**Workshop on International Public Goods**

**Science Council – Alliance of CGIAR Centers – GFAR**

Special Session at AGM 08, Maputo, Mozambique
November 27, 2008

Ruben Echeverría, Executive Director of the Science Council Secretariat convened the meeting and welcomed participants. He thanked Derek Byerlee, Anne-Marie Izac, David Williams, Victoria Henson-Apollonio and Peter Ballantyne for preparing presentations for the workshop; and Rodomiro Ortiz (coordinator of Alliance of CGIAR Centers Deputies for Research) for co-organizing the workshop.

Echeverría noted that the concept of international public goods (IPGs) had been much debated in the CGIAR. It had been emphasised as a criterion during the development of the former system priorities in order to ensure that public investment in agricultural research would obtain maximum spillovers. The Science Council had extended the debate through development of papers on the definition and implementation of IPG research and the holding of a workshop (together with the Government of the Netherlands) in The Hague in 2006. He noted that as background to the Independent System Review a further paper on this subject had been commissioned by Sagasti and Timmer. The purpose of the present technical meeting was to appraise current understanding of the concept, hopefully clarifying its use. Such a discussion is appropriate at a time of change in the CGIAR and when new program design is being contemplated.

**Derek Byerlee** (Science Council): *Some Common Sense about IPGs*

In his presentation, Byerlee noted that there were formal economic definitions of public goods but, for the CGIAR, the three salient components of the concept are (i) the production of goods that produce high benefits to society, (ii) that the public sector has a role in producing those goods because there were market failures and the private sector's contribution provides less than a social optimum, and, (iii) that undertaking public good research is called for when the costs and risks of state failures were less than the cost of market failure. Certainly, poverty is associated with a lack of demand and creates a legitimate entry point for much public sector research. However, whilst there are general principles, the production of public goods should be recognized as context specific depending upon such parameters as the type of product, the socio-economic, management and institutional conditions where goods might be generated or applied, with each of these factors being liable to change over time. Benefits from international spillovers depend upon "how well the public good can travel", on economies of scale in producing the good, and on the size other the potential research impact domain. IPGs often require collective action by countries (i.e. the cooperative action of several countries to augment the spread and utility of a public good). Importantly, Byerlee judged that IPGs can be produced locally, provided that the explicit international research and impact domain is defined and the impact pathway to reach the domain is explicitly articulated. In agreement with the earlier Science

Council paper, Byerlee suggests that it is the *intent* by which IPG research must be measured rather than what actually results, given the serendipitous nature of research. Indeed some of the intermediate products of research are themselves IPGs that improves the efficiency of research in other countries and many types of research produce such as natural resources management and networks (for instance) produce multiple products. Policy research is also a more difficult area to characterise simply but can also be expected to have several products. Overall, whilst IPGs remain central to the business of the CGIAR, thought and action must move beyond just the production of public goods to ensure their impacts. This will require additional activities; delivery systems, capacity building and the formation of flexible R&D linkages according to the comparative advantage of the different players to build successful innovation systems.

**Anne-Marie Izac** (Alliance of CGIAR Centers): *International Public Goods and INRM*

Izac's presentation focussed on the new challenges to the CGIAR at a time of change. She noted that the big issues for research were complex socio-economic ecological problems, necessitating interventions or innovation at multiple scales, with complementary partners in order to lead to wider impact. There was therefore a need to define the CGIAR role in the international R4D landscape, although (as noted by the previous speaker) that landscape was different in different parts of the world, and dynamic. She expressed the need for flexibility in co-designing appropriate partnerships to conduct research for development whilst being accountable for research outputs and for the necessary impact pathways. She suggested that we cannot yet be sure of the ability of such new partnerships to generate impacts and so the CGIAR is moving into unfamiliar territory for which it will need new concepts, "beyond IPGs."

**David E. Williams** (Coordinator, SGRP): *Why the CGIAR Genebanks are International Public Goods*

Williams noted that the Centers' Genebank genetic resources met the requirements for quintessential public goods in that availability was non-exclusive, non-rivalous and the CGIAR's accessions were held in trust for the global community. The genetic materials contributed to a wide array of international research and production uses. The CGIAR and the SGRP had made particular contributions (including human and scientific capital) to international discussions and the International Treaty for Plant Genetic Resources for Food and Agriculture (the ITPGRFA) which itself represents a major IPG. Both the SGRP, the Center Genebanks and the Global Crop Diversity Trust view themselves as working within a global system for conservation and use; such a system will facilitate delivery of global public goods including the restoration of local varieties, promotion of on-farm conservation and agricultural diversification amongst others. According to Williams, the necessary steps towards realizing a global system include a technical blueprint, a political framework, infrastructure and a supporting vision, biotechnology, information technology and coordination. This is much more than research, but can be developed feasibly with existing players and instruments and with an especial emphasis on engagement with national partners in the future.

**Victoria Henson-Apollonio** (Manager, CAS-IP): *International Public Goods, Intellectual Property and the CGIAR.*

Henson-Apollonio noted that there were some very clear "pure" IPGs, such as the just mentioned genebank functions and capacity building for instance. However, other cases are likely to be less clear cut and it would often be more important to think of the clients of CGIAR research so that intellectual assets can be managed in such a way as to make products available to the intended beneficiaries. In this framework, intellectual property rights become part of strategy in implementing public-private partnerships and not an end in themselves. Henson-Apollonio provided several examples of where the strategy would dictate different sorts of actions by Centers. There is also a need to increase understanding and more sophisticated approaches e.g. in areas such as market segmentation, application of humanitarian use provisions and greater use of non-patent literature databases to *reduce* the number of potential IP issues. Reducing the emphasis only on "finished/mature" products should be accompanied by better management of data and intermediate products, and better identification and written description of intellectual assets. The speaker suggested that perhaps intellectual asset management should be part of the impact pathway description, designed at the time of program planning, to ensure that the CGIAR could carry out its mission and make its products accessible in the most appropriate manner.

**Peter Ballantyne** (Consultant, ICT-KM Program): *Making CGIAR Research Outputs Available and Accessible as IPGs.*

Ballantyne reported some of the illustrative outcomes from a study conducted on behalf of the ICT-KM to evaluate how well Centers were doing to make their products available, accessible and applicable to their several clients. This focussed largely on publication and web use strategies, noting that there were many new and developing tools and applications to increase utility. Accessibility, he stressed, is the secret of letting IPGs travel.

Ballantyne mentioned that not all of a Center's outputs are available in full; and what is available, often cannot be made public. Among other avenues to make information more accessible he mentioned the possibility of requesting publisher permissions to make articles publicly available before and after publication through institutional repositories, or to pay for open access online. Ballantyne stressed the need to strengthen the a**vailability of information (**assembling and storing content so it will be permanently accessible, and describing it in systems so others know, and can find, what outputs have been produced); its a**ccessibility (**making outputs as easy to find and share and as open as possible, in the sense that others are free to use, reuse, and redistribute them, with appropriate acknowledgement and without restrictive legal, technological or financial barriers) and its a**pplicability (**research and innovation processes that are open to different sources of knowledge, and outputs that are easy to adapt, transform, apply and re-use)

**Panel Discussion Session**

**Jonathan Wooley** (Coordinator CPWF): the first speaker on the panel spoke to a short presentation (*IPGs - a Conceptual Barrier to Research in Complex Situations)*. Wooley put forward the proposition that for complex situations, IPGs are, for the most part, a conceptual

barrier to research. They reflect a highly reductionist approach. Wooley thus argued that complex multi-sector problems such as those being addressed by Challenge Programs, need new ways of working. Adhering to the IPG concept might be appropriate for the CGIAR when dealing with relatively simple and non-complex problems, e.g., crop germplasm improvement, but was less relevant for addressing technically and socially complex, multi-sectoral resource management-related challenges where there is less certainty with respect to outcomes, i.e., what works in one location may not work in another. To be successful here requires multiple organizations working together in an action research and social learning mode. Wooley highlighted several key implications including the need for investing more in partnerships, a longer time lag for results, greater difficulty in predicting results *a priori*, and the need for up-scaling and out-scaling local research. He emphasized the need to focus less on *ex-ante* planning and more on the problems and letting the research evolve and develop solutions throughout the process. In the experience of the CPWF, this approach and the work associated with it, also generates IPGs.

**Gebisa Ejeta**, Science Council member, was the second speaker on the panel. He emphasized the need to move beyond semantics and listed three important elements for the discussion about IPGs: (i) local versus an international public good – this distinction has not served the CGIAR well; (ii) accessibility of Center results – are they available for uptake, are they relevant? (iii) IPG as a primary outcome versus there being a means to an end.
Ejeta maintained that the CGIAR's strong emphasis on IPGs in the past has created a virtual wall and built up unrealistic expectations of the division of labour between research and development. This has allowed the CGIAR to intellectualise its mission and distance itself from reality. Although billions of dollars have come to the CGIAR for purposes of alleviating poverty, we have limited ourselves to the research end of the spectrum ("hidden behind research silos in the name of IPGs") and not become engaged in the development process where the real transformation takes place.

To remain true to its mission of poverty alleviation, Ejeta continued, the CG needs to have a stronger focus on the rationale for its research and related activities and the primary objective of its work. The CGIAR does not exist to generate IPGs, but to achieve its mission. So the real question is how can the CGIAR most effectively contribute to lifting millions of people out of poverty over the next 5-10 years through its research? According to Ejeta, the CGIAR must give more attention to transforming its research products into on-the-ground impacts. This has been neglected. Key issues that must be considered include:

- how far down the impact pathway should the CGIAR be engaged?
- who is responsible for the next steps after IPGs?
- how should the CGIAR address the weak NARS issue, and the lack of capacity to absorb IPGs?

The CGIAR needs to be a true agent of change, taking its results further along the pathway to allow for a transformational change in Africa where, to-date, it has not had a strong record of achievement. Looking back at the most significant transformations that did take place, Ejeta felt that these occurred before the advent of "IPGs", when CGIAR Centers were working very closely with the NARS programs, and hence where a functional transfer mechanism existed. Where product development and delivery system are absent or deficient, no effective conduit exists for translating IPGs into real impacts. Whose responsibility is it to

build capacity in Africa? The speaker suggested that everyone, including the CGIAR, needs to be involved. IPGs should not be a shelter to hide behind this major bottleneck. In this respect, adopting only the IPG stance could make the CGIAR look dishonest. He urged the CGIAR to commit to work closely in the future with NARS particularly on product development and delivery markets.

***Dennis Kyetere,*** Director of NARO, Uganda and chairman of FARA, was the third speaker on the panel.

Kyetere began by praising the good work done by the CGIAR through generating IPGs that have had impact. This has narrowed the gap between public and private goods. However, he made four important observations:
(i) while much has been accomplished in terms of IPGs, many of these have generated very little impact, e.g., in the area of NRM research. There is a need to translate the generic IPGs into specific and highly relevant outputs and for this policy is required for implementation.
(ii) some NARS are also producing IPGs, e.g., through their advanced research (biotech) on pests and diseases – this should not be overlooked;
(iii) the role of the private sector in producing IPGs; intellectual assets are generated by the private sector; is there a role for the CGIAR in making sure these benefits can flow to national programs; and,
(iv) international instruments (such as the IPGRTA) are very useful, but after the negotiations much still needs to be done, e.g., the CGIAR is the custodian of the world's largest collection of germplasm. However, beyond its role as custodian, more needs to be done to facilitate sharing and utilisation of this resource and benefit sharing.

**General discussion**

In the discussion that followed the participants debated the appropriateness and relevance of the concepts of IPG and comparative advantage and how they influence the CGIAR's work, particularly regarding ability to generate impacts.

For IFPRI, comparative advantage relates to where the CGIAR is most effective for reaching the goal. There is a need to consider which other actors are engaged in the supply side and to clarify what the CGIAR can do that others cannot do. The IPG definition has changed and it needs to be context specific; IPGs are different in Asia than in Africa. It is important to identify impact pathways from the very beginning. For securing relevance of the research and the ability to have the results transferred to the intended beneficiaries, IFPRI engages in experimentation—even in policy work—which itself creates IPGs through learning. As demands are often generated at the local level, it is important to note that work done at the local and national level can have global implications and impacts.

There were several comments related to clients' and national partners' perspectives and how the IPG approach may often be seen as preventing research focussed on local relevance and impact. This also relates as to how the IPG concept can be used and interpreted in positioning a Center in an innovation system. The meeting noted that knowledge and understanding often travels much better than information alone. Clients prefer both information and "after sales service", i.e. a whole package. The Centers often do auxiliary

things that are not IPGs themselves but are needed for generating local impact from the IPG work - for example, some products are IPGs, some goods and services are not, but for impact they may have to be packaged together. This may help meet the criticisms of national and regional players who believe that the IPG product stance does not go far enough on its own. It was also noted that an additional reason for the Science Council's emphasis on IPGs was to ensure that space was created for the NARS to fulfil their national and regional research for development roles and so that they would not be crowded out by the CGIAR. Thus, the producer-client relationship should not encourage displacement or dependency.

A distinct position was assumed by Wooley and Izac suggesting that the concepts of IPGs and comparative advantage are a hindrance to the CGIAR in getting on with important work in natural resources management. They argued that planning for particular impacts and for particular products does not leave space and scope for innovation. Innovation is nurtured by social capital created within optimal partnerships where flexibility - and a certain degree of open-endedness as to what the distinct products will be - can stimulate different kinds of solutions.

In contrast, other discussants argued that, the flexibility of the approach not withstanding, good planning is needed. Three research managers said that they judged the IPG content of research and Center comparative advantage in assessing projects for development. Clearly the IPG concept can help but, equally, clear definition is required of the intended impact pathways and the expected research products. Inability to plan the impact pathway leads the activities to uncharted territory. It was emphasised by Byerlee and others that planning for future impact does not imply that there cannot be flexibility. It is important to define very clearly what the CGIAR's products are; for example datasets are important deliverables that have a broad use. Also proof-of concept research can be good research where lessons from testing out-scaling can have broad applicability. With respect to "blue sky" research, it was noted that typically this type of research addresses global problems and has high risks, but it also has very high potential pay-off and impacts of global reach and therefore fits very well within the concept of IPGs.

Byerlee noted that, although the term "IPG" may not be used in some countries, for example in France, there is a strong move in the European Union to fund and produce 'regional public goods;' i.e. goods and results that are applicable beyond national or local level. IPGs are widely discussed in sectors other than agricultural research— in the field of health for example —and it would be beneficial for the CGIAR to have interaction with and learn from IPG work in other sectors.

There was general agreement that IPGs are a means to an end, that they are a tool to help achieve the goals of the CGIAR, to reduce poverty and hunger, and that they are often context specific. To enhance cost effectiveness of developing IPGs and ensure impacts the importance of partnerships and capacity building was emphasised. For example, Asia is considered to have much stronger national program infrastructure than Africa. Yet, even in Asia the partners' capacity to take up new technologies can be limited, particularly if public investment declines. The challenge in reaching impact relates to what happens beyond the production of outputs (whatever their research domain) and who are the partners further along the impact pathway. Identifying those partners as part of the impact pathway design is

important for their appropriate involvement in the research process. It was argued that the work of Centers needs to be linked directly to needs, if they are to continue to be effective in their poverty alleviation mandate. The IPG concept ought to be part of the practical process of planning research within the Centres, otherwise there is a risk that scarce research resources could be increasingly diverted towards local impacts.

Ballantyne commended the Science Council for convening the workshop on this pivotal issue and proposed that this discussion be taken as a starting-point to build an agreed action on the place of IPGs in the work of the CGIAR.

Echeverria (co-Chair) concluded by thanking the speakers and participants.