



POINT OF VIEW

Enhancing food security through scientific research in Algeria. A novel vision and unified national strategy

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ARTICLE INFORMATION

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According to The State of Food Security and Nutrition in the World 2024, Africa has experienced a concerning increase in moderate or severe food insecurity from 2022 to 2023, compromising the right to access healthy diets (FAO, 2024). While most developing countries strive to ensure food availability and accessibility, Algeria is actively working towards own self-sufficiency, food security and the promotion of healthy food consumption. Recognized as one of the leading countries in the region, Algeria demonstrated significant progress in food security, improving its Global Food Security Index score by 8.4% in 2022 compared to 2012, ranking 24th out of 113 countries worldwide (GFSI, 2022). However, Algeria remains reliant on food imports, particularly for wheat, sugar, and grains.

In recent years, Algerian government has implemented a promising national strategy including agricultural reforms, farmer support, investment incentives, infrastructure development, international collaborations, and a positive export strategy. Additionally, the country has pursued a pragmatic approach to water management including desalination; wastewater reuse and the promotion of Saharan agriculture. These efforts have contributed to a significant increase and diversification of agricultural production and exportation of fruits and vegetables. Notably, the recent USDA report ranked Algeria as the first producer of wheat in the Maghreb region, and the second in Africa.

The historical abundant of durum wheat production in southern Algeria, reaching four (4) million quintals, has covered nearly 80% of the national needs, resulting in significant savings 1.2 billion dollars for the Algerian treasury. Similarly, the national production of fruits and vegetables covers approximately 75% of the domestic market. Nonetheless, the yield of land production remains below an economically viable level. For example, wheat production yields in Algeria in 2024 were estimated at 47 to 51 quintals/hectare in southern regions, and nearly halved in northern regions. To achieve economic viability, the Algerian government has set a target of increasing wheat production yields to at least 55 quintals/hectare. Mastering and improving agricultural technical itineraries appear to be promising solutions, where scientific research can play a crucial role.

The scientific research sector is called upon to contribute effectively to national efforts aimed at achieving the government's objectives of a prosperous, independent and diversified economy. Algerian universities have embraced innovation, the valorization of research products, and citizen action. Three major national research priorities have been identified, called the 3S: food security, health security, and energetic security. In 2021, Algeria announced a multi-year development plan for the implementation of national scientific research and technological development programs (Executive Decree No. 21-89). The primary objective of this plan is to "develop food security, improve nutrition and promote sustainable agriculture". To address these objectives, a national

research program on food security has been launched, with socio-economic targets and scientific objectives (Figure 1). The national research program is planned from 2021 to 2027 at the rate of 50 research projects carried out each year. The national research program “food security” aims to:

- Consolidate a sustainable agricultural policy
- Enhance the production of animal and plant proteins
- Address the challenges of natural ecosystem degradation
- Combat desertification;
- Manage water resources rationally.

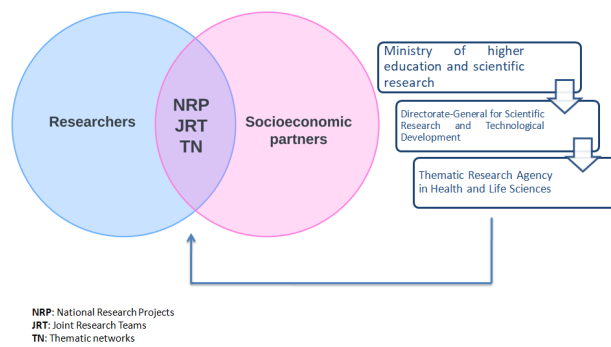


Figure 1. Schematic representation of the Algerian approach to collaboration between scientific research and socioeconomic partners

The launched projects involve collaborative research teams comprised of academics from diverse universities and research centers, as well as socio-economic partners. This collaborative approach aligns with Algeria's strategy to foster genuine partnership between research entities and socioeconomic actors. Besides funding various research activities within each project, all members, including those from the economic sector receive consistent monthly remuneration for a three-year period.

The National Research Projects on Food Security are initiated, monitored, and evaluated by the Thematic Research Agency in Health and Life Sciences, established in 1995. These projects aim to propose pragmatic, viable, and valorizable solutions to address the real needs of the economic sector. Both national research projects, joint teams, and other research activities encompass a wide range of domains on interest, including smart farming, precision irrigation, genetic improvement and selection of plant species, animal production, soil protection and management, marine and continental aquaculture, water resources mobilization, agri-food industries, natural environment protection, and sustainable agriculture.

To further foster collaboration and knowledge sharing, the Thematic Research Agency in Health and Life Sciences has launched “thematic research networks”. These networks serve as platforms defined as “a space whose purpose is to federate skills, pool resources and promote collaborative activities to carry out projects of common interest.” Each thematic network comprises national scientists with proven expertise, national scientists established abroad, research entities; socioeconomic partners, and scientific associations. In 2023, the agency created two significant thematic networks focused on contributing to the country's food security: Saharan agriculture (DZSAHAGRINET) and aromatic and medicinal plants (DZMAPNET).

By adopting this innovative policy, bringing the scientific research sector closer to the economic world and involving socioeconomic partners in state-funded research projects, Algeria is making progress towards achieving food security.

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