There is widespread acknowledgement that a major challenge to global development is to double food and fiber production within the next three decades. More food with better characteristics will be needed to meet the demands of an increasing better fed world population. This should be done with less water, nutrients, pesticides, and other external inputs. The productivity rise per ha is needed for environmental reasons and to spare land for nature and biodiversity. This increase in food production will have to be achieved during a period when pressures on land for biofuels, industrial raw materials, and urbanization are also increasing dramatically.

The Consultative Group on International Agricultural Research (CGIAR) has been a catalyst in remarkable increases in agricultural productivity in the developing world for almost half a century. It strives to produce international public goods through agricultural research for sustainable food and fiber production. The CGIAR's impacts are felt through better nutrition, improved public health, poverty reduction, and raised standards of living in developing countries.

The CGIAR is an alliance whose 64 Members support 15 international research centers, working in collaboration with hundreds of government and civil society organizations, as well as private enterprises throughout the world. CGIAR Members include 21 developing and 26 industrialized countries, four co-sponsors, and 13 other international organizations.

Through strategic investments in agricultural and natural resources management research, the CGIAR leverages donor funding to strengthen food security. CGIAR expenditures amounted to more than $500 million in 2008—the single biggest investment made to mobilize science to improve food security and contribute to the cornerstone of sustainable development worldwide. Today, more than 8,000 CGIAR scientists and staff are active in over 100 countries.

Throughout its history the CGIAR has worked to mobilize the best in science to contribute to international development. Working in partnership with national agricultural research systems, with universities and public research institutes in both developed and developing countries, the CGIAR has contributed to sustainable and poverty-reducing development through the research and research-related activities of its centers. Major productivity gains have been achieved and the CGIAR has also contributed to improved policies and institutional arrangements, which provide a solid foundation for better management of agriculture and natural resources.

Notwithstanding the progress that has been made, the scope and depth of challenges to achieving sustainable agricultural systems is increasing. To meet these challenges the CGIAR has evolved over time, shifting its focus and structure to adapt to the needs of the present, while at the same time investing in research to meet the demands of the future. The CGIAR has grown from a small group of research centers focused on raising agricultural productivity, largely through crop breeding activities, to a strategic alliance of research centers hosting a range of partnerships and collaborative engagements, and addressing a broader and more diverse set of research-for-development activities. CGIAR centers now address the sustainable development needs of forest, aquatic, rangeland, and irrigation systems.

Seven distinct phases of development are evident in its history:

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1. Plant breeding activities oriented to high-yielding varieties of rice, wheat, and maize, the major food staple crops (1960–1965);
2. Plant breeding activities underpinned by agronomic technologies tailored to the needs of the high-yielding varieties. Special emphasis was given to crop protection, irrigation, soil fertility, plant nutrition (1965–1975);
3. Farming systems research to fine-tune the agronomic and technological activities to the specific needs of the various socio-economic contexts of farming systems, and more socio-economic research to address distorted policies and weak institutions (1975–1980);
4. Broadening the scope of research by including biodiversity, natural resource management, natural ecosystems, and agro-forestry (1980–1990);
5. The introduction of Eco-regional Programs aimed at achieving a higher degree of integration across broader application domains (1990–1998);
6. Growing recognition that global programs should be addressed by broader coalitions amongst the centers, advanced research institutes and their national partners, and thus the introduction of Challenge Programs (1998–2007);
7. The imperative for broader mobilization of science and the need to fuel a more inclusive research and innovation system for agriculture and natural resources. The focus has been on stimulating greater public and private sector investment, and extending partnerships with a broader range of research suppliers and users and with civil society (present).

The CGIAR's agenda has broadened considerably as it has shifted emphasis from producing new and improved crop varieties, to developing approaches, articulating problems, and devising with its partners common agendas and roadmaps to solutions. Similarly, the CGIAR’s activities as a moderator, facilitator, stimulator, and a bridge to broader stakeholder groups have increasingly been in demand.

The role of the Science Council of the CGIAR is to oversee the quality and relevance of its research to address the CGIAR mission. In pursuing this mandate, the Science Council works to enhance opportunities for the CGIAR to engage with and mobilize other relevant providers of science, in line with the organization’s agricultural and natural resource development objectives. 2010 will be an exciting year of change in the CGIAR—the collection of individual research centers with their own agendas and sometimes competing funding needs is now to be replaced by a unified research system which will exploit synergies amongst the centers and their external partners. This will lead to more inclusive thinking and the ability to mobilize optimal consortia of research and development providers with improved links to the ultimate beneficiaries of research—the farmers themselves. The transaction costs and overheads of this system will decrease. There will be a division of labor between the centers and their consortium and the fund council, which is responsible for the allocation of resources to the work of achieving CGIAR impacts.

In the newly restructured CGIAR, the Science Council is succeeded by an Independent Science and Partnership Council. The new ISPC remains dedicated to mobilizing the best science and fostering partnerships that generate conditions conducive to translating science and scientific breakthroughs into innovations that support sustainable and adequate food production. In pursuit of this aim, the Science Council convened Science Forum 2009, which brought together more than 300 participants from 55 countries, to examine scientific advances that offer significant opportunities for agriculture and natural resources development. The Forum was organized in cooperation with the CGIAR Secretariat at the World Bank, the Alliance of the CGIAR Centers, the Global Forum on Agricultural Research, and Wageningen University and Research Centre. The current issue presents a selection of papers from the Science Forum in the hope and expectation that it will raise the profile of the science-for-development mission of the CGIAR, expand the network of research organizations mobilized to address the CGIAR mission, and raise even greater awareness of the urgency of intensifying research investments to meet the development challenges of the coming decades.

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