



Science Diplomacy in Promoting Agricultural Research and Development in Tunisia



Sihem Soufi*



Sawsen Ayadi**

Introduction

Tunisia is one of the countries forming the Maghrib, the western part of North Africa. It is situated on the northern coast of the continent of Africa with an area of 164,000 square km. Tunisia is among the most westernized state in North Africa.

The national language adopted is Arabic. Before the Arab conquests, Berber was the chief spoken language. Arabic is a Semitic language, related to Hebrew and Aramaic. It is spoken almost universally in Tunisia. After the independence, the Tunisian government reintroduced Arabic, but it maintained its use of French. French is still widely spoken in Tunisia and is consistently used in science, the military, international trade and foreign diplomacy.

Tunisia has adopted the French educational system, which has three levels. First, there is a six-year primary-level programme to be attended by all students. They must pass a major test at the end of their sixth year to enter secondary school. After three years of general education, each student specializes during the final four years of high school. Students who do not go to the third level may enroll in three-year vocational programmes. All schooling, even at the university level, is free. This includes books, school supplies, uniforms, and meals. Classes are in French and in Arabic, with increased emphasis on Arabic. The Tunisia universities were founded by the government to give students the technical knowledge and training needed to engage with rapidly changing global community.

**Post-Doctoral Early Stage Researcher, National Agronomic Institute of Tunisia, Tunisia*

*** Assistant Professor, Tunisian National Institute of Agriculture, Tunisia*

National Tunisian Policy in Higher Education and Scientific Research

Considering the vital role of the Higher Education and Scientific Research to support Research and Development, the scientific research and development has been placed on a higher pedestal in Tunisia; it is one among Tunisian national priorities. This fact is confirmed by the government's decision to progressively increase expenditure on R&D.

Given this political will, during recent years, The Ministry of Higher Education and Scientific Research (MESRST), has shown significant developments on the level of structures, programmes and objectives, contributing effectively to global and sustainable national development country by participating in diversification of productive activities, reinforcing competitiveness of national firms and creating better opportunities for job-creation.

The Ministry represents an essential turning point for the promotion of R&D sector. The policy undertaken by it is relying on young researchers as the source of national wealth and pillar of the country's future. The gate of knowledge and improved employability are open to secondary school graduate to have access to the university. The MESRST is seeking for integration of the country to be participant of global economy. The Ministry is responsible and supervises the national programmes of scientific research. Through a specific research Directorate-General, it supports execution of research programmes inside research laboratories and units through softening of procedures outlining the use of allocated funds to scientific activities of these structures. Other relevant tasks are: promotion of innovation and technological development by supporting innovative firms and underlining the results of research, strengthening partnership between research structures and firms, and giving birth to an ambitious programme for setting up of techno-parks and incubators.

The MESRST aims towards the mobilization of financial resources coming from the public and private sectors, and also through international

cooperation to benefit the sector. It is also involved in the adoption of measures that would further involve Tunisian scientific competencies abroad in identification, execution and evaluation of research programmes of priority. Finally, through the International Cooperation, the Directorate-General participates in research and innovation policy dialogue within MoCo. The organization is operating as InP (Information Point) since the Spring of 2005 within the framework of the Euro-MEDANet project. Also the organization is partner in several EU projects. It participated within the frame of FP6 in EUROMEDANET, FOODNCO, promedaccess, IDEATLIST and ERAMED. In FP7, MESRST coordinated bilateral project ETC, and was an active partner in MIRA, MED-SPRING, ERANETMED, ARIMNET2. The MESRST is the national contact point for the INCO programme within the Seventh Framework Programme.

Science diplomacy to reach sustainable agriculture goals

Tunisia achieved independence from France in 1956, and it placed great emphasis on agricultural research and education. Several institutions pursue agronomical science and biotechnology – five public, seven higher education, five inter-professional and two private ones. There has been an increase in numbers of agronomist scientists, and especially biotechnologists, since 1980s, and qualification status of the country has improved. Agronomical research budgets have risen steadily.

To enhance Tunisian agronomic research programmes, staff training needs to be strengthened, especially in use of science for diplomacy. Collaboration is good, but benefit could be gained from better linkages among numerous national agencies engaged in agronomic research, possibly through a central mechanism.

The most important purpose is that to enhance cooperation with European States as well as American and Asian countries to accelerate the pace of development of national agriculture.

Tunisia has extensive dryland agriculture; where salt, drought and heat are often severe besides many biotic stresses affect wide range of crops. For wheat, barley, grain-legumes and vegetables, numerous crosses have been made and segregating populations could be generated. For other crops, line evaluations have been done at several sites.

Bridge between diplomacy and science

For promoting science diplomacy in Tunisia, first of all we need to build an environment conducive to science-policy interaction, including cross-sensitization of scientists and politicians, and recruitment of science advisors to work with policy-makers. It is necessary also to develop a regional charter for best practices and ethics in research, technology transfer, and science diplomacy in general.

Organizing science communication workshops or trainings on the communication of science would have a big impact to promote science diplomacy. It appears that with the emphasis of tunisian agricultural development cooperation in Africa, currently placed so strongly on productivity and technological modernisation, alternative farming from within tunisia's own agrarian and social policy debates have been left behind as the country makes its leap into Africa.

International science diplomacy

The institutional framework governing Tunisian development cooperation is characterized first and foremost by significant fragmentation. This is in part due to the nature of Tunisian cooperation, particularly its technical assistance dimension, which entails transfer of Tunisian's

own experiences and expertise of its institutions across an array from science and development to politics. There are, therefore, great numbers of institutions – public and non-public – directly involved in the implementation of technical cooperation projects, raising considerable coordination challenges.

In close collaboration with its international network of Partners, the Tunisian gathers a large array of skills and actors (decision-makers, professionals, teachers, researchers, civil society) for developing solutions; combining know-how with the international dimension of teams.

Tunisian cooperation actions mainly focus on:

- Developing rural territories
- Developing agri-food chains and industries
- Supporting decision-making
- Building observatories and information systems
- Supporting capacity-building and governance
- Implementing sustainable management of natural resources
- Enhancing institutional cooperation

Conclusion

Tunisia is a small country but we have science agreements with almost all countries. The problem is that the public, or even scientists, are not aware of these activities unless they are involved. Consequently, we really need to make these collaborations more well-known to scientists, researchers and the public.

A key objective at present is to expand the number of countries engaged in science diplomacy and expand the list of successes. To do that, support from policy-makers and the public is critical. More support can be converted to generate more impact.