



G20 Conference on Agricultural Research for Development

Montpellier – 12 & 13
September 2011

Promoting Scientific Partnerships for Food Security

Concept Paper
Prepared by Brazil, Canada, France, Japan,
CGIAR, FAO, GFAR and the WB.

1. Background

The G20 Seoul communiqué and Action Plan on Development, in its pillar on Food Security, endorsed the five *“Rome principles”* of the 2009 World Food Summit on Food Security and underscored the need to enhance policy coherence and coordination within the existing agricultural research systems.

The Development Working Group (DWG) of the G20 took a close look at the Food and Agriculture Organisation (FAO) and World Bank report to the G20: *“Transforming Agricultural Innovation Systems for Global Impact”*.

G20 Agriculture Ministers encouraged the first G20 Conference on Agricultural Research for Development (ARD), to be held in Montpellier, where the Consultative Group on International Agricultural research (CGIAR) Headquarters is located, in order to promote scientific partnerships for Food Security.

Objectives and expected outcomes for this G20 Conference are defined hereafter, taking into account major issues in the area of ARD and Food Security, as identified in particular in:

- The 2008 World Development Report, which showed the clear need to sustainably increase agricultural productivity to feed increasing global demands over the years to come.
- The 2010 Global Conference on Agricultural Research for Development (GCARD), its Regional and Global Reports and its Roadmap, which recognized that agricultural innovation needed to be driven by and embedded in national development needs.
- The CGIAR Reform process, which led to a new Strategy and Results Framework (SRF) for the CGIAR research system, to focus its role with development partners, towards achieving large scale development impacts.
- The FAO 2011 State of Food and Agriculture report, which highlighted that following a spike in 2008, food price increases have now become an ongoing concern, and drew attention on the implications of high food prices, price volatility and weak economic growth.

Delegations of up to 4 members per G20 Member and Invitee (with a mix of Policy/Decision maker and heads of agricultural research and higher education institutions) and 2 to 4 members per international organisation (CGIAR, FAO, GFAR, WB) are expected, for a total of around 130 – 140 participants.

2. Objectives

The G20 is a powerhouse of both agricultural innovation and production, with around 70% of scientific publications on agriculture and around 60% of agricultural exports. The G20 is also driver of innovation in areas such as information and communication technologies that can change the way in which agricultural knowledge is made available.

This Conference provides a timely opportunity to consider how G20 Agricultural Research Systems can achieve a step-change in supporting development and to consider which actions to take forward in specific regional and inter-regional initiatives.

The main purpose of the first G20 Conference on ARD is to mobilise the G20 capacities in this field to meet the global challenges of scientific partnership for development and food security, with 4 specific objectives:

- Objective 1: To build a mutual knowledge between the G20 agricultural research systems, in order to improve policy coherence through enhanced cooperation and coordination of research policies and programmes on food security.
- Objective 2: To mobilise the G20 agricultural research and knowledge systems to develop effective and innovative research partnerships for development, leverage innovative research results-based mechanisms and enhance the impact of the CGIAR Research Programme (CRP) outcomes.
- Objective 3: To strengthen capacities in agriculture technologies and productive systems for developing countries optimising complementarities and synergies between the G20 agricultural research systems.
- Objective 4: To better involve the G20 agricultural research systems in the design of and participation in the 2nd GCARD scheduled in Uruguay in 2012.

3. Expected Outcomes

This conference will explore how the G20 agricultural research systems can best reach the four objectives through the following four expected outcomes:

- Expected Outcome 1: Increased cooperation and coordination of G20 agricultural research systems for development through existing or new mechanisms to improve strategic thinking, research priority setting and mainstreaming of research into agricultural development and food security plans.
- Expected Outcome 2: Effective multi-stakeholder research partnerships established to capitalise on the knowledge and expertise of diverse research actors (ie.g.North-South, South-South and trilateral cooperation) and leverage the private sector for additional investments in agricultural research (e.g. pull mechanisms).

- Expected Outcome 3: Improved effectiveness and efficiency in capacity-building programmes to generate, share and make use of agricultural knowledge for developing countries through new and existing tools.
- Expected outcome 4: A G20 Vision recognising the development impact and return of agricultural research, supporting and contributing to the 2012 GCARD in Uruguay.

For each expected outcome, a specific half-day session is scheduled, with introductory keynote addresses, as detailed in the attached provisional agenda for the conference. To optimize the workflow, specific expected outcomes, background issues and questions to be discussed are identified below.

4. Session 1: Stronger Co-operation and Co-ordination for Agricultural Research for Development and Food Security

“How to increase cooperation and coordination of G20 agricultural research systems for development through existing or new mechanisms improving strategic thinking, research priority setting and mainstreaming of research into agricultural development and food security plans?”

4.1. Specific expected outcomes

- A consensus among the G20 that the most important goal for resolving food security issues is the sustainable increase of food production and productivity and that strategic thinking, research priority setting and mainstreaming of agricultural research in food security plans and agricultural development strategies as well as disseminating its results are critical for this goal.
- Development of existing or new mechanisms for improved strategic thinking, priority setting and mainstreaming of agricultural research.

4.2. Specific background issues

- **Better Agricultural Research for Development and Food Security**

After almost three decades of regular decline in public investment in agricultural research, the recent focus of agricultural research has been on developing approaches for considering the diversity of agro-ecological conditions world-wide and the need for a sustainable use of natural resources in order to respond to the challenges of a growing global demand and climate change.

Agricultural research, if undertaken based on the real needs of farmers (as well as downstream value chains and consumers) and through global partnerships bringing together research institutions and development institutions, can provide long lasting and robust solutions to food insecurity issues. Effective delivery of research results, reaching huge numbers of farmers and consumers, can only come about as the result of successful interaction between researchers, policy makers and research delivery partners.

- **Stronger Co-Operation and Co-Ordination within global initiatives for Food Security**

Co-ordination of research efforts for enhancing sustainable food production and productivity leads to more effective and impactful research approaches, built on the complementarities and diversity of perspectives of the different partners. At the same time, mainstreaming research in development and food security strategies and plans, at both national and international levels, is

essential to the increase of food production and productivity and successful resolution of food security issues.

In order to maximise the impact of international agricultural research, some of the basic approaches in the Paris Declaration on Aid Effectiveness (2005) can be referred. Also, the recent initiatives including Rome Principles, L'Aquila Statement, High Level *Task Force on the Global Food Security Crisis* (HLTF), High Level Panel of Experts (HLPE) of the Committee on World Food Security (CFS), Global Food Crisis Response Program (GFRP), Global Agriculture and Food Security Program (GFASP), GCARD Roadmap and CGIAR Strategy and Results Framework are essential.

In order to bring about sustainable changes at farmer level, forging partnerships through North-South, South-South, and Triangular Cooperation are the effective way of strengthening cooperation. At the same time, sound competition among researchers and institutions should be encouraged to produce innovation.

- **Promotion of Co-operation and Co-ordination for setting research priorities**

Setting research priorities is something which all research institutes do to increase the chances of success in their research, find a research area, secure funding and identify key partnerships. Research prioritisation is also a necessary step to enhance the transfer of the research results and technologies to farmers and, to ensure that joint research activities respond to their needs and concerns and involve farmers through participatory research. The success of co-operation and co-ordination in agricultural research efforts critically depends on the ability to clearly and jointly set research priorities.

There are many different methods for setting research priorities, so a first step is to reach consensus on the method(s) that will be used to arrive at jointly agreed priorities. Data and evidence for setting research priorities probably already exist and include surveys of the needs of farmers and consumers, predictions of future demand, evidence concerning the state of natural resources in agriculture, and many others. Priorities may emerge, once methods have been agreed. Such priorities may include development of variety of areas including high-productivity, pest resistance and resilience to heat or drought under climate change.

- **A mechanism for co-operation, research priority setting and increasing impact of research on development**

It has been recognised that the increasing complexity of agricultural development challenges necessitates a systemic approach, as well as wide ranging partnerships for successful implementation in addition to the more classical and better known approach, by commodity or by natural resources.

CGIAR has an extensive experience in research cooperation and joint priority setting. As a part of the reform, the CGIAR held a number of large-scale consultations with many hundreds of experts and partners from some 100 countries, including through the Global Conference on Agricultural Research for Development (2010). This resulted in the identification of 15 priority CGIAR global agricultural research programs.

The 15 CGIAR Research Programs (CRPs) mark the beginning of a new and better way of working together toward creating a better future for the world's poor. The hallmarks of these programs are their focus on development impacts, their integration of research capacities within and outside the CGIAR and their commitment to working through open partnerships. G20 countries can consider reinforcing cooperation and coordination, and possibly developing networks among their research institutions based on the experiences of CGIAR reform.

- **Co-operation and co-ordination for dissemination of research results and implementation on the ground**

When agricultural research encompasses impact pathways linking its results and development impact on the ground, it requires dissemination of research results and implementation on the ground. In order for that, not only greater co-ordination across research institutions at national and international level, but also strong and effective linkages between researchers, policy-makers and other relevant stakeholders are critical. In this regard, national and international research organizations should enhance their efforts to explain their achievements and benefits of investment in agricultural research for development. Also, increased linkages between agricultural research and development assistance are necessary for the purpose.

4.3. Specific questions for discussion

Issues that warrant further discussion include:

- Do we agree about the importance of sustainable food production and productivity increase and sustainable resource management in agriculture as the operational objectives of agricultural research for development in order to achieve the strategic objective of world food security?
- On which thematic areas should agricultural research focus more to achieve world food security and how should these themes be selected?
- How can agricultural research and development policy better interact (at national and international level) to generate more enabling environment for demand-based research and transfer its outputs especially to the field level?
- How can numerous global, regional, and national food security initiatives on agricultural research, including 15 CGIAR global partnerships, be better coordinated than at present? For this objective, how can we develop knowledge sharing?
- Can G20 governments collaborate more closely, through their research, development and extension systems, with the 15 CGIAR global partnerships research for development programmes, aligned with the four CGIAR system level outcomes?
- How can ICT or other tools enable effective co-ordination between the disparate set of partners that need to be involved in agricultural research priority setting and its implementation?

5. Session 2: From research to innovation through effective partnerships

“How to establish effective multi-stakeholder research partnerships to capitalise on the knowledge and expertise of diverse research actors (e.g. North-South, South-South and trilateral cooperation) and leverage the private sector for additional investments in agricultural research (e.g. pull mechanisms)?”

5.1. Specific expected outcomes

Effective multi-stakeholder research partnerships established to capitalise on the knowledge and expertise of diverse research actors (ie: North-South, South-South, and trilateral cooperation) and to leverage the private sector for additional investments in agricultural research (ie: pull mechanism).

5.2. Specific background issues

Advances in agricultural research are necessary to achieve the transformative change in agricultural productivity required to meet the future food needs of the world. The G20 is committed to support agricultural research for development through strengthening agricultural research systems and their role in the overall innovation system, through building research capacity, and reforming global research networks. Moreover, the G20 should put additional effort in supporting research and development partnerships as these are instrumental to delivering high quality, effective and sustainable agricultural research.

Partnerships in agricultural research are playing an increasingly larger role as research agendas seek to maximize the contributions from researchers across disciplines, from broadening the participation of stakeholders in agricultural innovation systems, and from adapting to a constantly changing environment and driving sectoral transformation. This expanding role of research partnerships reflects the changing institutional dynamics of agricultural research in search of increased relevance and effectiveness.

Much progress has been made to support agricultural research for development. Developing country research and innovation systems increasingly have improved their capacity to develop and set research agendas, identify research priorities and link research to development. Nevertheless, there is a growing need to support these emergent assets with inclusive, equitable, flexible and technically competent partnerships, and to ensure that these partnerships reflect and target the diverse needs of the poor. A range of partnership models exist providing for different opportunities, funding modalities, and knowledge and expertise (e.g. *North-South, South-South, Trilateral cooperation and public-private partnerships*).

Fiscal realities over the next few years will likely limit significant expansion in the number and scope of research partnerships. Therefore, emphasis should increasingly be placed on the strength and effectiveness of existing partnerships with due attention to a sound enabling environment. This is particularly critical for partnerships in the CGIAR Research Programs (CRPs) to avoid jeopardising the recent reform of the CGIAR.

Given the magnitude of the challenges, new approaches, and funding mechanisms to stimulate innovation and engage the private sector are required. Private sector investment in agricultural research in developing countries is largely absent due to weak patent protection and small, often dysfunctional markets that do not offer opportunities for large returns. Innovative mechanisms to leverage private sector investment in agricultural research are being explored and include 'Cash on Delivery' or 'Pull' mechanisms and strengthened IPR capacity, innovative IP policies and licensing arrangements.

Strong research partnerships will undoubtedly contribute to effective agricultural research results reaching stronger growth and development impact. Efforts need to be made to identify gaps and missed opportunities to establish new and strengthen existing partnerships. Within a partnership, partners will have different expectations and roles, which can either complement the development effort or potentially limit the research outcomes. An effective partnership will enable research actors to make their full contribution to broader food security and development goals. In this context, the access to and control over land and productive services by women farmers can significantly enhance research impact as shown in the recent SOFA report by FAO.

This conference presents an opportunity for the G20 to support agricultural research for development by recognising that agricultural research partnerships are an important element of agricultural innovation systems, provide an effective link to agricultural development and contribute to sustainable development, green growth and food security. The G20 may wish to consider how to work towards more effective partnerships by identifying opportunities and gaps for new partnerships, supporting partnerships in fragile environments, building on and scaling up successful models, supporting innovative and inclusive partnerships.

5.3. Specific question for discussion

- **Broader partnerships:** A multi-disciplinary and multi-stakeholder research partnership will provide a broader base of knowledge and expertise, and is better able to address the needs of diverse research users. How can G20 strengthen diversity and inclusion in agricultural research partnerships (gender, youth, minorities and marginalised poor populations) and support multi-disciplinary partnerships with other fields of research (e.g. environment and natural resource departments of governments)?
- **Building on successful partnerships:** The CGIAR reform has encouraged strategic coordination of research partners to deliver on thematic development outcomes. Similarly, new research actors have initiated novel South-South partnerships and trilateral cooperation, which show promise. What can we learn from these efforts and where can the G20 encourage further coordination and expansion of agricultural research networks emulating from these emerging successes? There may be opportunities for new partnerships as the number of international and local research actors increases. Where are the major gaps or lost opportunities for partnering (North-South, South-South, Trilateral) and how can G20 help foster these new partnerships?
- **Fostering partnerships in fragile environments:** Successful partnerships grow and thrive in stable environments that foster cooperation, learning and mutual trust. On the other hand, fragile environments can present an opportunity for technological and social change (introducing new technologies, varieties, empowering women). How can the G20 support research partnerships in fragile states or states in crisis to advance the agricultural innovation systems in these countries and to seize opportunities?
- **Innovative partnerships:** The Agriculture Pull Mechanism Initiative (AGPM), mandated by the G20, is working to develop options for an innovative pilot to leverage private sector investment in agricultural research. The AGPM pilot is to be launched in 2012. Several promising proposals will be presented at the conference. Discussion will focus on the feasibility of these proposals, and how they may be strengthened.

6. Session 3: Effective capacity building

"How to improve effectiveness and efficiency in capacity-building programmes to generate, share and make use of agricultural knowledge for developing countries through new and existing tools?"

6.1. Specific expected outcomes

Improved effectiveness and efficiency in capacity-building programmes to generate share and make use of agricultural knowledge for developing countries through new and existing tools.

6.2. Specific background issues

Agriculture is the major driver of economic development in most developing countries, and is particularly important to the poor with agriculture dominating employment. Limited human capital in the agricultural sector of developing countries is a significant constraint to enhancing the performance of local agricultural institutions for sustainable growth and poverty reduction. Developing the skills to service the sector is vital to achieve robust and sustained growth in agriculture and to facilitate its adaptation to environmental, economic and social changes in response to the main challenges, including climate change.

The access to new and traditional technologies is among the key factors for agricultural growth as well as for alleviating poverty and hunger. Investments in agricultural research and technology development had very high rates of return, generally exceeding 30 percent per year and its impact on poverty reduction has been impressive. However, human and institutional research capacity, which is critical in disseminating new agricultural technologies that are adaptable to local conditions and to local farmers is highly inadequate in most developing countries. International agricultural research institutions such as CGIAR has traditionally played an important role in this context, but can play a greater role in providing effective capacity building programs to developing countries' researchers for knowledge sharing of latest and practical expertises in agricultural research.

Many developing countries will not be able to achieve sustainable development and food security unless they reduce the present individual and institutional capacity deficits in agriculture, innovation and natural resource management. A key to success in those challenges is to increase the number of people being trained in technical areas related to agriculture and food security, and especially to improve the quality of the training they receive.

In many developing countries, radical transformation of the tertiary agricultural education and research institutions is required to make them more relevant to small-scale farmers and other actors along the value chain and to the current global realities in today's increasingly complex and rapidly changing environment. These institutions must supply the knowledge and the skills demanded by growing private and civil society sectors to encourage rapidly evolving national agricultural innovation systems while simultaneously responding to gaps in public agricultural education and research institutions.

The experience gathered in the last two decades demonstrated that international collaboration can improve the quality and impact of scientific research and education programmes. In this context several initiatives have been undertaken to establish partnerships among and within countries, including south-south, north-south and regional alliances, in order to facilitate the development and use of advanced technologies and the incorporation of traditional knowledge, and to share experiences, information and technologies.

- **Agrinatura** is the European Alliance on Agricultural Knowledge for Development, a new entity established jointly by 35 European research and education organisations, forging an active European Research Area that join forces with international partners, especially from developing and emerging countries, for agricultural research and education for development with sufficient critical mass to meet the common global challenges.
- **ASEAN Plus Three Cooperation Strategy (APTCS) on Food, Agriculture and Forestry** established in the Ministers meeting of ASEAN plus Japan, China and Korea on agriculture and forestry aims to promote capacity-building and human resource development including accelerating transfer and adoption of new and appropriate technologies as one of the strategic issues that ASEAN+3 should address.
- A recent example of **South-South Cooperation** is the establishment by FAO and China of a strategic alliance, under which a group of African countries are offered the opportunity to have access to cost-effective expertise through the deployment of Chinese experts and technicians to relevant countries. Technologies are shared also through the participation of selected African technicians in intensive training courses to be held in China, for instance on aquaculture and on hybrid rice production.
- The multi-partner initiative to establish Tertiary Education in Agriculture Mechanism (**TEAM**) in Africa, implemented by various African regional bodies and the World Bank, has been recently established with the objective of leading the reorientation and reinvigoration of tertiary agricultural education in Africa.

- The **Tropical Agriculture Platform**, proposed at this stage by Brazil and FAO, was welcomed by the G20 Agriculture Ministers' Declaration adopted by the Meeting of G20 Agriculture Ministers, Paris, 22 and 23 June 2011. The Platform is aimed at consolidating good training practices and promoting modalities that address support to continuous learning and ownership by national actors, such as on-the-job learning, placements, action research and more flexible and tailored approaches such as coaching and mentoring, together with e-learning, organizational development, and support to networks. Selecting multiple methods to achieve the 'best fit' will maximise the strengths and mitigating the challenges of the various modalities, thereby ensuring that these support knowledge sharing, learning and change in all three dimensions.

The platform will consist of six inter-related principal areas of action:

1. Capacity Assessments: assessments would be made through electronic multi-stakeholder consultations or drawn from existing studies on the institutional and individual capacities in key aspects of tropical agriculture in priority countries, to assess needs and define areas of priority action.
2. Exchange of experts and technicians: South-South Cooperation programmes would deliver technical assistance, know-how, technology and policy support from more advanced tropical countries such as Brazil, China, India, and South Africa, to less advanced countries, with experts and technicians positioned at the national and decentralized levels in the recipient countries. Accordingly, in the near future, the skills and competences of South-South experts and technicians would increasingly include those relevant to support Capacity Development of host countries.
3. Fellowships, Internships, and Short-term training: Governmental and international institutions would provide tailored and coordinated programmes of short-term training and internships for mid-career agricultural scientists and technicians in agricultural domains. Major organizations of emerging countries would play leading roles in this component of the platform, together with international institutions such as the CGIAR.
4. E-learning: E-learning would be used as an effective measure to complement and supplement the above face-to-face mechanisms. FAO and a variety of academic institutions in tropical countries will expand the provision of short tailored e-learning courses in coordination with local educational institutions.
5. Sharing of information relevant for the development and adoption of technologies for tropical agriculture: sharing of knowledge regarding the development, adoption and adaptation of technologies for tropical agriculture in developing countries will be facilitated through the creation of a combined discussion group, offering access to information, technology databases, success stories and lessons learnt that could be used by other countries.
6. Curriculum development: Curriculum reviews of courses in tropical agriculture offered by tertiary education institutions would be conducted with both public and private sector participation to ensure that courses meet real demands, and offer graduates better career prospects.

6.3. Specific questions for discussion

- Where could programmatic funding be most effective in promoting and sustaining international collaboration?

- What institutional arrangements can be established to provide a robust support to the international partnerships and contribute to sustainable changes in human capacity in tropical agriculture of developing countries?
- What would be the best management profile for this multi-provider / collaborative platform ?
- What are the hurdles that can prevent effective international collaboration and how can they best be overcome?

7. Session 4: A G20 vision for ARD

“How to develop a G20 Vision recognising the development impact and return of agricultural research and supporting the 2012 GCARD in Uruguay?”

7.1. Specific expected outcomes

A new vision for the role of the G20 in ARD is developed.

Through the G20 Agriculture Ministers meeting in June 2011 and now the September conference, opportunity arises to consider a new vision of the G20 nations’ role in agricultural research -for-development, by which G20 capacities and resources can be mobilized via coherent, demand-driven processes, accountable to policy makers, taxpayers and intended end-users.

The outcomes of the first three sessions of the conference will be capitalised during this session 4 in order to harvest: (1) improved mechanisms for prioritization and better-informed policies, (2) innovative proposals for improved and equitable partnerships, (3) proposals for capacity development platforms, (4) increased integration of research and development support and investment mechanisms towards development impacts and (5) increasing G20 national commitments to these aims and highlighting their impact.

7.2. Specific Background issues

- **The GCARD Roadmap**, agreed across all stakeholders in ARD, has identified actions required at national, regional and international levels to increase development impacts arising from agricultural innovation and knowledge sharing. The 6 Key areas of action required are:
 1. Inclusively defining key ARD priorities and actions, driven by evolving national, regional and global development objectives
 2. Ensuring equitable partnership and accountability among all stakeholders of agricultural innovation and developmental change
 3. Developing required institutional capacities for generation, access and effective use of agricultural knowledge in development
 4. Increased investments in human, institutional and financial resources, for ARD systems to meet demands in development
 5. Effective linkages that embed agricultural research in the wider development context and actions enabling developmental change
 6. Better demonstration and awareness of the development impact and returns from agricultural innovation

These measures are now being taken forward among all sectors in ARD, through rolling, inclusive processes of collective dialogue, learning and action, to and beyond the GCARD 2012.

Coupling the G20 deliberations with the GCARD process, and so the work and programmes of GFAR, the CGIAR and national and regional partners from all sectors, would forge this

ARD linkage. A rolling process of forward thinking, learning and change would develop common understanding on key regional and global priorities and policy convergence towards large scale development impacts.

- **Dealing with tomorrow's challenges today**

The complex interaction of development objectives in food security and nutrition, rural livelihoods and environmental sustainability also requires a broader frame of consideration for the more effective generation, sharing and use of agricultural knowledge and innovation. The CGIAR Strategy and Results Framework and the regional priorities established through the GCARD process provide a useful guide to current and Mid-Term research priorities and frame current areas of focus. ,

The GCARD Roadmap establishes that the entry point for any well-functioning ARD system should be that it: "Inclusively defines key ARD priorities and actions, driven by evolving national, regional and global development". The global ARD community has decided, through the GCARD process, to foster collective foresight action to improve the prioritization of agricultural research and create more relevant and effective innovation systems that are embedded in the needs of the societies that they serve. The establishment of a Global Foresight Hub by GFAR, linking international, regional and national levels is consistent with GCARD 2010 recommendations and enables GFAR to fulfil its mandate as a catalyzing mechanism. Mobilizing the knowledge and capabilities of the G20 members forms an essential part of this scheme.

The Global Foresight Hub will support and integrate the following three sets of activities:

1. Stimulating forward thinking research debates in agriculture and rural development taking into account competing non-agricultural demands on human and natural resources.
2. Connecting Science and Society through Policy Dialogue Platforms
3. Building capacity of all stakeholders, via a Global Agricultural Foresight Academy

Mobilizing G20 innovation in transformed ARD systems, linked with the development needs of societies around the world and driven by national development policies can achieve a step change in the availability, accessibility and use of agricultural knowledge and innovation for rural communities.

7.3. Specific questions for the high level table of discussion and the open dialogue

Given all of the above, the G20 members are asked to consider what value do the G20 members see in playing a more international AR4D role? And how, in practice, can the G20 members contribute to and benefit from?

- **Improving global foresight** and better understanding of alternative scenarios and their implications through collective approaches?
- **Greater coherence of science policy** internationally, and its implementation, through GCARD-linked debate among policy leaders and public consultation?
- **Collectively addressing global challenges**, e.g. climate change, sustainable intensification, trans-boundary diseases, increasing market access for poor smallholders, better meeting the needs of women farmers; in partnership with national and international AR4D systems and working through new S-S, N-S and S-N-S mechanisms?
- **Creating viable and attractive careers** in agriculture that address national development needs of today & tomorrow?

- **Using advanced scientific knowledge** to overcome challenges in sustainable intensification and delivering future food security?
- **Mobilizing public-private partnerships** in value addition and market access to increase returns to smallholder primary producers?
- **Making information more openly accessible and usable**, harnessing and stimulating ICT use to integrate diverse data to address specific agricultural needs?

Conclusion

The ultimate outcomes of this G20 Conference are expected to be reported to the G20 joint Finance/Development ministerial meeting of 23 September 2011 in Washington, which will prepare the G20 Summit of 3-4 November 2011 in Cannes on the implementation of the Seoul Action Plan on Development.
