Organizations involved in the Development of Underutilized Species

An Analysis of Institutional Areas of Interest In Relation to Competitive Advantages

For

The Global Facilitation Unit for Underutilized Species
Via dei Tre Denari 472/A
00057 Maccarese
Rome
Italy

By

Tom Hazekamp
Via L. Bonincontri 79
00147 Rome
Italy

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Introduction

This study is based on the data collected from a 2003 survey of stakeholders involved in the development and promotion of underutilized species. The respondent organizations were categorized in 4 groups: Global, Regional, National or Local (=sub-national) organization. The study investigates the areas of organizational interest, in how far there are differences between the groups, which areas show overlap or are neglected and which role the different groups play.

Methodology

Data from the 2003 stakeholder survey was taken and organizations were classified in 4 groups: Global, Regional, National and Local (i.e. sub-national).

Table 1 shows the number of organizations in each group.

Group	Number of organizations
Local (sub-national)	13
National	47
Regional	22
Global	14
Total	**96**

Table 1. Number of organizations per group.

The organizations were compared on their areas of organizational interest: Genetic Resources Conservation, Applied Research, Post Harvest, Marketing, Policy/Legal, Extension/Technology dissemination, Training, Documentation/Information/Public Awareness, Socio-economics. The data taken from the 2003 survey were checked by staff of the Global Facilitation Unit. In some cases additions or modifications were proposed to make the dataset as comprehensive as possible.

It is realized that an analysis of areas of interest does not tell the whole story. An overlap in areas of interest does not automatically imply a duplication of efforts. The areas indicated are so wide that they would cover a whole range of different orientations within it. E.g. the area of Genetic Resources Conservation would include animal and plant genetic resources and within the latter include the conservation of wild flora and agriculturally important species. Obviously to determine duplication of effort more detailed data should be used to get a firm handle on this issue. Within the timeframe of this study this was not feasible. However the areas of interest can provide oversight at a global level on where interests, and supposedly the related organizational expertise, are concentrated or, maybe more importantly, where they seem to be lacking. Likewise by looking at the distribution of areas of interest between the 4 main categories, Global, Regional, National and Local organizations, we hope to obtain an insight in where they complement each other.

Analysis

Overview of main categories

Figure 1 shows the groups of organizations and the percentage of each group mentioning a specific area of interest. The figure shows that some of the areas of interests persistently receive high scores across the categories while others have equally persistent low scores. It also shows that there is complementarity between the groups. E.g. Training are really top priorities for local and national organizations while as a group regional and International organizations have their main focus on other aspects.

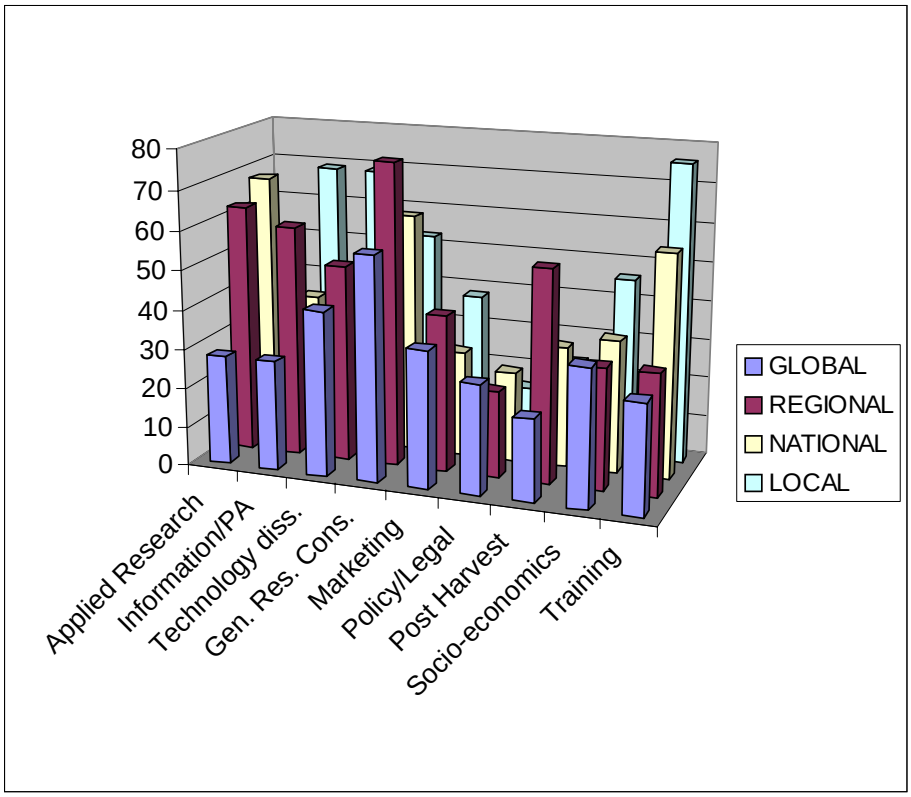

Figure 1 Groups of organizations and their area of interest (%)

In table 2 the top 3 areas per organizational category have been shaded. This shows that the clustering is apparent in areas of interest such as Genetic Resources Conservation. These issues are definitely on the agenda of International, Regional and National organizations. Likewise Applied Research, Technology dissemination, Training and Information aspects receive quite some attention. At the other end of the scope we notice that Policy and Post-harvest issues receive relatively little attention closely followed by Marketing and Socio-Economic issues. This seems to indicate that the development of underutilized species is still very much driven from an (agricultural) supply perspective (Genetic Resources, Applied research, Training). This while the marketplace, socio economics and policy and legal issues, which between them determine how income is generated and which layers of the population will benefit directly, are still not receiving due attention.

Category of organization	Applied Research	Information/PA	Technology diss.	Gen. Res. Cons.	Marketing	Policy/Legal	Post Harvest	Socio-economics	Training
Global (n=14)	28	28	42	57	35	28	21	35	28
Regional (n=22)	63	59	50	77	40	22	54	31	31
National (n-47)	68	38	44	61	27	23	31	34	57
Local (n=13)	30	69	69	53	38	15	23	46	76
Average (equal weight of 4 cat.)	**47.3**	**48.5**	**51.3**	**62**	**35**	**22**	**32.3**	**36.5**	**48**

Table 2. Areas of interest per organizational category (Shaded cells belong to the top 3 interests)

This would indicate that either there are opportunities for new organizations to enter the process particularly in areas that are currently under-represented or that existing organizations should consider strengthening their involvement in these areas. This is essential as without sufficient attention to all parts of the value chain on cannot expect to realize the full ecomonic potential of underutilized species. If we compare the groups based on all areas of interest it seems that the National and Regional groups have the most in common. This makes sense since regional and national organizations work in close proximity and would be natural partners for each other. Likewise if we rank all areas of interest there is quite some similarity between National and Local organizations although, as we see in table 2, their top priorities show a certain amount of complementarity. Global organizations are quite different from the other categories. In principle this increases their potential to provide complementarity inputs. As a group they show a more even distribution in areas of interest (i.e. less peaks in figure 1) than the other groups. In general they have a more focused area of interest (average 3.07 areas of interest per organization) while organizations in the other categories have a slightly wider orientation of resp. 4.32, 3.87 and 4.23 for Regional, National and Sub-National organizations. This would mean that Global organizations in particular would be appropriate partners to deliver specific expertise.

Global Organizations

Table 3 shows the areas of interest for a number of Global organizations. The organization with the broadest stated interest is IPGRI (9 out of 9), followed by ICUC (7 of 9) and FAO (6 of 9). Although their respective areas of interest are broad and show some apparent overlap they all have a very different focus. IPGRI's broad interest is firmly grounded in its focus on the conservation and use of germplasm for underutilized species. FAO's focus in a sense follows on from that in that it is more focused on food production. ICUC promotes the use of underutilized species in its widest sense. Its coverage of these species goes much more beyond e.g. IPGRI's coverage.

Name of Organization	Applied Research	Information /PA	Technology diss.	Gen.Res. Cons.	Marketing	Policy/Legal	Post Harvest	Socio-economics	Training
Department for International Development (DFID)			X						X
Food and Agriculture Organization of the United Nations (FAO)			X	X	X	X	X	X	
Gesellschaft fur Technische Zusammenarbeit (GTZ) GmbH, BMZ/GTZ Sectoral Project Managing Agrobiodiversity in Rural Areas	X	X	X	X		X			
Global Facilitation Unit (GFU)		X			X	X			
GRAIN				X					
International Atomic Energy Agency (IAEA)	X								
International Affairs, Agriculture and Agri-Food Canada (AAFC)				X					
International Centre for Development Oriented Research in Agriculture (ICRA)									X
International Centre for Underutilized Crops (ICUC)	X	X	X	X	X		X		X
International Development Research Center (IDRC)								X	
International Plant Genetic Resources Institute (IPGRI)	X	X	X	X	X	X	X	X	X
Management of Social Transformations Programme, United Nat. Educational, Scientific and Cultural Org. (UNESCO - MOST)								X	
McKnight Foundation			X	X	X			X	
World Wildlife Fund (WWF)				X					
Total no of organizations in sample with this particular interest in area	**4**	**4**	**6**	**8**	**5**	**4**	**3**	**5**	**4**

Table 3. Global organizations: Areas of interest.

The 2 other organizations that have a very clear focus on underutilized species, GTZ sectorial Project on Managing Agrobiodiversity in rural areas and GFU, have again different approaches. The GTZ project has a particular focus on agrobiodiversity management in rural areas. GFU promotes a strong information provider function. In its information functions it is more targeted in the type of information it provides as is much more geared towards facilitation of forging linkages between stakeholders in the field and providing analysis of value chains than e.g. the more species specific information that ICUC or IPGRI would provide. The other organizations have a more focused area of interest. GRAIN, WWF and AAFC are the only ones that have a 100% overlap in their stated area of interest Genetic Resources Conservation. We know that for example WWF, within this area, has a focus on nature conservation, while GRAIN is more concerned with agricultural genetic resources. Within the Global group as a whole there seems to be some overlap in areas of interest, but with possibly the exception of genetic resources conservation, the overall

interests are quite well distributed. Even in the cases with apparent overlap, the difference in focus of the respective organizations in these areas provide often more a basis for complementarity and a potential base for collaboration than that they are a source for duplication of efforts. Particularly under exposed in this group seems attention to post-harvest issues. This area however seems somewhat compensated by Regional organizations.

Regional Organizations

For the regional group the organizations have been grouped by geographical interest area and listed against the areas of interest (Figure 2).
In general training and socio-economic issues score very low within the group

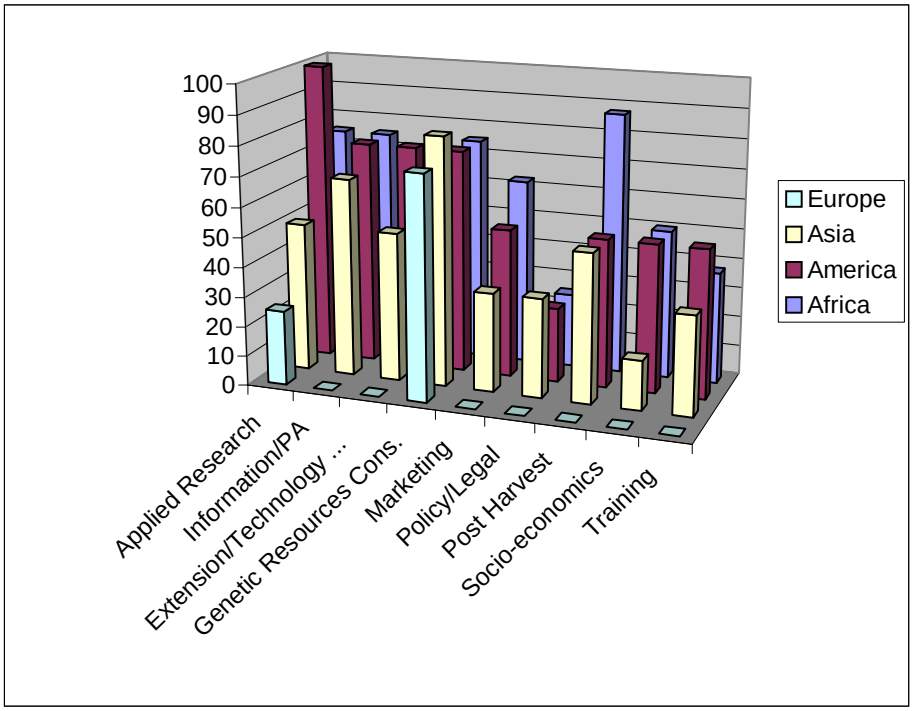

Figure 2 Regional Groups: Areas of interest (%)

of Regional organizations (see also table 4 below). This in addition to the overall low score for policy issues.

Regions	Applied Research	Information /PA	Extension/ Technology diss.	Genetic Resources Cons.	Marketing	Policy/ Legal	Post Harvest	Socio-economics	Training
Africa (n=8)	75	75	62.5	75	62.5	25	87.5	50	37.5
America (n=4)	100	75	75	75	50	25	50	50	50
Asia (n=6)	50	67	50	83	33	33	50	17	33
Europe (n=4)	25	0	0	75	0	0	0	0	0
Average	**62.6**	**54**	**47**	**77**	**36**	**21**	**47**	**29**	**30**

Table 4. Regional organizations: Areas of interest by region (top 3 areas shaded)

Training is probably an area where Regional organizations would have no obvious advantage over National of Local organizations that would be better

informed of and adapted to local needs. Also Global organizations might be in a better position to offer training in the subject areas in which they specialize.

The socio economic aspects score low overall due to low scores in Europe and Asia, but in America and Africa these issues seem to be more prominent on the agenda of Regional organizations. Postharvest is scoring relatively high in this group. In particular by the Regional organizations in Africa and to some extend in Asia.

Genetic resources conservation is a main area of interest in all regions closely followed by Applied research. The latter would indicate that Regional organizations are, or could be, important partners for National organizations when it comes to providing support in this area. If we consider the number of areas of interest mentioned by the different organizations (see table 5 below), it seems that the organizations in Africa and America on average cover most areas (avg 5.5) followed by Asia (avg 4.2) and Europe (avg 1). In this respect it seems that African, American and to a somewhat lesser degree Asian Regional organizations seem to follow closer the profile of National Programs in the sense that they are imvolved in many areas instead of being very focused on a specialized field. This in contrast to European Regional organizations which resemble more closely Global organizations and adopt a more specialized and thematic focus. Possibly European organizations can afford to do this, because there are sufficient functioning networks in the closely related thematic areas that can be “linked up” whenever multi-disciplinary action is needed.

Region/ Institution	Applied Research	Information/PA	Extension/Technology diss.	Genetic Resources Cons.	Marketing	Policy/Legal	Post Harvest	Socio-economics	Training	Total no areas of interest
AFRICA										
Asian Vegetable Research Development Center (AVRDC)		X	X	X	X		X	X	X	7
Association For Strengthening Agricultural Research in Eastern and Central Africa (ASARECA)	X	X		X	X	X	X	X		7
Centre for Research Information Action in Africa (CRIAA SA-DC)	X		X				X			3
Clearinghouse for Cover Crops Information and Seed Exchange in Africa at the International Institute of Tropical Agriculture (CIEPCA)	X	X		X			X	X		5
Genetic Resources Network for West and Central Africa (GRENEWECA/ROCAREG)	X	X	X	X	X	X	X	X	X	9
International Bambara Groundnut Network (BAMNET)	X	X	X	X	X		X			6
International Program for Arid Land Crops (IPALAC)	X		X		X		X		X	5
Plant Resources of Tropical Africa (PROTA)		X		X						2
% of organizations per region	**75**	**75**	**62.5**	**75**	**62.5**	**25**	**87.5**	**50**	**37.5**	**Avg 5.5**
AMERICA'S										
Centro Agronomico Tropical de Investigacion y Ensenanza (CATIE)	X			X						2
Centro Internacional de Agricultura Tropical (CIAT)	X	X	X	X					X	5
Centro Internacional de la Papa (CIP)	X	X	X		X		X	X		6
CIRNMA	X	X	X	X	X	X	X	X	X	9
% of organizations per region	**100**	**75**	**75**	**75**	**50**	**25**	**50**	**50**	**50**	**Avg 5.5**
ASIA										
International Plant Genetic Res. Inst.-Regional Office for Central, West Asia and North Africa (IPGRI CWANA)				X						1
Plant Resources of South-East Asia (PROSEA)		X								1
Secretariat of the Pacific Community (SPC)	X	X	X	X	X		X		X	7
Society for Research and Initiatives for Sustainable Technologies and Institutions (SRISTI)	X			X	X	X	X	X		6
South East Asia Regional Initiatives for Community Empowerment (SEARICE)		X	X	X						3
Underutilised Tropical Fruits in Asia Network (UFTANET)	X	X	X	X		X	X		X	7
% of organizations per region	**50**	**67**	**50**	**83**	**33**	**33**	**50**	**17**	**33**	**Avg 4.2**
EUROPE										
European Cooperative Programme for Crop Genetic Resources Networks (ECP/GR)				X						1
European Union (EU)	X									1
MEDUSA Network				X						1
Safeguard for Agricultural Varieties in Europe (SAVE)				X						1
% of organizations per region	**25**	**0**	**0**	**75**	**0**	**0**	**0**	**0**	**0**	**Avg 1**

Table 5. Regional organizations: Areas of interest.

National and local organizations

In this chapter National and Local organizations will be dealt with together. This is merely done because they will often have a substantial overlap in their target audiences. Data regarding areas of interest on 46 National organizations were available. Table 6 below provides an overview of their areas of interest divided by region whereby the top 3 areas have been shaded. The most consistent area of interest for National organizations seem to be Training as we find it back in the top 3 for National organizations in every region.

National organizations	Applied Research	Information /PA	Extension/Technology diss.	Genetic Resources Cons.	Marketing	Policy/Legal	Post Harvest	Socio-economics	Training
Africa (n=17)	76	41	52	47	47	23	29	41	64
America (n=4)	50	75	75	75	50	25	75	50	75
Asia (n=6)	50	83	100	83	33	50	33	83	83
Europe (n=16)	68	12	18	75	0	12	12	6	37
Oceania (n=3)	100	33	0	33	33	33	66	33	66
Average	**68.8**	**48.8**	**49**	**62.6**	**32.6**	**28.6**	**43**	**42.6**	**65**

Table 6. National organizations: Areas of interest (top 3 per region are shaded)

There is a clear concentration in the areas of Applied Research, Information, Extension/technology dissemination and Genetic Resources Conservation although there seem to be slight regional differences.

Local organizations	Applied Research	Information /PA	Extension/Technology diss.	Genetic Resources Cons.	Marketing	Policy/Legal	Post Harvest	Socio-economics	Training
Africa (n=4)	25	100	75	25	50	25	50	75	75
America (n=2)	0	50	50	50	0	0	0	0	50
Asia (n=5)	20	60	60	60	40	20	0	60	80
Europe (n=1)	100	100	100	100	100		100		100

Table 7. Local organizations: Areas of interest (top 3 per region are shaded)

If we consider the top 3 priorities from the available corresponding data from 12 Local (i.e. sub-national) organizations we see a similar picture emerging whereby in the America's and Asia the local organizations virtually mirror the interest areas of National organizations and could, in principle, form good partnerships in related areas (Table 7). This while in Africa the local organizations seem to have a slightly different orientation than the National organizations. This situation would provide opportunities for more complementary collaboration. It should be noted the figures in Table 7 are based on a very small sample size and are therefore likely to have a limited applicability.

The data available for this analysis yielded 13 countries where more than one national and/or local organizations were listed within the country (see table 8).

Country	Type	Name Organization	Applied Res	Information	Extension	Genetic Resources	Marketing	Policy	Post Harvest	Soc Econ	Training
Australia	National	School of Agron & Hort, University of Queensland	x				x				x
Australia	National	South Australian Res. And Development Inst (SARDI)	x	x		x		X	x	x	x
Ethiopia	National	Debre Zeit Agricultural Research Center	x		x						
Ethiopia	National	Southern Agricultural Research Institute	x			x					x
France	National	Institut de Recherche pour le Développement (IRD)	x	x	x	x		X	x	x	x
France	National	Unité de Recherch. Génét. et Ecophys. Légumineuses à Graines (URLEG), Lab. de Phys. et Cult. In Vitro, INRA Centre de Recherch Dijon (PCIV)	x		x	x					x
India	Local	Rural Community Action Center (RCAC)								x	
India	National	Centre for Indian Knowledge Systems (CIKS)	x		x	x					x
India	National	M.S Swaminathan Research Foundation		x	x	x	x	X	x	x	x
Italy	National	Dept of Hort., Univ. of Florence	x			x					
Italy	National	Istit. Sper. Colt. Ind.i (ISCI)	x								
Italy	National	Univ. degli Studi Basilicata	x			x					
Jordan	National	The Noor Al Hussein Foundation (NHF)		x	x					x	x
Jordan	National	University of Jordan	x	x	x	x	x	x	x	x	x
Kenia	Local	PEAR Group		x	x		x			x	x
Kenia	National	Kenya Society of Ethnoecology (KSE)	x	x	x	x	x	x	x	x	x
Mali	Local	SOS Paysans	x	x		x		x	x	x	
Mali	National	Inst. d'Econ. Rurale (IER)	x	x	x	x				x	x
Namibia	National	Ind. Plant Task Team (IPTT)	x	x	x	x	x	x	x	x	x
Namibia	National	National Plant Genetic Resources Centre, National Botanical Research Institute	x	x		x	x	x			
Nepal	Local	Local Initiatives for Biodiversity, Research and Development (LI-BIRD)		x	x	x	x	x		x	x
Nepal	National	Hill Crops Research Programme (HCRP)		x	x	x				x	
Nepal	National	Mobilization and Development (MODE) Nepal	x	x	x	x		x		x	x
Nigeria	Local	Fed. College of Agriculture		x	x						x
Nigeria	National	Comm. Res. Dev. Organization (CREDO)		x	x	x					
Nigeria	National	Medical Biochem. Dept., University of Nigeria, Enugu Campus	x						x		
Nigeria	National	Obafemi Awolowo University	x			x					x
S. Africa	National	Institute of Natural Resources	x								
S. Africa	National	National African Farmers Union (NAFU)			x		x			x	x
Zimbabwe	National	Southern All. For Indigen. Resources (SAFIRE)		x	x		x			x	x
Zimbabwe	National	Speciality Foods of Africa Pvt Ltd					x		x		

Table 8. National and Local Organizations per country and their areas of interest.

In none of these countries the areas of organizational interest overlapped completely between all organizations. Obviously there was sometimes an overlap in interest, but never a 100% (i.e. all areas from both organizations overlapped). In 6 countries, which is less than half, all the areas of interest listed were covered by at least one organization. If the dataset on which the analysis was based is representative, it means that the organizations at national and sub-national level often are not able to fill the whole grid of areas of interest. This means that these countries would have to rely on international or regional organizations to provide complementary support to the national and sub-national efforts in these areas.

Interaction between organization levels

To get an idea of the interactions between the various levels of organizations, an analysis was made based on the project information submitted by these institutions. Especially the relation between an organization's projects and the partners that were involved was analyzed. This yielded the data in table 9 that lists the type of organization against the type of partners represented in their projects. E.g. in 40 % of their projects, Global organizations listed other Global organizations as partners.

	Project partners			
Type	Global	Regional	National	Local
Global (n=5)	40	20	80	40
Regional (n=x2)	83	33	100	67
National (n=28)	43	4	71	21
Local (n=8)	25	25	75	75

Table 9. Projects by organization type and their partners (%).

The table indicates that Global organizations seek their project partners primarily under national organizations (80%) and local organizations (40%). These are the partners that have the experience and knowledge to implement a project under local circumstances. Also other global organizations are important partners (40%). This possibly has to do with specific expertise that these global partners can bring to a project. Global organizations tend to focus more on a thematic area (food security, genetic resources, education etc.).

Regional organizations have a similar focus on national partners (100%), but also involve Global organizations (83%) and to a somewhat lesser degree Local organizations (67%). This seems to indicate that Regional Organizations are very important coordinators and bridge builders. They link all partner groups in their projects.

National organizations seek other national partners and to a lesser degree Global partners. Local organizations seek partners mainly at the local and national level.

The National organization's attitude towards involving global partners is somewhat reciprocal (i.e. Global partners seek their involvement and vice versa). Especially Local organizations seem to have trouble finding ways to interest the right global or regional partners for their projects.

Conclusions

In this study areas of institutional interest were compared between and within groups of organizations involved in the development of underutilized species. The organizations were classified in 4 groups: Global, Regional, National or Local (Sub-national). The data was obtained from a 2003 stakeholder survey[1] that collected institutional interest in the following areas: Genetic Resources Conservation, Applied Research, Post Harvest, Marketing, Policy/Legal, Extension/ Technology dissemination, Training, Documentation/ Information/ Public Awareness, Socio-economics. Based on the emphasis in certain areas of interest, the analysis was aiming to establish in how far the profiles for the 4 categories of organizations were different from each other. From this one could derive some insight on comparative advantages for the respective groups. It is clear that an analysis that is based on these broad categories will not tell the whole story. Overlap in areas of interest does not automatically mean a duplication of effort. In case of overlap more detailed information would have to be used to evaluate how activities relate to each other. On the other hand, a lack of overlap would be more telling. This would clearly indicate an under representation.

The analysis revealed that overall Genetic Resources Conservation was most often mentioned as an area of interest across all groups while Policy, Post-harvest and Marketing issues receive low scores. Clearly, genetic resources conservation is underlying much of the development work on underutilized species and is of great importance. But so are Policy, Post-harvest and Marketing issues. These areas seem somewhat neglected within this field and should be marked for more attention.

If we consider the groups of Global, Regional, National and Local organizations the analysis indicates that there as distinct “niches” in which each group operates.

The Global organizations tend to focus more on a particular theme, i.e. on average state less areas of interest, compared to Regional, National and Local organizations. This allows them to build up expertise in a specific area. As such these institutions would be in a good position to provide very focused scientific, technical and/or training support in a very targeted area. In areas of interest they also seem to be more different from the other groups. This creates opportunities to provide support in areas of expertise that complement their partners at Regional, National or Local levels.

In contrast we have National and Local organizations which are in close proximity to situations where real problems require real solutions. Addressing these problems often requires a holistic and multi disciplinary approach. This means that institutions at this level either have to develop very intense multi-disciplinary collaboration with other institutions or they risk having to spread their capacity to thin. Their knowledge of the “situation on the ground” places National and/or Local organizations in a unique situation. This local knowledge often determines the success or failure of a project and as such

[1] The data was checked and based on knowledge available at GFU obvious mistakes were rectified.

represents an important comparative advantage over other types of organizations.

In between are the Regional organizations. The analysis indicated that in some geographical regions the Regional organizations behave more like Global ones (i.e. are more thematic) while in other regions they tend to have a broader orientation and behave, in a sense, more like National or Local organizations. Their role is vital in providing a bridge between Global and National or Local organizations. In their projects they seem to actively draw partners from all other groups.

The interplay between all these groups occupying different niches is essential to create a situation where available resources from all levels are matched and suitable partnerships are forged to achieve a maximum of synergy.
There are indications that, to some extend, this is indeed happening. Global organizations actively seek project partners at the National and Local levels and also Regional organizations are drawing the different players together. Local organizations have a fair bit of National organizations participating in their projects, but seem to have difficulties reaching out internationally. The only group that seems an exception to this situation are National organizations. They predominantly seem to look for partnerships with organizations at the same level. A good network of National organizations is essential to create a general infrastructure in which other organizations can operate within a country. However it could be worthwhile to investigate whether National organizations indeed could benefit from extending partnerships more to other levels and mobilize resources that they are possibly currently not reaching.