

CGIAR

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<h3>The Third System Review: From Proposals to Practice</h3>

System Review Follow-up: Consultative Council Propositions on Science

Action Proposals on Policy Analysis, Gender Analysis, Global Information Sharing and Capacity Building:

• New Initiatives on Global Information Sharing • New Initiatives on Capacity Building

Attached are two reports prepared by the Center Directors Committee on global information sharing and capacity building. These documents are issued as background to agenda item 3(b)i – Action proposals on policy analysis, gender analysis, global information sharing and capacity building.

**CGIAR Mid-Term Meeting 1999
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System Review Follow-up:

System Review Recommendation 6

Global Information Sharing

Center Directors Committee Response

Introduction

The CGIAR centres form a small but important part of the global knowledge base of agricultural, forestry and fisheries sciences, and associated sciences. The centres, many more than a generation old, are also custodians of accumulated knowledge beyond the scientific aspects of farming, forestry and fishing. The commodity centres, holding in trust possibly 40% of genetic material stored in global genebanks, constitute a major source of associated information.

As centres of excellence the IARCs probably have in their midst a significant amount of global knowledge, in their archives, in their libraries, and as accumulated knowledge among staff members. In addition they often constitute hubs in knowledge networks, which include many stakeholders in farming, from farmers, foresters and fisherfolk to commercial enterprises, universities and ministries.

The situation for NARS

In the past conventional channels of information dissemination often made access difficult for developing country interests to this pool of knowledge. Scientists in the South have sometimes been marginalized in respect to the logistics and the economic possibilities of playing active roles in, and benefitting from, the IARC knowledge base. Only a limited number of NARS scientists and policy makers have been reached through the conventional methods of knowledge dissemination, although it should be added that IARCS have reached many more than comparable institutions through their high-profile training, collaboration and publication activities. IARCs have constituted a useful component of information dissemination, supplementing others, and probably doing more than their share. Through co-operation with NARS the IARCs have also developed a set of listening posts to knowledge-pools in the NARS. Stronger emphasis in recent years on IARC-NARS collaboration has strengthened the role of the IARCs in the global information system.

Other global players

There are other major players in the agricultural information field – FAO and CAB International are two prime examples, and other work is ongoing both within The World Bank (e.g. EGFAR) and the European Union. Being large they have developed their own standards, and this contrasts with the variety of information standards followed by CGIAR Centres, where there has been limited success in implementing common standards for information formats, dissemination and processing. By choosing individuality the IARCs have constituted a lesser force in setting standards, and may have made overall dissemination of knowledge more suboptimal. In particular this may have affected developing countries, whose library standards, data communication protocols and staff training have been strongly linked to the possibilities and support offered by the major players, FAO in particular. They have simply been unable to maintain more than one or a very limited number of information channels.

IARC moves towards standardisation

The electronic revolution has a potential of facilitating knowledge sharing in dramatically new ways, both in terms of quantity and quality of information available for rapid and efficient exchange. Major commercial organizations have recognised this for some years. The IARCs were among the early movers in the public sectors to acquire comparable capabilities through the construction of its Integrated Voice and Data Network (IVDN). At the same time there has been some limited success in standardising important software components in centres, with associated protocols. This has arisen partly as a result of commercial dominance of Microsoft as vendor of software products, and partly as a result of growing inter-centre co-operation in the information field. Critical in this have been personal contacts between key technical staff, many of whom had also taken part in the work on IVDN, or been part of library and publications inter-centre contact groups. Apart from the IVDN, of which most centres are members, major efforts to standardise information technology tools have not yielded great results, although there is growing co-operation in e.g. Geographic Information Systems (GIS). Standardisation in reporting requirements to the CGIAR has, however, recently brought about greater ease and transparency in reviewing centre project information and planning data. Through this the operations of the IARCs have become more transparent.

System Review Recommendation 6

Recognising the role of information for future agricultural research both within the CGIAR and as part of the global research system, the IARCs have reviewed their current within-system policies, and the role that they can play globally.

Building on the experience of IVDN the centres propose to develop electronic communication further, and to aim for increased within-system connectivity between centres. This connectivity will be aimed at:

- a) allowing further sharing of compatible data bases (e.g. SINGER)
- b) allowing use of shared software (GIS, accounting, library)
- c) enhancing connectivity of existing services (voice, email)
- d) enabling extensive videoconferencing within and between connected centres.

It is **not** proposed that the IARCs independently develop a separate system for agricultural knowledge, but instead affiliates itself with major efforts elsewhere in the global community. Several alternatives exist, and there is a need to ensure that valuable systems are not being denied access to IARC-held knowledge through the choice of a unique affiliation. IARCs will explore whether close co-operation with FAO can ensure that CGIAR knowledge bases can be accessed in standard mode through its WAICENT system.

The IARCs have experimented for several years in giving selected NARS and co-operating institutions access to use of IVDN for communication with IARCs. The use of IVDN for more global electronic data communication applications by non-CGIAR centres is limited due to national telecom regulations, now often being increasingly liberalised. Technical 'last mile' connectivity problems have been experienced in trial sites, where local telephony standards are inadequate to handle IVDN traffic suitably. However, the growing presence of local independent commercial Internet providers and upgrading by national PTTs of their local nets, now open new possibility for the use of IVDN-services also for NARS. As an early experiment IVDN's service provider (CGNET) plans to offer 'Voice over Internet Protocol' for national agricultural research system scientists in the course of 1999, connecting to IVDN. Essentially this will allow any NARS scientist, with a PC with internet capability and microphone/loudspeaker, to contact any IVDN-connected IARC scientist in the whole world by voice, through using IP connections to the IVDN hub, currently in Menlo Park, California, and then linking up via IVDN to IARC telephones (or PCs) from there. The cost of the 'call' will be the local Internet charges only.

The CDC is further exploring with the service provider whether limited lower-quality videoconferencing using existing Internet protocols can be meaningfully implemented in connection with IVDN in the near future, also to include selected NARS and other institutions. Whilst higher quality videoconferencing is possible over IVDN, and is increasingly being used, the bandwidth required exceeds current NARS facilities.

The CDC believes both steps will significantly lower communication barriers between CGIAR scientists and NARS scientists, and add to the expanding flora of connectivity possibilities offered by the public and private sectors. Whilst it is beyond the task of the CGIAR to address 'last mile' connectivity issues in general, there is every reason to believe that the explosive growth in the telecommunication market will soon also reach areas of poor connectivity, e.g. national research stations in Africa, by wire or wireless means. With donors CGIAR centres in Africa are exploring low-cost alternatives to overcome 'last mile' connectivity issues (e.g. AFRICANET in East Africa).

Management implications

It is of importance to recognize that global knowledge sharing goes much beyond connectivity. Access to the knowledge base, and incentives to use it actively in support of agricultural research, are all closely related to organizational culture. Concentrating access and use to few scientists and administrators in an organization, often high up in a hierarchy, is normally not conducive to better science. The CGIAR has over the last 2 years been actively engaged in courses in information management for NARS in order to build enabling structures in organizations for better use of knowledge. Whilst appreciating that there may be logistic and economic constraints for wide-scale implementation of information technology in some NARS at present, organizational cultures and individual skills must be developed for the near to intermediate future when technology will become more generally available.

Conclusions

The CGIAR recognizes the contributions that it can make in the global knowledge system. Consequently the IARCs are expanding their electronic connectivity also to include NARS, and to chose low-cost alternatives that will offer better opportunities for NARS to benefit from and contribute to CGIAR science.

Whilst continuing within CGIAR to strive for greater standardization in internal databases of global relevance, and for administrative data, the CGIAR centres will enter into close cooperation with global world leaders in knowledge systems, to seek compatibility with their systems, rather than to develop their own.

We expect significant progress to have been achieved within 2 years, i.e. in year 2001.

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System Review Follow-up:

System Review Recommendation 8

Capacity Building

Center Directors Committee Response

Capacity Building

The System Review **Recommendation 8** proposed that the CGIAR should maintain its emphasis on capacity building without creating a new mechanism for this work.

CDC concurs. An earlier TAC proposal some years back, endorsed by CGIAR members, to decrease investments in capacity building, including training, was poorly received by NARS clients, who often had excellent experience with training of their scientists at IARCs. Whilst acknowledging that many trained scientists had later moved on to other assignments in their countries, access to CGIAR capacity building facilities has received high priority in most, if not all, submissions from regional and sub-regional organizations affiliated to CGIAR.

Uncertain of donor support, several IARCs have cut back on capacity building activities at times of economic constraints, thereby following the original TAC recommendations.

CDC has become convinced that capacity building must regain a central place in IARC agendas, and also as a cornerstone in CGIAR-NARS collaboration. It notes that in regions of limited availability of alternative suppliers of higher-level training, IARCs may be the most cost-effective source of capacity-building facilities tailored to science excellence.

CDC notes that IARCs have created a wide flora of capacity building tools, including extensive inter-centre cooperation in Africa, and innovative methods for interaction with local universities. Whilst always striving to ensure that new methods in capacity building are explored and implemented when appropriate (e.g. distance training methods), CDC concurs with SR Recommendation 8 that there is currently no need to create a distinct new mechanism for capacity building activities in CGIAR.