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Agricultural research in Turkey

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Agricultural research in Turkey has primarily been a public sector activity begun at the end of the 19th century. Through the years it has developed to meet national needs despite the great variation in the climate and physical condition of the country.

Over the years, many institutions have been established under various agencies and agricultural research responsibilities have been assigned according to their array of activities.

Generally speaking, agricultural research within the public sector has been fragmented among the Ministries of Agriculture, Forestry and Rural Affairs (MAFRA), Industry and Commerce (MIC), Finance and Customs (MFC) and also the Turkish Scientific and Technical Research Council and the universities.

Recently, however, the private sector has also shown interest to develop its own research component to get involved in the fields of variety development, seed production and distribution of certain important crops within the country.

Although research has always been important in developing Turkey's agricultural technology, it has recently been assuming an increasingly critical role. There is no question that it will be the key factor in any future progress.

Publicly supported agricultural research institutes under various agencies have made and

are continuing to make important contributions to the richness and diversity of Turkish agricultural enterprises.

Research institutes under the Ministry of Agriculture, Forestry and Rural Affairs have succeeded in releasing a number of new varieties for several crops together with recommendations on their cultivation practices and a body of knowledge is available at the research institutes for increasing crop and livestock productivity and for better use of soil and water resources.

I - Research organization in MAFRA

Following the enactment of the reorganization law of MAFRA, agricultural research organizations and related institutions have also been reviewed and a new framework for the agricultural research system in MAFRA has been established.

In order to strengthen the organization, the Research and Statistics Department under the Advisory Council of Research Planning and Coordination became responsible for planning, programming and project preparation of research activities within the Ministry in close cooperation with the General Directorates involved.

On the other hand, the number of research institutions has been reduced to 67 from 105,

either by devoting some existing ones to other activities like test and control centers, control laboratories, agricultural schools and production fields only, or merging closely related ones within the same province. These research institutes are scattered throughout the country, 11 under the General Directorate of Rural Affairs, two under the General Directorate of Forestry and 54 virtually affiliated units responsible directly to the Minister.

Research institutes under the General Directorate of Forestry deal with forestry research while those under the General Directorate of Rural Affairs deal with research covering water and land resources, soil and fertilizers.

The remaining 54 institutes cover research activities in the field of plant breeding and production, animal husbandry, plant protection, animal diseases, food technology and water products.

Of these institutes:

- four have been selected and given responsibility as Research Centres for Field Crops, Horticulture, Animal Husbandry and Animal Diseases;
- seven of them have been selected to become Regional Agricultural Research Institutes devoting their time to agricultural commodities of major importance in different agro-ecological zones: Aegean, Mediterranean, Cukurova, Southeastern Anatolia, Black Sea, East Anatolia and Thrace.
- the remaining 43 Agricultural Research Institutes have been assigned as commodity research institutes each dealing with research on a specific commodity.

Research institutes consist of an administrative body and different technical divisions in various disciplines. A multidisciplinary research approach dominates in all research institutions.

II - Monitoring and evaluation

For any agricultural research project to be approved for implementation, three main bodies have to give consent:

1) Research Committee of the institutes

A project is first reviewed and revised by this committee and the results of ongoing studies are also discussed here.

2) Working groups

Each new project approved by the Research Committee of the institutes and also the reports on completed projects are then presented to the working groups for discussion by experts of each commodity invited from research institutes, the universities and the private sector.

3) Ministerial Supreme Council for Research and Development

This Council is formed of representatives from the universities, the State planning organizations, the Board of Higher Education, the Turkish Scientific and Technical Council, the Turkish Union of Agricultural Chambers, the related General Directors, the directors of Research Centres and if required the directors of Regional Research Institutes. It is chaired by the Minister or the Secretary of State and provides discussion on the research policy of the Ministry, establishes priorities and consequently reaches a consensus on future activities.

These bodies usually meet once a year, but if required can hold additional meetings.

Following the approval of the Ministerial Supreme Council, a project can be financed and implemented and the research reports on completed projects can be published or transferred to the extension units of the Ministry.

III - Research projects and objectives

Most of the agricultural research activities are currently realigned on a commodity-oriented basis with various disciplines working country-wide for the improvement of specific commodities. Such national programs are carried out on cereals, horticulture, industrial crops, food legumes, forage crops, animal husbandry, second crops, crop genetic resources, etc.

Beside these national research programs, hundreds of problem-oriented specific research projects are carried out in the fields of plant

production, animal diseases, food and feed technology and water products.

IV - Research personnel and material resources

Approximately 7,000 research personnel (including field technicians, highschool graduates, university graduates with B.S., MSc., and even Ph.D. degrees) are presently employed under the existing research organizations of the Ministry. Among the 1,500 university graduates, only 30% of the researchers have M.Sc. and Ph.D. degrees.

More generally most of the agricultural research undertaken by the research institutes is of an applied nature. The major thrust of current crop research is on plant improvement through

breeding and selection of new adapted varieties of various field and horticulture crops.

Therefore both indigenous and internationally developed breeding material have been widely used in crop improvement programs in Turkey.

In order to promote genetic exchanges and technology transfer, close cooperation is maintained with a number of external organizations as well cooperative research and training programs underway with international research centers and agencies like CIMMYT, CIP, ICARDA, IRRI, INTSOY, ICRISAT, IDRC, USDA, FAO, UNDP, the World Bank and various American universities (Oregon, Nebraska and Montana State).

On the other hand, close contact and good relations have been established with the private sector in testing commercial products and more recently developed hybrids.