

## Discussion paper:

### Contributing to the CGIAR System Priorities – The future of underutilized plants research and development

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#### Objective:

With this discussion paper we want to stimulate debate on the future of the International Centre for Underutilised Crops (ICUC) and the Global Facilitation Unit for Underutilized Species (GFU) in the context of better institutionalizing underutilized plants research and development activities, nationally and internationally.

## 1. Background

There is increased interest within the international agricultural research and development community – including the CGIAR – in the conservation and use of underutilized species. In this context, the CGIAR stresses the need for a systems approach instead of a commodity focus in future research for development activities, and it highlights the need for work geared towards developing options for income generation (CGIAR, 2005).

Underutilized plant species have great potential to improve the livelihoods of low-income people in developing countries. Many have potential for processing and marketing and can thus enhance family income opening up paths out of poverty. Other species have high nutritional value, thereby fighting food insecurity and malnutrition and many also have medicinal properties and can thus mitigate the effects of HIV/AIDS and provide health care where “Western” medicines are out of reach of the poor (see Box 1).

To all of the System Priorities, underutilized plants can make a significant contribution, perhaps most so to priorities:

- 1B – Promoting conservation and characterization of under-utilized plant genetic resources to increase the income of the poor;
- 2C – Enhancing nutritional quality and safety (although the CGIAR focus here is on biofortification, not on diet diversification);
- 2D – Genetic enhancement of selected species to increase income generation by the poor (includes traditional and exotic species);
- 3A – Increasing income from fruits and vegetables (although the CGIAR focuses on major fruits and vegetables);
- 3D – Sustainable income generation from forests and trees;
- 5B – Making international and domestic markets work for the poor.

Most Centers are currently involved – to varying degrees of intensity – in research on underutilized species relative to:

- alternative crops in mandate ecosystems and landuse systems (e.g.: CIAT, CIFOR, ICARDA, ICRAF, ICRISAT, IITA, IWMI,...);
- their mandate crop wild relatives (e.g.: CIAT, CIP, CIMMYT, ICARDA, ICRISAT, IITA, IRRI, WARDA,...);
- underutilized forage and fodder (e.g.: ILRI, CIAT, ICARDA,...) and agro-forestry species (e.g. ICRAF)
- overarching issues related to underutilized plant genetic resources conservation and use such as policy (e.g.: Bioversity International and IFPRI);
- smallholder market development (e.g.: ICRAF, CIAT, Bioversity International,...).

### **Box 1. Definition of underutilized plant species**

Species with under-exploited potential for contributing to food security, health (nutritional/medicinal), income generation, and environmental services. These species:

- Represent an enormous wealth of agrobiodiversity and have great potential for contributing to improved incomes, food security and nutrition, and for combating the ‘hidden hunger’ caused by micronutrient (vitamin and mineral) deficiencies;
- Are strongly linked to the cultural heritage of their places of origin;
- Are mainly local and traditional crops (with their ecotypes and landraces) or wild species whose distribution, biology, cultivation and uses are poorly documented;
- Tend to be adapted to specific agro-ecological niches and marginal land;
- Have weak or no formal seed supply systems;
- Are recognized to have traditional uses in localized areas, but with considerable potential elsewhere ;
- Are collected from the wild or produced in traditional production systems with little or no external inputs;
- Receive little attention from research, extension services, farmers, policy and decision makers, donors, technology providers and consumers;
- May be highly nutritious and/or have medicinal properties or other multiple uses.

In addition to the Centers’ own activities, two associated units exist: The Global Facilitation Unit for Underutilized Species (GFU), a GFAR Global Partnership Programme associated with Bioversity International, and the International Centre for Underutilised Crops (ICUC), a CGIAR-associated Center hosted since 2005 by IWMI in Sri Lanka. Both are working towards the promotion specifically of the thousands of underutilized plant species. A separate publication explains complementarities between the two entities (ICUC and GFU, n.d.). The past year has seen close collaboration between GFU and ICUC, culminating in their joint publication of a strategic framework for underutilized plants research and development (Jaenicke and Höschle-Zeledon, 2006).

Other closely related initiatives have been started, most notably the Global Horticultural Initiative (GHI) which intends to address the CGIAR gap in research on horticultural crops (see SP 3A) and the INBAR-led new GFAR Partnership Programme on Non-timber forest products.

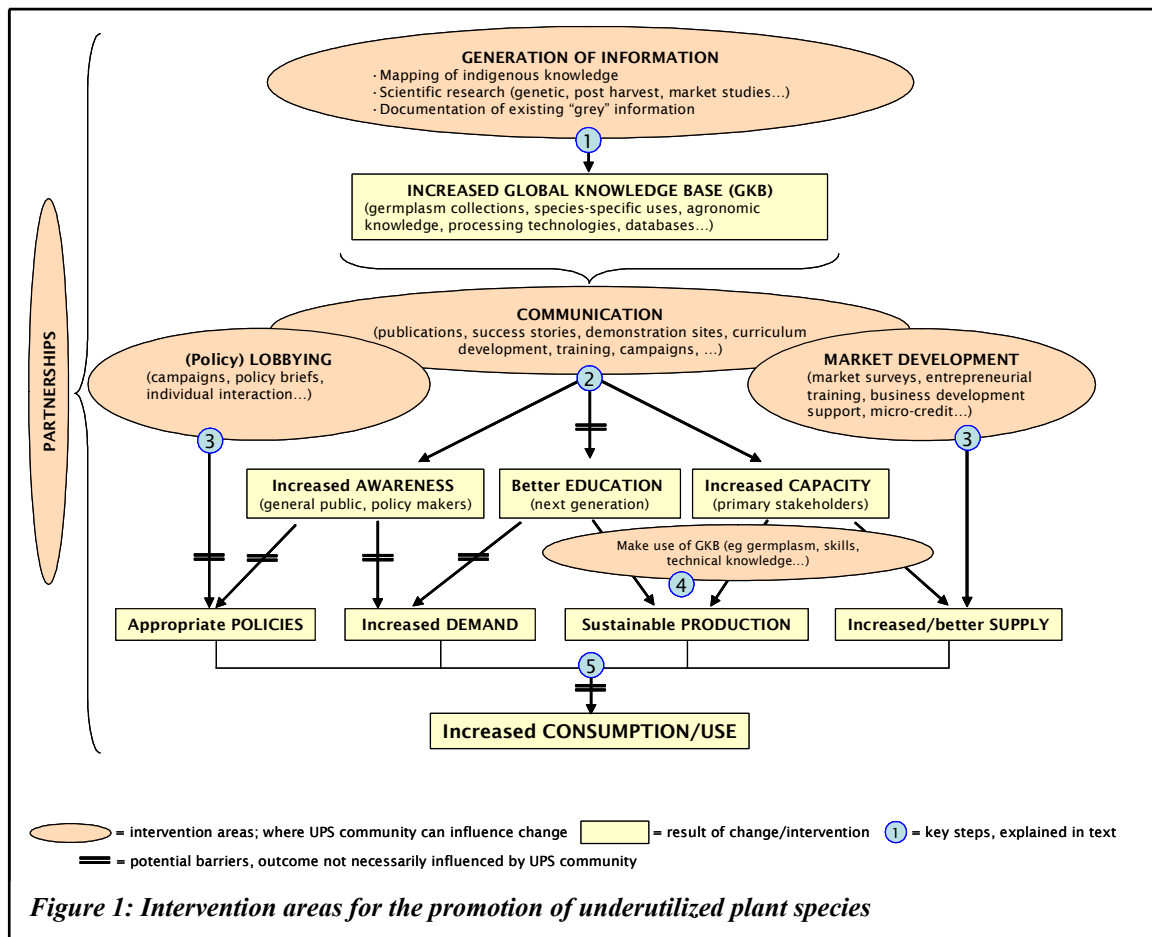
Additionally, Purdue University has long worked on “New Crops”, as have Australian organizations (such as RIRDC). Nottingham University, UK has been spearheading work on one particular underutilized species, bambara groundnut. FAO in addition to its work on genetic resources policy, has been involved in the promotion of traditional plants to mitigate the various impacts of HIV/AIDS on the infected people and their families (Garí, 2004). The Strategic Framework coordinated by GFU and ICUC lists the activities of 28 organizations as a small example of the diversity of on-going activities (Jaenicke and Höschle-Zeledon, 2006).

Despite the fact that GFU, ICUC and others can demonstrate great achievements with regard to bringing underutilized species out of the shadows, and despite the current favourable climate to increase their appearance on research and development agendas, mainstreaming of the topic has not yet happened. ICUC and GFU, both mandated to promote the use of underutilized plants, are nearing the end of their financial support in 2007, implying a potential end of underutilized plants activities through these dedicated units.

However, during the consultation in preparation of the new Strategic Framework, repeatedly a strong and powerful “champion” was requested to enhance the acceptance of underutilized species amongst the general public and the research (funding) community. Figure 1 shows how activities are linked and will lead to ultimate impact. The many isolated activities can benefit from greater coherence, and transaction costs could certainly be lowered by consolidating responsibility for underutilized plant research.

We therefore believe that there is continued interest and need for a dedicated unit for underutilized plant research, development and promotion. It would be appropriate, efficient and effective if GFU and ICUC joined their efforts to further stimulate work on underutilized plant species through a single, cost-effective entity. A merger of the two units into one would be a step in the right direction to ensure that research and development on and with underutilized species continues, and increases.

We are therefore calling on our stakeholders to discuss options for future institutional arrangements to strengthen underutilized plant R&D.



## 2. Moving ahead – new responsibilities

The new entity resulting from the merger of ICUC and GFU should be innovative, cross-cutting and maintain what stakeholders have appreciated in the past (e.g. the research and training support role of ICUC and the advocacy role of GFU). It should have a new name, distinguishing it from either of the two existing units.

It could have the following responsibilities and characteristics:

- be a coordination mechanism among all stakeholders including the private sector
- provide a platform for all stakeholders (production, research, trade, consumption, funding, policy)
- provide leadership for helping to set the global underutilized species agenda
- concentrate on strategic issues and methodologies, and work on individual prioritized crops through existing crop-specific global / regional / national networks and associations
- stimulate and facilitate the exchange of underutilized plant genetic resources and its assessment
- synthesizing research results from across partners (value adding)

- carry out research activities, such as scoping studies and market analyses (through subcontracting arrangements ?)
- maintain existing networks and supporting the formation of new ones
- organize international conferences and training events
- be a leader in policy advocacy and policy research (through subcontracting arrangements)

The entity would need to:

- be flexible in terms of partners and projects, but at the same time
- follow an agreed strategy, such as the recently developed Strategic Framework for Underutilized Plant Species R&D (Jaenicke and Höschle-Zeledon, 2006)
- be physically located at a place from where its mandate can be effectively fulfilled
- have an institutional set up which facilitates the fulfillment of its mandate at relatively low transaction costs
- have a sufficiently long “lease of life” to support the development and domestication of underutilized plants, which often take decades for tangible progress
- have the necessary human and financial resources

### **3. Institutional options – Food for thought**

In this section several options for a future institutional set up are discussed. Delineation between the models is fluid, and other options exist which are not discussed here for reasons of brevity.

#### ***3.1 Absorption of either unit into the other***

The Global Facilitation Unit is a Global Partnership Programme of GFAR, initiated by BMZ, FAO, ICUC, IFAD and Bioversity International. In its current arrangement, GFU is integrated into Bioversity International as part of the Institute’s Global Partnerships Programme. It has its independent Steering Committee and an independent budget. GFU’s main mandate is to create an enabling environment for stakeholders who are engaged in developing underutilized species. It deals with cross-cutting issues relevant for all stakeholders and most underutilized species.

Absorbing ICUC into GFU **without changing its scope and mandate** would mean (apart from lower transactions costs):

*positively:*

- better access to ICUC’s networks
- direct access to crop research activities
- better compatibility with the concept of GFAR’s Global Partnership Programme
- strengthening of Bioversity International’s overall role as underutilized species advocate

*negatively:*

- GFU at present is not mandated to carry out crop-specific research and training activities – this would be lost from ICUC’s agenda
- ICUC’s networks would lose their coordinator since they have specific MoUs with ICUC

The International Centre for Underutilised Crops is an independent institution which is currently hosted – and thus covered administratively and legally – by IWMI. ICUC has its own Scientific Advisory Board and dedicated budget. Its mandate is the provision of expertise and support in research activities of national partner organizations, many of which have signed specific Memoranda of Agreement with ICUC’s Southampton-based predecessor. ICUC is involved in its own – limited – research and development activities on specific underutilized crop species. It is currently active in Asia and Africa but is also playing a role as a global champion of underutilized crops and has been leading with GFU in the recent development of the new Strategic Framework.

Absorbing GFU into ICUC **without changing its scope and mandate** would mean (apart from lower transaction costs):

*positively:*

- benefit of direct access to GFU's links and databases
- stronger voice in political lobbying
- increased global activities and visibility

*negatively:*

- ICUC is not a GFAR partnership programme, so the links provided through this setup would be lost
- underutilized plant activities managed from a Water Management Institute is not a credible setup

### **3.2 Center Core activity**

*Description:* ICUC and GFU would cease to exist as individual units and their current work would be fully integrated into a Center's core activities. For the Center concerned, it would mean strengthening and expanding its existing activities, such as the Trees and Markets Theme at ICRAF, or the Neglected and Underutilized Species project at Bioversity International.

*Advantages:* Possibly the easiest option from a donor's point of view as it can be supported simply by an increase to the Center's funding; full integration into the Center's priorities; access to core funding.

*Disadvantages:* Not flexible and limited to Center's priorities; life time depends on the Center's policy; not a separate identity; no obvious incentive for coordination between Centers.

### **3.3 System-wide Programme hosted and led by one particular Center**

*Description:* SWPs are one of the mechanisms used by the CGIAR to enhance inter-Center collaboration and activity. There are a number of well functioning examples e.g. SGRP, CAPRI, SLP.

*Advantages:* Facilitates inter-Center collaboration and ensures that it produces results relevant for all participating Centers and other partners; cost sharing between Centers/partners; no limited life span; strong own identity with governance vested with the convening Center; streamlines work within Centers; flexible enough to collaborate with non-CG partners; transaction costs moderate.

*Disadvantages:* Operates well only if the participating Centers and partners are fully committed. Identity as a CG-System Programme may constrain collaboration with private sector (the private sector is a very important partner for underutilized plants research and development).

### **3.4 Challenge Program**

*Description:* A CGIAR Challenge Program (CP) is a time-bound, independently-governed program of high-impact research that targets the CGIAR goals in relation to complex issues of overwhelming global and/or regional significance, and requires partnerships among a wide range of institutions in order to deliver its products. There are now 4 Challenge Programs in the CGIAR – all are managed differently, however, all are consortia with CGIAR, ARI and NARES core partners carry out their research agenda through a combination of their own research and subcontracted activities.

Since the CGIAR expects a consortium approach in research on important challenges, such as the conservation and utilization of existing genetic diversity of underutilized plants (CGIAR, 2005), an underutilized plant research and development CP would address well the System Priorities. There is currently debate about initiating a new CP on "Horticulture for Nutrition", similar to, or aligned with, the AVRDC-led Global Horticulture Initiative. The scope of such a CP would definitely include many underutilized species such as fruits and

vegetables but is likely to neglect grains and pulses, non-timber forest products and all the plant-based foods collected in the wild. It would also exclude all work on underutilized species which are used for energy, medicinal, ornamental, fiber purposes. An alternative would be to open the scope of this proposed CP to include these other functions.

*Advantages:* Commitment by consortium partners, especially if run as a joint venture; addresses global goals; support of NARS as a funding body aligned to a central strategy; strong international voice; significant funding base thus able to 'make a difference'.

*Disadvantages:* Consortium approach is an inflexible model as partners are fixed. It operates through projects, i.e. with limited lifespan (5-year cycles with significant administrative inputs required for extension). High administrative overheads to manage consortium partners; limited to a clearly defined challenge (e.g. the development of particular underutilized species in a specific region); still not proven whether CP add value over other forms of partnerships.

### **3.5 Entity functioning from within a CGIAR Center**

*Description:* Such an entity operates with its own identity from within a Center which is usually its implementing agency, whilst it is overseen by a broad range of stakeholders (Steering Committee with members from different organizations). It could have the characteristics of a Facilitation Unit such as the GFU or have a more network type of operation such as ICUC. GFU is an integral part of Bioversity International's programme structure. ICUC is an independent organization which receives administrative support only from its hosting organization, IWMI. A formal network like COGENT operates less flexibly and its Steering Committee is limited to the network members. The networks' efficiency greatly depends on the commitment and capacity of the members.

*Advantages:* A hosted or integrated entity within a Center is usually very flexible. Partners can change easily. NARS partners are strengthened. The Center provides administrative support and a legal 'home' under the Center's host country agreement. It involves minimal transaction costs. Fund raising for the entity can be facilitated by the Center (lends its name and reputation). Life time is not dependent on a change of the Center's priorities as it could be moved easily to another Center.

*Disadvantages:* Future as a separate entity may be weak if it is very close to Center core activities; limited visibility and power to the outside world. Fund raising may be difficult as donors fund already other projects of the Center or provide core funding which would not, or only under difficulties, be accessible to the entity.

### **3.6 Center/unit outside CGIAR**

There are several options for such a setup: either there would be a fully operational international research and/or development NGO, or we could imagine a setup as unit of another international player, such as for example FAO.

Most international research centers, such as ICIPE, AVRDC, INBAR, are however closely associated with the CGIAR, and many are considered by the donor community as *de facto* CGIAR Centers, i.e. their funding is provided from the same budget line.

*Advantages:* As an independent Center the new entity would enjoy relative flexibility in setting its research and development priorities. The Center would attract non-CGIAR funding as well as CGIAR funding (similarly to ICIPE and AVRDC); local ownership might be stronger than if inside the CGIAR – some of these Centers are intergovernmental networks (INBAR, ICIMOD); can have long life (depending on funding)...

*Disadvantages:* Suffers the not-in-the-club syndrome; may find it difficult in future to maintain funding base if outside of CGIAR, has to cope with all administrative costs, needs substantial staffing; may be inhibited by country partners' different ability to contribute. If international status sought, legal registration may be difficult.

The entity could also be part of a large non-research intergovernmental organization, such as FAO. Similar issues as discussed above for the CGIAR may apply, such as integration into existing structures, visibility, access to funding.

*Advantages:* The entity would have access to FAO's country links and its large and diverse bank of expert knowledge; it would be able to directly influence FAO's agenda in various areas.

*Disadvantages:* As part of such a large organization, the new entity might have limited visibility; funding may be difficult and insecure.

#### **4. Summary**

The above options are meant to stimulate a fruitful discussion amongst ICUC's and GFU's stakeholders about future models for underutilized plants research and development. They are not meant to be an exhaustive list. By stimulating this process, we hope that in the coming months an open, consultative and constructive debate will ensue, that will ultimately lead to the best option for the promotion of underutilized plant species for the benefit of rural and urban poor people.

#### **5. References**

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