IFDC and others in this field. In addition, there is a need to re-energize the plant health related IPM and biocontrol research at IITA. These approaches need to be made explicit in a new IITA strategy.

The SC confirms the Panel's recommendations to strengthen specific areas of science, namely: the consolidation of biotechnology research (to maximize IITA's contributions to this important area of crop improvement research), the need for business plans and the involvement of relevant NARS early on in transgenic breeding programs (as highlighted in the Report of the Biosafety Panel to the CGIAR Science Council on Biosafety Policy and Practices of the CGIAR Centers, Published in May 2007), acquiring biometrics expertise, to raise the profile of cryopreservation and support to germplasm health and transfer systems, to document soil fertility research and advocate more efficient use and input supply systems, to reassess the strategic direction of the Opportunities and Threats project and to strengthen the national agri-business consultative platform and ensure risk assessment and management for IITA.

The SC agrees with the panel that donors need more clarity and guidance in the use of performance indicators such as 3a on the quality and extent of impact assessment work in the Centers. However it does not agree that such indicators have "dubious value". The SC also would not agree that the impact indicators have: "...penalized (Centers) inappropriately and diverted (them) from practical, comprehensive studies of adoption and impact" (p.43) and that "...the requirements of journal publication are often inimical to practical adoption analysis as part of an on-going program of research" (p.78). Quality in the conduct of impact assessments is vital if the results from them are to be regarded as credible, rather than public relations exercises.

### **IPGs and the organization of IITA's science**

The SC finds that it would have been useful if the Panel had been more analytical on the pros and cons of IITA organizing research around the commodity value chain versus the ecosystem approach in terms of generating IPG research. Historically, IITA has oscillated between

structuring its research on ecoregional or crop-based systems. The most recent change of paradigm by IITA, to a more agri-business centered approach to new research based on demand-pull, and commodity value chains, has led to a decline in the use of benchmark sites, previously a mainstay of IITA strategy on NRM research and means of extrapolating results. Ecosystems are no longer seen by IITA as the prime determinant for technology generation. The SC notes that this change might make it more difficult to ensure that IITA results would be turned into IPGs and would maintain that the two approaches are complements, not substitutes. The commodity value chain approach requires analysis to ensure that international spillovers can be generated and that the benefits of gains beyond the farm gate accrue sufficiently to the poor. It is notable that WARDA is being encouraged by its EPMP Panel to better target its research activities using a stratification of its biophysical and socioeconomic environments, which at first sight would seem to be the opposite of IITA's move away from an ecosystem approach. Such alternative approaches would not be conducive to improved programmatic alignment among Centers, which is being encouraged by the CGIAR. Thus, the SC encourages IITA to make its expected modus operandi to produce IPGs clear in its strategy document, and points to examples, such as the "outcome line" approach (described in the recent EPMP Report of CIAT), as potentially useful means of structuring such strategic discussions.

### **Approach to partnerships**

IITA has numerous listed and practical partnerships with national programs and the Panel noted that IITA has expanded partnerships to include the private sector, CSO, ARIs, opportunities from NEPAD, FARA, and science partnerships with other CGIAR Centers and the BeCA facility. However, in engaging with new agri-business initiatives the immediate (and local) focus of IITA has switched to relationships with small and medium-sized enterprises (SMEs) and universities. The Science Council supports the Panel's perceptive assessment of the possible danger for the Center in its long-term relationships with traditional national partners, with a need to re-assess partnerships in relation to new activities and likely Center impacts. The Panel has encouraged a more active and broader engagement with NARS to maintain the traditional links that the Center had built up and to ensure the sustainability of IITA's research interventions in Africa. Capacity building remains a key point of interaction with NARS partners and a contribution to IITA goals. IITA's choice to reduce its direct involvement in training courses in favor of program-associated training is understandable but may have to be executed with some sensitivity to avoid the feeling of dissociation from the work of IITA expressed by some NARS. The Panel has indicated the need for IITA to engage NARS in all aspects of its agri-business and value addition research to enhance collaboration and mutual learning. The Science Council supports this approach.

### **Inter-Center interactions**

Given the major responsibility that IITA has for cassava in Africa, the continuing disagreement between CIAT and IITA over this commodity is detrimental to the CGIAR and its work. The Science Council understands that the major point of dispute is the entry point and phytosanitary control for improved cassava germplasm into Africa. It is imperative that only certified clean germplasm be imported and that African farmers have the opportunity to benefit from a broad selection of improved germplasm. In agreement with the EPMP Panel reports of both IITA and CIAT, the Science Council urges a swift resolution of this issue. It is encouraged by promises from both Board Chairs that steps are being taken to this end and the Science Council will follow progress closely. On the other hand, the SC was very pleased to see the positive statement about the relationship between IITA and Bioversity and between IITA and CIMMYT for the very long standing partnership on maize research in Africa. Given the broad mandate of IITA and its

relative weakness in staple and horticultural crop pest management, IITA would gain from a strategic alliance with AVRDC and ICIPE.

Both the EPMR of IITA, and the simultaneous EPMR Report on WARDA, comment favorably on the steps being taken to align aspects of the corporate services function of the two Centers at the Benin station. WARDA's programmatic linkages are more expressly with Centers having rice research programs (i.e. with IRRI and CIAT as consolidated in a recent agreement). However, the SC notes that both IITA and WARDA EPMR Reports make recommendations for new staff positions (and a Scientific Advisory Panel at WARDA) and this may provide opportunities for the Centers to consider joint appointments or other arrangements (e.g. in the areas of biometrics) to meet the needs of both Centers. Any such arrangements should seek to enhance the role of the IITA staff group and facilities concerned with IPM at the Biocontrol Center for Africa (the Benin station) and not to reduce them.

The SC notes that whilst the Panel records that IITA spent very substantial staff time in contributing to regional planning since the undertaking was agreed in mid 2004, it does not report on the value-added for research from the alignment, or savings to IITA from the possible devolution of activities. There has been similarly slow progress in the initiation of the SSA-CP at the West African site. IITA has been very successful in initiating full cost recovery as part of its financial growth, and yet overhead issues remain contentious in developing IITA partnership relations with CGIAR and associated partners. The Science Council believes that the Alliance Executive has an opportunity to play a more effective role in mediating and galvanizing some of the latent research relationships in West Africa. Drawn out debates can also lead to the disillusionment of partners contributing to collaborative research and consortia, which IITA must guard against.

### **Governance-Board processes and financial management**

The SC is pleased to note the growth and comparative health of IITA's financial resources over the period of the review, suggesting strong support by key donors for its R4D approach and good financial management. It further notes therefore that the Panel's major recommendations in this area are on improving the management of science and science-support functions. The changing research project structure over the period of the review, the incomplete strategic planning, the long term experimentation with the R4D council (just recently made into an advisory body) may all be seen as having delayed IITA's progress and some of the fault lies in the slow implementation of the recommendations of the 5<sup>th</sup> EPMR by the Center. This particularly applies to oversight of the program of science. The SC notes that some of the recommendations in terms of science management in this EPMR are similar to those in the previous one. Thus the SC asks that a detailed report on the progress of implementing the current Panel's recommendations should accompany the submission of the MTP in the next two years. The SC expects to follow developments closely, particularly relating to the science leaders (DDG-R and the Deputy Directors), to ensure that all senior positions are filled and to ensure that they have appropriate and feasible responsibilities to allow for the planning and management of IITA science. There is a concomitant need to strengthen the support to research by enhancing the HR unit to become proactive in recruitment, and strengthen the procurement function.

### **In summary**

The SC offers its thanks to the 6<sup>th</sup> EPMR Panel for its Report. The SC, whilst finding the EPMR Report quite long and somewhat guarded in tone, believes that it is a helpful report for the Center, and for the System, and accepts the Report and its recommendations. The Science Council

believes that the development of a new strategic plan by IITA is essential in order to address the Report's recommendations and to articulate better its research plan for the future. The SC looks forward to reviewing and commenting on a cohesive draft IITA strategic plan and design of the future projects as soon as it is available. The SC asks that the R4D paradigm is clearly defined. The role and pursuit of partnerships needs to be developed and the approach to capacity building is an important component for IITA to articulate too. Soil fertility remains a key issue in Africa, and IITA should define its strategy and research in this area, as well as its stance in relation to recent developments in fertilizer use such as the Abuja declaration.

The Council remains concerned about the IITA-CIAT cassava relationship and looks forward to a timetable for resolution of the issue as a matter of importance for the System.

The Council notes the Panel's cautions about possible mis-interpretation by donors of some indicators of the Performance Measurement System, and these will be kept under constant review. The Council urges IITA to take up the recommendations to which it has agreed in a prompt manner. Delays in responding to the 5<sup>th</sup> EPMR had had an opportunity cost to IITA in terms of strategy development, the priority setting process at program level, and the management of science. Thus the SC asks that specific updates, reporting the steps made towards implementation of the agreed recommendations, be provided as part of the submission of the MTP for the next two years.



## RESPONSE OF IITA BOARD AND MANAGEMENT TO THE 6<sup>TH</sup> EPMR REPORT OF IITA

### A. GENERAL

IITA welcomes the EPMR report. We are in agreement with its findings and recommendations. It will also contribute to the development of our next Ten-Year Strategy. The IITA Board of Trustees' meeting on this strategy was scheduled to benefit from the Panel's input.

We applaud the Panel for touching on some complex developmental themes such as what it takes to contribute to development in the context of the Continent's evolving needs. As per its terms of reference, the Panel focused on what IITA needs to strengthen or pay attention to. It arrived at those recommendations after also noting the strengths of the Institute, such as effective governance and management, and stable finances<sup>2</sup> that allowed IITA to focus on delivery and qualitative aspects of research<sup>3</sup>, protection of its core competences<sup>4</sup>, and the relevant R4D model<sup>5</sup> to impact hunger and poverty in Sub-Saharan Africa.

At the crux of the matter is IITA's R4D model. Like the Panel, IITA is convinced that the traditional approach of conducting research and waiting and hoping for someone to use its results, is *not* adequate. The needs of the poor are simply too great and too pressing for such a 'wait and hope' approach. A "beyond research" approach was needed. IITA initiated programs that help excite, demonstrate, stimulate, and encourage adoption of relevant technologies in addition to its research programs that are trying to address the productivity and profitability of the SSA's food system. The highest levels of government and agribusinesses were engaged to enhance the receptivity and probability of adoption and positive impact. Effective links were forged with advanced research institutions because of the need for basic research and rapid development. The Institute broadened the partnership-base to embrace the government, private sector, universities and others on the delivery end to leverage the "specialization of labor." IITA packaged these elements into a cohesive R4D approach, complete with exit strategies, and tested it out in several countries. This model is expected to deliver spillover effects that "may pay significant dividends for several nations beyond those with which IITA is currently directly engaged"<sup>6</sup>. The approach promotes the focus of agricultural research on addressing major development problems in Africa rather than simply contributing to the body of scientific knowledge. The topic is relevant to this

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<sup>2</sup> EPMR Report sections – section 5.9.2 (Governance), section 5.7 and 5.8 (Finances)

<sup>3</sup> Ibid, section 3.1. B

<sup>4</sup> Ibid, section on Summary and Recommendations, also 3.1 Summary

<sup>5</sup> Ibid, section 2.4.2

<sup>6</sup> Ibid

EPMR because there were doubts in some quarters about IITA taking this path. The exciting results achieved in Nigeria, touching millions, have already been heard by other governments in Africa and the Institute has been requested to replicate the approach in their countries. Today, four years later, the impact outcomes, investor support<sup>7</sup>, and the conclusions of the Panel give us confidence that we are on the right track. Beyond acknowledging the value of this approach, the Panel identifies areas in staffing and specialization that IITA needs to strengthen if this approach is to reach its full potential. Looking beyond IITA, the Panel challenges the Institute to seek ways to engage its traditional NARS partners in ways that they too gain from its R4D model “in moving through the spectrum of discovery to delivery and along the value chain.”<sup>8</sup> IITA commits to take up this challenge.

In summary, the Institute is appreciative of the helpful analysis that the Panel has generated and in identifying the areas that need attention. We will tackle these with diligence. Any differences in tactics, sequence, and in approaches on how to effectively strengthen the areas identified will be explored and the best options adopted. Both, the Panel and IITA are united in their recognition that the challenges we face in Sub-Saharan Africa are sad, huge and complex and that there is no time or place for complacency within and without IITA. We are encouraged by some positive winds of change on the African Continent.

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<sup>7</sup> Ibid, section 4.8

<sup>8</sup> EPMR Recommendation 10

## B. RESPONSES TO RECOMMENDATIONS

### EPMR PANEL RECOMMENDATIONS AND IITA RESPONSE

	RECOMMENDATION
1	The Panel encourages IITA proceed to complete its Future Strategy document considering some of the suggestions provided in this report. The Panel <b>recommends</b> that the Center should seek greater congruence between the overall Center strategy, MTP Project planning and the restricted project grants in order to articulate the high priority research and line up the direction of growth with the intentions of R4D. The Panel further <b>recommends</b> that the relationships should be clearly documented as a nested set. The Panel notes that the drawing together of experiences (the synthesis of results in different areas, and evaluation of long- and short-term science) is an important input into the continuing evolution of effective strategic planning.
IITA	<b>Agree</b>
2	The Panel <b>recommends</b> that IITA does not expand biotechnology facilities further into other locations, but instead strengthen the facilities at the two existing hubs to serve the needs of NARS as well as the IITA scientists more adequately.
IITA	<b>(also 4 and 10) Partially Agree:</b> The distinction between research functions and capacity building and service functions involving NARS, as per 2 and 10, is useful. Tissue culture facilities in different countries are required for safe movement of breeding lines of clonally propagated crops. DNA extraction in countries outside the two hubs is necessary as DNA is far easier to transport than plant/pathogen materials. PCR for diagnostics is essential in countries for rapid diagnosis of diseases. Such activities undertaken in the satellite stations with national partners are a powerful capacity building tool in addition to meeting our research needs. This recommendation has cost and efficiency implications that need to be explored very carefully.
3	The Panel further <b>recommends</b> that in order to improve coordination and communication between its biotechnology hubs at Ibadan and Nairobi, IITA should consider appointing a biotechnology coordinator to facilitate the functions of these hubs and enhance effectiveness of the Center’s biotechnology thrust.
IITA	<b>Agree</b>
4	IITA is entirely correct in emphasizing the important role of markets in agricultural development in Africa but the Panel <b>recommends</b> the institute to pay more attention to building and strengthening national agri-business capacities for marketing the inputs (such as seed, clonally propagated materials and biocontrol agents) that embody the institute’s own technologies, and draw lessons from this experience.
	<b>(also 10) Agree:</b> In implementing the sustainability of programs underscored by this recommendation, also linked to part of 2 and 10, we will examine development fundamentals that impact sustainability against the developments in Africa. The R4D model and our emphasis on the role of markets, that the EPMR Panel also endorsed, include approaches that contribute to this sustainability challenge.
5	Cryopreservation of tissue has the potential to eliminate effects of somaclonal variation and the need for regular field and tissue regeneration of conserved, clonally-propagated germplasm. The Panel <b>recommends</b> that IITA seek support for collaboration with an appropriate ARI to establish dependable cryopreservation protocols.
IITA	<b>Agree:</b> We also concur with the Panel’s recognition that the science is still at the level of “exploring” the potential of Cryopreservation. Its potential to reduce conservation costs is an impetus to research this subject as is the potential for higher risk of material loss.
6	The Panel <b>recommends</b> that IITA enhance capacity to provide intellectual and material support to germplasm health and transfer in Africa. This includes appropriate tissue culture protocols, transboundary material passports and indexing capacity and foundation vegetative propagation



	materials. The intention of this recommendation is to further enhance IITA capacity so that this critical expertise can be shared.
IITA	<b>Agree:</b> We have initiated dialogue with the African Union to enhance continental capacity in this domain in addition to enhancing our own capacity.
7	The panel <b>recommends</b> that the goals of the Opportunities and Threats project should focus on commodity-specific as well as multi- or supra-commodity analyses that are linked to a well-defined priority setting and strategic planning process at the project and institute levels.
IITA	<b>Agree:</b> This is an interesting and complex recommendation but the Institute agrees to examine this project. This recommendation seems to suggest that the Opportunities and Threats Project should provide analytical underpinnings for all of IITA’s work at several levels: commodities, supra-commodity level, SSA’s agricultural sector, etc. We will also consider the merits of moving such analytical work outside the MTP group of undertakings.
8	The Panel is concerned that IITA-led strategies for promoting an upward trend in yields, fertilizer use, and soil fertility in the savannas will not adequately meet future food demands. The Panel <b>recommends</b> that IITA prepares a comprehensive summary of its past soil fertility research; that it monitor nutrient flows in its farming systems research and exploit possible genotype x fertility level interactions in its germplasm; and that it enhances advocacy for efficient fertilizer use and supply systems.
IITA	<b>Agree:</b> The recommendation is consistent with our views on the very critical constraint of soil fertility. IITA is also trying to engage others that might be better equipped to handle the subject. These include the 200 strong African Association of Soil Scientists, African universities, and international groups in Africa like TSBF, which specializes on soils, and the newly formed Alliance for a Green Revolution for Africa, which is going to invest very significant sums on the topic of soils and fertilizers. The latter is also consistent with the Panel’s recommendations, 2, 4, and 10.
9	The Panel notes that the IRS vacancy resulting from the departure of the senior statistician has not been filled, and is concerned that the Center is not gaining the full benefit of newer techniques in spatial adjustment of data, in genotype x environment interaction analysis, and in the analysis of molecular information. This concern has also been voiced by several scientists during discussions. The Panel <b>recommends</b> that the position of senior statistician be filled as soon as possible.
IITA	<b>Agree</b>
10	The Panel <b>recommends</b> that IITA recognize its broader responsibility for building capacity towards bringing about lasting and sustainable solutions against hunger and poverty. This requires that IITA engage its NARS partners more actively and more broadly in its R for D, so that all partners gain experience in moving through the spectrum of discovery to delivery and along the value chain.
IITA	<b>(also 2 and 4) Agree:</b> A) The NARS, are our largest partners (see Figure 1, EPMP report) but the engagement of other national partners, including agribusinesses, universities, SROs, pan-African organizations, NGOs, decision makers, governments, and other influential groups, are also essential to addressing the food and agricultural needs of a country. The Panel acknowledges this (see sections 4.5., 4.6., and recommendations 4, 8, and 10). We thus do not differ in view from the panel but rather need to better clarify our perspective, definitions and interpretation of roles. The Institute is also sensitive not to “crowd out” capable NARS. As their strength grows, IITA retracts to other disciplines or countries that need help. It is recognition of the strength of the respective NARS. B) ILRI and FARA’s request to subsidize their operations, via reduced overhead charges, is not something IITA can afford. IITA hosts eight CG supported centers, subsidizing them is beyond its means. IITA also considers that the arbitrary application of overhead rates is not good management.
11	Since an effective Program Committee can greatly facilitate the work of the Board (as well as of Management, if the PC is able to do its work properly), and the issue has been of continuing concern to the IITA Board for some time, the Panel <b>recommends</b> that the Program Committee focus

	on strategic program issues; ensure that it, and its members, do not micromanage scientific activities; and that the Committee receive high-quality analytical papers and other relevant information from Management in a timely manner to enable it to properly undertake its program guidance and oversight responsibilities.
IITA	<b>Agree:</b> The new Chair of the Program Committee has already begun to orientate the Committee in this direction.
12	The Panel <b>recommends</b> that IITA's research management structure and accountability be strengthened by: a) clearly specifying the responsibility, authority, and lines of reporting for the DDG (R4D), Deputy Directors, and scientists; b) utilizing the Research Development Council (RDC) primarily as an advisory body to the DDG, as per its new Board-approved terms of reference; and c) strengthening the research management function, by appointing Project Managers reporting to the Deputy Directors, for managing the MTP projects included in the research portfolio.
IITA	<b>Agree:</b> We concur with the need to strengthen our research management. 12 a) and 12 b) are already underway. On item 12 c) we will explore its implications. The Institute's bottom up research management structure may not be easily apparent and we will elaborate it better. There is quite a bit of management below the Directors. The beauty of the current system is that it is a flat structure keeping scientists closer to the decision makers, which leads to more informed and comprehensive decision making. The system has specialized management at MTP project level immediately downstream of the R4D Directorate, which works with project managers, program managers, and senior scientists to manage research. Two examples illustrate the point. The MTP Project "Banana and Plantain Systems" has a number of research managers below the Directors, including two senior breeders (East/Southern and West/Central), heading the respective breeding programs in the region, as well as IPM specialists, and agronomists. The MTP project "Opportunities and Threats" has an impact group, led by a senior scientist, a GIS group led by its unit head, and senior scientists leading the biotic/abiotic stresses section.
13	The Panel <b>recommends</b> that the HR management Unit at IITA become more proactive in establishing effective systems for recruitment, performance management, career advancement, and retention of both IRS and NRS; and in ensuring that the approved HR processes and procedures are consistently followed by managers and staff throughout the organization.
IITA	<b>Agree:</b> We concur on the need for improvement. Our recruitment process (takes too long) and performance measurement for national staff is not where it should be. For example, performance measurement is not fully deployed in Nigeria due to resistance from the workers' association. The plan for addressing this subject was launched in 2006 and is scheduled for completion in 2009.
14	The Panel <b>recommends</b> that suitable follow-up action for strengthening the procurement function be taken by Management in the coming months, along the lines proposed by the external procurement experts.
IITA	<b>Agree:</b> An external review was completed early in 2007. Implementation begins in September 2007 and will be completed in 24 months.
15	The Panel <b>recommends</b> that the staff and DDG-S (IITA) and ADG (WARDA): a) continue a very collaborative approach to ensuring that the transfer/alignment of corporate services proceeds smoothly; b) closely monitor on a regular basis the progress made by the various Transition Task Forces and the Local Implementation Committees at Cotonou and other sites covered by the MoA; and c) seek to benefit from the experience of other Centers that are aligning corporate services.
IITA	<b>Agree</b>



June 29, 2007

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Dear Drs. Rabbinge and Wang,

On behalf of the Panel, I am pleased to transmit to you the report of the sixth External Program and Management Review (EPMR) of the International Institute of Tropical Agriculture (IITA). The Panel has reviewed IITA's performance in the four broad areas of: i) mission; strategy and priorities, ii) quality and relevance of the science; iii) effectiveness and efficiency of management (including governance and finance); and iv) accomplishments and impacts. We have also endeavored to address the list of strategic issues raised by the Science Council.

The Panel finds IITA has maintained its commitment to science for an effective and sustainable research for development program with strong regional and political partnerships in sub-Saharan Africa. The Center has strong support for its approach from its principle investors. The Panel has made fifteen major recommendations and a number of suggestions aimed at improving the quality of planning and management by the Center. For example, the Panel recommends that the Center should seek greater congruence between the overall Center strategy and other project planning activities and to bring these into line with the restricted grant projects that it is pursuing. Furthermore the Panel recommends that IITA's research management structure be strengthened, particularly at the project management level and with due attention to work loads and regional research responsibilities. The Center is also encouraged to give greater attention in developing its new partnerships as the R4D activities are further entered into so that both traditional and new partners are suitably involved, and can benefit from the commodity and value chain

approaches that are being undertaken. Programmatically, we see opportunities for IITA to do more in natural resources management to underpin the commodity and product focus and to provide leadership to the continent in aspects of plant health.

The Panel notes that due to the effective reforms and management shown by the Director General and Board at the beginning of the review period, the Center overcame a possible financial crisis and has shown strong growth since. Given this solid base and the generally sound practices of the Board, the Panel has focused attention on means to raise the effective participation of the Program Committee in providing strategic guidance to the Center. The Center is now moving to fill the senior management posts and the Panel confirms the need to continue to develop sound scientific management in support of the overall R4D strategy.

The Panel would like to express its thanks to the IITA Board, management and staff, who cooperated with us in every way and provided us with all the information and facilities we required.

Finally, the Panel members join me in expressing our appreciation for the assistance provided by Peter Gardiner, the SC Secretariat representative and Panel Secretary. We are also very grateful for the opportunity to participate in the challenging task of conducting this review. We hope that the Report will be useful to IITA and its partners, as well as to the CGIAR.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'C. Ndiritu', written in a cursive style.

Cyrus G. Ndiritu  
Panel Chair,  
Sixth External Program and Management Review, IITA

CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH  
SCIENCE COUNCIL AND CGIAR SECRETARIAT

**Report of the  
Sixth External Program and Management Review (EPMR)  
of the International Institute of Tropical Agriculture (IITA)**

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SCIENCE COUNCIL SECRETARIAT

JULY 2007



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## SUMMARY AND RECOMMENDATIONS

The International Institute for Tropical Agriculture (IITA) is one of the longest established Centers of the CGIAR and currently is the largest in terms of budget. IITA's target is the improvement of African development through research on agriculture. The Sixth External Program and Management Review of the Center took place between March and June 2007.

The review was conducted at a time when the context of agricultural research in Africa is changing; there is both the stark reality of current poverty levels and population growth still to be accommodated (an anticipated increase of 80-100 million more people by 2012) and a sense of renewed purpose. The Millennium Development Goal of halving the proportion of poor people is still within reach at the worldwide level, but many individual countries in Sub-Saharan Africa will most likely not reach this goal and, in some, average poverty rates remain above 40 percent. The Africa Union's NEPAD Comprehensive African Agricultural Development Program (CAADP) helps provide a framework for harmonized and responsive action into which research efforts can fit.

IITA's historical approach has been to focus on the genetic improvement of its mandate crops (cassava, yams, cowpeas, plantain, banana, and maize) and on the sustainable intensification of the farming systems in which they are found in Sub-Saharan Africa (SSA). Major advances have been made in the past in the introduction of disease resistance into its target crops and IITA was a past leader in integrated pest management approaches. It continues to place emphasis on management of major disease threats (e.g. cassava brown streak disease, banana wilt), post harvest contaminants (fungi producing mycotoxins on maize) and pests such as the parasitic weed *Striga*. The Center augments this approach by conservation of targeted species for agriculture. It worked formerly through an approach focused on agroecologically-defined sub-regions.

The Center's new draft Strategy document offers a number of modifications. IITA continues to do research on resource and crop management and plant health, but these no longer form the basis for organizing the research program. Instead, its MTP Projects are organized by commodity-based systems (roots and tubers, banana and plantain, cereals and legumes, high value crops), cross cutting projects (agrobiodiversity, agriculture and health, the System-wide program on IPM), and one which could address long term planning. There is general agreement between these areas and the new CGIAR System Priorities for Research focused on diversification, high value crops and nutritional quality and food safety. Although an ecoregional orientation remains, agroecological zones are no longer seen as the prime determinant for technology generation. IITA has a more explicit commitment to Africa-wide bodies in areas such as phytosanitary control, regional research, agricultural trade, and food health. This commitment is illustrated by growing attention to regional research organizations and political bodies, particularly the African Union and its NEPAD program. Although IITA has considered broadening its mandate to the whole of Africa, the Panel concurs with the Center's assessment not to extend the geographical mandate of IITA to North Africa and to remain focused on SSA.

In the period covered by the review, (essentially 2001 to early 2007) the Center has promoted the concept of "Research for Development" (R4D). The adoption of the Research for Development paradigm encompasses different trajectories and points of application for research. Firstly, there is the improvement of crops to enhance yields and ensure food security in the face of increasing human population pressure and the stress of crop diseases and pests. Secondly there is the

possibility of creating local income from the diversification of farming systems (to include higher value commodities such as fruit and vegetables, as encouraged by the new CGIAR System Priorities for Research). Thirdly, and as proposed in the new IITA draft strategy document, is the possibility of developing agri-industrial approaches for commodities (such as cassava) that have alternative products and outlets. This is a vision of agricultural research that seeks to address major development problems in Africa by paying attention to the “demand-pull”, principally by ensuring that market development provides adequate incentives for farmers (to complement the “supply-push” of new technology) to diversify and intensify their production. The Center has argued that this will have more impact not only in enhancing agricultural production but also in strengthening the wider value chain. R4D requires attention to a wide range of issues that traditionally have been beyond the immediate interests of most agricultural research institutes; IITA’s current involvement in areas such as the rehabilitation of the West African cocoa industry and the expansion of industrial demand for cassava are examples of this new paradigm. The Panel believes that IITA will require new expertise to accomplish the agri-business approach. While there has been some apprehension in some quarters, several of IITA’s major donors are supportive of this approach. The success of R4D, and the destiny of IITA’s mission and goal, is going to be tied to the Center’s continued commitment to science. This includes the long term-research that has brought IITA to its present position, and to the future framing of investigation and research. The Report places emphasis on the need for planning and managing that science.

Internally, IITA has experimented with a Research for Development Council (RDC), with Members elected by staff rather than a traditional line management through a Deputy-Director General of Research as suggested by the 5<sup>th</sup> EPMR. The RDC, with Board approval, will revert to a more advisory role to the Center’s Management, which the Panel believes to be appropriate. However, the experimental nature of the arrangement and the slow implementation of the recommendations of the last EPMR have come at some opportunity cost for the Center. This is evidenced by the large number of changes in the arrangement and targeting of Projects (a process which is still incomplete). In the period between EPMRs, IITA conducted 7 Center Commissioned External Reviews (CCERs) and there was an independent review of an earlier Project conducted by a donor. The Panel found that there was a tendency for the CCER Reports to address process and Project structural issues rather than science quality. This may in part arise from a) inadequate terms of reference, and, b) inadequate preparation on behalf of the Center, and the Panel makes suggestions for improvement of the performance of the CCERs. For these reasons, the present Report considers the future of the Projects and cross cutting issues for IITA in some detail.

However, the Panel does not consider that the quality of science at IITA is a serious constraint to achieving the mission of the Center at this time, though it also recognizes that good science begins by asking the right questions and building appropriate research skill sets to address those research issues. Since the last EPMR, IITA has made strides to strengthen its capacity in socioeconomics and has materially improved its impact assessment approaches. The Panel would like to see these capacities marshaled more effectively to help IITA learn lessons from its wide experience that can then be applied to the further development of Center projects (as reflected in Recommendations 4 and 7 below). Good quality science will only lead to practical outcomes if research programs allow the opportunity for a comprehensive and long-term effort, a goal that may be threatened by reliance on multiple projects with varying mandates. In relation to long-term impacts the panel would like to encourage IITA to document its experiences carefully especially because it has a responsibility to dialogue with those who apply the impact instruments in the CGIAR. However, there is much more that IITA needs to do to foster an effective impact culture and to focus impact research on relevant objectives.

The Center's policy of protecting its core competencies appears to be working effectively in the crop improvement programs, but has faltered somewhat in natural resource management. Crop improvement and plant protection research continue to hold out major opportunities for impact. It is important therefore that IITA maintain its core biotechnology capability, so that it seizes the opportunity to use molecular breeding techniques whenever their cost effectiveness can be demonstrated in an African context. The Center in general has appropriate policies and processes, e.g. for biosafety, management of research data etc and communications have improved. The Panel views the agri-business approaches being developed by IITA as important experiments, and urges the Center to ensure that these are science-based, well planned and supported by the necessary expertise. It will be necessary to continually identify the research questions that are being addressed at the various points in the production and value chains and to effectively share these experiences with a wide array of partners to ensure learning and spillovers.

The Panel's Report, therefore, puts emphasis on the need for IITA to strengthen the alignment and relationship of Center and individual Project Strategies and in the Management of science and provides 15 Recommendations:

### **On Center Strategy**

**Recommendation 1:** The Panel encourages IITA to proceed to complete its Future Strategy document considering some of the suggestions provided in this report. The Panel *recommends* that the Center should seek greater congruence between the overall Center strategy, MTP Project planning and the restricted project grants in order to articulate the high priority research and line up the direction of growth with the intentions of R4D. The Panel further recommends that the relationships should be clearly documented as a nested set. The Panel notes that the drawing together of experiences (the synthesis of results in different areas, and evaluation of long- and short-term science) is an important input into the continuing evolution of effective strategic planning.

### **Cross-cutting approaches supporting research**

Noting the tendency for IITA to respond to local needs or to be drawn into the development of facilities for biotechnology at many of the sites it works, particular when sharing facilities with NARS, the Panel makes two recommendations into the focus of biotechnology at IITA (through Ibadan and the BECA facility in Nairobi) and its management.

**Recommendation 2:** The Panel *recommends* that IITA does not expand biotechnology facilities further into other locations, but instead strengthens the facilities at the two existing hubs to serve the needs of NARS as well as the IITA scientists more adequately.

**Recommendation 3:** The Panel further *recommends* that in order to improve coordination and communication between its biotechnology hubs at Ibadan and Nairobi, IITA should consider appointing a biotechnology coordinator to facilitate the functions of these hubs and enhance effectiveness of the Center's biotechnology thrust.

## **Cross cutting approaches - Focusing research on markets**

**Recommendation 4:** IITA is entirely correct in emphasizing the important role of markets in agricultural development in Africa but the Panel *recommends* the institute to pay more attention to building and strengthening national agri-business capacities for marketing the inputs (such as seed, clonally propagated materials and biocontrol agents) that embody the institute's own technologies, and draw lessons from this experience.

### **In relation to Programs**

Underpinning the critically important conservation work that IITA does are considerations of cost, insurance against unforeseen events and genetic stability. As the conservation efforts underpin all of IITA's improvement programs for the region it serves, and sharing improved germplasm both by IITA and amongst partners carries with it concerns for plant health across the continent, the Panel makes two recommendations in relation to partnerships in cryopreservation technology and extending IITA's plant health facilities.

**Recommendation 5:** Cryopreservation of tissue has the potential to eliminate effects of somaclonal variation and the need for regular field and tissue regeneration of conserved, clonally-propagated germplasm. The Panel *recommends* that IITA seek support for collaboration with an appropriate ARI to establish dependable cryopreservation protocols.

**Recommendation 6:** The Panel *recommends* that IITA enhance capacity to provide intellectual and material support to germplasm health and transfer in Africa. This includes appropriate tissue culture protocols, transboundary material passports and indexing capacity and foundation vegetative propagation materials. The intention of this recommendation is to further enhance IITA capacity so that this critical expertise can be shared.

IITA is developing three cross cutting programs, one of which has the capacity when properly planned and focused to support the research priority setting goals of the Center. For this reason the Panel places particular emphasis on the appropriate planning for the "Opportunities and Threats" MTP Project.

**Recommendation 7:** The panel *recommends* that the goals of the Opportunities and Threats project should focus on commodity-specific as well as multi- or supra-commodity analyses that are linked to a well-defined priority setting and strategic planning process at the project and institute levels.

The Panel carefully considered the role and current capacity of Natural Resources Management research at IITA, given the production and product focus of much of the developing portfolio. Whilst IITA has published some of its earlier results in this area, the Panel is concerned that here, as in some other areas, the Center is not utilizing its available information in a way to identify gaps and to comprehensively inform the overall strategic direction for Natural Resource Management particularly in relation to soil recapitalization. The Panel, therefore, makes the following recommendation:

**Recommendation 8:** The Panel is concerned that IITA-led strategies for promoting an upward trend in yields, fertilizer use, and soil fertility in the savannas will not adequately meet future

food demands. The Panel *recommends* that IITA prepares a comprehensive summary of its past soil fertility research; that it monitor nutrient flows in its farming systems research and exploit possible genotype x fertility level interactions in its germplasm; and that it enhances advocacy for efficient fertilizer use and supply systems.

To underpin good agricultural science, the Panel is convinced that IITA needs to pay more attention to backstopping its own science and that of partners with statistical support and makes the following recommendation:

**Recommendation 9:** The Panel notes that the IRS vacancy resulting from the departure of the senior statistician has not been filled, and is concerned that the Center is not gaining the full benefit of newer techniques in spatial adjustment of data, in genotype x environment interaction analysis, and in the analysis of molecular information. This concern has also been voiced by several scientists during discussions. The Panel *recommends* that the position of senior statistician be filled as soon as possible.

Although IITA reports a large number of different partnerships, in reviewing IITA's draft strategy, and in meeting some of IITA's research partners in the field, the Panel is concerned that the traditional strength and emphasis on partnership with the NARS is waning in some cases. Elements of this are to do with reduction in formal capacity building for NARS participants for which the Center finds it harder to command funds and so has developed a more programmatic means of engagement starting in 2002. However, the Panel is most concerned that in a redefinition of NARS by the Center and a selective focus on universities and SMEs as partners in agroindustrial projects, that the Center is in danger of by-passing the source of sustainability for such initiatives beyond IITA's involvement. The Panel puts particular emphasis on the following Recommendation if IITA is to fulfill its espoused strategy:

**Recommendation 10:** The Panel *recommends* that IITA recognize its broader responsibility for building capacity towards bringing about lasting and sustainable solutions against hunger and poverty. This requires that IITA engage its NARS partners more actively and more broadly in its R for D, so that all partners gain experience in moving through the spectrum of discovery to delivery and along the value chain.

IITA has generally had good relationships with other CGIAR Centers and associated partners. However, there are still concerns that relationships with CIAT (over the introduction of cassava germplasm) and ILRI and FARA (which in part concern overhead rates) are not yet resolved and the Panel urges IITA and its partners to address these, noting the role that the Alliance might play in mediating such concerns. Whilst the Panel has sympathy for IITA's positions in these discussions, drawn out debates can also lead to the disillusionment of partners contributing to collaborative research and consortia which IITA must guard against (particularly, for example, in the Kano site for the SSA-CP and in the collaborative development of the regional action plan for WCA).

In considering the Governance and Management of IITA, the Panel commends the manner in which the DG and Board have handled earlier financial difficulties and managed the growth of the Center in the review period. The Center has enjoyed particularly cordial relationships with its host government and has been singled out to join in commodity improvement projects which are likely, if successful, to have wider spillovers. The Panel's recommendations therefore focus on the management and support of the scientific program.



## **On the Program Committee of the Board**

**Recommendation 11 :** Since an effective Program Committee can greatly facilitate the work of the Board (as well as of Management, if the PC is able to do its work properly), and the issue has been of continuing concern to the IITA Board for some time, the Panel *recommends* that the Program Committee focus on strategic program issues; ensure that it, and its members, do not micromanage scientific activities; and that the Committee receive high-quality analytical papers and other relevant information from Management in a timely manner to enable it to properly undertake its program guidance and oversight responsibilities.

## **On research management**

**Recommendation 12:** The Panel *recommends* that IITA's research management structure and accountability be strengthened by: a) clearly specifying the responsibility, authority, and lines of reporting for the DDG (R4D), Deputy Directors, and scientists; b) utilizing the Research Development Council (RDC) primarily as an advisory body to the DDG, as per its new Board-approved terms of reference; and c) strengthening the research management function, by appointing Project Managers reporting to the Deputy Directors, for managing the MTP projects included in the research portfolio.

## **On human resources management**

**Recommendation 13:** The Panel *recommends* that the HR management Unit at IITA become more proactive in establishing effective systems for recruitment, performance management, career advancement, and retention of both IRS and NRS; and in ensuring that the approved HR processes and procedures are consistently followed by managers and staff throughout the organization.

## **On the procurement function**

**Recommendation 14:** The Panel *recommends* that suitable follow-up action for strengthening the procurement function be taken by Management in the coming months, along the lines proposed by the external procurement experts.

## **On the relationship and alignment with WARDA**

The Panel notes the good working relationships at a) Cotonou, Benin, where WARDA staff are temporarily housed and where the two Centers share facilities, b) Ibadan, where some rice research is conducted by WARDA scientists using plots on the Ibadan site. However, WARDA's natural programmatic linkages are with IRRI and CIAT and IITA does not intend to take on more rice research. The major forms of alignment therefore are through shared Board members of these West Africa- based Centers, and through the planned rationalization of corporate services functions. The Panel makes the following recommendation.

**Recommendation 15:** The Panel *recommends* that the staff and DDG-S (IITA) and ADG (WARDA): a) continue a very collaborative approach to ensuring that the transfer/alignment of corporate services proceeds smoothly; b) closely monitor on a regular basis the progress made by the various Transition Task Forces and the Local Implementation Committees at Cotonou and

other sites covered by the MoA; and c) seek to benefit from the experience of other Centers that are aligning corporate services.

In conclusion: The 5<sup>th</sup> EPMR had suggested that IITA should seek to improve the quality of its science. This Panel is happy to report that the Center has indeed started down the road towards that goal and is making good progress. An effective and sustainable R4D program will work towards ensuring that development is truly driven by science. However, good quality science will only lead to practical outcomes if research programs allow the opportunity for a comprehensive and long-term effort, a goal that may be threatened by reliance on multiple projects with varying mandates. The Center's policy of protecting its core competencies appears to be working effectively in the crop improvement programs, but continuing attention to natural resource management issues are required. The Panel believes that the Center now has a good opportunity to adjust its strategic plan and to align internal planning with its espoused vision. To put science at the core of its approach, IITA needs to enhance the planning and management of its Projects and the balance of sub-regional efforts in alignment with the new strategy. It is important that IITA maintain its core biotechnology capability, so that it seizes the opportunity to use molecular breeding techniques whenever their cost effectiveness can be demonstrated in an African context.

The Panel is concerned about the relationships between IITA and its traditional NARS partners. IITA needs to make adjustments in the nature and level of national engagement as its portfolio of activities unfolds, and it often does. Unfortunately, the direction of IITA's new modality for evolving partnerships has stirred misgivings in some countries. The expectations of collaborating NARS is that partnerships will evolve where some responsibility is shifted to NARS, and IITA scientists will move to focus in areas where the NARS have not yet achieved sufficient strength. The R4D agenda provides many new frontier areas, as this Report discusses, and long term partnerships are the key to the sustainability of activities currently being planned. Where relations have soured, partners fear that they are shunned because of their demand for a greater role in joint R&D efforts and their request for greater share of research grant support for their higher level of engagement. IITA's future approach to partnerships within the R4D paradigm needs to be a carefully thought through part of the new strategy development to avoid losing the major gains it has made historically in relationships with NARS partners.

The Panel is cognizant that IITA has had a momentous five year period in which many major adjustments in research for development approach were initiated and continue to be implemented. While the Panel believes that the new R4D approach is an exciting experiment, it would at the same time wish to encourage the Center to proceed with cautious optimism. IITA should ensure that the right monitoring and evaluation mechanisms are put in place in order to provide the basis for long term impacts, while at the same time providing a means of capturing the lessons learnt for purposes of scaling-up and for making internal programmatic adjustments with time. It is against such a background that the Panel made a series of specific recommendations and suggestions believing that they will be helpful to the Center in the further development of its strategy and its espoused approach. It is the hope of the Panel that once the recommendations are agreed upon, IITA will expedite their implementation.

