

Pre-Establishment Nursery Questionnaire (RESILAND CA+)

This questionnaire has been prepared within the framework of the Uzbekistan Resilient Landscapes Restoration Project (RESILAND CA+), which is implemented by the Agency for Expanding Forests and Green Areas and Combating Desertification under the National Committee on Ecology and Climate Change of the Republic of Uzbekistan. For more information: <https://gov.uz/en/eco>

The questionnaire consists of a total of 13 sections. The first six sections contain explanatory and background information. While it is recommended to read these sections if you have sufficient time, if you are short on time you may proceed directly to Section 7, where the main questions begin.

* Indicates required question

1. Email *

Introduction, Policy Context, Structure, Sources, and Purpose

Constitutional, Strategic, and Operational Framework (2018–2025)

Terminology Note on Presidential Decrees

1. Constitutional and Legislative Foundations (2018–2023)

The establishment, operation, and long-term strengthening of **forestry nurseries in the Republic of Uzbekistan** are firmly embedded in the country's **constitutional and legislative framework**. Forestry nurseries are not conceived as short-term or project-based interventions; rather, they constitute **permanent strategic state infrastructure** essential for environmental security, land restoration, and climate resilience.

At the **legislative level**, forestry activities are governed by the **Law of the Republic of Uzbekistan “On Forest”**, adopted on **16 April 2018 (Law No. LRU-475)**. This law provides the legal basis for forest management, afforestation, seed and seedling production, forest protection, and sustainable use of forest resources. While amendments are under consideration, the 2018 Law remains **fully in force**.

Official text:

<https://lex.uz/docs/-3683529>

At the **constitutional level**, a major transformation occurred with the adoption of the **new edition of the Constitution of the Republic of Uzbekistan on 1 May 2023**. The Constitution elevated environmental protection, sustainable natural resource management, and intergenerational ecological responsibility to **constitutional obligations of the State**, thereby establishing a binding mandate for long-term investments in forestry systems and nursery infrastructure.

Official text:

<https://lex.uz/docs/6451070>

2. Strategic Framework: Uzbekistan–2030 Strategy (September 2023)

Building on this legal foundation, Uzbekistan adopted the **Uzbekistan–2030 Strategy**, approved by **Presidential Decree (UP/PF-158) dated 11 September 2023**.

Official text:

<https://lex.uz/ru/docs/6991208>

Under **Section III: Protection of Water Resources and Environmental Conservation**, the Strategy establishes binding national objectives that structurally depend on a robust nursery and seed system, including:

- Annual planting of **up to 200 million tree and shrub seedlings** under the *Yashil Makon* initiative
- Expansion of total forested land to **approximately 6.1 million hectares**
- Establishment of **600,000 hectares of protective forest plantations**
- Large-scale restoration of degraded lands, including the **Aral Sea region**
- Expansion of **national seed procurement and seedling production capacity**

These objectives generate sustained demand for **high-quality, climate-adapted planting material**, requiring a modern, coordinated, and regionally specialized nursery system.

3. “Yashil Makon” National Greening Framework (November 2023)

The strategic objectives of Uzbekistan–2030 were further reinforced through **Presidential Decree (UP/PF-199) dated 23 November 2023**, entitled:

“On Measures to Further Increase Green Coverage and Ensure Environmental Sustainability through the Consistent Implementation of the ‘Yashil Makon’ National Project.”

Official text:

<https://lex.uz/uz/docs/-6673808>

This Decree institutionalizes *Yashil Makon* as a **long-term national program**, introduces digital monitoring and transparency mechanisms, and explicitly links greening success to **nursery capacity, seedling quality, and post-planting survival rates**.

4. Operationalization through RESILAND CA+ (March 2024)

The national strategy was translated into operational mechanisms through **Presidential Resolution (UP/PF-140) dated 27 March 2024**, entitled:

“On Measures for the Implementation of the Project ‘Restoration of Resilient Forest Landscapes in Uzbekistan’ with the Participation of the International Development Association.”

Official text (English):

<https://lex.uz/en/docs/-6852458>

This Resolution provides the formal legal basis for implementing the **RESILAND CA+ Project**, financed with World Bank participation, establishing institutional, financial, and technical frameworks for nursery development and seed systems.

World Bank Project Page (RESILAND CA+, Project ID P174135):

<https://projects.worldbank.org/en/projects-operations/project-detail/P174135>

5. Environmental Protection and Green Economy Year (January 2025)

Further operational clarity was provided by **Presidential Decree (UP/PF-16) dated 30 January 2025**, entitled:

“On the State Program for the Implementation of the Uzbekistan–2030 Strategy in the Year of Environmental Protection and the Green Economy.”

Official text (English):

<https://lex.uz/en/docs/-7369703>

Annex 7 of this Decree constitutes the **2025 Practical Action Plan**, defining measures, timelines, financing sources, and responsible institutions for environmental and forestry interventions.

6. Annex 7, Article 38: Specialization of Forestry Nurseries (2025–2030)

Within Annex 7, **Article 38** mandates the specialization of **18 state forestry enterprises** in seedling and nursery production for **2025–2030**, based on regional soil, climatic, and geographic conditions.

Article 38 requires:

- Strengthening the **science–project–implementation chain**
- Establishment of **seed laboratories, experimental plots, and mother plantations**
- Genetic analysis, germination testing, and seed certification
- Importation and region-specific allocation of high-performing genetic material
- Creation of intensive demonstration plots and specialized nurseries

This article forms the **production backbone** for achieving afforestation and forest expansion targets (Annex 7, Targets 67–70).

Uzbekistan's Leadership in international arena

On 16 April 2025, the **United Nations General Assembly** adopted a landmark resolution, initiated by **the Republic of Uzbekistan**, proclaiming 2027–2036 as the “**Decade of Action on Afforestation and Reforestation in line with Sustainable Forest Management**”. This resolution constitutes a historic contribution to global forest governance and reflects **Uzbekistan's long-term vision for sustainable land use, climate resilience and ecological restoration**.

By explicitly stating that afforestation and reforestation shall be implemented **“in line with Sustainable Forest Management (SFM)”**, the Resolution establishes that all forest-related actions must be guided by **long-term ecological integrity, economic sustainability and social responsibility**.

The Resolution further **recognizes the multiple values and contributions of forests and sustainable forest management to sustainable development in its three dimensions**, and highlights the wide range of benefits provided by forests, trees outside forests including food security, clean water, provision of wood, fuel and fibre, climate change mitigation and adaptation, biodiversity conservation and restoration, prevention of land degradation and floods, and sand and dust storm mitigation.

In doing so, the UN defines forests not merely as biological formations, but as **strategic assets for human well-being, environmental security and sustainable development**. <https://docs.un.org/en/A/RES/79/283>

This holistic understanding of forests fully corresponds with the **fundamental principles of modern forestry**.

[UNEP/EA.7/Res.10](https://docs.un.org/en/UNEP/EA.7/Res.10) - Resolution adopted by United Nations Environment Programme on

12 December 2025

the preservation of glaciers and the broader cryosphere, particularly in mountain regions is also another important milestone for afforestation/reforestation and restoration. <https://docs.un.org/en/UNEP/EA.7/L.15>

7. Official Instruction B-68 and Launch of Specialized Nurseries (February 2025)

In accordance with Article 38, the **Agency for Expanding Forests and Green Areas and Combating Desertification** issued **Official Instruction No. B-68 dated 26 February 2025**, formally launching implementation and identifying **18 specialized state forestry enterprises** across Uzbekistan’s ecological zones.

This step operationalized nursery specialization and institutional accountability.

8. Institutional Consolidation (May 2025)

Further reinforcement was achieved through **Presidential Resolution (UP/PF-197 / UP/PF-90) dated 30 May 2025**, entitled:

“On Measures for Organizing the Activities of the Agency for Afforestation and Expansion of Green Areas and Combating Desertification.”

Official text (English):

<https://lex.uz/en/docs/-7552003>

This Resolution consolidates the mandate of the **Forestry Agency**, establishes binding benchmarks, and formally designates **nursery development as a continuous state function**.

9. Role of Forestry Nurseries and Operational Instruments

Forestry nurseries constitute **strategic production infrastructure** essential for achieving Uzbekistan’s greening, afforestation, desertification control, and climate resilience objectives.

Within RESILAND CA+, operational instruments such as the **Nursery Questionnaire** and **Nursery Summary Information Sheet** link:

- Constitutional obligations
- National quantitative targets
- Binding presidential decrees
- Site-level planning and investment decisions

10. Strategic Conclusion

The **2023 Constitution, Uzbekistan–2030 Strategy (UP/PF-158), UP/PF-199, UP/PF-16 (Annex 7, Article 38), UP/PF-140, UP/PF-197 (UP/PF-90)**, and the **RESILAND CA+ Project** together form a **coherent, vertically integrated governance framework**.

Within this system:

- The **Forestry Agency** functions as the institutional backbone
- Forestry nurseries serve as the **core production engine**
- Without a modern, specialized, and scientifically grounded nursery system, Uzbekistan's greening and climate resilience targets **cannot be achieved**

National Designation of Specialized Forestry Nurseries (18 Nurseries) and 9 Nurserie

Pursuant to **Annex 7, Article 38 of Presidential Decree (UP/PF-16) dated 30 January 2025**, and further operationalized by **Official Instruction No. B-68 dated 26 February 2025** issued by the **Agency for Afforestation and Expansion of Green Areas and Combating Desertification**, a total of **18 state forestry enterprises** were formally designated as **specialized forestry nurseries** for the period **2025–2030**.

These 18 nurseries collectively form the **national nursery specialization network**, designed to:

- Reflect Uzbekistan's diverse **ecological, soil, and climatic zones**
- Concentrate seed and seedling production according to **regional suitability**
- Strengthen the **science–project–implementation chain**
- Serve as permanent institutional assets rather than project-based facilities

The national network consists of the following nurseries:

Republic of Karakalpakstan

1. Khojayli State Forestry Enterprise
2. Nukus Specialized State Forestry Enterprise

Bukhara Region

3. Gijduvan State Forestry Enterprise
4. Bukhara State Forestry Enterprise

Jizzakh Region

5. Jizzakh State Forestry Enterprise

Kashkadarya Region

6. Shurtan State Forestry Enterprise

7. Kitab State Forestry Enterprise

Navoi Region

8. Navoi State Forestry Enterprise

9. Navbahor State Forestry Enterprise

Namangan Region

10. Namangan State Forestry Enterprise

11. Urtaorol State Forestry Enterprise

Samarkand Region

12. Samarkand State Forestry Enterprise

13. Dargom State Forestry Production Enterprise

Surkhandarya Region

14. Surkhandarya State Forestry Enterprise

15. Uzun State Forestry Enterprise

Tashkent Region

16. Ohangaron State Forestry Enterprise

17. Tashkent State Forestry Enterprise

Fergana Region

18. Fergana State Forestry Enterprise

RESILAND CA+ Pilot Nurseries (9 Nurseries)

Within the national network of 18 specialized nurseries, a subset of **nine nurseries** has been selected for **pilot implementation under the RESILAND CA+ Project**. These nurseries were identified based on **ecological representativeness, institutional readiness, and potential for replication and scale-up**.

The pilot phase aims to develop, test, and refine **technical, operational, and financial models** for nursery modernization prior to nationwide rollout.

The following nurseries were selected for RESILAND CA+ pilot implementation:

Jizzakh Region

1. Jizzakh State Forestry Enterprise

Kashkadarya Region

2. Shahrisabz State Forestry Enterprise

3. Kitab State Forestry Enterprise

Namangan Region

4. Namangan State Forestry Enterprise

5. Urtaorol State Forestry Enterprise

Samarkand Region

6. Samarkand State Forestry Enterprise

7. Dargom State Forestry Production Enterprise

Surkhandarya Region

8. Surkhandarya State Forestry Enterprise

9. Uzun State Forestry Enterprise

Role of the International Consultant (İsmail Belen)

Under the **RESILAND CA+ Project**, **İsmail Belen (International Consultant)** has been engaged to support the **design, upgrading, and preparation** of the nine pilot nurseries. His role encompasses:

- Assessment of existing nursery infrastructure and operational capacity
- Development of **site-specific nursery upgrading concepts**
- Alignment of nursery design with **international best practices** and World Bank requirements
- Support for standardization and scalability across the national nursery network

The pilot nurseries serve as **demonstration and learning platforms**, enabling the Forestry Agency to translate pilot results into **nationwide standards and investment plans** for all 18 specialized nurseries.

Strategic Rationale

The two-tier structure—**18 nationally designated nurseries** and **9 RESILAND CA+ pilot nurseries**—reflects a deliberate “**pilot → scale-up → institutionalization**” approach. This structure ensures that:

- Strategic commitments are grounded in **operational feasibility**

- Public investments are guided by **tested and cost-effective models**

- Long-term nursery development is institutionalized as a **core state function**

Structure of the Questionnaire

The questionnaire is composed of:

- **6 integrated and interlinked thematic Parts**, and a set of core **questions**, comprising a structured combination of closed questions, semi-structured checklists, and descriptive expert assessment items.

The structure has been designed to reflect not only the full technical life cycle of forestry nursery **planning, establishment, operation, upgrading, and long-term operation**, but also the complete decision chain required for **species selection, landscape restoration effectiveness, socio-economic relevance, institutional sustainability, human capacity development, and investment readiness**.

Rather than treating nurseries as isolated production units, the questionnaire adopts a **landscape-scale, demand-informed, risk-aware, and institutionally grounded approach**, consistent with the objectives of the **Uzbekistan–2030 Strategy** and the **RESILAND CA+ Project**.

The six Parts cover the following functional domains:

[1. Administrative, Legal and Strategic Identity](#)

This Part establishes the nursery's legal status, land tenure security, institutional responsibility (Leshoz-level governance), alignment with national strategies and presidential regulations, and coordination with other international and bilateral development initiatives. It provides the foundation for assessing **institutional capacity, regulatory compliance, and implementation feasibility**.

[2. Landscape, Socio-economic and Cultural Context](#)

This

Part situates the nursery within its broader landscape, settlement pattern, cultural setting, and demand environment. It captures ecological site classification, restoration corridor logic, proximity to plantation areas, local heating practices, wood use traditions, cultural relationships with trees, livestock pressure, and existing tree planting practices. This ensures that **species selection and production planning respond to real ecological conditions, livelihood needs, and cultural acceptance.**

[3. Soil, Water, Ecology and Protection Conditions](#)

This

Part assesses the biophysical constraints and environmental risks affecting nursery sustainability, including soil characteristics, water availability and flood risk, energy access, forest crime and grazing pressure, fencing status, protected areas, wildlife presence, and availability of local seed sources and genetic resources. It provides the **environmental risk baseline necessary for resilient nursery design.**

[4. Production System, Diversification and Market Linkages](#)

This

Part focuses on operational and economic viability, covering production capacity, nursery technology (container, bare-root, greenhouse systems), priority species portfolios, medicinal and aromatic plant potential, and linkage to local and regional markets for timber, fuelwood, fruit, shelterbelts, and non-wood forest products. It directly links **nursery outputs to demand-driven restoration, livelihood objectives, and economic relevance.**

[5. Climate Risks, Integrated Assessment and Final Strategic Decision](#)

This

Part synthesizes climate-related stresses (heat, frost, drought), integrates ecological, social, operational, and institutional risks, and culminates in a clear, expert-justified **GO / CONDITIONAL / NO-GO** decision. It ensures that investment and upgrading decisions are **transparent, defensible, and aligned with both landscape restoration goals and implementation capacity.**

6.

Operational Sustainability, Human Capacity and Knowledge Transfer

This

Part focuses on the **long-term sustainability of the nursery beyond the investment and establishment phase**. It assesses norm staffing structures, staff qualifications, training needs, exposure to national and international best practices, mechanisms for continuous learning, knowledge transfer and replication, financial and marketing capacity, institutional ownership, and adaptive management systems. This Part ensures that nurseries are not only technically sound, but also **institutionally resilient, human-capacity driven, financially viable, and capable of serving as demonstration and learning hubs within the national forestry system**.

This

integrated six-Part structure enables a **comprehensive, comparable, and evidence-based assessment** of forestry nurseries, ensuring that:

- site conditions,
- production systems and species portfolios,
- institutional, human, and social contexts, and
- risk, investment, and long-term sustainability considerations

are

systematically linked to **landscape-level afforestation, restoration, climate resilience, and institutional capacity development objectives** under the **RESILAND CA+ framework**.

Integrated Technical and Policy Basis for the Questionnaire

The questionnaire was developed through a comprehensive comparative review and synthesis of internationally recognized technical references, regional best practices, and national policy and technical documents. This integrated approach ensured consistency with global standards in forest nursery management, ecosystem restoration, and climate resilience, while also reflecting Uzbekistan's ecological conditions, institutional arrangements, and strategic priorities.

At the international level, **Forest Nursery Practice**, published by the Forestry Commission of the United Kingdom, served as a foundational technical reference. This publication provides systematic and detailed guidance on nursery planning and layout, seed sourcing and storage, bare-root and container seedling production techniques, soil and nutrient management, pest and disease control, seedling handling, and quality assurance. It represents long-established best practice in professional forest nursery systems and informed the technical structure, terminology, and quality benchmarks applied in the questionnaire.

Links:

<https://cdn.forestresearch.gov.uk/1994/03/fcbu111.pdf>

<https://www.forestresearch.gov.uk/publications/archive-forest-nursery-practice-2ed/>

Good Nursery Practices: A Simple Guide, developed by the World Agroforestry Centre (ICRAF), contributed practical, field-oriented methodologies emphasizing cost-effective, scalable, and adaptive nursery operations. The guide focuses on seedling quality control, substrate preparation, watering regimes, nursery hygiene, pest and disease prevention, and record keeping. These aspects were particularly relevant for designing assessment criteria applicable to nurseries with varying technical capacities under the RESILAND CA+ Project.

Links:

<https://www.worldagroforestry.org/publication/good-nursery-practices-simple-guide>

<https://www.fao.org/3/i2210e/i2210e.pdf>

The **World Bank Forests Sourcebook** provided a strategic and policy-oriented framework linking forest nursery development to broader themes of sustainable forest management, landscape restoration, climate change mitigation and adaptation, governance, and long-term investment planning. This source ensured alignment of the questionnaire with international development standards, results-based financing approaches, and large-scale restoration objectives relevant to RESILAND CA+.

Links:

<https://openknowledge.worldbank.org/handle/10986/20433>

<https://openknowledge.worldbank.org/server/api/core/bitstreams/7c9b7d1a-6c4e-5b6a-9b9e-1b8b9e0b3a8f/content>

At the national level, a comprehensive set of technical regulations and official directives issued by the Republic of Türkiye were reviewed and adapted as technical benchmarks. These documents were selected due to their operational clarity, technical depth, and relevance to semi-arid and continental ecological conditions comparable to those found in Uzbekistan.

The **Directive on Seed and Tree Improvement and Seed Production Activities (Directive No: 7360, Date: 12.12.2024)** establishes principles for seed source identification, genetic improvement, seed collection, processing, storage, and certification. This directive informed questionnaire components related to seed origin, genetic quality, traceability, and long-term resilience of planting material.

Link:

<https://www.ogm.gov.tr/tr/e-kutuphane-sitesi/mevzuat-sitesi/Tamimler/Tohum%20ve%20A%C4%9Fa%C3%A7%20Islah%C4%B1%20ile%20Tohum%20%C3%9Cretimi%20%20%C3%87al%C4%B1%C5%9Fmalar%C4%B1%20Tamimi.zip>

The **Directive on Containerized and Root-Balled Seedling Production Activities (Directive No: 7327, Date: 02.02.2021)** defines detailed technical standards for containerized and root-balled seedling production, including container specifications, substrate composition, irrigation practices, production cycles, nursery hygiene, and quality control procedures. This directive directly informed questionnaire sections addressing nursery infrastructure, production techniques, and seedling quality assessment.

Link:

<https://www.ogm.gov.tr/tr/e-kutuphane-sitesi/mevzuat-sitesi/Tamimler/7327%20Nolu%20Tamim%20Ve%20Ekleri.zip>

The **Directive on Seedling Production and Maintenance Activities (Directive No: 7326, Date: 02.02.2021)** complements containerized production standards by focusing on seedling care, maintenance, hardening, plant health control, and readiness for planting. Its provisions supported the development of evaluation criteria related to daily nursery operations and post-production handling.

Link:

<https://www.ogm.gov.tr/tr/e-kutuphane-sitesi/mevzuat-sitesi/Tamimler/7326%20Nolu%20Tamim%20Ve%20Ekleri.zip>

The **Directive on Private Afforestation (Directive No: 7310, Date: 23.03.2020)** provided a regulatory and operational framework for afforestation initiatives involving non-state actors. This directive informed questionnaire elements related to stakeholder

engagement, site selection, compliance with technical standards, and long-term management planning relevant to restoration partnerships under RESILAND CA+.

Link:

<https://www.ogm.gov.tr/tr/e-kutuphane-sitesi/mevzuat-sitesi/Tamimler/7310%20Say%C4%B1%C4%B1%20%C3%96zel%20A%C4%9Fa%C3%A7la nd%C4%B1rma%20Tamimi%20ve%20Ekleri.zip>

The historical reference **Technical Principles for Operations in Forest Nurseries (1996)** was reviewed to ensure continuity of core nursery principles, including production discipline, labor organization, technical workflows, and quality control approaches that remain relevant despite technological advances.

Link:

<https://www.ogm.gov.tr/tr/e-kutuphane-sitesi/mevzuat-sitesi/Tamimler/Orman%20Fidanl%C4%B1klar%C4%B1nda%20Teknik%20%C3%87al%C4%B1%C5%9Fma%20Esaslar%C4%B1.pdf>

Soil assessment and substrate management components of the questionnaire were informed by **Soil Analysis and Interpretation (Ministry of Agriculture and Forestry of Türkiye, 2025)** and **Regulations on Soil Sampling – TS 9923 (Ministry of Environment, Urbanization and Climate Change of Türkiye, 2025)**, ensuring scientifically sound approaches to soil sampling, analysis, and interpretation.

Links:

https://arastirma.tarimorman.gov.tr/ktae/Belgeler/BGT/Toprak_Analizleri_ve_Yorumlanma_si.pdf

<https://webdosya.csb.gov.tr/db/lab/duyurular/topraktan-numune-alma-mevzuati-ts-9923-20211215114335.pdf>

Broader land-use, rural development, and institutional coordination considerations were supported by documentation from the **General Directorate of Agricultural Reform (2013)**, providing insights into land tenure arrangements, agricultural–forestry interactions, and policy integration.

Link:

<https://www.fao.org/4/a0541tr/a0541tr.pdf>

At the regional level, biodiversity conservation and genetic integrity were guided by the **Guidelines on Safeguarding Native Tree Species for Conservation of Genetic Biodiversity in Central Asia (2021)**. This document informed questionnaire components related to native species selection, provenance control, and conservation of forest genetic resources.

Link:

<https://gonder.org.tr/guidelines-on-safeguarding-native-tree-species-for-conservation-of-genetic-biodiversity-in-central-asia/>

Climate adaptation and restoration planning were further strengthened by the **Guidelines on the Implementation of Nature-based Solutions (NbS) to Combat the Negative Impact of Climate Change on Forestry (2023)**, covering Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Türkiye, Turkmenistan, and Uzbekistan. These guidelines ensured alignment with regionally endorsed NbS approaches and climate-resilient restoration strategies.

Link:

<https://gonder.org.tr/guidelines-on-the-implementation-of-nature-based-solutions-nbs-to-combat-the-negative-impact-of-climate-change-on-forestry-azerbaijan-kazakhstan-kyrgyzstan-tajikistan-turkiye-turkmenistan-and-u/>

Finally, landscape-scale restoration objectives were aligned with **The Guidelines for Ecosystem Restoration for the Aral Sea Region (2024)**, which integrate the UN Decade on Ecosystem Restoration, FAO technical solutions, and native tree species conservation into a unified framework applicable to Uzbekistan and the wider Central Asian region.

Link:

<https://gonder.org.tr/the-guidelines-for-ecosystem-restoration-for-the-aral-sea-region-integrating-un-decade-fao-solutions-and-native-tree-species-conservation-2024/>

Contribution to RESILAND CA+ Nurseries

Together, these international, national, and regional references provide a coherent and robust foundation for the questionnaire, enabling RESILAND CA+ nurseries to apply

internationally consistent technical standards, ensure genetic quality and conservation of native tree species, strengthen climate resilience through nature-based solutions, and improve institutional and operational effectiveness in support of large-scale ecosystem restoration efforts in Uzbekistan.

About İsmail Belen

This questionnaire is implemented under the technical leadership and supervision of **Mr. İsmail Belen**, International Forestry Expert, within the **RESILAND CA+ Project**.

Mr.

Belen is **currently serving as the Chair of the United Nations Forum on Forests (UNFF)** and has more than **30 years of professional experience** in forest management, afforestation, erosion control, land restoration, and climate-resilient landscape planning.

Previously,

he held senior executive and expert positions within Türkiye's forestry and environmental administration, including:

- Deputy
Director General of Forestry

- Deputy
Director General for Combating Desertification and Erosion

- Head
of Department at the General Directorate of Afforestation and Erosion Control

- Senior
Agriculture and Forestry Expert at the General Directorate of Nature Protection and National Parks

The

information collected through this questionnaire will be reviewed under his

technical guidance.

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Webpage <http://www.gonder.org.tr/>

Youtube <https://www.youtube.com/@IsmailBelenTR>

Respondent Information

2. Full Name *

3. Institution *

4. Position / Title *

5. Mobile Phone (Telegram/WhatsApp) *

6. Email

PART 1: ADMINISTRATIVE, LEGAL & STRATEGIC IDENTITY

Purpose

of this Part: To establish the **legal legitimacy, institutional capacity, governance structure, and strategic alignment** of the nursery. This information is essential to determine whether investments can be legally implemented, effectively managed, and sustainably maintained.

7. Province of the Nursery (Viloyat) *

8. District (Tuman) *

9. Mahalla / Settlement / Village *

10. Operating Unit (Leshoz) Name *

11. Name of Leshoz Director *

12. Official Nursery Name *

PART 2: LANDSCAPE, SOCIO-ECONOMIC & CULTURAL CONTEXT

Purpose

of this Part: To ensure **species selection and nursery planning** respond not only to ecological conditions but also to **local demand, livelihoods, cultural practices, and landscape context**.

13. Latitude (decimal degrees) *

14. Longitude (decimal degrees) *

15. Altitude (meters above sea level) *

16. Please upload the nursery map, project and picture

Files submitted:

17. Location map attached *

Mark only one oval.

Yes

No

18. Topography, Slope and Aspect *

Mark only one oval.

- Topography, Slope and Aspect
- Plain
- Undulating
- Sloped
- Terraced

19. Average Slope (%) *

Mark only one oval.

- >10 (%)
- 10-20 (%)
- >20

20. Dominant Aspect *

Mark only one oval.

- North
- North-East
- East
- South-East
- South
- South-West
- West
- North-West

21. Drainage Condition *

Mark only one oval.

Good

Moderate

Poor

22. Erosion Signs *

Mark only one oval.

None

Minor

Significant

23. Wind Exposure *

Mark only one oval.

Low

Medium

High

24. Total Area (hectares) *

25. Net Production Area (hectares) *

26. Area Available for Expansion (hectares) *

27. Covered by approved zoning plan *

Mark only one oval.

Yes

No

Unknown

28. Is there another nursery within 100 km? *

Mark only one oval.

Yes

No

Maybe

29. If yes: *

Mark only one oval.

Distance (km): _____

Annual capacity (seedlings/year): _____

Ownership

State

Private

Mixed

30. Is there a Potential Afforestation or Rehabilitation Area around the nursery (within 100 km) *

Mark only one oval.

Yes

No

31. Native species present over the potential afforestation area *

32. Have any afforestation, erosion control, or land rehabilitation activities been conducted within a 100 km radius of the proposed nursery site? *

Mark only one oval.

Yes

No

Unknown

33. If yes, please indicate the type(s) of activity conducted *

Mark only one oval.

Afforestation

Erosion control

Land rehabilitation

Other (please specify)

34. Are there any settlements located near the proposed nursery site? *

Mark only one oval.

Yes

No

35. Please describe the settlements around the nursery (e.g. nearby villages, towns, population density, proximity to residential areas).

36. What is the main household heating source in settlements surrounding the proposed nursery site? *

Mark only one oval.

- Firewood (wood fuel)
- Coal
- Natural gas
- Electricity
- Mixed sources (combination of the above)

37. **How commonly is wood used in building construction in nearby settlements? ***
(e.g. roofs, doors, windows, beams)

Mark only one oval.

- Common (used in many buildings)
- Limited (used mainly for specific elements)
- Rare (minimal or no use)

38. Are there any wood-based activities or workshops in the surrounding area? *

Mark only one oval.

- Sawmill
- Furniture workshop
- Carpentry / joinery (doors, windows, frames)
- Wood handicrafts (traditional crafts, carving)
- None

39. **Is wood used in historical or cultural buildings in the area? ***

(e.g. mosques, mausoleums, madrasas, heritage houses)

Mark only one oval.

- Significant (structural and decorative use)
- Limited (minor elements or repairs)
- None

40. Please describe any historical or cultural buildings in the surrounding area and indicate whether wood or timber has been traditionally used in their construction or decoration.

41. Where have existing tree plantings been observed in the surrounding landscape, and are these plantings linked to national or regional greening and restoration initiatives (e.g. *Yashil Makon*, regional afforestation programs, or other public initiatives)? *

Check all that apply.

- School grounds
- Cemeteries
- Roadsides
- Field boundaries
- Windbreaks / shelterbelts
- Other (please specify)
- None observed

42. **If any problems have been observed in existing tree plantings, please describe the nature of these problems and indicate any actions that have been taken, are currently being taken, or are required to address them.** *

(For example: drought stress, poor species selection, lack of maintenance, grazing pressure, pests or diseases, water scarcity, soil salinity, or institutional constraints.)

PART 3: SOIL, WATER, ECOLOGY & PROTECTION

Purpose

of this Part: To identify natural constraints, environmental risks, and protection needs affecting nursery sustainability.

43. **Which soil texture best describes the dominant condition at the proposed nursery site?** *

(Based on field observation or local knowledge)

Mark only one oval.

- Sandy (light soil with low water retention)
- Loamy (balanced soil, suitable for most seedlings)
- Clayey (heavy soil with poor drainage)
- Mixed / variable (significant variation across the site)

44. **What is the primary and most reliable water source planned for nursery operations at this site?**

Mark only one oval.

- Surface water (canal, river, reservoir)
- Groundwater (well or borehole)
- Treated wastewater / reclaimed water
- Seasonal or temporary water sources only
- Water source not yet secured
- Combination of sources (primary + backup)

45. **Are any water-related studies, assessments, or reports available for the planned nursery site?**

(e.g. water quality analysis, groundwater assessment, irrigation water availability studies)

Mark only one oval.

- Yes
- No

- 46. Please upload available water-related reports or supporting documents (and photographs, if available).

Files submitted:

- 47. Does the planned water source provide sufficient quantity and reliability to support the intended nursery production capacity throughout the year, including peak irrigation periods?

Mark only one oval.

- Yes, sufficient and reliable year-round
- Sufficient but seasonally constrained
- Insufficient for the planned production scale
- Not yet assessed

- 48. Is any soil analysis or laboratory test available for the proposed nursery site? *

Mark only one oval.

- Yes (soil analysis results are available)
- No (no soil analysis has been conducted)

- 49. **If soil analysis is available, please briefly describe the main results. ***
(e.g. pH level, salinity/EC, texture, organic matter content)

- 50. Please upload available soil analysis reports and, if possible, supporting photographs (e.g. sampling locations, site conditions).

Files submitted:

51. Has the proposed nursery site or its surrounding area been affected by floods or flash floods in the past? *

Mark only one oval.

- None (no known flood events)
- Occasional (rare or irregular flood events)
- Frequent (regular or recent flood events)
- Unknown

52. **If floods or flash floods have occurred, please describe their nature and source.** *

(e.g. river overflow, canal breach, mountain runoff, heavy rainfall)

53. Please provide any additional observations or local knowledge related to water availability, seasonal changes, or flood risks at the site. *

54. **Is grid electricity available at or near the proposed nursery site? ***
(Including connection feasibility within a reasonable distance)

Mark only one oval.

- Yes (grid electricity is available and accessible)
- No (grid electricity is not available)

55. If grid electricity is available, how reliable is the supply? *

(Considering outages during the growing season)

Mark only one oval.

- Reliable (continuous supply with rare outages)
- Moderately reliable (occasional outages)
- Unreliable (frequent or prolonged outages)
- Not applicable

56. What is the overall potential for solar energy generation at the proposed nursery site? *

(Based on sunlight exposure, shading, and available space)

Mark only one oval.

- High (good sun exposure, suitable for solar systems)
- Medium (partial shading or seasonal limitations)
- Low (limited sun exposure or space constraints)
- Unknown

57. Is any renewable energy system currently used or planned for the nursery site? *

Mark only one oval.

- Yes (solar or other renewable energy is used or planned)
- No

58. **Is there any biomass-based energy facility operating in or near the nursery site?**

(e.g. biogas plant, biomass boiler, wood-chip heating system, agricultural or forestry residue-based energy facility)

Mark only one oval.

- Yes, within the nursery site
- Yes, within 10 km
- Yes, within 10–50 km
- No known biomass energy facility
- Unknown

59. If yes, please briefly describe the biomass energy facility/facilities.

60. **Which tree or shrub species could potentially be produced to contribute to biomass energy supply?**

(Select all that apply or specify)

Check all that apply.

- Native and locally adapted species
- Saxaul / Haloxylon spp.
- Native willow species / Salix spp. (riparian vegetation)
- Other native riparian forest species (riverbanks, canals, floodplains)
- Native shrubs suitable for arid or saline lands
- Fast-growing or managed biomass species
- Poplar / Populus spp.
- Paulownia / Paulownia spp.
- Black locust / Robinia pseudoacacia (coppicing species)
- Giant reed / Arundo donax
- Agroforestry systems
- Agroforestry-based biomass species (tree-crop or shelterbelt systems)
- Other (please specify)

61. Please provide any additional comments on energy sources, costs, seasonal constraints, or opportunities for renewable energy at the site. *

62. **Have any forest-related crimes been reported in the area surrounding the proposed nursery site?** *

(e.g. illegal logging, unauthorized tree cutting, wood theft)

Mark only one oval.

- Yes (forest crimes have been reported)
- No (no known forest crimes reported)
- Unknown

63. Are there any official records or known cases of illegal grazing or grazing violations in the area? *

Mark only one oval.

- Yes (official records or confirmed cases exist)
- No (no known records or cases)
- Unknown

64. Please provide any additional comments on security risks, enforcement capacity, or community-related protection issues at the site. *

65. If a protected area is present, please indicate the approximate distance to the site by adding the name *

66. Are there any environmental risks that could affect the long-term operation of the nursery at this site?
(Select all that apply.)

Check all that apply.

- Flooding
 Soil erosion
 Salinization
 Water scarcity
 Extreme temperatures
 Strong winds or sandstorms
 None identified
 Other (please specify)

67. **Which wildlife species are known to be present in or around the proposed nursery site?** *

(Based on observation, local knowledge, or official records)

68. Do wildlife species pose a potential risk to nursery infrastructure or seedlings? *

Mark only one oval.

- Yes (significant risk)
 Yes (minor or occasional risk)
 No significant risk
 Unknown

69. Please provide any additional comments related to legal constraints, wildlife movement, or mitigation measures. *

70. Are there any seed orchards, seed stands, or natural forests located near the proposed nursery site that could potentially serve as seed sources? *

Mark only one oval.

- Yes (seed orchards or natural forests are present nearby)
- No (no known seed sources nearby)
- Unknown

71. **If seed sources are present, to what extent are they suitable for use in nursery seed collection?** *

(Considering species suitability, genetic quality, accessibility, and legal permission)

Mark only one oval.

- Yes (suitable and usable for nursery production)
- Partially (limited suitability or constraints exist)
- No (not suitable for nursery production)
- Not applicable

72. **If seed sources are partially suitable or not suitable, please indicate the main reasons.**

(e.g. poor genetic quality, restricted access, protection status, long distance, irregular seed production)

73. Please provide any additional comments related to seed provenance, genetic adaptation, sustainability, or long-term seed supply for the nursery. *

PART 4: PRODUCTION SYSTEM, DIVERSIFICATION & MARKETS

Purpose

of this Part: To align nursery production with ecological suitability, market demand, and diversification opportunities.

74. If the nursery is currently active and producing seedlings, what is its present operational status?

Mark only one oval.

- Fully operational and producing seedlings regularly
- Operational but producing below its full capacity
- Temporarily inactive, although basic infrastructure exists
- Planned or proposed nursery (not yet operational)
- Not sure

75. What types of planting material are currently produced at the nursery?(Select all that apply.)

Check all that apply.

- Bare-root seedlings
- Containerized seedlings
- Root-balled seedlings
- Cuttings or vegetative material
- Other (please specify)

76. What is the current average annual seedling production of the nursery?

77. What are the main factors currently limiting nursery production capacity?

78. Is there potential to increase the production capacity in the future? *

Mark only one oval.

- Yes (capacity can be increased)
- No (capacity is fixed)
- Unknown

79. Please provide any additional comments related to production planning, investment requirements, or phased development of the nursery. *

80. Are advanced propagation technologies considered as part of the nursery production system?

Mark only one oval.

- In vitro / tissue culture production facilities
- Clonal or elite material propagation units
- Grafting and vegetative propagation facilities
- None of the above planned

81. **Which operational, technical, and support facilities, infrastructure, and equipment are required for effective and sustainable nursery functioning?**

(Please select all that apply. The list below represents typical components of a modern forest nursery system, covering the full process from seed handling to seedling distribution.)

Check all that apply.

- Seed storage, handling, and basic processing facilities (including controlled temperature and humidity, seed drying, cleaning, and short- or long-term storage)
- Seed pre-treatment and preparation facilities (e.g. stratification, scarification, soaking, grading, and treatment of seeds prior to sowing)
- Open-field production areas and seedbeds for bare-root seedlings, including transplant beds and hardening areas
- Containerized seedling production facilities (container yards, benches, trays, closed-root systems)
- Greenhouses or climate-controlled tunnels for propagation, early growth stages, or season extension
- Shade houses or net structures for light control, heat stress reduction, and acclimatization of seedlings
- Substrate preparation, mixing, and storage facilities (soil, peat, compost, sterilization and handling)
- Water supply, storage, and pumping infrastructure (wells, reservoirs, pumps, filtration systems)
- Irrigation systems (drip, sprinkler, micro-sprinkler, or automated irrigation systems)
- Drainage, runoff, and erosion control infrastructure within the nursery site
- Machinery and equipment storage areas (tractors, seeders, transplanters, forklifts, trailers, nursery tools)
- Mechanical workshop and maintenance facilities for repair and servicing of machinery and equipment
- Fuel storage and refueling facilities, where applicable and in compliance with safety regulations
- Fertilizer, pesticide, and chemical storage facilities (secure, ventilated, and segregated storage)
- Biological input storage (biofertilizers, inoculants, beneficial microorganisms)
- Seedling grading, quality control, and inspection areas (sorting by size and quality before dispatch)
- Packaging and labeling facilities for seedlings (bundling, container labeling, traceability)
- Cold storage or temporary seedling holding facilities prior to transport and planting
- Internal roads, loading areas, and logistics zones for efficient movement of materials and seedlings

- Waste management facilities for plant residues, used substrates, containers, and packaging materials
- Composting facilities for recycling organic nursery waste where appropriate
- Administrative and management offices for planning, record keeping, and reporting
- Staff facilities (changing rooms, storage, rest areas, sanitation)
- Training, meeting, or demonstration facilities for nursery staff, technicians, or other stakeholders
- Energy supply and utility infrastructure (grid connection, solar, biomass, or hybrid systems)
- Security, lighting, and monitoring systems (fencing, access control, basic surveillance)
- Other (please specify)

82. Please provide any additional comments on production methods, technology gaps, training needs, or planned improvements. *

83. Are medicinal or aromatic plants traditionally used, collected, or cultivated in the region surrounding the proposed nursery site? *

Mark only one oval.

- Yes (used or cultivated in the region)
- No (not commonly used or cultivated)
- Unknown

84. **If yes, please list the main medicinal or aromatic plant species present or used in the region.** *

(Use local or scientific names if known)

85. **How are these medicinal or aromatic plants currently used or managed?** *
(Select all that apply)

Check all that apply.

- Wild collection from natural areas
- Small-scale cultivation by households
- Commercial cultivation
- Processing or local markets
- Other (please specify)

86. **Do these medicinal or aromatic plant species have potential to be propagated or produced by the nursery?** *

Mark only one oval.

- High potential (suitable for nursery production)
- Moderate potential (possible with some constraints)
- Low potential (limited suitability)
- Unknown

87. Please provide any additional comments regarding market demand, traditional *
knowledge, sustainability concerns, or diversification opportunities related to
medicinal and aromatic plants.

88. **Which types of local or regional demand most strongly influence the choice of *
species for nursery production?**
(Select all that apply)

Check all that apply.

- Firewood (household heating and cooking)
- Construction timber (buildings, carpentry, joinery)
- Fruit and nuts (orchards and agroforestry)
- Windbreaks / shelterbelts (agriculture and land protection)
- Medicinal or aromatic plants (non-wood forest products)
- Other (please specify)

PART 5: CLIMATE, RISKS & FINAL STRATEGIC DECISION

Purpose

of this Part: To integrate all findings into a clear, defensible investment and implementation decision.

89. **Which major climate extremes have been observed in or around the proposed nursery site?** *

(Select all that apply based on recent years or local experience)

Check all that apply.

- Heat stress (extreme summer temperatures)
- Frost (late spring or early autumn frost events)
- Drought (prolonged dry periods or water scarcity)
- Strong winds or sandstorms
- Heavy rainfall or extreme precipitation
- None observed

90. **How frequent and severe are these climate extremes?** *

Mark only one oval.

- Frequent and severe (occur regularly and strongly affect operations)
- Occasional and moderate (occur sometimes with manageable impact)
- Rare or low impact (limited effect on nursery operations)
- Unknown

PART 6: OPERATIONAL SUSTAINABILITY, HUMAN CAPACITY & KNOWLEDGE TRANSFER

Purpose

of this Part: To assess whether the proposed or upgraded nursery can operate sustainably over

the long term by ensuring adequate human resources, institutional capacity, continuous learning mechanisms, financial and market readiness, and structured knowledge transfer aligned with national and international best practices.

91. Is there an officially approved norm staffing structure (norm kadro) for the nursery? *

Mark only one oval.

- Yes (approved and in place)
- Partially (exists but incomplete or not fully approved)
- No (no approved norm staffing structure)

92. If a norm staffing structure exists (fully or partially), please indicate the number of positions by category. *

93. **If staffing needs strengthening or is inadequate, please describe the main gaps or constraints.** *

(e.g. lack of technical staff, insufficient seasonal labor, weak management capacity)

94. Please provide any additional comments related to staffing stability, training needs, turnover risks, or long-term institutional capacity of the nursery. *

95. Do key nursery staff have formal education or certified training in nursery management, horticulture, forestry, or related fields? *

Mark only one oval.

- Yes (most key staff have relevant formal training)
- No (key staff lack formal training in relevant fields)

96. **Which capacity gaps are currently observed among nursery staff? ***
(Select all that apply)

Check all that apply.

- Container seedling production
- Plant health and quality control
- Irrigation and fertigation management
- Climate-smart nursery practices
- Data recording and reporting
- Business and market orientation
- Other (please specify)

97. **Which areas should be prioritized for staff training and capacity development? ***

(Based on current gaps and planned production system)

98. Please provide any additional comments regarding staff skills, learning needs, mentorship opportunities, or institutional support for capacity building. *

99. Is there a documented or formally recognized training and capacity development plan for nursery staff? *

Mark only one oval.

- Yes (documented and currently implemented)
- Planned (under preparation or planned in the near future)
- No (no training plan exists)

100. **Which training areas should be prioritized to support current and future nursery operations?** *

(Please rank mentally if possible; select all that apply)

Check all that apply.

- Modern container nursery techniques
- Seed and genetic resource management
- Climate-resilient species production
- Nursery automation and greenhouse management
- Monitoring, documentation, and reporting
- Occupational health and safety
- Other (please specify)

101. **Which training delivery mechanisms are foreseen or preferred for staff capacity development?** *

(Select all that apply)

Check all that apply.

- On-site training (at the nursery)
- National training centers or institutes
- International study visits or exchanges
- Online or blended learning
- Other (please specify)

102. If a training plan exists or is planned, please briefly describe the expected timeframe and sequencing of training activities. *

103. Please provide any additional comments on training needs, institutional support, partnerships, or constraints related to staff capacity development. *

104. **If applicable, please indicate priority countries, regions, or nursery systems considered most relevant for learning and benchmarking.** *
(e.g. countries with similar climate, advanced nursery technology, or large-scale restoration programs)

105. Is there institutional support to ensure that knowledge gained from study visits is systematically shared and applied? *

Mark only one oval.

- Yes (clear mechanisms and support exist)
- Partially (informal or limited mechanisms)
- No (no clear mechanisms in place)
- Unknown

106. Please provide any additional comments related to international exposure, partnerships, or constraints affecting knowledge transfer and benchmarking. *

107. Can this nursery realistically serve as a demonstration and learning site for other forestry units or nurseries? *

Mark only one oval.

- Yes (fully suitable as a demonstration site)
- Potentially (suitable with some improvements)
- No (not suitable as a demonstration site)

108. Approximately how many nurseries or forestry units could benefit from this nursery each year through knowledge transfer or demonstration activities? *

109. If the nursery is considered fully or potentially suitable as a demonstration site, please describe any key conditions, investments, or institutional support required. *

110. Please provide any additional comments related to scaling, replication, partnerships, or long-term learning impacts. *

111. **What are the expected main sources of funding to cover the nursery's operational costs after establishment?** *

(Select all that apply)

Check all that apply.

- State budget allocation
- Project-based or donor funding
- Sale of seedlings
- Service provision (training, consultancy, technical support)
- Mixed funding model (combination of the above)

112. After the establishment phase, what proportion of annual operational costs is expected to be covered by the nursery's own revenues? *

Mark only one oval.

- Less than 25%
- 25–50%
- 50–75%
- More than 75%

113. **What are the main financial risks that could affect the long-term sustainability of the nursery?** *

(e.g. insufficient budget allocation, low seedling sales, delayed payments, rising operational costs)

114. Please provide any additional comments related to financial planning, revenue diversification, cost control, or funding stability. *

115. **Is there a defined mechanism to assess and forecast annual demand for seedlings?** *

(From public programs, farmers, private sector, or other buyers)

Mark only one oval.

- Yes (formal mechanism based on data or contracts)
- Informal (based on experience or ad hoc requests)
- No (no structured demand assessment)

116. **Which marketing and demand-response capacities require strengthening at the nursery?** *

(Select all that apply)

Check all that apply.

- Demand forecasting
- Species portfolio adjustment in response to demand
- Pricing and cost calculation
- Client communication and outreach
- Contract-based production and sales
- Other (please specify)

117. Please provide any additional comments on market access, buyer relationships, pricing challenges, or opportunities to improve demand-driven production. *

118. Please provide any additional comments related to leadership stability, institutional risks, or actions needed to strengthen long-term commitment and continuity. *

119. Please provide any additional comments on learning from experience, use of data, or challenges in monitoring and improving nursery performance. *

120. **What is the intended long-term role of this nursery within the forestry and landscape restoration system?** *

(Select all that apply)

Mark only one oval.

- Core production nursery (main source of seedlings)
- Specialized container nursery (high-quality or climate-resilient seedlings)
- Genetic resource hub (seed sources, improved material, provenance control)
- Training and demonstration center (capacity building and knowledge sharing)
- Regional support facility (supporting multiple forestry units)
- Other (please specify)

121. **How well is the nursery aligned with future national afforestation and landscape restoration targets?** *

(In terms of species, production scale, quality, and location)

Mark only one oval.

- Strong (clearly aligned with national priorities and targets)
- Moderate (partially aligned, some adjustments needed)
- Weak (limited alignment with future targets)

122. **Please provide any additional comments on the future vision, strategic importance, or risks affecting the long-term role of the nursery.** *

- 123. **What are the key conditions, actions, or supports required to ensure or improve the long-term sustainability of the nursery?** *
(e.g. stable funding, staff retention, training, infrastructure investment, institutional commitment)

- 124. Please provide any final remarks or recommendations regarding the long-term sustainability and resilience of the nursery. *

125. Thank you for completing this questionnaire.

Your careful input and institutional perspective are highly appreciated. The information provided through this assessment will directly support evidence-based decision-making for the planning, design, and investment preparation of forestry nurseries in Uzbekistan.

By contributing to this process, you are helping ensure that nursery development efforts are aligned with national greening and restoration priorities, technically sound, and capable of delivering long-term public and environmental benefits.

We thank you for your cooperation and valuable contribution.

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