



# IMPROVING LIVELIHOOD AND FOOD SECURITY IN AZERBAIJAN THROUGH SUSTAINABLE HAZELNUT PRODUCTION

Agriculture plays a vital role in Azerbaijan, employing over 35 percent of the workforce and contributing 5 percent to the country's gross domestic product (GDP). Hazelnut cultivation, in particular, stands out as one of the most profitable cash crops in the country. Indeed, as one of the world's top five producers, Azerbaijan produced 72 105 metric tonnes of hazelnuts in 2022. Although government incentives have supported the country's hazelnut industry, with subsidies for land, seedlings, fertilizer, machinery and export revenue returns, the sector has faced a number of challenges, including low productivity per ha, unsustainable agricultural practices (high fertilizer and pesticide usage) and crop protection risks, the latter deriving mainly from contamination by aflatoxin, a highly toxic carcinogen. In this context, the present project was formulated to empower smallholder farmers to adopt good agricultural practices (GAP) to increase the production efficiency of hazelnuts, with adapted mechanization technologies and services, as well as to increase the quality of nuts produced, with a specific focus on reducing the risk of aflatoxin contamination. The project also aimed to strengthen the relevant government institutions and state agencies, while fostering links with private sector stakeholders.



## WHAT DID THE PROJECT DO?

The project aimed to improve the hazelnut crop management system and enhance the capacity of farmers and agriculture extension specialists on GAP, food quality and safety requirements. The project was structured around three key outputs, namely (i) the evaluation of hazelnut production and support services and development of initiatives for sustainable production intensification, (ii) evaluation of sustainable bioenergy options in the hazelnut value chain and (iii) improving farmers' capacity on sustainable hazelnut crop management, post harvest handling and safety.

Key project activities included assessing the current state of hazelnut production, support services, extension agents and services, mechanization technologies, and crop protection risks resulting from quarantine pests, as well as increasing the capacity of farmers and relevant government and private bodies, establishing connections with private sector stakeholders, enhancing awareness on aflatoxin issues and standards, assessing potential bioenergy opportunities throughout the value chain and providing strategic recommendations to the government to increase the competitiveness of the sector.

## IMPACT

The expected impact of the project was to improve livelihood and food security in Azerbaijan through sustainable hazelnut production by farmers that meets food safety standards. The project was expected to enhance the overall well-being and food security in the country by promoting sustainable hazelnut production among farmers.

## KEY FACTS

**Latest Approved Budget**  
USD 1 300 000

**Duration**  
June 2020–December 2023

**Resource Partner**  
Government of the Republic of Azerbaijan

**Partner**  
Ministry of Agriculture

**Beneficiaries**  
Hazelnut value chain actors – producers, processors and exporters – in the regions of Balakan, Gabala, Gakh, Khachmaz, Oghuz and Zagatala, as well as smallholder farmers, farm workers and staff from public and private extension services and from research institutions engaged in capacity building

## ACTIVITIES

- Mapping process of hazelnut cultivation conducted using FAO's System for Earth Observation Data Access, Processing and Analysis for Land Monitoring (SEPAL) cloud platform. Data covering 6 000 ha of hazelnut orchards was collected, yielding valuable insights into the current condition of the orchards, the presence of diseases and the need for effective hazelnut orchard management.
- Four technical reports produced (in both Azerbaijani and English) to aid better understanding of hazelnut production in the country. The reports focused on (i) hazelnut farming operations and machinery used throughout the production cycle, (ii) information on aflatoxin contamination of hazelnuts and recommendations for its prevention and reduction, (iii) dominant pests and diseases in hazelnut orchards and quarantine pests, with options for managing them and (iv) GAP in the hazelnut value chain.
- National technical committee established, comprising state and private actors with a common interest in improving hazelnut production and quality.
- Training of trainers (ToT) on GAP conducted, through both theoretical and practical sessions, on aspects including hazelnut orchard management, harvest, drying and dehulling operations and aflatoxins in hazelnut.
- 50 demonstration sites for GAP training established at selected hazelnut collection centres in the target regions and the relevant technical equipment procured.
- Comprehensive report exploring the options for sustainable green energy interventions along the hazelnut value chain produced.
- Report developed on hazelnut policies and strategies for further development of the sector and its competitiveness.
- Molecular-genetic analysis of 11 varieties of hazelnut was carried out at the Genetic Resources Institute.
- Practical training conducted for over 1 300 farmers on issues including GAP, seasonal pruning in hazelnut orchards and preparation and usage of calcium polysulfide solution in hazelnut trees against diseases and fungus.
- Study tour to Türkiye organized in August 2022, with a focus on mechanization systems in hazelnut production.
- Agricultural Mechanization Festival organized, in collaboration with the Agrarian Innovation Centre, to increase awareness on the benefits of using agricultural mechanization along the hazelnut value chain.
- Awareness of relevant institutions regarding aflatoxin contamination increased, mobile aflatoxin testing and data analysis to assess and mitigate levels of aflatoxin contamination introduced.
- As per FAO Strategy for Private Sector Engagement, within the signed implementation agreement with Agrarco LLC, a private company in Azerbaijan's hazelnut sector, the capacity of nearly 90 farmers was increased on different GAP applications.
- The international hazelnut conference on "Unlocking hazelnut potential: Innovative approaches to enhance yield, quality and export volume" was organized to bring together a range of stakeholders to share global experiences, visions and developments in the hazelnut sector.



### Project Title

Catalysing the Efficiency and Sustainability of Azerbaijan's Hazelnut Sector – HAZER

### Project Code

FAO: UTF/AZE/016/AZE

### Contact

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