Opportunities, Mechanisms, and Limits

Preamble

A growing divide separates cutting-edge research and development (R&D) in industrialized countries from publicly sponsored research in most developing countries. The dimensions of this gap become apparent when one compares the vast differences in resources of private life science companies and of public research organizations in the developing world. Plagued by declining political and financial support, public sector institutions are becoming less effective at developing and supplying new agricultural technology.

A web of complex factors is stimulating private sector investment in R&D in developing country agriculture: the opening up of developing country food markets; the globalization of agro-industry; the emergence of biotechnology as a strategic force in the development of agricultural technology; and growing use of intellectual property rights (IPR), which allow the developers of a technology to appropriate the profits it generates.

The dialogue was undertaken to explore the interests, strength, investment, and future roles of the public and private sectors in agricultural research. The participants in the dialogue produced the Tlaxcala Statement, a consensus statement giving special consideration to delineating the strategies and objectives of public and private organizations; the prospects for public and private organizations to direct their efforts toward (for example) separate geographical areas, groups of clients, or types of products; the implications of dividing public and private efforts in this way; and the potential to form mutually advantageous (“win-win”) alliances to achieve all partners’ objectives without working to the detriment of any partner, its mission, or its constituency (Annex 1).

The Statement focuses on research related to the three most widely produced food crops—maize, wheat, and rice—although the issues it highlights are likely to be similar for other plant and animal species. The Statement reflects the belief that new approaches to public/private sector alliances can be developed by:

- identifying and quantifying when and where the public and private sectors can perform complementary functions; and
- producing a framework to guide public and private organizations in forming alliances.

The first point is addressed in this Statement; the second will be addressed through the steps identified in the Recommendations for Progress.

* Public sector institutions include non-profit national and international research institutes, universities, and research-oriented NGOs. Private sector institutions are commercial enterprises.

** See Annex 2.

Tlaxcala Statement on
Public/Private Sector Alliances in Agricultural Research

The International Maize and Wheat Improvement Center (CIMMYT) initiated a dialogue between individuals active with the private sector, major public research institutes in the developing world, multilateral donor agencies, academics, and the Consultative Group on International Agricultural Research (CGIAR) on key issues related to public/private alliances in agricultural research.

* See Annex 2.

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INTERNATIONAL MAIZE AND WHEAT IMPROVEMENT CENTER
We, the participants in the Tlaxcala dialogue, agree that:

Over the next 5-10 years, maize, wheat, and rice R&D by the public and private sectors are likely to focus on different activities/areas:

- The private sector will likely focus on investments in developing technology and information resources in genomics and biotechnology.
- The development of new crop varieties (particularly hybrids) will continue to be a focus of the private sector in areas where profits can be anticipated and of the public sector in other areas.
- Genetic resource conservation will remain a major public sector activity.
- Pre-breeding—research to produce elite breeding materials that researchers can use to develop varieties adapted to local farmers’ conditions—will remain an important public sector activity.
- The public sector will likely play a major role in the application of agricultural biotechnology in developing countries, in conducting basic research, and in developing human resources.

Given that the public and private sectors are likely to specialize as outlined above, their probable/desirable relationships can be described as follows:

- By developing products, training researchers, and undertaking other activities, the public sector will help private firms to become involved in agricultural R&D at a lower cost.
- Local private seed companies have a role to play in enhancing competition, and the public sector has a role to play in supporting such companies.
- Where conditions permit competitive seed markets to exist, the public sector should encourage and support rather than compete with the private sector in providing improved seed and related technology to farmers.
- Where conditions discourage the private sector from investing in providing a range of appropriate, affordable technologies to farmers, the public sector (and/or public sector funding) should take responsibility for meeting farmers’ needs. Conditions that discourage private investment include a preponderance of non-commercial farmers, small markets, and low-productivity crop growing environments.

- Even where both private sector and international public researchers are active, strong national public research programs are needed to adapt privately and internationally developed research products to local conditions. National governments should allocate additional resources to enable national programs to accomplish this task. If this is not fully possible in the short term, other institutional arrangements should be devised to accomplish this task.

Public/private sector alliances are critical to ensure that biological and information technologies are adapted in ways that enable resource-poor farmers to benefit from improved agricultural productivity, profitability, and sustainability. What conditions will foster such alliances?

- The relative strengths of the private sector in genomic information and the public sector in germplasm (especially information and expertise related to the characteristics and improvement of germplasm for developing countries) should provide a strong basis and considerable impetus for forming alliances.
- Public/private sector alliances will vary by the type and size of market, which could be determined, for example, by the level of economic growth, the productivity of the region, product (e.g., hybrid maize versus open-pollinated maize), crop, and/or type of farmer (e.g., commercial, subsistence).

As public/private sector alliances develop, key public awareness issues emerge:

- Members of an alliance should provide information about their collaboration and address concerns in an open, frank manner.
- Although they may be members of an alliance, it is important that partners retain their own identities and credibility based on their particular missions and constituencies.
- Organizations, especially in the public sector, will need policy statements that specify the conditions under which they engage in alliances.
Recommendations for Progress

To develop a strategic framework that will enable public and private organizations to form effective, mutually beneficial alliances, several steps are needed:

- In-depth discussions with groups of national agricultural research programs with similar levels of capacity are needed to define the mechanisms for alliances, including guidelines for negotiations between public and private organizations (based on the relative strengths of each type of organization) and desirable rules to govern such alliances.
- Such discussions should also define, with greater precision, what national research organizations, international research organizations, and private companies need/want to achieve their goals.
- They should also assess the needs for developing the capacity to establish effective alliances (e.g., IPR).

Note: A synthesis document from the Tlaxcala discussions will be available at the CGIAR Mid-Term Meeting, Germany, 2000. For Tlaxcala documents and further developments, see www.cimmyt.cgiar.org.

Annex 1

The Impetus for Public/Private Sector Alliances

- National governments seek to promote human welfare by helping to increase productivity in agriculture while sustaining the resource base. One potentially efficient way to increase productivity is to foster an environment that enables private firms to invest in R&D and product delivery. An “enabling environment” is characterized by a framework and institutional capacity to implement regulations, including intellectual property rights (IPR) and biosafety; policies for the agricultural sector that do not discriminate against private firms; public investment in R&D; and adequate infrastructure (e.g., transportation facilities, communication systems). Where such an environment does not exist, and private firms are unable to invest in agricultural R&D and product delivery, the public sector has an obligation to step in.
- Private sector investments in agricultural research focused on commercial farmers are increasing rapidly in developed and developing countries. These investments target markets where returns on investments can be captured, typically large markets in countries experiencing a high rate of economic growth, where IPR and other factors mentioned in the previous paragraph are in place.
- Intellectual property rights increasingly condition who conducts research, the focus of that research, and who has access to information and results generated by that research.
- The private sector has developed new tools and knowledge that could assist the public sector in achieving its mission more effectively.
- The private sector continues to rely on the public sector for contributions to the basic science that underwrites advances in technology (i.e., research that is undertaken regardless of whether the results will have an immediate application or show potential for profit), building expertise in researchers, mature scientific networks in developing countries, and essential germplasm. These are some of the strengths that the public sector can bring to alliances with the private sector.
- There is a mutual advantage in the private and public sectors working together to maximize benefits to society. Public/private sector alliances would help to narrow the science/technology gap between rich and poor nations. To overcome impediments to forming such alliances, private and public agencies require new approaches to negotiating new relationships.
- Aside from research alliances, investment alliances are possible. For example, public and private organizations could share in the research investment, or the public sector could finance private R&D or vice versa.
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