EFARD 2005
International Conference on Agricultural Research for Development: European Responses to Changing Global Needs

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Issues Paper

and

The Zurich Declaration

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Swiss Federal Institute of Technology Zurich
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List of abbreviations

ARD	agricultural research for development
ARI	Africa Rice Initiative
ASARECA	Association for Strengthening Agricultural Research in East and Central Africa
CGIAR	Consultative Group on International Agricultural Research
CORAF/WECARD	Conseil Ouest et Centre Africain pour la Recherche et le Développement Agricole / West and Central African Council for Agricultural Research and Development
DMC	direct sowing, mulch-based agriculture and conservation tillage
EC	European Commission
EFARD	European Forum on Agricultural Research for Development
EIARD	European Initiative on Agricultural Research for Development
ERA-ARD	European Research Area for Agricultural Research for Development
ERA-NET	European Research Area Network
EU	European Union
FARA	Forum for Agricultural Research in Africa
FP6	Sixth Framework Programme of the European Union
FP7	Seventh Framework Programme of the European Union
GFAR	Global Forum on Agricultural Research
GMO	genetically modified organism
GPP	Global Partnership Programme
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
IAC	Inter Academic Council
ICRA	International Centre for development-oriented Research in Agriculture
ICTs	information and communication technologies
ILRI	International Livestock Research Institute
INCO	International Cooperation (within a Framework Programme)
KFPE	Swiss Commission for Research Partnerships with Developing Countries
MDG	Millennium Development Goal
N	North (developed countries)
NARS	National Agricultural Research Systems
NEPAD	New Partnership for African Development
NGO	non-governmental organisation
OECD	Organisation for Economic Cooperation and Development
R & D	research and development
S	South (developing countries)
SACCAR	Southern African Centre for Cooperation in Agricultural Research
SME	small and medium enterprise
SSA	sub-Saharan Africa
UN	United Nations

Preamble

EFARD and its mission

The European Forum on Agricultural Research for Development (EFARD) provides a platform for strategic dialogue among European stakeholder groups in order to promote research partnerships between research communities in Europe and in developing countries. It encompasses all stakeholders in Agricultural Research for Development (ARD), including universities, research institutes, the private sector, non-governmental organisations (NGOs), farmers' organisations and policy makers.

EFARD's primary objective is to strengthen the contribution of European ARD to addressing the global challenges of eradicating poverty and hunger, fostering food security and food safety, and promoting sustainable management of natural resources. EFARD follows the principles of the Global Forum on Agricultural Research (GFAR), and contributes to GFAR's Global Plan of Action in partnership with the other Regional Fora. In particular, EFARD plays an important advocacy role in maintaining ARD as a top priority in political agendas at the European and international levels.

EFARD activities

EFARD conferences constitute the core element of EFARD activities. They aim at exchange of experiences and promoting strategic planning among the European research community and their partners in developing countries. The conference held in Zurich on 27-29 April 2005 built on the EFARD agenda that was articulated through the 2002 Rome Declaration and focused on how current global trends imply a change in requirements for European ARD.

Purpose of the Issues Paper

This Issues Paper reviews emerging trends in European and global ARD and identifies a set of issues for discussion at the Zurich Conference. Complemented by inputs from EFARD stakeholders during the Conference, the document constitutes one of the main outcomes of the Conference. The Issues Paper and the accompanying "Zurich Declaration" derived from the Conference discussions will therefore help to guide the development of a new agenda for Europe's contribution to ARD.

1. Global challenges for agricultural development

The Millennium Development Goals (MDGs)

The period since the last EFARD Conference in 2002 in Rome has seen a clear affirmation that the achievement of the Millennium Development Goals (MDGs, Box 1) is the central aim of international development policy. In spite of this commitment at the national, regional and global levels progress has been slow and uneven. Overall, it is estimated that the number of people living in extreme poverty dropped from 1.21 to 1.09 billion between 1990 and 2001. Some regions, particularly East and South Asia, have achieved significant economic and social progress. However, these gains are in dramatic contrast to the situation in sub-Saharan Africa (SSA), where there is little prospect of achieving the targets[1]. Nevertheless, it is important to remember that the aggregate total number of people living on less than $1 a day remains highest outside SSA. Malnutrition rates remain at over 50 percent in several countries in SSA, and there has been little change in income poverty levels in recent years.

[1] United Nations Report (January 2005) *Investing in Development: A Practical Plan to Achieve the Millennium Development Goals*; www.unmillenniumproject.org/reports/index.htm

Some of the root causes of this situation are long-standing, and seemingly intractable, poor governance, low rates of economic growth, accelerating land degradation and civil conflict.

Box 1: The Millennium Development Goals

The Millennium Development Goals (www.undp.org/mdg/abcs.html) are an ambitious agenda for reducing poverty and improving living conditions that world leaders agreed on at the Millennium Summit in September 2000. For each goal one or more targets were set, most for 2015, using 1990 as a benchmark.

1. Eradicate extreme poverty and hunger

Target for 2015: Halve the proportion of people living on less than a dollar a day and of those who suffer from hunger.
More than a billion people still live on less than US$1 a day: sub-Saharan Africa, Latin America and the Caribbean, and parts of Europe and Central Asia are falling short of the poverty eradication target.

2. Achieve universal primary education

Target for 2015: Ensure that all boys and girls complete primary school.
As many as 113 million children do not attend school, but the target is within reach. India, for example, should have 95 percent of its children in school by 2005.

3. Promote gender equality and empower women

Targets for 2005 and 2015: Eliminate gender disparities in primary and secondary education preferably by 2005, and at all levels by 2015.
Two-thirds of illiterates are women, and the rate of employment among women is two-thirds that of men. The proportion of seats in parliaments held by women is increasing, reaching about one third in Argentina, Mozambique and South Africa.

4. Reduce child mortality

Target for 2015: Reduce by two thirds the mortality rate among children under five.
Every year nearly 11 million young children die before their fifth birthday, mainly from preventable illnesses, but that number is down from 15 million in 1980.

5. Improve maternal health

Target for 2015: Reduce by three-quarters the ratio of women dying in childbirth.
In the developing world, the risk of dying in childbirth is one in 48, but virtually all countries now have safe motherhood programmes.

6. Combat HIV/AIDS, malaria and other diseases

Target for 2015: Halt and begin to reverse the spread of HIV/AIDS and the incidence of malaria and other major diseases.
Forty million people are living with HIV, including five million newly infected in 2001. Countries like Brazil, Senegal, Thailand and Uganda have shown that the spread of HIV can be stemmed.

7. Ensure environmental sustainability
Targets:
- *Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources.*
- *By 2015, reduce by half the proportion of people without access to safe drinking water.*
- *By 2020 achieve significant improvement in the lives of at least 100 million slum dwellers.*

More than one billion people lack access to safe drinking water and more than two billion lack sanitation. During the 1990s, however, nearly one billion people gained access to safe water and the same number to sanitation.

8. Develop a global partnership for development
Targets:
- *Develop further an open trading and financial system that includes a commitment to good governance, development and poverty reduction – nationally and internationally.*
- *Address the least developed countries' special needs, and the special needs of landlocked and small island developing States.*
- *Deal comprehensively with developing countries' debt problems.*
- *Develop decent and productive work for youth.*
- *In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries.*
- *In cooperation with the private sector, make available the benefits of new technologies – especially information and communications technologies.*

The Role of agriculture

Agriculture has the potential to make a significant contribution to the achievement of several of the eight MDGs by reducing hunger and poverty, improving people's health and educational opportunities, and lessening environmental degradation. Even though in many low-income countries agriculture accounts for 60-80 percent of employment and more than half the national income, years of under-investment in the sector and in basic infrastructure such as roads have constrained economic growth.

There are encouraging signs that national governments and international donors are placing renewed emphasis on agricultural development. In July 2003, for example, member countries of the African Union made a commitment to spend at least 10 percent of their annual national budgets on agriculture, but this commitment needs to be rapidly translated into action. Private sector investment in agricultural research in developing countries remains extremely low, in marked contrast to the situation in the countries of the Organisation for Economic Cooperation and Development (OECD)[2]. Increased public and private sector involvement in agricultural development must be realised before significant progress can be made. Some positive examples of public-private partnership models already exist, such as the initiatives that have been launched to develop vaccines against major livestock and human diseases. For example, the African Agricultural Technology Fund is a novel mechanism that facilitates the transfer to public sector institutions of proprietary technologies developed by private companies. Such approaches need to be extended across a broader range of agricultural development activities.

Constraints to agricultural development

The ability of agriculture to contribute to enhanced economic and social development has been constrained by diminishing farm sizes, degradation of soil and water, increased variability and change of climate, a heavy human disease burden, unfair trade policies and practices, and rapid urbanisation absorbing government investments. Globalisation, and particularly the liberalisation of international trade, has not so far delivered benefits for developing countries. In large part, this is due to the continuation of subsidy regimes in North America and Europe, which leads to unfair competition and the dumping of surplus produce. Falling prices for traditional cash crops such as coffee and cotton have severely affected many developing country economies. There has been little investment in adding value to staple crops such as cassava and maize, and thus exploiting emerging market opportunities. Some benefits have been captured in new markets for high value cash crops such as fruit and vegetables. However, sustaining a presence in these markets is becoming increasingly difficult due to the complex and demanding regulatory environment. The need to meet strict quality standards such as maximum residue levels of pesticides and the requirements for traceability impose a considerable burden on small-scale producers in developing countries. The extent of the problem is illustrated by the fact that Africa's share of world agricultural exports has fallen from 8 to 2 percent over the past 40 years.

[2] Private sector investment in agricultural research in OECD countries exceeds 50 percent of total funding.

2. Agricultural Research for Development (ARD) in response to global needs

Scientific capacity in developing countries

While the research capacity of some developing countries has evolved into very strong national systems, a large number of developing countries have limited and declining capacity to address the emerging challenges for agricultural development, as is the case for research in general. Research partnerships have to take into account these growing disparities between countries. On average, the density of researchers per population is 65 times smaller in the South than in the North. Government support for ARD in many countries, especially in sub-Saharan Africa (SSA), has dwindled considerably, and universities are weak and under-funded. Low salaries and poor working conditions, coupled with limited scope for professional advancement, have led to a "brain drain" as scientists seek better opportunities in developed countries. This trend has been especially pronounced in new areas of advanced research such as biotechnology, and information and communication technologies.

Centres of Excellence

In order to encourage scientists to remain in their countries and to contribute more effectively to national and regional development, career opportunities must be improved and new incentives put in place. A recent report of the Inter Academy Council (IAC) made a strong recommendation that "Centres of Excellence" should be set up to stimulate and promote innovation[3]. The associated IAC report on African Agriculture[4] came to a similar conclusion and suggested that Centres of Agricultural Research Excellence should be established to address both continental and regional priorities. These recommendations are in line with the current strategy of the New Partnership for African Development (NEPAD) in which regional Centres of Excellence will be established and will help to build capacity in a network of linked institutions. One such Centre, the NEPAD Bioscience Centre based in Nairobi[5], has already been set up and has begun to implement training programmes for scientists in priority areas of research. Another initiative is the "Nelson Mandela Foundation for Knowledge Building and the Advancement of Science and Technology in SSA"[6].

EFARD has an important role to play in facilitating linkages between European research institutions and the new Centres of Excellence so that European expertise can be harnessed in response to emerging needs. For example, in the agricultural research domain, Europe has had a comparative advantage in areas such as agro-ecology and underutilised crops on the one hand, and genomics and applications of biotechnology on the other hand. Europe also has considerable experience in biosafety frameworks and other regulatory issues. Support to Centres of Excellence and other organisations will make it possible to share and use this knowledge.

EFARD recognises the need to reduce the dependency of Southern universities and other higher education institutions on Northern institutions. Eventually, Southern partners will determine their own programmes and define how European institutions can be involved.

Emerging global ARD issues

European expertise can contribute to many emerging priority areas of ARD. There has been an important shift in recent years towards orienting agricultural research to encompass the whole value chain. This reflects a move to more market-driven approaches to production and

[3] InterAcademy Council (2004) *Inventing a better future: A strategy for building worldwide capacities in science and technology.*

[4] www.interacademycouncil.net/report.asp?id=6793

[5] The Bioscience Centre is hosted by the International Livestock Research Institute (ILRI).

[6] www.nelsonmandela.org

the recognition of the need to generate greater income for producers and processors by adding value to basic commodities. In order to achieve this, greater attention is being paid to improving post-harvest and processing technologies and to issues of quality, compliance with standards and marketing. These requirements are not specific to crops but are also important for livestock and fisheries produce, for which there is a rapidly growing demand. In the European context these developments are particularly relevant because of the potential impact of EU sanitary and phytosanitary legislation on developing countries. A new regulation on food and feed controls will enter into force on 1 January 2006 and will radically alter the current control systems designed to ensure that food is safe. EFARD has an important role to play in mobilising European research organisations to assist developing countries to meet the challenges of the new regulation, and to raise their voice in European policymaking in favour of their partners.

The fact that nearly 2.5 billion people are still engaged in small-scale agriculture, including variable levels of subsistence remains a global concern. Agricultural development may therefore consider that part of these people are shifting away from primary production of commodities to near-farm sectors; for example, to jobs in food processing. ARD in its widest sense should thus also include assessments of economic changes at the farm and market level, as well as of shifts in agricultural policy, changes in demography and trends in development.

Cross-sectoral issues

Europe also has much to offer developing countries in elaborating and applying approaches to addressing cross-sectoral issues. There is a growing recognition that, in order to achieve the MDGs, issues must be tackled across a range of sectors and should take into account the important linkages between sectors. All actors involved in ARD need to pay greater attention to linkages with other (non-agricultural) sectors and focus more on encouraging the development of multi-stakeholder platforms. In the case of agriculture, links with the health, environment and energy sectors are particularly important. For example, ARD can deliver positive impacts on health by enhancing incomes and producing nutritious and affordable food. In order to help deliver positive outcomes, there is increased support for new approaches such as biofortification and a greater focus on integrating horticultural crops and animals into production systems. Cross-sectoral approaches can also provide health benefits in other ways. Efforts are under way to develop labour-saving production technologies to mitigate the effects of HIV/AIDS in rural areas. Similarly, ARD is playing a role in identifying the ecological determinants of major vector-borne diseases such as malaria. However, much more needs to be done in these areas before widespread benefits can be obtained. ARD can also contribute to improving the sustainability of natural resources management, including soils, water, and biodiversity, and it can help improve the resilience of vulnerable populations, in rural and urban areas, to natural disasters, notably through effective land management and land use. The use of bio-energy can create income opportunities for small-scale farmers, help them to move into agro-business and out of poverty, and reduce adverse environmental impacts and dependency on fossil fuels.

3. Institutional development of agricultural research since 2000

Global and regional programmes and networks

In recent years there has been a continuing trend towards establishing global and regional thematic agricultural research partnership programmes, i.e. networks in which various stakeholders offer their expertise and share information and knowledge. The Swiss Commission for Research Partnerships with Developing Countries, KFPE, has provided guidance for such North-South partnerships[7]. Modern information and communication technologies enable increased interaction and mutual learning, provided that basic infrastructure and capacities exist within the organisations participating in such networks. GFAR is initiating seven Global Partnership Programmes (GPPs), to which EFARD and other regional and sub-regional organisations are contributing.

One of these regional organisations, the Forum for Agricultural Research in Africa (FARA), is now playing a key role in coordinating a range of Africa-wide initiatives. These include the research component of the Comprehensive Africa Agriculture Development Programme and the sub-Saharan Africa Challenge Programme of the CGIAR. Three African sub-regional organisations[8], which are receiving substantial funds from the European Union and other donors, are making an important contribution to the implementation of these programmes. These are encouraging developments but the success of the regional and sub-regional approaches will remain critically dependent on the maintenance of strong National Agricultural Research Systems (NARS).

CGIAR priorities

One outcome of enhanced stakeholder collaboration in global and regional ARD initiatives has been a move towards joint planning of research programmes. The Consultative Group on International Agricultural Research (CGIAR) is currently developing a new set of priorities to guide its research activities over a ten-year period. The draft list of priorities suggests that, whilst the CGIAR will continue to work on core areas such as germplasm conservation and development, it will allocate more resources to wealth creation through the commercialisation of staples and a new focus on high-value commodities (Box 2). The CGIAR is also reviewing its institutional and programmatic activities in Africa and has proposed to jointly develop its medium-term plan with the sub-regional organisations.

EFARD can assist this priority setting process by identifying complementary European research expertise in areas where the CGIAR and other development partners lack the necessary skills. However, new mechanisms will be needed to facilitate this, as the experience of the CGIAR Challenge Programmes has shown that European research capacity has not yet been adequately utilised.

[7] www.kfpe.ch/key_activities/publications/guidelines.html

[8] ASARECA – Association for Strengthening Agricultural Research in East and Central Africa
CORAF/WECARD – Conseil Ouest et Centre Africain pour la Recherche et le Développement Agricole/ West and Central African Council for Agricultural Research and Development
SACCAR – Southern African Centre for Cooperation in Agricultural Research

Box 2:	CGIAR System Priorities 2005-2015 (April 2005)
Priority area 1:	**Sustaining biodiversity for current and future generations**
Priority 1a:	Conservation and characterization of staple crops
Priority 1b:	Promoting conservation and characterization of under-utilized plant genetic resources to increase the income of the poor
Priority 1c:	Conservation of indigenous livestock
Priority 1d:	Conservation of aquatic animal genetic resources
Priority area 2:	**Producing more and better food at lower cost through genetic improvements**
Priority 2a:	Maintaining and enhancing yields and yield potential of food staples
Priority 2b:	Tolerance to selected abiotic stresses
Priority 2c:	Enhancing nutritional quality and safety
Priority 2d:	Genetic enhancement of selected high-value species
Priority area 3:	**Reducing rural poverty through agricultural diversification and emerging opportunities for high-value commodities and products**
Priority 3a:	Increasing income from fruit and vegetables
Priority 3b:	Income increases from livestock
Priority 3c:	Enhancing income though increased productivity of fisheries and aquaculture
Priority 3d:	Sustainable income generation from forests and trees
Priority area 4:	**Poverty alleviation and sustainable management of water, land, and forest resources**
Priority 4a:	Integrated land, water and forest management at landscape level
Priority 4b:	Sustaining and managing aquatic ecosystems for food and livelihoods
Priority 4c:	Improving water productivity
Priority 4d:	Sustainable agro-ecological intensification in low- and high-potential areas
Priority area 5:	**Improving policies and facilitating institutional innovation to support sustainable reduction of poverty and hunger**
Priority 5a:	Science and technology policies and institutions
Priority 5b:	Making international and domestic markets work for the poor
Priority 5c:	Rural institutions and their governance
Priority 5d:	Improving research and development options to reduce rural poverty and vulnerability

EFARD research proposals and the 'ERA-NET'

EFARD views itself as one of the regional fora under the GFAR umbrella. It therefore seeks commonalities with GFAR and the other regional fora in global research themes and networks for cross-cultural exchange and learning. Climate change and water management may serve as examples of global concern and fields for mutual learning. At the EFARD2002 Conference in Rome, a total of nineteen research proposals (Box 3) were elaborated and plans were agreed for taking them forward. Five of the proposals are being incorporated into GFAR GPPs, as indicated above, and one is linked with the CGIAR "Generation" Challenge Programme. A further two proposals have been developed into a single Co-ordination action project under the European Research Area Network (ERA-NET) scheme of the European Union 6th Framework Programme (FP6). The Co-ordination action is entitled "The Agricultural Research for Development Dimension of the European Research Area (ERA-ARD)".

Box 3: EFARD priority themes 2002

In close consultation with the Global Forum (GFAR - meetings in Dresden 2000 and Dakar 2003), and the European National ARD Fora, the European Forum (EFARD meetings in Wageningen 1999 and Rome 2002) identified several major thematic areas used to support the development of Global Research Initiatives:

List of proposals presented at the EFARD2002 Conference in Rome

Genetic Resources Management and Biotechnology

1. Conservation, management and sustainable utilisation of plant genetic resources for food security and poverty alleviation
2. Conservation, management and sustainable utilisation of animal genetic resources for food security and poverty alleviation
3. Plant genomics for food security and health using rice as a model plant
4. Global initiative on vector-born livestock diseases and on trypanosomosis control for animal and human health

Natural Resources Management and Agro-Ecology

5. Integrated land and water management for sustainable food production in (semi-) humid tropical ecosystems
6. Integrated land and water management for sustainable food production in (semi-) arid and Mediterranean areas
7. Direct sowing, mulch-based agriculture and conservation tillage (DMC) for food security, poverty alleviation and conserving natural resources
8. Integrated pest management for sustainable agro-ecosystems
9. Agro-ecosystems and human interactions for sustainable agriculture in peri-urban and coastal areas
10. Sustainable forestry and agro-forestry management in (sub)tropical areas, including carbon sequestration
11. European network for policy research on natural resources management
12. Sustainable animal production systems and biodiversity protection using conventional and non-conventional feed resources
13. Local innovation of farmers for valuing indigenous knowledge on sustainable natural resources management and agro-ecological practices

Commodity Chains, Food Safety, and Under-Utilised Commodities

14. Improved food safety and quality of tropical food supply chains at the smallholder level in order to improve human health and enhance trade opportunities
15. Global programmes on major export/cash crops (coconut, cocoa, bananas, ...)
16. Under-utilised and orphan commodities network

Rural Transformation and Agricultural Innovation Processes

17. Rural innovation, multi-functionality, post-harvest systems and rural small and medium enterprises (SMEs)

Structuring and Strengthening the Foundations of the European Research Area

18. European knowledge on ARD: Facilitated access and increased use for human resource development
19. Structuring the components of the European Research Area for Agricultural Research for Development (ERA-ARD): Poles of research, platforms of cooperation, research networks

The project will lead to a clearer understanding of how ARD programmes are identified, selected, designed, funded and managed at the national level. Joint transnational ARD activities will be implemented and the proposal has been made to develop and launch two ARD sub-programmes that will serve as pilot cases for the effective integration of efforts at the national level. The ultimate objective is to facilitate the formulation of a shared vision and a strategic agenda on ARD in Europe. ERA-ARD could be the starting point for appraising the various existing European agricultural research coordination mechanisms, including institutional and thematic networks under the umbrella of a strengthened EFARD, which could lead to a comprehensive reorganization. Whilst the funding of this initiative is a very encouraging development, it is nevertheless apparent that the overall level of involvement of ARD in FP6 has been extremely disappointing. A concerted effort is needed by EFARD, the European Initiative on Agricultural Research for Development (EIARD), national governments and other stakeholders to ensure that ARD has a higher profile in forthcoming Framework Programmes and in other EU instruments such as the European Development Fund and the regional programmes. ERA-ARD may also seek to upgrade its activities by evolving into an "EU technology platform". The pre-condition for sustaining and strengthening EFARD are active national fora and the commitment to fund a secretariat.

Expansion of the European Union

An important change since the EFARD2002 Conference has been the incorporation of ten new Member States into the EU. Most of the new Member States, as well as current applicant countries, have developed national expertise in ARD, and some have existing partnerships with developing countries, emerging economies and countries in transition. However, information about the organisation of ARD activities and current ARD programmes in these countries is scattered and not easily accessible. A first initiative by French institutions took place in June 2004, focusing on "The European contribution to ARD – mobilizing the EU new and applicant countries". It showed that these countries have considerable interest and a certain experience in ARD. EFARD needs to play an active role in facilitating the involvement of the new Member States in its own activities and in new initiatives such as the ERA-NET project.

4. Issues for the EFARD 2005 Conference

During the EFARD 2005 Conference the participants split up into 50 small groups to discuss the issues listed in the following table. Each group addressed specific questions related to three different issues. The results of the group discussions were compiled by the drafting team of the Issues Paper and synthesized, as presented chapter 5.

Issues for group discussion during the EFARD 2005 Conference

No.	Theme of issue	What is at stake?
1.	New research priorities for Agricultural Research for Development (ARD)	• What are emerging trends for ARD? • What specific areas of expertise are most needed to respond to the needs of National Agricultural Research Systems (NARS) in developing countries? *Please identify the most important research areas or topics, and briefly outline the reasons for your choices.*
2.	Capacity development	• How can European expertise best contribute to capacity development to promote beneficial ARD outcomes in developing countries? • Should this be part of research collaboration, and/or should major emphasis be given to higher education and training? • What role do you see for the international agricultural research institutions? *Please develop your assessment of the above questions.*
3.	The role of Agricultural Research for Development (ARD) towards fulfilling the Millennium Development Goals (MDGs; see Box 1)	MDGs aim at reducing poverty and improving livelihoods; they have clearly defined indicators for monitoring. Agriculture can make a significant contribution to achieving several of these goals but has a direct role with regard to MDG 1 (Between 1990 and 2015, halve the proportion of people living in extreme poverty and suffering from hunger) and MDG 7 (Ensure environmental stability). • To which of the MDGs is ARD contributing? How and how much can ARD contribute? • What are the major challenges that constrain agriculture and the ability of ARD to help achieve the MDGs? • How can the global ARD effort best respond to meet these challenges? • Are there other contributions that are not, or not sufficiently, addressed by MDGs but are relevant to global sustainable development and human well-being? *Please develop your assessment of the above questions.*

No.	Theme of issue	What is at stake?
4.	Growing disparities between research capacities in different countries	The world has become increasingly characterised by disparities. Africa is lagging behind, whereas most social and economic gains have been made in other regions (Asia, Latin America). Brain drain occurs less often in these regions, and partnerships on an equal footing with emerging knowledge centres are more frequent. This is in contrast to sub-Saharan Africa, where there is little prospect of achieving the MDG targets. • What consequences does this have for European research contributions and partnerships? • How can EFARD respond to these growing disparities? *Please develop your assessment of the above questions.*
5.	Mechanisms for collaboration with Southern partners	• What do you consider to be the most effective mechanisms through which European stakeholder institutions can collaborate with Southern partners? • What role do you think international agricultural research institutions could/should play? *Please develop your assessment of the above questions.*
6.	The role of ARD in the European Research Area (ERA) and the 7th Framework Programme	• To what extent can ARD be pursued in ERA and the 7th Framework Programme of the European Union? • What is the relationship between European Agricultural Research and ARD (definition, scope, complementarities)? *Please develop your assessment of the above questions.*
7.	The role of ARD in the new EU Member Countries	• What is the role and potential of the new EU Member States and current accession countries for furthering ARD? • How can these countries do more for ARD at the national level and through the EC? • How can they be actively integrated into the EFARD community? *Please develop your assessment of the above questions.*
8.	The relationship between European ARD and CGIAR research (see Box 2)	• What are particular strengths (and weaknesses) of European research and CGIAR research? • How can Europe place its particular strengths higher on the international agenda? In what areas does Europe have a comparative advantage? *Please identify and indicate at least 6 research areas and topics where Europe has a comparative advantage.*

No.	Theme of issue	• What is at stake?
9.	The relationship between GFAR and EFARD	• How can EFARD help consolidate regional fora in the South and East? • How can the Global Forum on Agricultural Research for Development (GFAR) facilitate exchange between EFARD and regional fora? • Should EFARD pro-actively seek collaboration with other Regional Fora to promote ARD, and if so, how? • What is the specific European role and profile in the "family" of Regional Fora? *Please develop your assessment of the above questions.*
10.	EFARD's role and functioning	• How should EFARD develop in order to improve its performance and obtain institutional stability? • How can/should EFARD improve its advocacy role with respect to the policy agendas (EU Framework Programmes, EU Development Programmes, national research and/or development programmes)? *Please develop your assessment of the above questions.*
11.	EFARD's stakeholders	• How can EFARD strengthen the role of all stakeholders, i.e. not primarily researchers, but also NGOs, Farmers' Organisations and private enterprises? • National Fora in the Member Countries form the legitimate basis of EFARD. How do they perform? • Why do some seem to do well, and others not, or do not even exist? • How can EFARD help them to take off and to play a more active role within their country and in EFARD? *Please develop your assessment of the above questions.*

5. A new agenda for Europe's contribution to ARD

This chapter presents the result of the group discussion during the EFARD2005 Conference. It is therefore as rich and diverse as the views of more the than 300 conference participants from all stakeholder groups and all regions of the world. It does not represent an agreed EFARD view or policy, but will serve as a basis for further discussion and shaping EFARD's strategy in the next few years.

With its ten commitments, the "Zurich Declaration" is the first step towards a common platform for EFARD's strategic development and its dialogue with partners within Europe and beyond.

1. New research priorities

The contribution of ARD to economic growth and social development has to be viewed in the context of the interdependence between agriculture and other sectors such as health and the environment. Cross-sectoral and transdisciplinary approaches are needed to address the serious health challenges posed by diseases such as HIV/AIDS and malaria which have an increasing impact on agriculture. In addition, systems approaches for improved management of land, soils and water must be more widely promoted in order to achieve increased production whilst ensuring environmental sustainability. The active involvement of a wide range of stakeholder groups in shaping and accompanying the research agenda and in developing and promoting the outputs will be fundamental to the success of these strategies. This includes a broad range of approaches in research and development, starting with the recognition of local people's informal experimentation, innovations and initiatives , i.e. recognizing local creativity and the dynamics of indigenous knowledge as an entry point for participatory R & D. Information and communication technologies (ICTs) have a key role to play in enhancing networking and the sharing of knowledge. Strengthening partnerships for mutual learning should be applied more widely. ICTs can also assist NARS to build capacity in a wide range of areas from advances in biotechnology to multi-disciplinary modes of working. These developments will take place against a background of increased market orientation, where research needs to address the whole value chain and to respond more effectively to consumer demands.

2. Capacity development and mechanisms for collaboration[9]

The contribution of European expertise to capacity building for ARD should focus on institutional strengthening of Southern research and development. One of the best ways to do so is through the establishment of innovative, long-term, durable partnerships (N-S, S-S, N–N) in which stakeholder participation (policy makers, researchers, university and college staff, extension officers, farmers, consumers, NGOs, the private sector) plays a major role. The focus of these partnerships should be on building competence for fostering dialogue with stakeholders, understanding the knowledge chain for sustainable rural development, enhancing the use of participatory methodologies and stimulating integrated interdisciplinary work that respond to the real needs of local farmers. The needs of other stakeholders, such as small and medium enterprises in the input supply or processing and value adding sectors, should also be taken into account. Such approaches also include learning processes focusing on the identity of all actors and their relations in innovation systems, i.e. the psychology of agricultural institutional change and re-orientation to enable more effective partnerships for research with extensionists and farmers.

It is important to provide options for young scientists and students to become involved in these multi-stakeholder ARD projects. This applies to capacity building both in the South and in the North. Capacity strengthening is a task for international agricultural research centres as well as for competent national universities and training centres through MSc, PhD and post-docs. ARD professionals understanding the multi-dimensional character of agricultural

[9] This paragraph combines the comments on issues 2 and 5 of the table in chapter 4.

development play an important role in performing "cutting edge" research in collaboration with local and regional organisations. International agricultural research centres have a task that is complementary to the NARS and their partners at national levels. The leading principles should be to make use of comparative advantages, economies of scale and strategic research responding to emerging technological, environmental and social issues. Going beyond individual capacity building, Europe can offer unique instruments for interdisciplinary teamwork and inter-institutional partnerships, facilitation of multi-stakeholder processes, e.g. in the form of the International Centre for development oriented Research in Agriculture (ICRA). Given the enormous challenges with regard to strengthening institutional capacity in ARD, there is a need to lobby at donor level for increased budget allocation for these activities.

Knowledge and information through agricultural research are essential for improving food security. But to be useful, agricultural knowledge and information must be effectively communicated to farmers. A time-tested means of effective dissemination of knowledge and information to farmers is participatory agricultural extension. However, weak linkages between extension and research often result in systematic knowledge and information "bottlenecks" and limit the capacity of research to effectively contribute to agricultural development. Agricultural research and extension institutions and policy makers must explore innovative methods of communication and collaboration to address the needs and priorities of the communities they serve.

3. The role of ARD in meeting the MDGs

Agricultural research for development is contributing directly to some and indirectly to all of the eight MDGs (see Box 1). These impacts may be summarized as follows:

MDG1:	**Enhanced food security and income generation**.
MDG2:	Increased income, which facilitates improved access to education.
MDG3:	Stronger political voice and greater income-earning opportunities.
MDGs 4, 5, 6:	Improved nutrition, increased income and less intense physical labour.
MDG7:	**Sustainable management of natural resources and a secure supply of nutritious food for urban populations.**
MDG8:	**Development of equitable multi-stakeholder partnerships and capacity building.**

Inappropriate policies, low capacity, poor governance and a range of other factors constrain the ability of ARD to help achieve the MDGs. A stronger focus on awareness raising and advocacy is needed to convince national governments and donor organisations of the need for increased investments in agriculture and in ARD. Such investments should be targeted towards secondary and tertiary education as well as to research.

The MDG of food security in developing countries is an enormous challenge; institutional capacity in ARD needs to be supported in order to be able to meet this challenge by establishing innovative and long-term durable research partnerships that include all stakeholders in the agriculture knowledge chain, in compliance with MDG 8.

4. Growing institutional disparities

There is an urgent need to realize at the national and international levels that ARD capacities in many Southern countries for various, often diverging reasons are not capable of responding to the enormous tasks ahead of them. Sustainable national systems for furthering agricultural innovation in order to achieve added value and food security must have autonomy in managing funds and human resources, must involve prominent

stakeholders of civil society and the private sector, including farmers' organizations and agro-industries, and must be anchored in national strategies for poverty reduction.

Over the past decades major efforts have been made to support the development of ARD capacity in the South. However there is general consensus that achievements have not been the same everywhere: ARD capacities in (most parts of) Africa and in a limited number of often smaller Near East, Latin America and Asian countries still greatly depend on external investment and technical support. Due to weak ARD institutions and lack of national support, there is a lack of balance between the formulated research priorities, the methodologies applied and the agricultural policies developed, resulting in non-responsiveness to the needs and goals of the majority of farm households.

EFARD could respond to this imbalance by promoting National Fora that include all stakeholders for dialoguing, information exchange, research priority setting and advocating appropriate national agricultural policies. Development of innovative, collaborative and contextualized research programmes need to be encouraged and should be lobbied for at national donor level, but also in the EU, the UN and its agencies, and in development banks.

Increased support from public and private funding agencies is needed to establish long-term research relationships and capacity building with emerging centres of excellence at the regional, sub-regional and national levels.

5. The role of ARD in the European Research Area (ERA) and the 7th Framework Programme

The proposal for FP7 explicitly mentions "agricultural research", but despite this positive change with regard to FP6, the text does not explicitly refer to ARD. The international dimension of ERA is not yet well defined and its component for supporting developing countries (INCO) may be at risk. ARD will only survive in ERA and FP7 if there is strong policy support from the Member States and their partners in the South at all levels (parliaments, governments, scientific community). To increase its chances, ARD may consider revisiting its definition to make clear that ARD is not restricted to "agriculture" *sensu strictu* but also covers the environment, natural resources conservation and management, health, capacity building, etc. A special effort should also be made to define the European contribution to solving global problems, in particular in agricultural research, ARD being a component of this European contribution.

The relationship between European AR and European ARD is still weak and the challenge is to learn from each other, identify research results carried out in Europe that can have a direct impact on developing countries and to achieve synergies. One key difference to be kept in mind is the poor private sector investment in research and development in developing countries.

6. The role of ARD in the new EU Member Countries

New Member States bring different ARD knowledge and expertise from what is currently available and their specific needs may strengthen the ARD agenda for both the North and the South.

At the national level, the new EU Member States are to set up their national ARD forum, map their ARD resources and explore ways and means to increase their ARD budget. They will have to also identify their comparative advantages in North – South scientific collaboration, for example in training or organic agriculture.

At the EC level, the new EU Member States can bring their wealth of experience and partnership in agricultural research, e.g. in the former Soviet Union. They should actively participate in EIARD and EFARD Steering Committees to express their concerns and priorities in an open dialogue. They should also be closely associated with all European initiatives in ARD and get national and possibly EC support to participate in these activities. In particular,

they should benefit from exchange programmes, invitations to attend workshops and conferences, support for institutional strengthening, etc.

Finally, it should be considered that the next EFARD conference could take place in a new EU Member State. This will facilitate participation of the new Member States and can be used for sensitizing their governments to the importance of European ARD.

7. The relationship between European ARD and CGIAR research

The CGIAR is perceived to have recognised strengths, including its state-of-the-art Centres of Excellence in developing countries; a familiarity with the problems of developing countries; multidisciplinary, collaborative approaches; an international reach; and the continuity it has provided. However, among the weaknesses that were suggested by some were a dependence on short-term funding for long-term research collaborations; a lack of coordination and a possible lack of success in attracting senior scientists and in providing job security for young scientists. Some mentioned slowness in responding to new research challenges; and relative inaccessibility of the knowledge it generates. A few respondents consider that its links with NARS, ARIs and regional fora are still too weak.

The strengths of European ARD lie in its cutting edge basic research; its understanding of the links between science and trade; its appreciation of environmental issues; its historical links to developing countries and tropical agricultural products, and the high quality of its education system. Europe has a comparative advantage in areas such as organic agriculture, biosafety, ecoregional research, food quality, post-harvest technology, social sciences and capacity building. However, European ARD is often of limited relevance to developing countries; and the European ARD community is considered by some as paternalistic and self-interested.

Closer European-CGIAR partnership could help to strengthen the CGIAR system, e.g. in the fields of training and supporting young scientists; bringing complementary expertise to the CGIAR research programmes; provision of longer-term funding and in-kind support; and capacity building of partner institutions and scientists.

8. The relationship between EFARD, other regional fora and GFAR

Some of the participants thought that interaction with other fora was beyond the EFARD mandate, but the vast majority thought that such interaction was indispensable. EFARD could facilitate other regional fora through exchange of information; advocacy; sharing of expertise; research partnerships; capacity building; fund raising and logistical support.

GFAR has an important role to play in terms of coordinating interactions between regional fora. Interaction with other regional fora could include the participation of EFARD members in the meetings of other fora; defining and implementing common agendas; and encouraging European networks in other regions. Regional fora and GFAR should also be heard in priority setting exercises and efforts of the CGIAR.

9. EFARD's role and functioning

Participants highlighted the need for better coordination of EFARD with other European initiatives. In particular, the link with EIARD should be reviewed, clarified and strengthened. EFARD should be clear about its comparative advantage and demonstrate more clearly its added value.

Its long-term planning should be more concrete and EFARD's organisational set-up (secretariat, human and financial resources) be improved.

EFARD should involve more stakeholders more firmly, be open to new ones, and improve information flows within and outside EFARD's networks. Links to other regional as well as national fora should be strengthened. Regarding its activities, EFARD should be more pro-

active, promote discussion about specific key themes (e.g. trade, GMOs, biosafety) and also support the formulation of concrete agendas in priority areas.

In order to strengthen EFARD's advocacy role, participants felt that links to EIARD should be strengthened and respective roles clarified. Lobbying at EU level is seen as very important. The relevance of ARD must be demonstrated and best practices and success stories should be documented.

With the help of EFARD, concrete and tangible proposals should be elaborated. Specific themes for which EFARD should play an advocacy role include *i. a.* empowerment of farmers' organisations, the role of women in agriculture, simplification of procedures for research proposals, and enhancement of partnerships.

10. EFARD's stakeholders

In Europe, national fora are the basis for action within EFARD. They can only function if they have a clear mandate with clear roles and responsibilities, an agreed agenda and defined priorities. The function of national fora is to bring the different stakeholders together not only to find consensus, but also to clarify where there is disagreement. EFARD can and should facilitate the exchange of experience between national fora in identifying priorities and setting national agendas, as well as agree on common priorities across Europe. Both, national fora and the European Forum can only be successful if they have inspiring leadership, which is considered an essential ingredient in any partnership arrangement.

Appropriate mechanisms for communication and interaction are fundamental for the functioning of national fora, as well as for communication between national fora and EFARD, and with GFAR and other Regional Fora. Special efforts will be necessary to involve the underrepresented stakeholder groups, such as the private sector / SMEs, farmers' organisations and NGOs, e.g. through special incentives, joint development of the agenda and joint research projects. This relates to all steps of project development: from their design and conceptualisation to the dissemination of results and their implementation. The dialogue and collaboration with farmers requires highest attention: European farmers' organisations need to be involved and cooperation with farmers' organisations in developing countries needs to be fostered. EFARD and national fora will benefit from inviting representatives from the South to their meetings, and involving them in their programmatic activities.

Lobbying and advocacy are considered to be the principal functions of the national fora and EFARD. This relates to the aim of maintaining ARD high on national and European political agendas, and results from the major bottleneck for national fora and EFARD, i.e. the need for funds to maintain an active network and carry out joint ARD activities.

A number of concrete measures and activities has been suggested:

Strengthening of national fora and exchange of experiences among them should comprise:

- Sharing of best practises and success stories of stakeholder involvement
- Sharing of experiences and material for lobbying at the national level
- Developing and providing guidelines for cooperation
- Setting benchmarks across borders and identifying performance indicators

As an advocate for ARD, EFARD should become a key “spokesperson” entrusted with approaching the European Parliament and the European Commission.

Establishment of EFARD-based networks to address issues of regional relevance may be considered.

THE ZURICH DECLARATION

A European response to global challenges in Agricultural Research for Development (ARD)

As representatives of the various European stakeholder groups involved in agricultural research for development, we address our national governments and parliaments, as well as the European Union Institutions (Council of the European Union, Council of Ministers, European Commission and European Parliament) and urge them to take note of the need to respond to the global challenges in Agricultural Research for Development (ARD).

Europe has a unique position in world affairs which has so far been underutilised to enhance its relationship with the majority of the globe's population living in the South. This position stems from European history and long-standing mutual interaction with all countries in the world, its adherence to universal, humanistic values, and its capacity in mobilising knowledge towards economic growth, sustainable development and competitiveness. Europe must be able to develop a Europe-wide common attitude towards its own sustainable development as well as that of its partners in the developing world.

The European Research Area (ERA) provides a powerful opportunity for defining Europe's role in Science and Technology at a global level for its sustainable development. Europe should be prepared to back this vision up with all necessary means that make it the world's largest provider of funds for research in absolute and relative terms. This can only be done on the basis of partnership building.

Europe, more particularly the European Commission, should strengthen its science and technology cooperation with developing countries under the 7th Framework Programme (FP7), by:

- opening and widening the Europe-oriented thematic priorities,
- targeting sustainable development priorities in third countries, with particular emphasis on developing and emerging economies,
- improving coherence and close cooperation between ARD and research policies of the European Commission,
- and increasing the financial means earmarked for collaboration with developing countries.

However, in implementing its science and technology cooperation model, it must step up efforts to allow the partner regions to adjust and improve their scientific capacity. Therefore, it is important to ensure a synergistic linkage between the EU's international science and technology cooperation and its other policies and instruments for international relations, e.g. development cooperation, trade and education.

Only thus will Europe be successful in including its partner countries in the global knowledge society.

The European Forum for Agricultural Research for Development (EFARD) was established in 1997 with the goal of promoting research partnerships between research communities in Europe and in developing countries, in order to strengthen Europe's ARD contribution to addressing the global challenges of eradication of poverty and hunger, fostering food security and food safety, and promoting sustainable management of natural resources.

EFARD's specific role in the European context is three-fold:

1. EFARD is the voice of European ARD stakeholders for lobbying and advocacy.
2. EFARD assembles the European partners for collaborative research with stakeholders from developing countries.
3. EFARD is the network for exchange of experiences and joint programme development among European partners.

As a major outcome of the EFARD Conference held from April 27-29, 2005 in Zurich, Switzerland, with more than 350 participants from 64 European and non-European countries, we appeal to the European Institutions (European Council, Council of Ministers, European Commission and European Parliament), as well as to our national governments and parliaments to support the ARD community in addressing the new challenges ahead of us.

Our appeal is rooted in our strong own commitment as the European stakeholder community for ARD.

1. Considering the interdependence between agriculture and other sectors as well as the necessary involvement of a wide range of stakeholder groups, we commit ourselves to shaping our research agendas related to agriculture in its widest sense, to meet old as well as new requirements.
2. Bearing in mind that capacity building has been recognised as one of the principal strengths of the European research, development and educational institutions we are committed to continue contributing to capacity development at the individual as well as the institutional level through innovative, long-term, durable partnerships. We will explore und use innovative methods of communication and collaboration to address the needs and priorities of the communities we serve.
3. Recognising the Millennium Development Goals (MDGs) as the agreed medium-term targets for human development, we will direct our ARD activities to contribute directly to the MDGs 1, 4, 5, 7 and 8, and indirectly to each of the other MDGs.
4. In view of the fact that ARD capacities in many Southern countries are not capable of responding on their own to the enormous tasks ahead of them, we will seek mechanisms for complementing and strengthening our partners to fulfil the shared tasks while avoiding the creation of dependencies. Increased support of public and private funding agencies is needed to establish long-term research cooperation and capacity building with emerging centres of excellence at the regional and sub-regional and national levels.
5. While we appreciate that the EU's FP7 proposal explicitly mentions “agricultural research”, we are concerned that it still does not explicitly refer to ARD. We urge for strong policy support from all Member States and our partners in the South to make the case for ARD at all policy levels.
6. Conscious that the relationship between European Agricultural Research and European ARD is still weak, we will explore mechanisms for creating synergies between the two sectors within the European Research Area.
7. Considering the wealth of different experiences in the new EU member countries, we encourage all countries to take part actively in the EFARD and EIARD mechanisms, to set up their national ARD fora, map their ARD resources and explore ways and means to increase their ARD budget, and to coordinate their ARD policies.
8. Recognising the long record of CGIAR achievements and its strengths, we are committed to further strengthen the CGIAR system, actively participating in its different roles and tasks by training and supporting young scientists, by bringing complementary expertise to the CGIAR research programmes, by mobilising longer-term funding and providing in-kind support, and through capacity building of partner institutions and scientists.
9. We appreciate that the Global Forum for Agricultural Research (GFAR) has an important role to play in terms of coordinating interactions between regional fora. We are ready to fully play our role in promoting inter-regional cooperation and in strengthening regional as well as national fora.
10. While national fora are the basis for action within EFARD, we acknowledge that EFARD's advocacy and lobbying role at the EU and national levels are seen as major EFARD functions, besides its role as platform for strategic dialogue and coordination. We recognise the need for better coordination of EFARD with other European initiatives. We will pro-actively seek exchange with the other European mechanisms, in particular with EIARD to streamline priorities, strategies and activities. We request EIARD to recognise EFARD's advocacy role in support of ARD and help to provide the necessary means to comply with it.

Zurich, May 2005