



GFAR 2006 Triennial Conference Report

GFAR Secretariat

**Global Forum on Agricultural Research
3rd Triennial Conference 2006**

New Delhi, India



GFAR 2006 Triennial Conference Report

GFAR Secretariat

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Note

Selected material from the Conference – presentations, posters, list of participants, photos – is available on the Conference website (www.egfar.org/egfar/gfar2006) . Additional material - videos, all the photos – can be made available on CD directly from the GFAR Secretariat (GFAR-Secretariat@fao.org).

Section 1

Summary

Summary

The GFAR 2006 Triennial Conference was held in New Delhi (India) from November 8th-11th 2006. The theme of the Conference implicitly questioned the ability of current agricultural approaches to meet the Millennium Development Goals (MDGs), especially those concerned with the eradication of extreme poverty and hunger by 2015, and the maintenance of the world's natural resources integrity.

The goal of the Conference was to formulate recommendations that would ensure effective and efficient contribution of the agriculture sector towards meeting the MDGs and provide guidelines for the development of research and development activities that GFAR stakeholders will carry out in order to contribute to the above.

The expected outputs from the Conference were:

- Addition of the voices and perspectives of GFAR stakeholders to the current global debate on the MDGs.
- Enhanced profile of agriculture and agricultural research sectors by highlighting its contributions to the alleviation of development problems related to poverty, food insecurity and natural resources degradation in order to stimulate increased policy, political and funding support commensurate to the contributions.
- Provision of guidelines for the development of an agricultural research for development (ARD) agenda (GFAR Business Plan for 2007-2009) that will be implemented by GFAR stakeholders and their partners taking into consideration the urgent need to reorient agricultural research and development in order to meet the most pressing of societal needs encapsulated in the MDGs.

The Conference was organized around three sub-themes:

- 1) New paradigms for the generation of and access to agricultural research results
- 2) Innovations in Institutional arrangements
- 3) Technologies for emerging societal needs and opportunities

Within each theme, discussions centred around three major issues for reorientation: the systems, the institutions and the technologies that were a product of agricultural research. These had to become more biased towards the poor and the small holder producer, farmer, pastoralist, forester and those involved in fishing and aquaculture if the goals of eradicating hunger and reducing poverty were to be met.

The GFAR 2006 Triennial Conference was organized with pre-events such as the India-GFAR-APAARI day, side events such as the civil society organization (CSO)

Consultation, the Conference proper and events planned on 12th November 2006 such as the Annual General Meeting of the Global Horticulture Initiative.

The highlights of the Conference were the inauguration of the Conference by the President of India, a path breaking keynote address on the Conference theme by Sir Gordon Conway, a panel discussion by leading ARD policy makers and leaders and deeply thought, absorbing sub-thematic lead presentations followed by discussions at thematic and stakeholder levels. The Conference concluded with a Conference declaration.

The most important message from the conference was that ARD has to urgently reorient itself towards becoming more pro-poor and contribute to satisfying the needs of the small producer and the rural poor. The change required is not only in technology and the processes that generate it, but also goes beyond to the systems that are now in place for agricultural research and the Institutions that foster them. There is a need to rethink agricultural development. The paradigm needs to shift from increased production and productivity to how to enable entire agricultural systems to respond to markets, creating sustainable livelihoods in rural areas and conserving valuable natural resources. For agricultural innovation to contribute to global alleviation of poverty, there is an urgent need to globally mobilize, share and exchange agricultural knowledge, information, experience, and skills. GFAR is one of the appropriate platforms for advocacy, action and assessment of the contribution of agricultural innovation to achieving development goals.

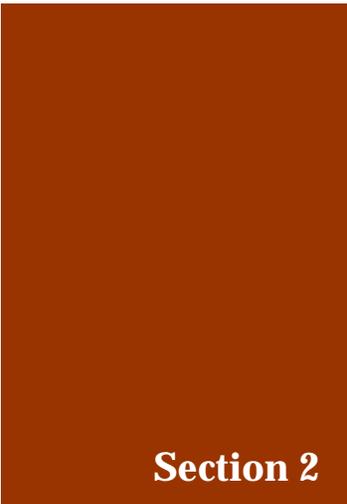
The Conference deliberations came up with a multitude of recommendations. The actions required from GFAR can be grouped under 4 broad categories.

1. GFAR has to advocate for the need to change systems, Institutions and technology generation processes so that they become more pro-poor and biased towards satisfying the development needs of small producers and the rural poor.
2. GFAR has to strengthen all the stakeholder constituencies so that they can, through an inclusive process, contribute to agricultural research and innovation that helps in alleviation of poverty and elimination of extreme hunger.
3. GFAR has to enable partnerships that contribute to agricultural research and innovation that leads to elimination of hunger and alleviation of poverty.
4. GFAR has to mobilize and enable sharing and exchange of knowledge, skills and resources that contribute to agricultural research and innovation globally, regionally, nationally, and at local levels.

Under each of these 4 categories, there have been useful recommendations regarding how to balance farm incomes and participation in markets, how to reorient agricultural education and support systems, how to blend knowledge systems, how to transform national agricultural research institutes and systems to agricultural innovation systems, how to develop demand led partnerships, and how to fund ARD

and agricultural innovation. There are also recommendations regarding technological approaches that will contribute to the resolving of complex issues around agriculture and energy, using information and communication technologies (ICTs) for enabling market participation of small producers and in harnessing biodiversity.

The Conference by attracting attention of nearly 500 participants from 76 countries and prominent national representatives, as also rich press coverage and distinguished and influential delegates who acted as key presenters and lead discussants, has added significantly to the current global debate on the MDGs. It has enhanced the profile of agriculture and agricultural research sectors through the presentation of new ideas, and directions ARD should take. This should contribute further to stimulate policy, political and funding support to ARD. The proceedings of the conference, as highlighted in various sections above, have resulted in a rich harvest of recommendations for GFAR to develop an ARD agenda and its business plan for 2007-2009.



Section 2

**The GFAR
2006
Triennial
Conference
Report**

The GFAR 2006 Triennial Conference Report

Introduction

The GFAR 2006 Triennial Conference was held at New Delhi (India) from November 8th-11th 2006. The theme of the Conference implicitly questioned the ability of current approaches to agriculture to meet the MDGs especially those concerned with the eradication of extreme poverty and hunger by 2015, and the maintenance of the world's natural resources integrity.

Many current policies, strategies, institutional interventions and technologies are directed at increases in crop production and productivity of land. They promote an agriculture that is natural resource and energy utilization intensive and which may affect the environment adversely. Global agricultural market chains have increased concerns about food safety, and the use of new technologies has increased the potential of bio-safety risks to the environment. Many of today's agricultural development initiatives bypass societal needs of reduced poverty and better livelihoods, especially in rural areas where the mainstay of the economy is agriculture. In many situations, there appears to be a disconnection between ARD and societal development needs.

The goal of the Conference was to formulate recommendations that would ensure effective and efficient contribution of the agriculture sector towards meeting the MDGs and provide guidelines for the development of research and development activities that GFAR stakeholders will carry out in order to contribute to the above.

The expected outputs from the Conference were:

- Addition of the voices and perspectives of GFAR stakeholders to the current global debate on the MDGs.
- Enhanced profile of agriculture and agricultural research sectors by highlighting its contributions to the alleviation of development problems related to poverty, food insecurity and natural resources degradation in order to stimulate increased policy, political and funding support commensurate to the contributions.
- Provision of guidelines for the development of an agricultural research for development (ARD) agenda (GFAR Business Plan for 2007-2009) that will be implemented by GFAR stakeholders and their partners taking into consideration the urgent need to reorient agricultural research and development in order to meet the most pressing of societal needs encapsulated in the MDGs.

The Conference addressed various aspects of the required re-orientation of agricultural research so that the agricultural sector can effectively contribute to meeting the MDGs in a sustainable manner. It considered the changes that are needed in agricultural R&D systems to satisfy societal needs expressed in part in the MDGs, and for the correct and wise use of new technologies which, while showing great promise, may need to be properly monitored to reduce potential risks to mankind and the environment.

Organization of the Conference

The Conference was organized around three sub-themes:

1. New paradigms for the generation and access to agricultural research results

The focus of this sub-theme was on efforts required to help producers and rural communities respond to opportunities afforded by rapidly changing demands of urban and industrialized societies. In particular, the sub-theme debated the new paradigms for generating and delivering agricultural research results that balance the income generation needs with those of household food production requirements of smallholder farmers. Participants considered new capacities that were needed to be developed, on one hand, in individuals, households and communities so that they can benefit more equitably from the use of agricultural technologies and on the other hand, in institutions that guide and govern societal development. Another area of discussion was on how to blend different knowledge systems as also how to reorient existing education systems and develop new learning systems for the benefit of agricultural communities.

2. Innovations in Institutional arrangements

In recent years there has been a growing recognition by stakeholders in agricultural development, particularly farmers and other CSOs, that innovation occurs not in isolation but through linkages, and partnerships between people and institutions. For accelerated development, it is essential to provide environments that forge fruitful multi-stakeholder partnerships which address the needs of their communities in a holistic and equitable manner. This sub-thematic discussion focused on innovations in institutional arrangements for agricultural systems such as those needed to fully integrate National Agricultural Research Institutions (NARIs) with other national agricultural R&D providers so as to develop true National Agricultural Research Systems (NARSs) and agricultural innovation systems. Discussions encompassed cross sectorial and international relationships for appropriate policies for ARD and the need for new policy regimes to enable ARD institutions to foster effective networks at all levels: from the local to the global. The institutional arrangements that are required for multi-stakeholder partnerships, and in particular those between the community, public and private sectors that generate knowledge and technology and promote diffusion of agricultural innovations, and those that encourage small

and medium agricultural entrepreneurship were important aspects that were considered. An important issue discussed was how ARD will be funded in the future.

3. Technologies for emerging societal needs and opportunities

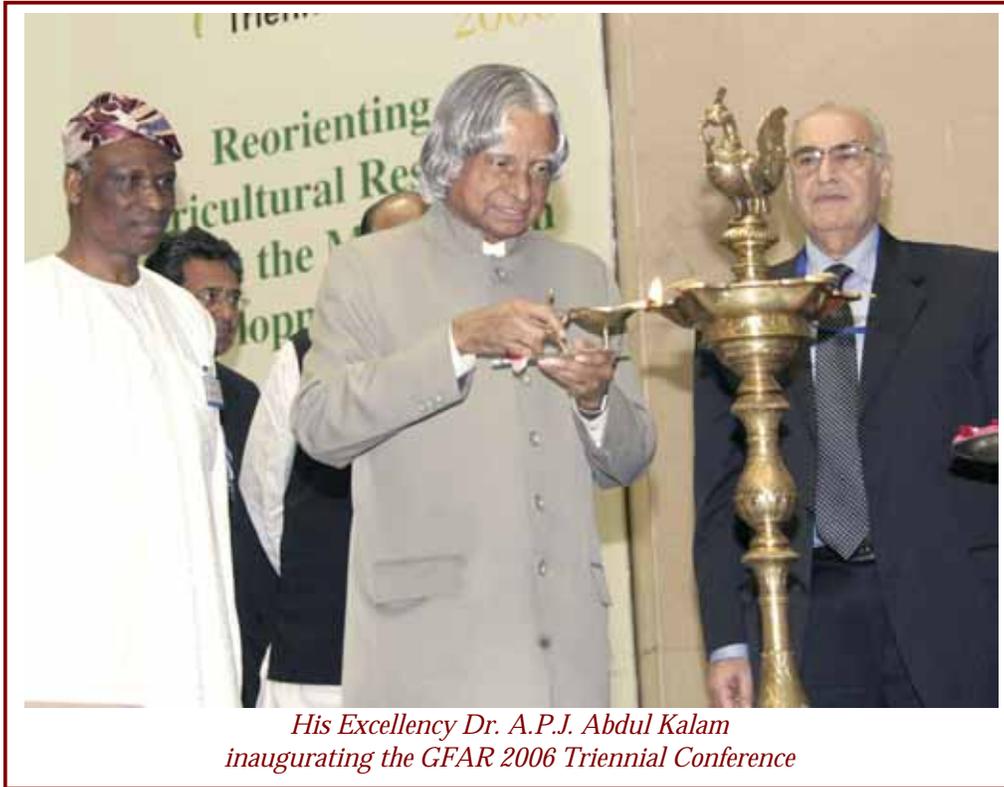
Technology has always and will continue to contribute to human development when judiciously used in various sectors including agriculture. An increasingly globalized agriculture with market chains of agricultural commodities that span multiple continents and countries currently generates some concerns related to human health and food safety. An increasing demand for food both in quantity and quality by an increasing and highly urbanized and urbanizing population is driving the trend towards an intensive agricultural system with high demands for natural resources and energy, with the attendant risks of natural resource degradation, loss of biodiversity and a shortage of energy requirement for a continued growth and development of the sector. The trend towards intensive agriculture also comes with the threat of neglecting subsistent and even small scale producers with no or very limited access to inputs required for such intensive systems, even though in many developing countries these groups constitute the majority of producers who contribute significantly to meeting national food security goals. Within this sub-theme, the contribution of new and emerging technologies in agriculture and how these can best be harnessed, made available to various classes of producers and utilized to fulfil societal needs for food security, food safety/human health and environmental sustainability were discussed. Issues under this sub-theme included energy and agriculture with special emphasis to bio fuels, using information and communications technologies to link farmers to markets and harnessing biodiversity to tackle emerging issues related to food, nutrition and health were discussed.

Within each theme, discussions centred on three major issues for reorienting the systems, the institutions and the technologies that were a product of agricultural research. These had to become more biased towards the poor and the small holder producer, farmer, pastoralist, forester and those involved in fishing and aquaculture if the goals of eradicating hunger and reducing poverty were to be met.

Conference Highlights

The GFAR 2006 Triennial Conference was organized with pre-events, side events, the Conference proper and events planned on 12th November 2006 such as the Annual General Meeting of the Global Horticulture Initiative.

The highlights of the Conference were the inauguration of the Conference by the President of India, a path breaking keynote address on the Conference Theme by Sir Gordon Conway, a panel discussion by leading ARD policy makers and leaders and deeply thought, absorbing sub-thematic lead presentations followed by discussions at thematic and stakeholder levels. The Conference concluded with a Conference declaration.



*His Excellency Dr. A.P.J. Abdul Kalam
inaugurating the GFAR 2006 Triennial Conference*

The Conference was attended by 476 people from 74 countries and included representatives from all GFAR Stakeholder groups including the farmers' organisations, non-governmental organizations, donors, international agricultural research institutions, private sector, research institutions from the North and the South.

This document is a Report of the Conference. It includes only the highlights of papers presented and discussions made at the Conference. The Proceedings of the Conference are in preparation.

Pre-Events

The INDIA-GFAR-APAARI day of Pre-Conference Events on 8th November 2006 gave an overview of ARD in Asia. The CSOs consultation, the Dialogue on European Initiatives and Financial Support to Agricultural Research for Development and the Launch of the Young Professionals' platform for Agricultural Research for Development (YPARD) were side events that allowed focused thinking on specific issues.

India-GFAR-APAARI Day

The INDIA-GFAR-APAARI (Asia Pacific Association of Agricultural Research Institutions) day of Pre-Conference Events gave an overview of ARD in Asia. It was also an opportunity for India to show case its capacities in ARD, and the

contributions it can make within the region and globally for agricultural development. For GFAR and APAARI, the event was to foster how a NARS such as of India can be a major stakeholder in global and regional ARD.

Mangala Rai (Director General, Indian Council for Agricultural Research (ICAR)) described ICAR as an “apex national organization for conducting & coordinating agricultural research & education”. This inclusive organization tries to ensure food security by research in biodiversity, biotechnology, plant and animal breeding, conservation agriculture, fisheries (including pearl farming and ornamental fish), within a framework for technology development and delivery system.

Adel El-Beltagy (Chairman, GFAR) described an important aspect of GFAR activity: enhancing interregional partnerships. For example, GFAR fostered collaborative research partnerships like DURAS (a competitive grant scheme), or PROLINNOVA (to promote local innovations), and manages a communication platform for ARD stakeholders (www.egfar.org).

Raj Paroda (Executive Secretary, APAARI) described the medium term regional priorities of APAARI, set after ten years of participatory consultation, as natural resource management, genetic resources and biotechnology, enterprise development, post harvest and value addition for LFM, as well as 2 cross cutting issues policy and institutions and capacity building. On the long term climate change, biofuels, and crisis management will have to be taken into account.

This was followed by several topical presentations by ICAR and concerned areas highlighted by Mangala Rai. Following discussions, the poster presentation and exhibition was officially launched (see details below). After lunch break, an excellent networking opportunity, the National Agricultural Science Museum and ICAR were visited by participants.



CSO Consultation

A CSO consultation was convened on 8th November prior to GFAR Conference 09-11 November in New Delhi India under the theme “*Reinforcing CSOs Role in ARD: How CSOs can better inform Policy and Practice*”. About 35 CSO representatives from all over the world participated in the event. The meeting was chaired by M.O. Arigbede, president of Union of Small and Medium Scale Farmers of Nigeria (USMEFAN), and co-chaired by Jack Wilkinson, President of International Federation of Agricultural Producers (IFAP).

The workshop addressed the questions of “how to reinforce the CSOs role in agricultural research for development?” by examining the CSOs-Research-Policy linkages and identifying practical tools and methods that CSOs could use in order to contribute to and influence ARD policies at all levels and hence increase the effectiveness of the systems. More precisely, the workshop:

- Reviewed achievements and lessons learned in the past three years, since the previous GFAR conference in 2003, by providing CSOs with ample time to share information draw lessons during this period and identify action priorities, and
- Provided an opportunity for CSOs to learn about the theory and practice of bridging research and policy and identify appropriate tools for policy advocacy and the role of civil society organizations

The morning session started with presentations from CSOs groups: the International Federation of Agricultural Producers (IFAP), Sub-Saharan African NGO Consortium (SSA NGOC) and the Asian NGO Coalition (ANGC). The presentations discussed the GFAR-CSOs collaboration (activities and outputs) since Dakar Conference. It was noted that GFAR since Dakar 2003 Conference has significantly increased its support to CSOs and consequently CSOs are now increasingly participating in ARD agenda setting and decision making processes in many regions. GFAR Secretariat’s support to CSOs during the period 2004-2006 was commended. GFAR Secretariat supported IFAP and NGOs in Africa to establish Farmers Committee on ARD and Sub-Saharan Africa NGO Consortium, respectively. During the APAARI General Assembly held New Delhi prior to GFAR Conference, the Asian NGOs were also supported to discuss the launch of regional NGO consortium. The Asian NGOs plan to launch the regional consortium early 2007. It was also noted that more support is needed from the international community, both financial, political to enable CSOs to better contribute to ARD agenda. GFAR Secretariat was requested to strengthen CSOs fund raising capacity and advocacy skills.

In the afternoon, the session was more of a capacity building exercise for CSOs to learn more about the theory and practice involved in bridging CSOs-Research and policy linkages. The session was facilitated by John Young from the Research and Policy in Development (RAPID) Group of the Overseas Development Institute, and Nicholas Owino from AFREPREN/FWD. Both are members of a global network of

organizations working to bridge the gap between research and policy and promote more evidence-based development policy and practice.



The facilitators presented number of new tools. This included RAPID which was developed over the years to strengthen CSOs-research and policy linkages including an over view of the policy process involved (and the inter-intra linkages between the actors involved); factors influencing policy makers and different notions of Evidence and Evidence-based policy. This was followed by a case study to show case how a Kenyan NGO (AFREPREN/FWD) does it in practice, and some of the tools that can be used to understand the policy context and engage with government and decision makers. The participants were then divided into four regional working groups (sub-Saharan Africa; Western Asia and North Africa; Latin America and Caribbean; and Asia Pacific) to discuss “How to influence ARD more effectively?” and bring out number of recommendations/suggestions that could be build within a framework for future collaboration with GFAR. The main recommendations of the meeting were:

- National governments, regional, inter-regional and international organizations should put conducive environment in place, including legal frameworks and appropriate institutions, in order for CSOs to effectively participate in policy processes.
- Strong need for capacity building programs in advocacy and communication in order for CSOs to influence policy processes more effectively
- Strengthen collaboration among the CSOs and promote development of inter and intra regional CSOs networks
- Both researchers and CSOs should interact and engage with one another as equal partners with well defined and spelled out roles for effective partnerships and collaboration

Dialogue on European Initiatives and Financial Support to Agricultural Research for Development

Europe is by far the largest international contributor contributing over half of the worldwide support to ARD. There is a rich network among stakeholders (universities, national and international research institutes, NGOs, private sector organisations, etc.). The mission of the European Forum on Agricultural Research for Development (EFARD) is to strengthen the contribution of European ARD to three major worldwide challenges; 1. Alleviating poverty and hunger, 2. Achieving food security and 3. Assuring sustainable development.

The Dialogue on European Initiatives and Financial Support to Agricultural Research for Development was meant to present the on-going and planned European initiatives in support of ARD, and to open a dialogue with the participants in view of maximizing the active involvement of the GFAR community in those initiatives, and then their impact on development.

Launch of YPARD

The launch of the Young Professionals' platform for Agricultural Research for Development (YPARD) was attended by about 100 delegates. The event was chaired by Ola Smith (Executive Secretary, GFAR). The need for YPARD was demonstrated by Lennart Page (Head of the External Relations in Uppsala, Swedish University of Agricultural Sciences), and a video illustrating support for the organization by several stakeholders was showed. YPARD will serve as a global platform through which young professionals can express their ideas and realise their full potential towards a dynamic agricultural research for development. The objectives are to facilitate the exchange of information among young professionals and the access to capacity building opportunities, to broaden opportunities for young professionals to participate to strategic ARD debates, and to promote agriculture among young people. The website (www.ypard.org) was launched, with a user-friendly interface to become member, and the members of the steering committee and of the senior advisory committee were presented. Finally, the commitment tree filled by participants, was an interactive and symbolic way to demonstrate support by ARD stakeholders.

GFAR 2006 Triennial Conference

The venue, Vigyan Bhavan is large and modern. There were 250 delegates in the 1st Plenary, but the Conference Hall was filled up during inaugural session. About 200 delegates attended in the afternoon sessions.

Plenary Session 1

Gordon Conway (Chief Scientist, Department for International Development, UK Government) gave a keynote presentation on the conference theme “Reorienting Agricultural Research to meet the Millennium Development Goals (MDGs)”. He started his presentation by stating that agricultural and rural growth was critical for economic growth of middle and low income countries: agricultural growth has a multiplier effect and it cannot be neglected in the fight against poverty.



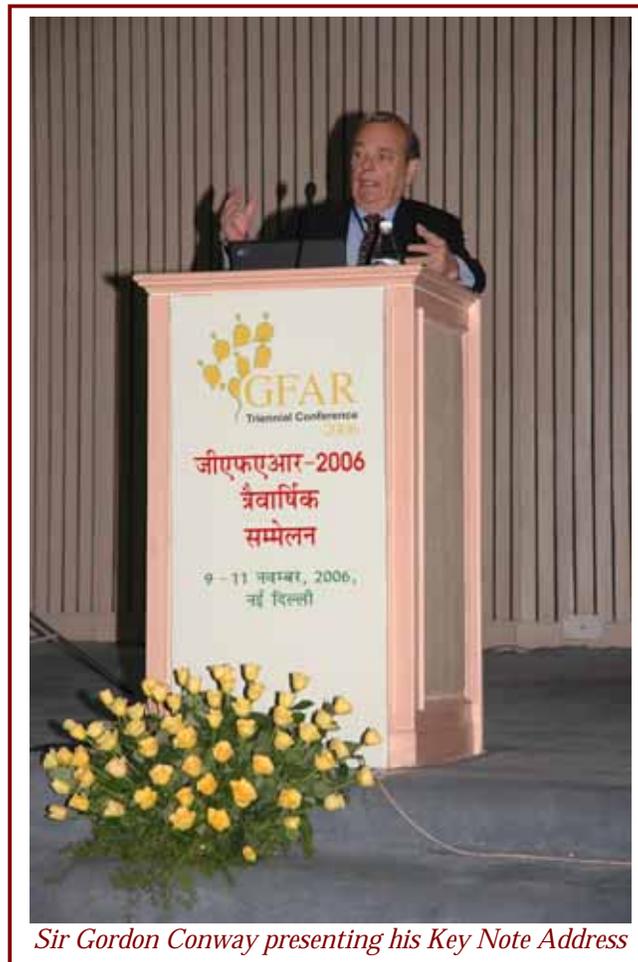
The major reasons for entering the poverty cycle are poor health and health-related expenses, heavy funeral expenses, and large family size and land subdivision. Factors that allow one to break the poverty cycle include diversification of income by establishing links with the urban economy, a small business, diversified on-farm income, livestock acquisition, etc.

Coming to agricultural research for development, he stated that the Green Revolution technology focused initially on reducing lodging in cereals, was successful but was limited to ‘ideal environment’ and relied heavily on synthetic fertilizers and pesticides, and as a result the Green Revolution by-passed Africa.

Turning to the MDGs, he stated that there was a need to focus on translational research that takes basic science and turns it into usable products, to encourage farmer participation in technology development, to link farmers to market, and to recognize the value of farmer knowledge. Also scientific research should focus on drought tolerance, made worse by global warming, and combine environmental sustainability with productivity. He also described the concept of resilience and the need for non-farm incomes and multiple livelihood opportunities for small farmers as a means to overcome and avert poverty.

He called for new public-private-community partnerships for agricultural growth and development, and stressed that an agricultural research and development system for the 21st century should include farmers, basic science, multilateral donors, national agricultural research systems, etc.

In the discussion that followed Mr. Conway's presentation it was stated that South-Asia, like Africa, will need the support from the international community to combine food production with environmental productivity. Mr. Conway further commented that Africa and Asia have, to some extent, to overcome a common set of challenges and work together.



Sir Gordon Conway presenting his Key Note Address

Panel discussion on the Conference Theme

The panel discussion in which Gordon Conway, Uma Lele and Christian Patterman participated was initiated by Adel El-Beltagy. After initial presentation of their positions, the discussion was opened to the floor.

GFAR had a stronger role to play in advocacy and to encourage the investments in ARD in developing countries.

Uma Lele (World Bank) during the panel discussion argued that the impact of partnerships should be independently assessed, and that poverty should be put at

the centre stage of ARD by using tools like poverty mapping. She pointed out opportunities for South-South knowledge exchange, the importance of multi-disciplinary research and of gender issues. GFAR had a critical role to play in advocacy and to encourage the investments in ARD in developing countries.

Christian Patermann (European Commission) suggested that agriculture was becoming a knowledge based bio-economy. Also, the competition among feed, food, fibre, and fuel could result in new income generation or in increased food insecurity depending on how it was managed. Finally, the consumer lifestyles in developing countries were changing and these have implications for ARD.

In the discussion that followed the panel presentation, the integration of farmers with markets was discussed, and the need for infrastructure, education and research and extension in rural areas. Uma Lele stressed that we had to assess public expenditure efficiency in poverty reduction. Also since poor farmers were barely in the local market, it was illogical to push them to be part of the international market. Finally, the food problem needs to take into account the transition to energy rich, nutrient poor food that will create public health problem like diabetes, cardiovascular diseases, etc.



Uma Lele making her presentation during the Panel Discussion

Opening Ceremony

The ceremony was presided by H. E. Dr. A.P.J. Abdul Kalam, the President of India who gave a speech focusing on the importance of science and technology in achieving the MDGs, but also on the importance of scientific magnanimity. He discussed the role of agricultural research and its contribution to India's economic growth and development. He identified several areas including ICT, biotechnology and material science that have potential to contribute to agricultural growth and development.



*Inaugural Session of the GFAR 2006 Triennial Conference
Seated on the Dias (Left to Right) are Mangala Rai, Sharad Pawar, H.E.
President of India A.P.J. Abdul Kalam,
Adel El-Beltagy and Ola Smith*

Rodney Cooke (Director, Technical Advisory Division, IFAD) reminded everyone of the close historical and financial links that tie GFAR and IFAD. IFAD philosophy is that the poor have to work their way out of the poverty using their own skills and talent. Hence we should enable conditions for the poor to help themselves. GFAR provides a forum to help pro-poor institutions, and farmer organisations themselves, voice their opinion, and develop their own solutions.



*Rodney Cooke making his presentation at the
Opening Session of the Conference*

Daniel John Gustafson (Representative India, FAO of the UN), on behalf of Alexander Mueller, stressed the importance of a holistic approach to sustainable development, an approach that is alive to the new challenges of intellectual property rights, integrated pest management, sustainability, “pro-poor technologies”, an approach that includes the private and public sectors, and that encourages scientific training in the countries that need it most.

Christian Patermann (Director of Biotechnologies, Food and Agriculture, European Commission) described the dual role of Europe in ARD as both a leader in science that should be part of global partnerships, and as a major donor to National Agricultural Research Systems (NARS) and International Agricultural Research Centres (IARCs) through the Framework Programme, a main financial tool through which European Union (EU) support research and development activities. He demonstrated how the funding matched the objective of promoting public-good research (EU largest contributor to the Consultative Group on International Agricultural Research, CGIAR), and to put the knowledge triangle of “research-education-innovation” at work, to cite only two examples.

William Dar (Director General, International Crops Research Institute for the Semi-Arid Tropics, ICRISAT), on behalf of Katherine Sierra (Chair, CGIAR) reiterated that the CGIAR had much to gain from encouraging CSOs inclusion, and that GFAR played a catalytic role towards helping the CGIAR system to be more inclusive. For example, at the Annual General Meeting 2006 GFAR and CGIAR have collaborated to organize a CSO-CGIAR forum.

Plenary Session 2

Olanrewaju Smith (GFAR) described the evolution of GFAR from Dresden (2000) to Delhi (2006). GFAR was born after a 2 years consultation period (1994-96), and was a radical shift in paradigm as it encouraged a multi-stakeholder partnerships approach.

He distinguished the phases of GFAR’s development as: 1. An intense period of institutional and constituency building (1996-2000); 2. The Dresden Conference (2000) validated the basic principles of GFAR and led to the addition of an inclusiveness principle; 3. The Dakar Conference (2003) was a participatory business plan development exercise. The current business plan, based on outcomes from the Dakar Conference, identified 5 pillars for action which include: advocacy, public awareness and strategic thinking, management information systems, interregional collaboration and collaborative research partnerships. Two cross-cutting pillars are active involvement of civil society organizations and engagement of the private sector in GFAR and ARD activities. GFAR was especially successful in organizing global partnerships programme and innovative and competitive grants. He hoped that the Delhi Conference would give clear and loud answers as to who should do what to reach the MDGs.



Ola Smith presenting GFAR's progress from Dresden to Delhi

Stephen Rudgard (Chief, WAICENT, FAO), on behalf of Alexander Mueller, summarized the comprehensive Millennium Ecosystem Assessment (<http://www.millenniumassessment.org/>) and stressed that challenges were not only agronomic but also that there were significant social and economic issues so that multi-disciplinary approaches are needed to tackle problems. For example, a better understanding of agro-ecosystem thresholds vis-à-vis response to damage and provision of services, and a focus on indirect drivers of agro-ecosystem change (people and policies) are needed to ensure sustainable use of resources.

The floor was opened for discussions and comments. It was pointed out that MDGs are a complex list of desirable outcomes. It is a collective responsibility that will require an integrated approach. A delegate also pointed out to the difficulties that donors had in getting targeted outcomes from research and development efforts.

William Dar (Director General, ICRISAT) described the roles of the CGIAR Alliance in achieving the MDGs. CGIAR's objectives are to generate and share public goods the increase agricultural productivity and to foster strategic alliances. The priorities of the CG centres evolved from being commodity based to being more problem-oriented and holistic approach over the last 30 years. He saw several areas of complementarity between the GFAR and CGIAR Alliance priorities. The new priorities of the CGIAR include sustaining biodiversity, producing more and better food at lower cost through genetic improvement, reducing rural poverty through crop diversification and emerging markets, encouraging sustainable use of natural resources, and improving policies and facilitating institutional innovation.

Carl Greenidge (Consultant, International Assessment of Agricultural Science and Technology for Development, IAASTD) described how this organization aims to broadly assess agricultural knowledge, science and technology for policy makers and enhance local capacity to design solutions to problems. Challenges in this endeavour

include integrating local and institutional knowledge, dealing with uncertain information, and differentiating between evidence-based findings and different value systems and ideologies. The report analyzes past trends and describes plausible futures, and offers options for actions directed to policy makers.

During the discussion delegates noted that advanced technology was not a silver bullet and current situation of land tenure, education, and politics had to be taken into account. It was also advanced that because of the high transaction costs and size of the document, the efforts of IAASTD should not be duplicated. Carl Greenidge argued that the document needed to be transparent and was targeted to a large audience, not only scientists, and therefore it had to be comprehensive.

Launch of the New International Partnership to Support Information and Knowledge Systems in Agricultural Science and Technology

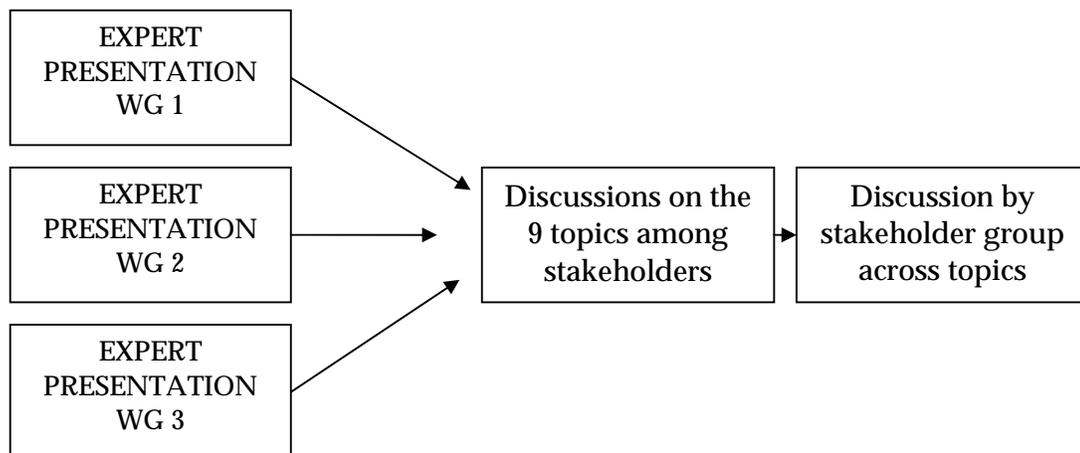
The New International partnership to support information and knowledge systems in agricultural science and technology was launched at the Opening Ceremony of the GFAR 2006 Triennial Conference. Adel El-Beltagy, GFAR Chair, led the launch by addressing a press conference following the launch. Representatives from Technical Centre for Agricultural and Rural Co-operation (CTA), EU, FAO and CGIAR were also present.

Plenary Session 3, 4 and 5

Process

GFAR is a stakeholder led initiative that builds its business plan in partnership with its constituent stakeholders. Plenary Session 3,4 and 5 were designed for stakeholder participation in discussions on critical ARD topics. There were three sub themes in the Conference, with one expert presentation per sub-theme. Each of the 3 presentations contributed to 3 independent working groups sessions (total of 9 sessions). These discussions took place in plenary sessions 3, 4 and 5, as illustrated in the process below.

Figure 1. Plenary Session 3





Deliberations on Conference Sub-Themes in Progress

Plenary Session 3

There were three sub themes, with one expert presentation by sub-theme. Each of the 3 presentations contributed to 3 independent working groups sessions (total of 9 sessions, Table 1). Because of the complexity of the topics there is some overlap in discussions across the working groups.

Table 1. Delegates participation in Sub themes and working groups

Sub theme	Working group	#
1. New Paradigms for the generation of and access to agricultural research results	1.1 Balancing income generation and household & community food security	25
	1.2 Re-orienting agricultural education and support systems	22
	1.3 Blending knowledge systems for an inclusive approach to innovation	26
2. Innovations in institutional arrangements	2.1 From NARIs to NARS: Towards multi-disciplinary and cross-sectoral approaches	20
	2.2 Demand-led partnerships and mechanisms to generate and promote access to knowledge and technology	13
	2.3 Mobilizing financial resources and improving their allocation	19
3. Technologies for emerging societal needs	3.1 Future energy needs for agriculture with a special emphasis on bio-fuels: Implications for Farming Communities	26
	3.2 Information and Communication Technologies (ICT) and Markets	22
	3.3 Harnessing biodiversity for sustainable livelihoods	23

For sub-theme 1 entitled “New Paradigms for the generation of and access to agricultural research results” Arnold Van Huis (Professor, University of Wageningen) stressed that a technology focus in ARD was not likely to improve livelihoods, and that innovations needed to be scaled up. A complete metamorphosis

was necessary to encourage an interactive learning model with farmers. To develop innovations with farmers, factors described as hardware (technical knowledge), software (change mindsets), and orgware (different organizational arrangements) must be organized to create a ‘space for change’.

For sub-theme 2 on “Innovations in institutional arrangements”, Andy Hall (LINK Co-ordinator, United Nations University-MERIT) defined institutional innovation as enabling new ways of working within an organization, for example using agricultural research. Two changes have been at centre stage: stronger client orientation and greater use of partnerships. Further innovation is necessary to reach these goals. A sensible approach to cope with an evolving situation in a specific context is to enable institutional change, to focus on the transition rather than on destination. Prescribing change is not sufficient. He concluded by saying that institutional change started at home.

For sub-theme 3 on “Technologies for emerging societal needs”, Andrew Bennett (President, Syngenta Foundation) analyzed consensus building among actors of society at large that are engaged in ARD. Scientist, policy makers and society need a platform like GFAR so that they can discuss and agree on priorities and standards. He stated that ARD needs to adapt to the changing societal needs (change in lifestyle, population growth, urbanisation, etc.), to climate change, etc. To meet the challenge a greater coherence among research, policy makers and consumer is essential. For example genomics holds great promise, but this technology needs to win confidence and support of society so it is essential to keep consumers informed and engaged. The impact of research will be increasingly global and there is a need to develop local solutions. GFAR is a global discussion forum that cross-cuts all these issues.

Working Group Session

Sub-theme 1: New Paradigms for the generation of and access to agricultural research results

The past three decades have witnessed the emergence of new paradigms in agricultural development as researchers and development workers have struggled to improve the impact of agricultural research for the poor. In parallel, agriculture has become more knowledge intensive due to a wide variety of reasons ranging from climate change, degradation of natural resources base and the need to compete in markets. Agricultural communities need to access new knowledge from outside their traditional sources and adapt it for local use.

Market orientation of agriculture requires a balance between ensuring food security at household, community and national level and generating income and earnings. The working groups under this topic discussed and tried to identify conceptual frameworks that help understand and define how ARD systems should adapt and adjust themselves to these emerging paradigms so that they can benefit human development and eradicate hunger and extreme poverty.

Working Group 1.1: Balancing Income Generation and Household & Community Food Security

Universally, small holder farmers and communities face challenges in improving and balancing income generation with household and community food security. Their participation in markets is not easy and with high risks.

This topic discussed the needs for enabling small holder farmers to balance incomes through market participation and ensuring food security, and how technologies can help achieve this goal.

John Thompson (Fellow, Institute of Development Studies) was the lead discussant for this topic. In his presentation he reviewed the changing context of agriculture which included:

- Globalization and trade liberalization (notably the concentration of power in the hands of the buyer at the value chain level).
- Decentralization of governance and greater role of civil society organizations
- A new global agenda of trade reforms: introducing intellectual property rights, generation of global public goods, climate change, etc.
- The intensified efforts for a new green revolution in Africa
- The presences of a global development agenda with the MDGs.

After stressing that agriculture offered the most cost effective way to meet several MDGs, he described multiple pathways to agricultural futures through high value crops, non-traditional exports, technical and institutional changes in staples etc. It is possible to balance production for market and food security, creating a win-win situation.

These pathways could lead to five scenarios for the future of agriculture ranging from a large-scale commercial agricultural household and enterprises to a rural world of chronically poor rural households. He then described three types of livelihood strategies: (1) "Hanging-in": maintain at maintenance or survival level),(2) "Stepping-up": increase the returns of existing activities; and (3) "Stepping -out": invest in higher-return livelihood activities.

There was an emerging agenda for agriculture which included enhancing agricultural sector productivity and generating market opportunities (increase in productivity, organise small farmers, make Agricultural R&D and markets work for the poor, etc.), promoting diversified livelihoods (increase off-farm employment, promote activities that add values, invest in infrastructure, etc.), and reducing risk and vulnerability (strengthen tenure security, invest in integrated management practices, etc.).

In the discussion that followed a number of issues were identified by the participants. First, to balance income generation and household and community food security, there was a need to foster farmers self-organisation through cooperatives,

unions, etc. that would play a role in local markets, savings, credits, women empowerment, etc. In that respect GFAR could play a facilitation role and could support farmer information systems.

Another issue was the need for social transformation of agriculture and the lack of infrastructure (all weather roads). For example, the social and cultural aspects of agriculture needed to be promoted over and above economic aspects. GFAR could collect and disseminate best practices, and develop and “agriculture support index” to encourage government to play a role.

Risk and uncertainty could be reduced by crop insurance (with proper modalities), diversification, and minimum prices, as well by capacitating farmers so they can evaluate their own risks. GFAR could promote integrated management systems, research in drought-tolerant crops, and organize case studies lessons about crop insurance.

Technological transformation of agriculture can help in value addition, but local technologies and indigenous knowledge must be shared among farmers. GFAR could support action research with local institutions, and organize workshop on local appropriate technologies inclusive of indigenous knowledge.

Working Group 1.2: Re-orienting agricultural education and support systems

Formal agricultural education in universities and schools is in crisis. Enrolment in many institutions across the world is dwindling with high drop out rates. Employment opportunities for professionals with agricultural qualifications are reducing. Also, ARD is not attracting high quality students in traditional agricultural research disciplines. Quality, professional support for agricultural development is in short supply and impedes its development. Agriculture-related curricula across the world need to be revised to generate both generalists and specialists.

Life long learning is needed for all involved in agriculture, especially if the farming is to be considered as an enterprise. There is a need to use ICTs intensively in formal, structured education, post-professional continuing education, for new actors in agricultural development, such as NGOs and CBOs, and for farmers and farming communities.

Agricultural education institutions across the world need to collaborate more effectively to develop learning systems and share and exchange their knowledge and skills. This topic discussed how to re-orient agricultural education and develop appropriate support systems for the new challenges facing agricultural education.

Anthony Youdeowei was the lead discussant of this working group. In his presentation, he reviewed the challenges to agriculture which included more market orientation in a global competition context the need to ensure sustainability of the natural resource base, and the need to become more knowledge intensive. He said that agricultural education must reorient to meet the demands of a knowledge

intensive, market oriented and natural resource conservation agriculture. He indicated that challenges to agriculture and pathways for reorienting agricultural education are different regionally and nationally. However the core transformation needed is to synchronize agricultural education and development needs. He described the various initiatives in education, learning and building capacities in agricultural support systems. He was hopeful that the use of ICTs would usher better opportunities for learning in agricultural communities.



The role for GFAR was in advocacy, supporting communications platforms for identification of directions for reforms in agricultural education, developing global partnerships and networks and enabling support of relevant teaching and training materials.

The deliberations are summarized in the following table:

Table 3.
Issues and recommendations summarized by participants in working group 1.2

MAJOR ISSUES	RESPONSE REQUIRED	SUGGESTED ACTIONS
<p>To produce young agricultural professionals who can respond appropriately to the MDGs</p>	<ul style="list-style-type: none"> • Education must be oriented towards human resource needs, problem-solving, employability, and serving the cause of the nation and MDGs • Develop institutional policy to facilitate intra/inter-institutional partnerships for strengthening agricultural education and support system • Develop and strengthen multi-stakeholder partnerships to reinforce academic and professional competence • Development of capabilities for infomediaries and facilitators of change • Blending natural and social sciences, interdisciplinary, cross-sectoral approaches 	<ul style="list-style-type: none"> • To commission the preparation of concept papers on human resources development initiatives for agricultural education and support systems to better meet the MDGs. • To commission a study of the status and continuing opportunities for young professionals to play an important role in agricultural education training and support systems.
<p>To make agriculture education and support systems more relevant and useful to all stakeholders and to address the issue of falling admissions and attractiveness to agriculture.</p>	<ul style="list-style-type: none"> • Review and optimize investment in capacity building of teachers. • Include all stakeholders in the decision making processes of agricultural education and training institutions. • Strengthening the non-formal education system to reach large number of unreached stakeholders such as farmers, agricultural labourers, extensionists, traders. 	<ul style="list-style-type: none"> • To facilitate the preparation of countrywide status reports on the state of agricultural education and support systems emphasizing success stories that hold potential regional/global relevance. • To facilitate system-wide assessments and reforms in improving the quality of agricultural education and training.
<p>To facilitate the development of a strategy for the use of technology mediated open and distance education (TechMODE) for agriculture.</p>	<ul style="list-style-type: none"> • ICT can be used to develop agricultural information systems, community knowledge sharing, and village area networks. • ICT can play a major role in the interactive learning between and among all stakeholders, and linking farmers to markets. • ICT can be used as an appropriate blend of conventional and TechMODE tools (because it is not a solution to all educational and training problems). 	<ul style="list-style-type: none"> • To regionally capitalize on success stories.
<p>To change the mindset of the population towards agriculture.</p>		

Working group 1.3: Blending knowledge systems for an inclusive approach to innovation

Traditionally, farmers have had access to local, indigenous knowledge systems to practice their agriculture. With increasing intensification of agriculture and, now, with a growing need to participate in markets, local, indigenous knowledge is found to be inadequate. Farmers, farming communities, small and medium entrepreneurs and a wide variety of agricultural stakeholders now also need globally available knowledge. Similarly, researchers and innovators are increasingly recognizing that local knowledge is requisite for generation of relevant technologies or adapting them. The crux of the issue is how the various knowledge systems such as the formal and global can blend with the local and indigenous. This topic discussed research needed to develop the necessary systems, institutions and technologies needed to enable access to the new knowledge that agriculture now needs.

Frank Rijsberman (Director General, International Water Management Institute), Sanjini de Silva (Deputy Head, Information & Knowledge Group, International Water Management Institute / World Fish Center) and Enrica Porcari (Chief Information Officer, CGIAR) were joint lead discussants of this working group. In their introductory statement they presented the conventional, and the communication and the knowledge sharing models of knowledge generation, dissemination and use. They stated that reducing poverty was until recently a secondary goal of agricultural research. The primary focus was on increasing food supplies and reducing food prices. To achieve the now primary goal of ARD to benefit the poor we must understand how agricultural technologies influence socio-economic conditions and vice versa. Research usually impacts on the lives of poor people through highly complex, dynamic and interactive processes involving many different factors and actors in addition to agricultural research. The path from research to development is long and winding and it is very difficult to attribute development impacts to research outputs unambiguously or unchallenged by rival models of causation. It is important that ability and means to identify and measure poverty are strengthened. The discussants then detailed various methods to understand outcomes and impacts of research and development.

A key challenge in the knowledge sharing approach is how to enable both formal scientific knowledge and indigenous or local knowledge to contribute optimally to poverty reduction. The discussants offered their positions for debate and discussion by participants of this working group. These positions were:

- The “classical model” for research over-emphasizes the importance of peer reviewed journal publications, to the detriment of multi-disciplinary and participatory approaches to innovation.
- Research institutes such as the CGIAR centres should be in the knowledge business, i.e. they should not only do research, or generate knowledge, but also develop other knowledge roles such as knowledge sharing, knowledge brokering and knowledge use.

- Research funding agencies and research institutes should explore outcome contracting as a performance-based form of funding that combines accountability for outcomes with freedom to operate for researchers.
- Knowledge Sharing approaches such as “Learning Alliances” offer opportunities for development of more effective research partnerships and for blending scientific and indigenous knowledge.

The lead discussants had also organized a “Chat Show” to discuss the issue of blending knowledge systems.



The Chat Show of the Working Group on Blending Knowledge System

The issues that were identified at the end of the discussions were:

- Whatever we formulate cannot be homogenous
- We need to work out how to blend the systems – involving and bringing in farmers’ knowledge into the whole process
- A new language to describe the process needs to be developed.
- The challenge is to get all stakeholders (governments, researchers and, to some extent, communities) to understand their new roles and how they can engage with researchers.
- We need to do away with the farmers’ participatory role and put them into the centre of innovation development – we must look for innovators who can show the potential of farmers to experiment and create. We need to try to begin the research from the farmers’ own innovation. Local innovation funds would mean that farmers decide who is to support them in their experimentation. In Ethiopia, farmers’ problems are more concerned with survival than anything else.
- Networking formally and informally has been an important means towards blending knowledge systems.

- There is a lack of acknowledgement that knowledge exists outside the formal research systems (i.e. with farmers).
- We need systems for blending knowledge. For example, benchmarking the criteria for evaluating (and planning) research, and documenting farmers' experiences.
- We must acknowledge that farmers (and other stakeholders) don't just have problems, but also ideas. We need to look at ways of supporting key stakeholders and bringing them together, so they look at the sustainability of the livelihood of poor people.
- We (including farmers) have to prioritize problems, go to donors, get funding, and then finally go shopping and find the right expertise out there. Don't fight the system, use the system! We have to talk about "us" and not just our individual interests.
- We have been given food for thought. The role of researchers could be to look at the process of innovation in communities and then study and support this process ("bright spots").

The major issues deliberated upon and recommended by this Working Group included:

1. Valuing local knowledge.
2. Enhanced intermediation between farmers and researchers.
3. Research design (inclusiveness, evaluation, ARD design, etc.).
4. Encouraging multidimensional dialogue in ARD.

The sub-working groups' recommendations on four priority issues and recommendations for action by GFAR stakeholders were:

1. Local Knowledge

- 1) GFAR to strengthen farmer organizations.
- 2) Document success stories as a "living document".
- 3) Facilitate dialogue between farmers and other stakeholders.
- 4) Institutionalize participatory research with farmers as partners.
- 5) Recognize and reward local knowledge/researchers in benefit-sharing and intellectual property.
- 6) Use farmers' innovation and further develop/refine it.

2. Intermediation

GFAR and regional partners should identify successful working models of intermediation for farming communities, document the necessary lessons, and disseminate them actively to farm organizations, decision makers and policy makers.

3. Research Design

- 1) Involve all stakeholders in the food supply chain in research design and use “outcome contracting” as a funding mechanism.
- 2) Change incentives for researchers – don’t just place value on publications but also on knowledge sharing, for which indicators need to be developed.

4. Partnership

- 1) Collect learning from existing programs/projects within and outside GFAR, and document good practices, which can be used as the basis of future advocacy (see below).
- 2) Use “partnership” as a criterion for selecting and evaluating new programs.
- 3) Promote and advocate more inclusive approaches to ARD (with donors, researchers, etc.) both at international as well as regional and national levels.
- 4) Make a difference in communication skills of researchers, both present and future (change university curricula).
- 5) Support local level farmer organizations.

Sub-theme 2: Innovations in Institutional Arrangements

Restructuring of existing institutions and new institutions are desperately needed as new paradigms emerge for agricultural research for development. In recent years, it has become well recognized that ARD systems need to include a range of new stakeholders in agricultural development in order to achieve their objectives. There is also growing consensus on the need for restructuring of existing Institutions to ensure inclusion of all stakeholders to ARD. The need for new knowledge in a more knowledge intensive agriculture requires creation of new institutions that mediate flows and access to information and knowledge for agricultural development. A more intensive, market oriented agriculture requires a new set of rules, regulations, policies, mechanisms, processes and institutions to implement them. Ensuring equitable market participation of all involved in agriculture also requires appropriate institutions. This topic discussed what is needed to enable existing institutions to innovate and new institutions to emerge to satisfy these emerging needs.

Working group 2.1: From NARIs to NARS: Towards cross-sectoral and multi-disciplinary approaches

The need for more inclusive agricultural research for development (ARD) systems is now well recognized. However, creating inclusive ARD systems has been difficult due to a lack of a clear definition of these systems and how to equitably include its various stakeholders at institution and systems levels. This issue is further compounded by the shift in focus of agricultural research to biotechnology and use of ICTs for development which requires multi and cross disciplinary approaches that

include both “basic” and “applied” as also “hard” and “soft” sciences. Many of these multi-disciplinary approaches require major investments not afforded by the traditional public sector institutions.

A major impediment in creating more inclusive ARD systems has also been the increasingly diffused boundaries between agricultural, manufacturing and service sectors which complicates creation of more holistic policies, strategies and necessary structures for agricultural development within national, regional and global development goals. At the governance level, issues such as health and agriculture in case of AIDS and malaria, and agriculture and energy, in case of generation of biofuels illustrate the complications of dealing across traditional ministries. The difficulties in including the private sector within conventional ARD systems also need attentions and require resolution.

Willem Janssen (World Bank) was the lead discussant for this topic. He initiated his presentation by discussing knowledge generation and application in a changing agricultural context. He described the changing agricultural context around 6 changes. First he said that markets, and not production, are driving agricultural development. Second, the production, trade and consumption environment for agricultural products are increasingly dynamic and evolving in unpredictable ways. Third, knowledge, information and technology are increasingly generated, diffused and applied through the private sector. Fourth, exponential growth in ICT, especially the Internet, has transformed the ability to take advantage of knowledge developed in other places or for other places. Fifth, the knowledge structure of the agricultural sector in many countries is changing markedly. Finally, agricultural development increasingly takes place in a globalized setting. The process of knowledge generation and use is also changing from knowledge elites to a knowledge society, from paper use to store and share knowledge to digital media and the web to store and share knowledge, from research as the key tool to generate knowledge to search and consultation to generate knowledge, from a linear model of research to adaptation of technology to an interactive model of innovations based on learning, problem recognition and knowledge generation. He then went on to discuss the innovation trends in agricultural production systems and the changing approaches for supporting agricultural innovation. He described how concepts in supporting ARD have changed from NARI, NARS, Agricultural Knowledge and Information Systems (AKIS) to the national agricultural innovation system approaches. He also identified how the roles of different actors are now understood and directed towards change in line with each conceptual change.

The discussions that followed the presentation are summarized as:

Table 4.
Issues and recommendations summarized by participants in working group 2.1

MAJOR ISSUES	RESPONSE REQUIRED	SUGGESTED ACTIONS
<p>We are facing a changing world, with new standards, and new markets require a reorientation from research to innovation (from NARIs to NARS or NAIS).</p>	<p>Going beyond the agricultural production system alone to address poverty (e.g. gender, HIV/AIDS, health and nutrition).</p>	<p>The question arises who GFAR is: an institution, us stakeholders, a platform?</p>
<p>We recognize that it is a long process to change from NARS to NARS or NAIS. To speed up the process we need to generate and access as many new ideas as possible. We need something new, experiments to try out different ways of working.</p>	<p>Changes required in knowledge and attitudes among not only researchers, but also farmers, government and donors.</p>	<p>GFAR stakeholders to track change: 1) governance, 2) skills sets of organizations, 3) financing modalities 4) projects on collaboration with client organizations, and 5) demonstrate contribution to MDGs</p>
<p>We need to build community-public-private partnerships of a broad range of actors who can effectively engage in democratic decision making. The question arises in how far innovation systems can or need to be managed or not.</p>	<p>We need an enabling environment with appropriate support at different levels (institutional, household etc)</p>	<p>Policy advocacy, develop a framework for transformation, and facilitate learning among stakeholders to internalize this change (e.g. capacity building, needs-based partnerships in the regions, and promoting best practice) Do we need a new name GFARI or GFAI-to underline the importance of innovation.</p>



An attentive working group listening to a presentation

Working group 2.2: Demand-led partnerships and mechanisms to generate and promote access to knowledge and technology

While there is a growing sense that the formation of relationships among the actors associated with agricultural innovation processes is essential for making effective use of agricultural science and technology, and a number of challenges facing multi-stakeholder and multi-disciplinary initiatives have been identified, no systematic assessment has been made of the partnering process and ways of making the most effective use of this mechanism for generating knowledge and improving access to technologies. A coherent understanding and approach to building these partnerships and mechanisms is still missing and needs to be integrated by ARD institutions. This topic discussed what is meant by demand led partnerships, who should be included in these partnerships, what mechanisms lead to these partnerships and how they can contribute to generation and promote access to knowledge and technology.

Khamarunga Banda was the lead discussant in this working group. In her discussion she first tried to define what is meant by demand led partnerships. She then described the experience of Langeloop community land care project and lessons learned in the partnership for the project. She described the various phases that led to creation of a demand led partnership. Her conclusion was that there are several key principles involved in the creation and execution of demand led partnerships. These include:

1. Ensure open decision making processes
2. Acknowledge and respect client skills and experience
3. Piggy back and build on existing knowledge and capacity
4. Always recognize the member/client leadership on all the actions and activities (decentralize power)

The discussions are presented in the following table:

Table 5.
Issues and recommendations summarized by participants in working group 2.1

MAJOR ISSUES	RESPONSE REQUIRED	SUGGESTED ACTIONS
Demand-led partnerships are dynamic: need new institutional arrangements that focus on transition not destination.	Agricultural research to respond to MDGs, need to avoid too many processes with no result.	GFAR needs to widen its net to obtain concrete success stories from ground; needs to be a forum to discuss issues with fewer political speeches.
Weakness of delivery part of research projects.	Need to evaluate situation to secure delivery.	Delivery strategy developed by researchers and users, with support from donors.
Existing community demands a solution to a problem	Research to be part of communities.	To bring more knowledgeable people like social scientists. Network should tap into these people.
Where do we struck the equilibrium between supply and demand led partnerships.	Need an information market; need to improve the interactions.	Need capacity building of intermediaries; link demand and supply (could be a global partnership program).
Demand led research: well received by farmers but difficult for farmers to realize what they need.	Collaboration of stakeholder needed.	Creation of fora where all stakeholders are discussing; seminars where stakeholders explain the services they render.
Funding push researchers: benefits to reduce time but approach often is top down and unsustainable.	Proper consultation to target community and stakeholders.	---
New ways for institutions to work. Paradigm shifts for communities or research institute.	Need to provide mechanisms.	Invest greater time in maturing and growing open and productive partnerships; key actors are missing currently.
Reorient actors in research delivery.	Need for unlearning or learning in participatory research.	Need more case studies about successful partnerships with comparative analysis. Also offer training sessions.
Paradigm shift: communities demands are changing in the market-led agriculture.	Undertake culture change in setting of research priorities though institutional and organizational changes.	Partnerships and interactions, address curriculum change in education, issues related to youth, promote ICT, long distance learning and capacity strengthening.
Focus on demand led term (this is what is new).	No system of accountability of researcher to his clients-if no output, no penalty.	GFAR can help develop systems of accountability, but not to make researcher afraid but to make system self respond to need of clients

Working Group 2.3: Mobilizing financial resources and improving their allocation

Financial support for ARD has been waning. National governments, especially of the South, while recognizing the need for rapid development of agriculture to reduce poverty have also reduced, in real terms, allocations to ARD. Donor support for agriculture especially for research in applying new technologies has been ambivalent and not sustained. Further, while donors promote the concept of international and regional collaboration in research, most funding support is bilateral between countries. Mechanisms to financially support ARD that are transparent and adequate at various levels from national to global are weak. They often militate against the establishment of good partnering arrangements. This topic should discuss ways to mobilizing financial support to ARD and developing mechanisms that ensure appropriate and adequate allocations. It should also consider issues of ensuring appropriate financial support for multi-lateral and collaborative initiatives across commodities, in research networks and at regional and global levels.

Ruben Echeverria was the lead discussant for this working group. In his presentation he stated that the role of agriculture with food security, the reduction of poverty and the maintenance of the natural resource base has only recently received attention. These issues are now moving up on the agenda of governments. Despite of demonstrated high payoffs to investment in agricultural research, chronic under funding threatens the performance or existence of many research systems in developing world. He then went on to describe funding trends and funding mechanisms for agricultural research. He stated that public global investments in agriculture increased by 51 per cent in the last two decades. However, there was lopsided investment with only 6 per cent of total agricultural research funds spent in 80 countries. As regards the private sector, only 6 per cent of the total investment in agricultural research in developing countries is by the private sector. He then laid the foundations for discussion by the group by laying out issues of public and private funding, the mechanisms and Institutions involved and the direction for funding agricultural research.

In this working group, the major issues discussed are summarized in the following table:

Table 6.
Issues and recommendations summarized by participants in working group 2.3

MAJOR ISSUES	RESPONSE REQUIRED	SUGGESTED ACTIONS
<p>Mobilisation of resources for agricultural research</p> <ul style="list-style-type: none"> • global • regional and sub-regional 	<ul style="list-style-type: none"> • Research typology to be more context-based; i.e., demand driven • Provide better assessment of impacts of investments, evidence of better governance and accountability and assessment of spill-over impacts regionally • Broaden agricultural research context to relate to MDGs (rural 	<ul style="list-style-type: none"> • Facilitation of cross-regional comparison and sharing (e.g. Asia- Africa / Africa – LAC) which may lead to the promotion of inter-regional funding mechanism • Enhance roles of regional arms of GFAR to consultative and funding roles

MAJOR ISSUES	RESPONSE REQUIRED	SUGGESTED ACTIONS
	<p>development, health, education)</p> <ul style="list-style-type: none"> • Ensure multi-stakeholder representation in resource allocation decision making bodies (to ensure ownership) • Rationalize research spending Balance between competitive funding and (strategic) non-competitive funding • With the availability of better funds, we can do better too. We need to do cost-cutting and better resource allocation • Efficiency and effectiveness should be emphasized 	<ul style="list-style-type: none"> • High-level policy discussions involving ministers of agriculture as well as finance, budget, education • Review and share lessons learned and experiences of resource mobilization, esp. at the sub-regional level and from other sectors (e.g. mining) • Promote the development of research partnership across regions and sectors to facilitate greater access to resources • Promote intra and inter-agency collaboration to ensure effective, non-duplicative efforts
<p>Public sector and private sector funding sources</p>	<ul style="list-style-type: none"> • Differentiated roles of funding and execution involving other (and new) actors (i.e., public vs. private sector research) linked to exit strategies for public funding • Promote appropriate commercialisation of research products (with a certain degree of caution for protecting national interests) 	<ul style="list-style-type: none"> • Develop partnerships and facilitate greater linkage between the demand and supply side of research funds • Encourage mechanisms for linkages with markets, entrepreneurs and value addition for farmers
<p>Research cycle is long-term while political cycle (which determines funding) is short-term</p>	<ul style="list-style-type: none"> • Paradigm shifts in institutional arrangements to result in greater emphasis on stakeholder-driven research agenda • Better co-ordination nationally, sub-regionally and internationally • Use and adoption of sound assessment tools for impact (e.g. Outcome mapping, use criteria) for lobbying • Strengthening capacity in the use of analytical instruments at the national level (as developing countries need to be able to determine what types of funding/delivery are needed) • Ensure competency by having the right mix of expertise (multi-disciplinary) among the research staff • Sub-regional funding mechanisms (with contribution from member countries so they themselves can define their priorities and manage their own resources (leading to 	<ul style="list-style-type: none"> • Promote understanding of long-term nature of ARD viz. short-term political gains • Harmonization of donor priorities (donor coordination e.g. EIARD) • Broadening the donor support-base, emphasizing links to other sectors in relation to a broadened ARD context. • GFAR to play a think-tank role

MAJOR ISSUES	RESPONSE REQUIRED	SUGGESTED ACTIONS
	greater accountability and ownership)	
Combination of diverse funding mechanisms for (diverse) research foci	<ul style="list-style-type: none"> • Governance aspects of funding and research management • Donor co-ordination in agricultural research • Exploration funds for finding appropriate institutional mechanisms for interdisciplinary and participatory strategies 	<ul style="list-style-type: none"> • GFAR collect and provide access to funding opportunities, particularly for farmers organisations • Facilitate developing countries in linking to these donors • Promote/facilitate access to non-traditional financing mechanisms
Differential access to S&T and research funds among developing countries	<ul style="list-style-type: none"> • Collective action and S-S collaboration • Emphasize the important roles of national governments in ARD • Better S&T co-ordination at various levels (nationally, sub-regionally and internationally) 	
Capacity building (youth, women, CSOs, NARS)	<ul style="list-style-type: none"> • Build national capacities of NARS to enable them both develop national competency and compete internationally • Build capacity to lobby and negotiate for increased funding in ARD • Curriculum reform (access by young people to multi-disciplinary research) to ensure that education and training fit the needs of society 	<ul style="list-style-type: none"> • GFAR to facilitate a greater access of farmers organization to financing resources

Sub-theme 3: Technologies for emerging societal needs and opportunities

This theme considered how research in biotechnology, nanotechnology, information and communications technology (ICTs) and materials sciences can provide technologies that contribute to resolving key concerns related to agriculture. The key concerns include the need for energy for use in agriculture, enabling access to information, knowledge and skills through use of ICTs for agricultural communities and the need to conserve biodiversity.

Working Group 3.1: Future energy needs for agriculture with a special emphasis on bio-fuels: Implications for Farming Communities

The use of energy, especially in the form of electricity and petroleum, will define the future growth of agriculture and, in turn, have implications for food security. As countries such as China and India strive to increase their agricultural growth rates they will require huge extra inputs in oil and natural gas to power mechanization of agriculture and as feedstock to chemical fertilizers.

As fossil fuel costs grow and the economic production of biofuels becomes a reality, the issues facing agriculture include:

- What new technologies are needed to reduce the use of energy in agriculture, who will generate them and how they can be effectively used, especially in case of smallholder agriculture?
- How can small holders benefit from producing biofuels?
- What technologies can help improve production and use of biofuels?
- How will shift of agricultural, especially food grain, production to producing biofuels especially in the North, such as in USA and Canada, impact on global food security of the South.
- Can farmers, especially small holders, benefit from trade in “carbon units” through production of bio-mass?

The lead discussants for this working group were Belum Reddy and his colleagues and E. Mukhwana and his colleagues. The presentations dealt with energy needs for agriculture and their implications especially the small holder. They then went on to look at promising new technologies to produce biofuels through sweet sorghum, jatropha, cassava and several other crop species. They highlighted the pro and cons of the technologies. They suggested how knowledge can be shared through value chains in bio-fuels and what the next steps should be. These included the development of knowledge networks for biomass, development of global bio energy villages and agricultural research and enabling policy environment at local, national and global/international levels.

Some of the issues raised by this working group were:

1. The relationship between oil price and sustainability of the ethanol technology;
2. The type of industry that will evolve: geared towards small farms or industry;
3. The coordination of efforts for research on bio-fuels;
4. There is need for blending regulations based on economic rationale (seasonal fluctuations of prices for example).

The actions suggested for GFAR stakeholders were:

1. Focus on small holders and poverty, taking into account, resource efficiency, for example water and multiple purpose crops
2. Link energy policies, especially related to biofuels, with research
3. Assemble knowledge, disseminate and share it as also use it to assess issues related to energy use for agriculture.

Working Group 3.2: Information and Communication Technologies (ICT) and Markets

As agriculture becomes more market oriented, equitable access to agricultural market related information, especially for small holder farmers, becomes critical for their livelihoods. The core issue for discussion under this topic is what ICTs can benefit agricultural development and how they can be used in market information systems to enable small holder farmers to participate more effectively in markets.

Another issue related to ICT use is in its use in identity preservation and labelling of agricultural products. As market chains of agricultural products become complex, increasing use of ICTs is expected in maintaining the identity of the commodities and processes involved in these products. The ability to use ICTs efficiently and effectively in identity preservation and in labelling will define the ability of farmers, producers and processors in participating in markets. The key question is what are the ICTs that can benefit small holder producers maintain identity preservation for their products and how ICT enabled information systems can be developed for their use?

Sudip Rakshit was the lead discussant for this working group. He provided an overview of ICTs, ICTs use in agriculture and agribusiness, and the emerging challenges in use of ICT for agricultural development and growth. He identified the present status and constraints in the use of ICTs in agricultural development. He stated that ICTs are critical in the emerging knowledge intensive agriculture. Among the constraints were the lack of appropriate ICT/ICM structures at research institute and local levels. There was no bottom up approach to research ICT. He was of the opinion that with better understanding of agribusiness supply chain information accessibility, ICT can help overcome the constraint of market accessibility for farmers. He identified sustainability issues in providing information to agricultural systems. He described in detail the challenges of track and trace labelling for agricultural products.

The main discussions in the working group are summarized in the following table:

Table 7.
Issues and recommendations summarized by participants in working group 3.2

MAJOR ISSUES	RESPONSE REQUIRED	SUGGESTED ACTIONS
Capacity building: Lack of capacity of (a) farmers to use the services and systems, and (b) service providers to develop and market the systems, based partly on sharing lessons learned & success stories.	<ul style="list-style-type: none"> • Develop training curricula and incorporate into training programmes • Farmers and rural people should be enabled and empowered to access improved ICTs • Establish and train service providers and develop links with farmers 	<ul style="list-style-type: none"> • Engaging of private ICT and commercial sector in capacity building, partly through e-learning, by creation of adequate incentives • Mobilizing funds to support capacity building • Document and disseminate case studies illustrating sound practices & reusable components
ICT: Lack of ICT policies, weak ICT infrastructure and high cost of access, and a lack of transparency in provision of and access to ICT	<ul style="list-style-type: none"> • Policymakers should create enabling policies for accessible infrastructure development in rural areas • Facilitate provision of new ICT • Opening new channels for I/K sharing 	<ul style="list-style-type: none"> • Sensitization of policymakers regarding the role of ICT for development • Develop platform for engagement of all stakeholders', incl. telecoms providers, around ICT policy issues
Poor institutional innovation – in knowledge exchange in relation to research-extension linkages and private/public partnerships, in particular (a) too much top-down information dissemination; (b) understanding of farmers' requirements and information needs; and (c) too little differentiation of market information services for specific needs (e.g. small farmers, large farmers, tenants/landlords, consumers)	<ul style="list-style-type: none"> • Ensuring mobilization of intellectual property as public goods, where appropriate • Development of non-conventional communication channels • Inclusion of indigenous knowledge • Fostering of diverse interactive mechanisms of communication and knowledge exchange • Development of incentives for private sector and civil society involvement • Improvement in understanding of farmers' information needs 	<ul style="list-style-type: none"> • Develop participatory approaches for understanding various categories of farmers' information and decision-making needs • Enhancing innovative approaches of rural service providers (public and private) based on community partnership • Promote and sensitize stakeholders to established IPR
Lack of availability of relevant and reliable information content – including (a) research information for researchers/farmers, (b) marketing information and linkage tools and products; (c) content adapted to overcome illiteracy and language barriers	<ul style="list-style-type: none"> • Improved effectiveness of information collection, transformation and packaging through appropriate channels • Enhance access to research information 	<ul style="list-style-type: none"> • Document and disseminate case studies illustrating sound practices & reusable components in content development • Develop market information and linkage systems between farmers/producers and markets
Poor sustainability of market information and linkage services/systems (public and/or private goods) commercialization of information services.	<ul style="list-style-type: none"> • Develop robust business model(s) that enable affordable access • Encourage and enable public/private partnerships 	<ul style="list-style-type: none"> • Pilot and document scaleable business model(s) • Encourage policymakers to develop enabling policy environment, with adequate incentives for service providers

Working Group 3.3: Harnessing biodiversity for sustainable livelihoods

Biodiversity is needed not only for agriculture but also for health, renewable energy and new materials. Biodiversity contributes to agricultural development not only through providing genes to improve productivity but also to protect against diseases and pests. Modern agriculture, by monoculture and spreading to erstwhile non-agricultural and marginal lands, contributes very significantly to erosion of biodiversity. This topic was expected to discuss issues concerned with systems, Institutions and technologies to offset erosion of biodiversity by agriculture and how biodiversity can be harnessed to sustain livelihoods, especially agricultural.

Emile Frison was the lead discussant of this topic. In his presentation he described the existence of agricultural biodiversity. He stated that beyond breeding, agricultural biodiversity contributes to food security by making harvests more stable in time. Species diversity, giving example of livestock, also contribute to yields and overall stability of production. They also contribute to improved nutrition. He gave several examples of how biodiversity contributed to food and nutritional security as also more sustainable livelihoods. He then outlined what needs to be done to preserve and enhance biodiversity. He suggested that biodiversity be used to enhance diet diversity. He also wanted an assessment of biodiversity’s contribution to incomes, natural capital, social capital and the protection of the environment and its potential for delivering sustainable livelihoods.

In this working group, the theme of the discussion revolved around a need to raise public awareness about bio-diversity, to shift research agenda towards using diversity to improve livelihoods, and to develop appropriate mechanisms for collaboration.

The summary of the discussions are given in Table below:

Table 8.
Issues and recommendations summarized by participants in working group 3.3

MAJOR ISSUES	RESPONSE REQUIRED	SUGGESTED ACTIONS
Raise awareness of various publics/audiences	Use appropriate success stories to carry the message of diversity for nutrition and livelihoods	All stakeholders
Recognition of value of diversity	Review and develop methodologies	NARS, IARCs, farming communities
Shifting of research agenda to using diversity to improve livelihoods	Re-orient the agricultural research community	NARS, donors, governments, GFAR Secretariat
Appropriate policies for mainstreaming agricultural biodiversity	Assess effectiveness of current policies and develop supportive policy options	All stakeholders
Collaboration and integration among groups working on different components of agricultural biodiversity	Develop and implement appropriate mechanisms	All stakeholders

Stakeholder Consultations

After the working groups that allowed participants to discuss one issue across stakeholder groups, consultation were organized that allowed participants within a stakeholder groups to discuss a range of issues.

Table 9. Number of participants to the stakeholder Consultation (GFAR2006)

Stakeholder Group	#
Farmers' Organization	20
Non-Governmental Organizations	20
International Agricultural Research Centres	8
Private Sector	8
Research Institutions from the South	13
Research Institutions from the North	8
Donors	8
YPARD	23

For each stakeholder and working groups, the information was summarized by selected people from each group with support from the GFAR secretariat staff. That information was presented on the 11th November (Plenary Session 5), and consisted of recommendation to GFAR.

Plenary Session 4

This session presented the outputs from each sub-theme.

Ms. Ann Waters-Bayer (ETC Ecoculture) articulated three points to achieve a paradigm shift in ARD:

1. Self reflection by individuals and institutions;
2. Mentality change away from techno-centric mindsets;
3. Recognition by formal scientist of farmer's research so that equal partnerships are established.

Ms. Gigi Manicad (Oxfam Novib) summarized the elements necessary for institutional innovations:

1. Partnerships should be demand-driven
2. Need to promote greater ownership and accountability, sustainability, knowledge sharing, capacity building,
3. Changes in knowledge and behavior

Luis Vieira (Brazilian Agricultural Research Corp.) concluded with these methods and principles that aim to better match technology with societal needs:

1. Knowledge sharing with a global federations of stakeholders stimulated and supported by GFAR;
2. Multi-stakeholders trans-disciplinary initiatives: GFAR should emphasize poor smallholders and their communities;
3. Integration: develop unified solutions together with the stakeholders
4. Deepening and prioritizing: GFAR encourages and supports initiatives to continuously assess and prioritize research and institutional involvement.

Plenary Session 5

This session presented the output from the stakeholder consultation.

1. Donor Support Group

The donor support group had identified critical issues:

1. GFAR needs a larger portfolio of inclusive partnerships within and across regional forums and at the global level;
2. GFAR must enable an urgent emphasis on Farmer Organization, NGOs and the private sectors participation in its activities;
3. GFAR is also expected to be more proactive in facilitating a progressive scaling up of its partnership building within and across different regions and globally;
4. GFAR urgently needs to appoint a new Executive Secretary to shorten this transition phase.

2. International Agricultural Research Centres (IARCs)

IARCS recommended that:

1. GFAR develops the role of providing a forum for discussion of specific topics which are new or around which there is as yet no consensus (for example, new stakeholders should be added like oil company (biofuels) or consumer groups);
2. GFAR reviews the role of Regional organizations at the Triennial Conferences;
3. Strengthen GFAR advocacy role.

3. Non-Government Organizations

The NGO group proposed the following actions:

1. Organize credible NGO fora at national, sub-regional and/or regional levels;
2. Develop a comprehensive capacity building program for NGOs;
3. Integrate NGO page within GFAR website as venue for sharing and communicating information among NGOs;
4. Elect representatives of NGOs to provide feed back to/from constituents. Several interventions during the discussion period brought forward the point that some NGOs are very outspoken, if not provocative, in putting their points of view forward, and that GFAR was encouraged to be selective, if needed.

4. Northern Research Institutes

The Research Institutions from the North proposed that GFAR:

1. Facilitate multi-stakeholders involvement in the design of research;
2. Increase participation in IAASTD;
3. Play an advocacy role for ARD;
4. Go beyond the MDG time and thematic horizons;
5. Help institutional arrangements for young scientists.

5. Private Sector

The private sector group had one dominant issue: the poor participation of the private sector to the GFAR conference. The reasons were:

1. Lack of incentives to Private sector for participation to GFAR activities;
2. Limited number of effective interfaces (e.g. Protocols etc. towards innovative engagement mechanisms) between GFAR and Private sector;
3. Limited acknowledgement and recognition of the role of the Private sector in ARD (limited understanding as well on the diversity of Private sector in terms of service delivery);
4. Lack of information about GFAR within Private sector

6. Southern Research Institutes and NARS

The research institutions from the South recommended that GFAR:

1. Foster greater dialogue between NARS and policy makers;
2. Promote participation of universities and other training institutions in regional and global level;
3. Play stronger advocacy role to incorporate the MDGs in government and NARS;
4. Increase dialogue among stakeholders mainly with donors to fulfill the requirements of the MDGs;
5. Monitor and assess performance of ARIs in the light of their contributions towards the MDGs;
6. Play a major role in the impact assessment of agricultural research and technology development.

7. Young Professionals' Platform for ARD

YPARD, launched during the conference, stated that:

1. Young people play an important role in facilitating changes;
2. ARD institutions should capitalize on the young to contribute to new agricultural innovation systems;
3. YPARD is a platform to enable young professionals to create and make use of this opportunity.

8. Farmers' Organizations

Farmers' Organizations (FOs) articulated that:

1. FOs are the prominent group to consult with the research community. They have a special role in identifying research needs.
2. There is a need to make research more “farmer-focused” problems are sometimes identified by researchers and not farmers.
3. More priority should be put on market research to organize products in a cost effective way to make farming profitable.
4. ARD is a special type of research that has a multi-layer focus, not dealing just with production problems. This requires different partners; not only FOs but also national governments.

5. GFAR has to increase support to FOs so that they are able to participate fully, and also increase support to FOs in their task of identifying national and regional research priorities.
6. Risk management (for example weather and market) is an area of significant research priority.
7. Climate change will require new crops and new production methods. How will the new seeds and new farming practices get to the poorest of the poor? GFAR needs to advocate effective strategies for this.

Further, FOs found that GFAR had met the needs of linking up the research institutions, and has made gains in advocating participation of the civil society. The challenge now is to make significant progress in ensuring that small-scale, resource-poor farmers see the benefits of ARD.

Closing Ceremony

A draft form of the Delhi Declaration, the main output from the closing ceremony, is attached as Annex 1.

During the Ceremony several dignitaries who had contributed to the formation of GFAR were recognized and presented with mementoes.

Poster Presentation and Exhibition

Poster Session

The poster session was organized around the theme of “ARD: Evidence of contributing to achieving the MDGs”. The poster session included 15 competitive posters and 7 non-competitive ones. From the competitive section three posters won the competition:

- *Institutional Innovation in Small Farmer Dairying: A Case Study of Napier Fodder Scale-Up, India*

Authors: PG Bezkorowajny, VL Prasad, K Gurava Reddy, VK Mahesh and D Romney

- *Enhancing livelihoods of small-scale sorghum producers in India: Innovation through a coalition approach*

Authors: P. Parthasarathy Rao, Gurava Reddy, BVS Reddy, C. Ravinder Reddy, and CLL Gowda

A model for promoting a versatile crop that has remained minor: the case of soybean in Kenya

Authors: Chianu J N, Ohiokpehai, O, Vanlauwe B, Adesina A, and Sanginga N

Exhibition

The exhibition for GFAR 2006 Triennial Conference was organized around the theme “Agricultural Research for Development (ARD): Contributing to the achievement of the Millennium Development Goals”. Sixteen organizations and the Indian NARS representing a diversity of stakeholders hired 30 booths and presented their activities:



Delegates at the GFAR 2006 Triennial Conference Exhibition

- Indian Council of Agricultural Research and Indian National Agricultural Research Systems
- European Consortium for Agricultural Research in the Tropics
- European Research (European Community)
- Consultative Group on International Agricultural Research
- International Crops Research Institute for the Semi-Arid Tropics
- CAB International
- GFAR: Secretariat, CACAARI, FORAGRO, APAARI, etc.
- Forum for Agricultural Research in Africa
- Promoting Sustainable Development in Agricultural Research Systems (DURAS)
- Global Facilitation Unit for Underutilized Species

- TeleSupport
- Research Into Use Programme
- AVRDC-TheWorld Vegetable Center
- Horticulture For Development (International Society for Horticultural Science)
- International Network for Bamboo and Rattan (INBAR)
- International Development Research Center
- Food and Agriculture Organisation of the United Nations

News and Press Coverage

The Conference received very good national and international press coverage and national television and radio coverage. There were two press conferences arranged for the Conference. All India Radio invited GFAR representative for an interview. The Conference was also covered by several blogs.

Feedback from Delegates

A preliminary analysis of feedback provided from 77 delegates who filled up the Conference evaluation form indicated:

Table 10.
Rating for the Conference Organization
(95% participants deemed organization adequate or better)

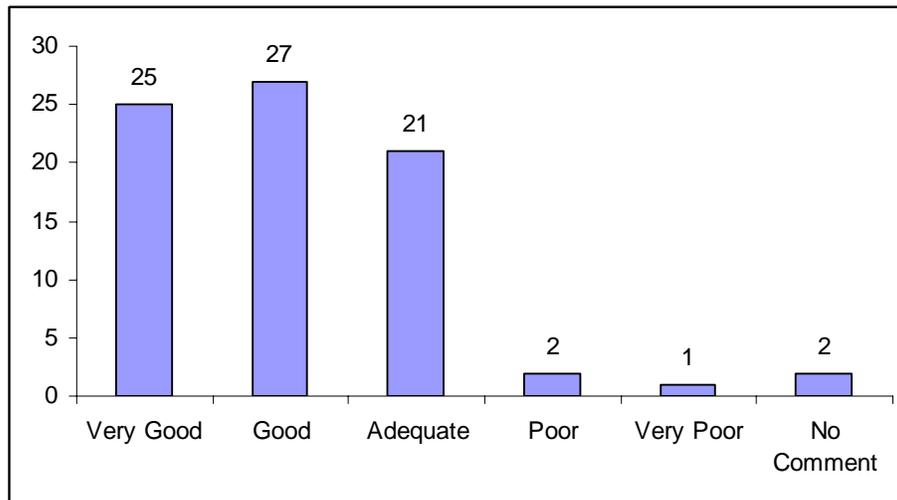


Table 11.
Achievement of Conference Objectives
(94% found objectives to be adequately filled or better)

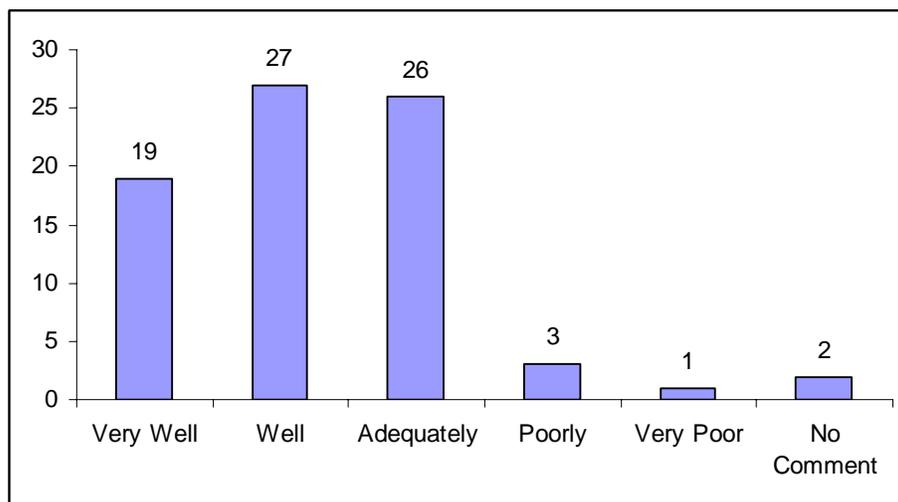
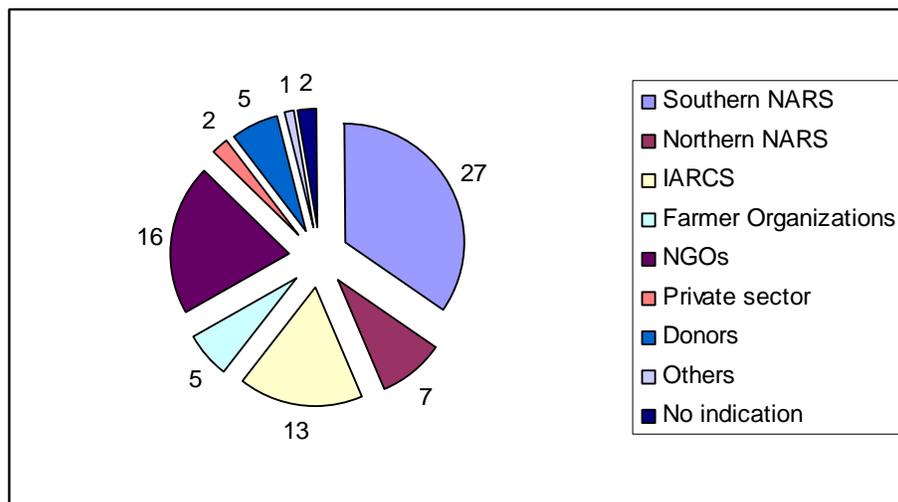


Table 12.
The distribution of the delegates who responded through the evaluation form was as:



Section 3

Conclusions

Conclusions from the Conference

The GFAR 2006 Triennial Conference goal was to formulate recommendations that would ensure effective and efficient contribution of the agriculture sector towards meeting the MDGs and provide guidelines for the development of research and development activities that GFAR stakeholders will carry out in order to contribute to the above.

The proceedings of the conference revealed a rich tapestry of new concepts, ideas that ARD can use and direction it may take to effectively efficiently contribute towards meeting the MDGs. The most important message from the conference was that ARD has to urgently reorient itself towards becoming more pro-poor and contribute to satisfying the needs of the small producer and the rural poor. The change required is not only in technology and the processes that generate it, but goes beyond to the systems and institutions of ARD. There is a need to rethink agricultural development. The paradigm needs to shift from increased production and productivity to how to enable entire agricultural systems to respond to markets, creating sustainable livelihoods in rural areas and conserving valuable natural resources.

Poverty is a complex issue. It has social, political, economic and environmental causes that need to be understood in a holistic manner. To generate the most appropriate technology and foster innovation for agricultural and rural development, there is a need to imbibe learning not only from biological and physical sciences but also the understanding from the sociology, politics, economics and environmental impact of generating technologies and promoting innovations. Reorientation of ARD will require that technology generation and innovation take into account all the dimensions required for development and not only the “hard” sciences.

Agricultural growth is one of the best ways to attain rural growth and, in turn, contribute to alleviation of poverty in many middle and low income countries. Agricultural innovation is the key to agricultural growth that is now more driven by markets and global competitiveness. For agricultural innovation to flourish there is a need to foster appropriate systems, institutions and technological bases. The approach to innovation requires blending of structured knowledge available in scientific institutions and universities and with that of farmers, producers, processors, marketers and consumers. For agricultural innovation to contribute to global alleviation of poverty, there is an urgent need to globally mobilize, share and exchange agricultural knowledge, information, experience and skills. GFAR is one of the appropriate platforms for advocacy, action and assessment of the contribution of agricultural innovation to achieving development goals.

The Conference deliberations came up with a multitude of recommendations. The actions required from GFAR can be grouped under 4 broad categories.

1. GFAR has to advocate the need to change systems, institutions and technology generation processes so that they become more pro-poor and biased towards satisfying the development needs of small producers and the rural poor.
2. GFAR has to strengthen all the stakeholder constituencies so that they can, through an inclusive process, contribute to agricultural research and innovation that contributes to alleviation of poverty and elimination of extreme hunger as also social, economic and political deprivation.
3. GFAR has to enable, build, foster and strengthen partnerships that contribute to agricultural research and innovation and, in turn, contribute to agricultural and rural development that leads to elimination of hunger and alleviation of poverty.
4. GFAR has to mobilize and enable sharing and exchange of knowledge, information, experience, skills and resources that contribute to agricultural research and innovation globally, regionally, nationally and at local levels

Under each of these 4 categories, there have been useful recommendations regarding how to balance farm incomes and participation in markets, how to reorient agricultural education and support systems, how to blend knowledge systems, how to transform nationally agricultural research Institutes and systems to agricultural innovation systems, how to develop demand led partnerships and how to fund ARD and agricultural innovation. There are also recommendations regarding technological approaches that will contribute to the resolving of complex issues around agriculture and energy, using ICTs for enabling market participation of small producers and in harnessing biodiversity.

The expected outputs from the Conference were 1) The voice and perspectives of GFAR stakeholders are added to the current global debate on the Millennium Development Goals 2) Enhanced profile of agriculture and agricultural research sector by highlighting its contributions to the alleviation of development problems related to poverty, food insecurity and natural resources degradation in order to stimulate increased policy, political and funding support commensurate to the contributions 3) Provision of guidelines for the development of an ARD agenda (GFAR Business Plan for 2007-2009) that will be implemented by GFAR stakeholders and their partners taking into consideration the urgent need to reorient agricultural research and development in order to meet the most pressing of societal needs encapsulated in the MDGs

The Conference by attracting attention of nearly 500 participants from 76 countries and prominent national representatives, as also a rich press coverage and distinguished and influential delegates who acted as key presenters and lead discussants, has added significantly to the current global debate on the Millennium Development Goals, especially the contribution of ARD to agricultural and rural growth to elimination of hunger and extreme poverty, environmental sustainability and global collaboration in sharing knowledge. It has enhanced the profile of agriculture and agricultural research sectors through the presentation of various facts and figures and new ideas, concepts and directions ARD should take. This should contribute further to stimulate policy, political and funding support to ARD. The

proceedings of the conference, as highlighted in various sections above, have resulted in rich harvest of recommendations for GFAR to develop an ARD agenda and its business plan for 2007-2009.

Section 4 **Annexures**



ANNEX 1:

GFAR 2006 CONFERENCE

DELHI DECLARATION

We, the stakeholders of the Global Forum on Agricultural Research (GFAR), representing the following groups: southern and northern national agricultural research systems, regional and Sub-Regional Organizations, farmers' organizations, non-governmental organizations, private sector, international agricultural research centres and the donor support constituency, assembled during the 3rd GFAR general conference in New Delhi India, from 8th to 11th of November 2006, do hereby:

- Restate our commitment to contribute to the achievement of the Millennium Development Goals (MDGs) which have been endorsed by governments as a framework for measuring development progress and which currently constitute the focus of development efforts.
- Reiterate our commitment to overcoming the challenges facing the global community, especially those related to poverty, food insecurity, and the unrelenting degradation of our natural resource heritage.
- Acknowledge and commend current efforts to address these challenges at local, national, regional, and global levels.
- Realize that despite these on-going efforts recent reviews indicate that globally, the set targets are not likely to be reached by 2015.
- Convinced that the growth of the agricultural sector contributes significantly towards meeting the MDGs and affirm our commitment to reorienting Agricultural Research for Development (ARD) so that it contributes more effectively to meeting the targets

And hereby recommend that efforts are made by all ARD Stakeholders to:

- Advocate for a fuller recognition of the central role of sustainable agricultural production in achieving the MDGs.
- Address and implement the change processes recommended during this conference and which touch on institutional reforms, technology development and innovation systems.

- Pay special attention to small farmers/producers given that they make up a large portion of the population in developing countries and that they can contribute to the achievement of the MDGs.
- Promote and support scientific and education platforms for generating knowledge and facilitating South-South, North-South, and North-North collaborations.
- Strengthen stakeholder partnerships that recognise and provide greater space for civil society organizations at all levels.
- Recognize the important role of both women and youth in the continuum of ARD activities and enhance their future involvement.
- Reorient agricultural research and education efforts to establish strong linkages between farmers and markets in order to ensure greater benefits to both consumers and farmers, as a pathway to improve livelihoods.
- Increase investment in innovation systems research at all levels in order to enhance scientific capacity and improve the livelihoods of the poor in a sustainable manner.

Clearly, with business as usual the MDGs will not be reached - the clock is ticking quickly and changes are needed now to improve the livelihoods of millions of people. Therefore we reiterate that meeting the goal of the New Delhi Conference, of reorienting agricultural research for development to meet the MDGs, will require not only the commitment of GFAR stakeholders, but also that of national governments of the South and North, as well as that of multilateral institutions.



