Chapter 10

International Cooperation in the Domains of Agricultural Research and Information

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ABSTRACT

This chapter stresses the importance of agricultural research and technology in feeding the growing population in developing countries. It underscores the role of research and information in advancing agricultural production and focuses on changing trends in international agricultural research and the role of the Consultative Group on International Agricultural Research (CGIAR). The chapter describes international developments in providing open access to agricultural information and literature.

INTRODUCTION

Food is the basic requirement in the hierarchical needs of humans, the other two being security and the means for improved standard of living. Food is an individual family problem and it is not enough for a nation to simply produce more. Each family needs to be able to produce or earn access to its food supply. Despite spectacular advances in science and technology and apparent economic prosperity, over one billion people worldwide are desperately poor. More than one billion people still live on less than US dollar a day. Conversely, less than 4% of the population in the industrial countries and fewer than 2% in the United States are directly engaged in agriculture. Since 90% of the food consumed in many developing countries is produced locally, increased production could improve the health and wellbeing of the poor. Food security is the foundation for social security. The most common definition of 'food security' is 'access by all people at all times to enough and appropriate food to provide the energy and nutrition needed to maintain an active and healthy life'. Widespread hunger and

malnutrition persists today despite considerable growth in per capita food availability (Barrett, 2002).There are two sides of the food problem. One is to increase food production and the other to create purchasing power among the hungry. The increase in crop and animal production on the hundreds and millions of family farms in less developed countries could be achieved only by casting the development net to involve farmers. To enable the farmers to participate in the market economy the following four requirements must be met simultaneously.

1. Productive and profitable technology must be available
2. Farmers must be instructed to adopt the technologies
3. Necessary inputs such as seeds, fertilizers, pesticides, vaccines, feed for animals and credit must be available when and where the farmer needs them
4. There must be markets for farm produce

Agricultural technology is largely biological, and therefore, must be developed for each season, of each region, of each country. Research will have to be done at regional stations and in farmers' fields to tailor the technology to existing farming systems. Globally, different countries have evolved both unique and complementary systems to serve the science and education needs of their agricultural and rural communities. (Miller,Hanson, Fretz and Weismiller, 2004.)

INFORMATION TRANSFER AND ACCESS

Information is a productive resource like land, labor and capital. At every stage of agriculture, the decision making process depends on formal and informal sources of information. Sources of information consist of documents, institutions and individuals (Blackie and Dent, 1979).An agricul-

tural information system is a process in which information is generated, transformed, transferred, consolidated, received, and fed back in such a manner that these processes function synergistically to underpin knowledge utilization by agricultural producers (Rolling, 1988). Information transfer is creation, dissemination, organization, diffusion, and use of information (Achleitner, 1995).In package oriented library or information publishing systems, delivery of information package is the goal, whereas the information transfer system is concerned not only with the delivery of ideas but also with the impact of these ideas on users (Landau et al, 1982).Briefly,the agricultural information transfer system consists of four independent, interrelated components: development, documentation, dissemination, and diffusion of information, which broadly correspond to generation, organization, communication, and utilization of information(Reddy, 2005).

NATIONAL AGRICULTURAL RESEARCH

Public sector research in agriculture has many different approaches. It takes place at colleges and universities, research institutes, industrial laboratories and on the farm. In most developing countries, the National Agricultural Research Service(NARS) suffers from several drawbacks: Shortage of well-trained science and technical staff; lack of government commitment to research, budget cuts, and low level of funding for operational expenses; low salary levels; poor incentives for research; lack of well-established research and extension systems; and inadequate research priorities. India, Indonesia and Mexico are exceptions (Tribe, 1994). In general, NARS have extensive but under-funded staff, diversified field facilities, and a profound understating of local constraints. An international communication network exists for those with the tools to access it, but many research and development systems lack information

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