

CONSERVATION AND SUSTAINABLE USE OF AGRICULTURAL BIODIVERSITY TO IMPROVE REGULATING AND SUPPORTING ECOSYSTEM SERVICES IN AGRICULTURE PRODUCTION IN UZBEKISTAN

Objective:

- To mainstream the conservation and use of fruit tree biodiversity to enhance ecosystem services and thereby improve the resiliency of traditional agricultural production systems in water-scarce landscapes of Uzbekistan.
- To increase area devoted to sustainably managed fruit tree diversity and enhance ecosystem services through greater use of biodiversity in water-scarce agricultural production systems.
- To improve ecosystem resilience through better regulation of pollination service levels, diseases and arthropod pests, land degradation, water use efficiency, and farmers benefit from having increased availability of locally adapted materials.
- To identify the options for national access and benefit sharing laws to support the promotion of ecosystem services within agricultural production systems.

Contribution towards the Sustainable Development Goals:

- **SDG 2 (2.1, 2.3 and 2.4)** : Promotes the availability and accessibility of local fruit tree functional varietal diversity to farmers to use in their production systems;
- **SDG 2 (2.5)**: Recommendations and strategies to promote diversified fruit tree biodiversity in food security, rural development and land management policies at national (Biodiversity strategy) and international (Nagoya Protocol) levels;
- **SDG 5 (5.1 and 5.5)** : Addresses gender factor by engaging female farmers in project activities;
- **SDG 8 (8.2 and 8.3)** : Promotes new income opportunities for farmers through the use of fruit tree varietal diversity;
- **SDG 13(13.3 and 13.5)**: Promotes development and implementation of land management plans for water-scarce and degraded land, which include the use of fruit tree varietal diversity, and farming communities, extension and public government organizations have the capacity and leadership abilities to carry them out;
- **SDG 15(15.1,15.5 and 15.8)**: Promotes expanded use of fruit tree varietal (intra-specific) diversity in adverse and degrade landscapes to improve water use efficiency, reduce pest and disease damage, and increase pollination levels.

Contribution towards the Aichi Biodiversity targets:

- Target 2:** Amendments to existing policies, development strategies and legal frameworks are recommended to better serve the need of vulnerable farmers, including revised Biodiversity Strategy.
- Target 7:** Increased number of hectares in the target sites in three agro-ecoregions of Uzbekistan with biodiversity rich solutions as a substitute for external inputs in these globally important ecosystems;
- Target 8:** Reduction of spread, length and distribution of pest and diseases in project sites, and reduction of pesticide treatments due to on-farm implementation of the systems in place in demonstration plots as diversity rich practices.
- Target 13:** Increased breeding programmes using local fruit tree diversity including Participatory Plant Breeding.
- Target 14:** Development of improved land management plans for water-scarce

Project's results :

- 196 households were surveyed and assessment of intraspecific diversity of 136 varieties of 7 target fruit and nut tree species was carried out in two agro-ecoregions of Uzbekistan. Varieties of fruit and nut tree species resistant to drought, heat, chilling, soil salinity, pests and diseases were identified.
- An in-depth review of current land use in the project sites - 3,000 hectares of agricultural land in water-scarce environments - has been conducted, specific use of the land and limiting factors, such as water scarcity or soil salinity problems, have been documented.
- Community-based systems for multiplication of planting material of fruit tree varieties with functional traits got support through establishment of 19 tree nurseries and 7 mother-tree plantations in farmers' and smallholders' fields.
- Two training centres based on provincial branches of Farmers' Council of Uzbekistan in Khorezm and Surkhandarya provinces are established to increase knowledge of farmers and other groups of stakeholders about importance of fruit tree diversity in sustainable land management, providing ecosystem-regulating services, restoration of degraded lands.



Project sites in Karakalpakstan Republic, Khorezm and Surkhandarya provinces



Training on cultivation technology of target fruit crops seedlings in Surkhandarya province



Apricot fruits

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