FOSTERING A FLEDGLING SEED INDUSTRY

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Executive Summary

A seed industry is the aggregate of plant breeding and seed research, producing, processing, and trading firms, together with seed growers and independent seed suppliers in a given region or country. In countries where a market economy has been the way of life, a purely private seed industry has emerged spontaneously and has thrived in the trading and industry traditions inherent to such an economy. Its regulation has been, as a matter of fact, directed only at consumer protection. Contrary to this system, in former colonial countries and others with strong or moderate leaning toward a centrally planned economy, a seed industry was originated by government decree as a basic and strategic state-conducted activity. The degree to which the state barred the private sector from entering the seed industry has varied from country to country, being total in the former Eastern European socialist countries and varying up to mild tolerance in some Latin American, Asian, and African countries.

While in both types of national seed systems, the mostly public and the mostly private, it has been shown that seeds can be produced and made available to farmers, there are marked differences in their comparative performance. It has been amply documented that the public systems have failed to produce sufficient high quality seed for the potential country or region demand, especially of the more difficult to produce seed categories: hybrids of maize, sorghum, sunflower, vegetable, and potato seeds. As to seeds with low propagation coefficients (ratio of seed harvested to seed quantity planted), such as the cereals, their supply has been organized mostly through the action of public seed enterprises. Nevertheless, in this area of activity of public enterprises, results have been less than satisfactory almost everywhere, both as to quantity of certified seed produced and as to its quality.

The alternative of private seed companies and seed suppliers, complementing or totally replacing former seed parastatal firms or other forms of public seed producing activities, has emerged as a strong alternative in recent years. Such private companies have emerged in the last 40 years in South America, then in the last 30 years in Mexico and Central America, and more recently in Thailand, India, and much more recently in some Asian and African countries. In some countries, where strong political decisions consonant with the support of a private seed industry were adopted, such as Turkey, a healthy and growing seed industry has developed. In other countries, a slow and halting pace of policy changes, has led to few new private entrants, because of incomplete opening of the investment climate. The few who have entered are usually foreign firms, whose losses can be written off from taxes at home, those who can globalize their business by exporting their profits as seed exports to some of their other foreign operations, those who entered into privileged monopolistic or oligopolistic agreements with government or semigovernment agencies, and those who could obtain beachhead long-term credit support on highly concessional conditions and credit guarantees from their respective governments. These exceptions, have in many new cases, excluded the local interested investors from participating in the development of their country's seed industries. When they have, it

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is because the policies for promotion of the private seed industry have been consistent, clear, and wide open.

The main problems confronted by an emerging seed industry start with the lack of clear seed legislation. Because legislation is written by government officers, in the absence of representatives from the private sector, they tend to write legislation copied from those countries who have it. Invariable they accede to the most advanced western European countries, the United States, Japan, Canada, Australia, and so forth. In copying their legislation, they assume it will work. Yet it does not, simply because it is incomplete legislation. It is incomplete because those countries never had a need to change their fundamental political and business environment surrounding their seed and other agricultural-based input industries. They simply enacted the consumer protection part of the legislation. In most developing countries this becomes the entire legislation. By interpreting such regulatory legislation arbitrarily, in the absence of other organized system checks, the government is absolute ruler on decisions without recourse, and produces more often than not an environment where the subsistence of emerging seed companies leads to graft and corruption, loss of time and efficiency, and definitely poor seed quality and imperfect competition.

In order to obviate these problems two types of legislation need to be passed in countries with former socialist planning, including both the Eastern European, former colonial countries, and many Latin American countries: (a) General Seed Law; and (b) Seed Industry Investment Law. A Variety Protection Act as an annex to the General Seed Law or a chapter of it may be desirable for most countries. The legal aspects to be considered are related to the registration and establishment of seed firms; to the free transaction of business; to labor relations, especially as they pertain to the need of the industry for special seasonal labor hire authorizations, its relations with government entities; the approval and coordination of technical activities, including research and extension, variety protection, and patent treatment; and the implications of sectorial classification for the treatment of the seed industry in sectorial promotional laws. It must be understood that because some of these laws do not exist with the explicit contents indicated above in most western countries, they can be obviated in countries where a transition has taken place from a former socialist economy. Precisely because of the transition it is required that legislation be created and applied so that the roles of government and the seed industry, the organization of the national seed system, and rights of the private and public sector be made as clearly explicit as possible, because no precedents exist.

In regard to technical aspects, the seed firm must be authorized to conduct plant breeding research, if it so desires, as an inherent right, subject to no limitations. The transfer of germplasm, basic seeds, and breeding material across country borders should be authorized, subject to the usual quarantine regulations. If the seed firm has registered scientists it can be given special introductory permits for disease or pest sensitive genetic material, subject to later supervision in these specifics cases by the plant quarantine authorities. Variety testing and registration procedures need to be relaxed, reduced in time, and public service and research institutions should avoid recommending varieties, but rather allowing the market to select the best ones. Refusal of varieties should be done in cases of absolute lack of agronomic quality, disease susceptibility, or unadaptability to growth under district specific conditions.

The problem of distinction between *seed certification* and *seed quality control*, unfortunately confused in many national seed programs, ought to be clarified. Seed quality control is required on all seed classes, both certified and noncertified entering formal trade channels. A mechanism for such control and an organization in government, especially designed to protect consumers, should be established for spot checks. However, the seed firm shall be the first one responsible for developing its own seed quality control and establishing its own labels indicating seed quality according to government norms. Truth-in-labeling with the seed firm attaching quality control labels rather than the

government issuing labels is the preferred system, because it avoids logistic and administrative bottlenecks on the government side.

Seed certification is a methodology for insuring that varieties are true to type. It applies to those varieties that have been developed in public institutions. Privately developed hybrids, whose parents are coded and held in secret by the firm, cannot be certified. Privately obtained varieties can be optionally certified. Populations derived from new types of plant breeding also are unlikely to be certified. Certification is mostly done by a seed certification agency, which can be a private seed improvement association or a government agency, separate and different from the one involved in seed quality control. This is the way it is conducted in the various states of the United States, but not in many developing and socialist countries, where certification and seed quality control have been hopelessly confounded and unfortunately integrated into a single process.

Variety protection defends the right of breeders, both public and private, to market with exclusivity the varieties that they obtain in a given country, and in those foreign countries with bilateral or multilateral agreements to uphold breeders' rights. As an ever growing proportion of superior varieties of vegetables and field crops are included in the list of registered varieties receiving variety protection, their accessibility to markets, which do not recognize variety protection, is restricted, depriving farmers of their benefits. The inclusion of variety protection allows countries with emerging seed industries and good climatic conditions also to become seed producers and seed exporters for firms that may entrust seed multiplication under variety protection guarantees.

The seed business is unique in its seasonality, high inventory buildup requirement and therefore high working capital requirement relative to investment in fixed assets, and the fact that it works and sells fragile biological products. It is not a high profit industry. It is affected by external factors such as weather, internal and external commodity price fluctuations, governmental shifts and industry shifts in market promotion, and other factors. It requires at its inception initial government support for it to get organized. This support comes to new seed industries in the form of credit access and leverage, the acceptance of seed stocks as collateral at full or near full market value as seeds, kept under appropriate storage conditions, and business promotion opportunities treatment by government for a number of years after establishment.

Seed price control is a negative factor of extreme importance in a seed industry. Under conditions of a well-established market, seed price controls should be abolished. It ought to be accepted that the cost of distributing seeds is a charge to their final value, and the agents of distribution ought to participate in it with their fair share, again dictated by the market.

The expectation of economic returns in the seed industry has to be accepted over an average of several years, taking good and bad ones in a time series long enough to make calculations. Net returns on sales should average for most cases between 10 and 25 percent annually.

Credit in the seed industry for capital goods should be acceded from commercial and development bank agencies in a given country at fair or even promotional interest rates. The establishment of seed industries in most developing countries has occurred with rare exceptions at concessional interest rates. Access to credit for building inventories for the seed industry also has been promoted in many countries. Commercial banks have a tendency to lend on very short term. The seed industry requires inventories to be maintained for at least 6 months. The risk in the seed industry may also be higher than in other industries, because of the perishable nature of the seeds. Protecting inventories with appropriate storage facilities is of primary necessity; if available, seed stocks may be kept in good conditions for an average of 2 to 3 years. Other risks come from loss of seed production due to environmental hazards. Changes in cropping patterns can also affect the market for seeds that cease to be desirable.

External credit from organizations lending to the private sector often find the seed industry as defined by single companies as being too small for single loans. The International Finance

Corporation (IFC) recently has indicated willingness to lend in lower single loan blocks to specific companies. Credit organized through commercial and development banks, with specific loans from multilateral credit organizations such as the World Bank earmarked for seed and input industry development (of agricultural origin), such as the animal input industry, could be of significant support to the industry.

Promotional treatment in no or lowered import duty on capital assets or production materials has made or broken seed industry investment initiatives. The application of low tax rates, or rates similar to those applied to farmers, to the seed industry has been very effective in its initial setting up and consolidation. Remittances of profits as dividends, when accepted for guaranteed payment in hard currency out of the country is an added incentive to foreign investment for their own or join ventures in the seed industry.

A fledgling seed industry in the private sector often finds a government parastatal organization as a competitor with great advantages, and it has to develop a subsistence and congenial attitude, but an aggressive policy for expansion of its market share. These contradictory policies always bring about clashes between the public and private sector. Nevertheless, they could be minimized with careful planning and action judgement.

Government should be interested in supporting the private seed sector. The seed industry itself needs mechanisms for a dialogue with government. This could be a national seed industry association, representing the private seed suppliers, seed firms, and traders in respective committees. This association would represent the seed industry in a national seed council, as a means to exercise a continuous dialogue, and participate in recommendations on important issues related to seeds.

Endnote

After these Proceedings went to press, Dr. Grobman made available a complete version of this paper. It may be available directly from him at Gentec, Apdo. 270227, Lima 27, Peru, and at some future time may be made available through the Agriculture and Natural Resources Department of the World Bank.