DEAN'S FORWARD

Enhancing the Competitiveness of the Agricultural Sector through Sustainable Practices

Competitiveness has been traditionally measured by the cost of production. A country that can produce a good at a lower cost is said to have competitive edge against other countries. Today, however, competitiveness is measured by a capacity to add value to economic products, services and processes. This means that the concept of competitiveness has changed from cost per unit to value creation. With regard to the agricultural sector, the competitiveness of the sector must incorporate sustainable agricultural systems that promote equally farming profits, agro-ecosystem, and products attributes. Thus economic, social and environmental aspects must be integrated into the agricultural development process in order for the country's agriculture to be competitive. This is especially so when trade and market access, and hence competitiveness, are link to environmental protection.

Environmental protection is a basic element of sustainable agricultural development. The environment supplies natural resources for agricultural production activities and is shaped by these activities. The concern for the environmental effects has caused the proliferating of environmental regulations. According to the WTO Environmental Database, which contains information on governmental environment-related measures, the share of environment-related notifications under the WTO Agreement on Technical Barriers to Trade has increased from 10 percent in the early 1990s to 16 percent in recent years. Environmental (and health-related) requirements are also becoming more stringent and complex. For example, standards and regulations concerning maximum residue levels (MRLs) for pesticides and other chemicals are an issue of concern to developing countries. An increasing number of hazardous substances are banned, for example, in the food industry. New legislation is also emerging concerning traceability. For example, European Union (EU) legislation on the Common Organization of the Markets in Fishery and Aquaculture Products, effective as of 1 January 2002, requires exporters of fish and fishery products to label consignments (or accompany them by a document) identifying the species name, production method and catch area. Such requirements may be difficult for developing countries to meet, as these countries face major difficulties in implementing sophisticated traceability systems. To be able to meet various product-content-related standards and regulations, changes in processes and production methods are required. Often, policies in the form of regulations (such as standards, bans, and restrictions on input use) and incentive-based mechanisms (such as taxes, subsidies, and marketable permits) are implemented as corrective measures. While these policies may meet their environmental goals, they also affect production, trade, investment, technological change, and consumption. Such effects may be particularly important to agricultural producers and food processors.

Although environmental regulations often raise production costs and reduce competitiveness in the short term, long term effects are less certain as agricultural producers adjust and innovate. The regulations altered input values and imposed costs on producers, inducing a change in input use and the subsequent choice of alternative technologies. Thus, changes in relative factor prices stimulate innovative activities. Research institutions will innovate to remedy the constraint imposed by the policy-induced factor scarcity. Hence environmental regulation can act as a signalling mechanism that stimulates research into environment-conserving technologies. The adopting country's competitive advantage in world markets for agricultural crops may also be enhanced, although the new crop varieties may quickly transfer to other countries as well. Such technological change can allow a country to improve environmental quality without constricting crop production. At the same time, the technological improvements that drive growth result in savings on inputs, including energy and environmental amenities. This effect decreases the

pollution intensity of growth. Further, higher living standards increase the affordability and desirability of reduced pollution and indirectly lead to better environmental protection.

Given that competitiveness initiatives and environmental protection should be undertaken jointly, which environmental policies are feasible and desirable? Environmental protection as part of the economic development process can be characterized by a continuum of institutional quality that guides and sustains economic activity. There is a supply and demand side to the quality of institutions protecting the environment, and both are influenced by the trade orientation of an economy. On the demand side, economic growth implies higher income and increasing demand for environmental protection and standards. At much higher levels of income, environmental problems that are more remote in space and time eventually become prominent; this typically occurs after graduation from the developing economy stage. On the supply side, governments in developing economies have scarce amounts of resources and human capital to allocate to the provision of competing institutional functions, including environmental protection. These governments are accumulating policy and institutional experience. Institutional knowledge can be transferred across industries and borders. Hence, the free movement of institutional knowledge reinforces the sustainability of economic development. Environmental side-agreements to trade agreements could facilitate such knowledge transfer. Cleaner technology innovation and adoption in industrial countries have been driven by environmental regulation. Combined with foreign direct investment (FDI) and the use of technology-laden imported inputs, this cleaner technology can be transferred to developing economies.

Studies indicate that the cost of environmental protection is moderate and does not compromise competitiveness. Sustainable agriculture is in compliance with trade and market access regulations, and produce outputs which have the desired attributes such as safety, quality and traceability. Findings pertaining to the developing world are consistent with the extensive literature investigating the impact of environmental regulations on competitiveness in the developed countries. The preceding discussions indicate that, to be competitive, there must convergence between agricultural development and environmental protection, meaning sustainable practices.