

DOI: <https://doi.org/10.5281/zenodo.13924064>

THE ROLE OF UNIVERSITIES IN THE NATIONAL PROJECT “GREEN SPACES” AND “GREEN ENERGY”

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Abstract: *The paper analyses the current situation with planting trees and reforestation goals achieved globally as well as studies held in this matter in different countries. Further, national project “Yashil makon” (Green space) of Uzbekistan is discussed from this perspective in the example of Denau institute entrepreneurship and pedagogy.*

Key words: *seedling production, reforestation, green spaces, carbon dioxide, national project “Yashil makon” (Green space).*

Planting trees has quickly emerged as a seemingly simple way to soak up carbon emissions. Everybody likes it: Environmentalists, politicians, and corporations alike are pushing for a rapid expansion of reforestation efforts to help meet climate goals. This means growing trees—and lots of them—with the expectation that they’ll capture and store carbon dioxide and help prevent it from warming the world beyond the Paris Agreement target of 3.6 degrees Fahrenheit (2 degrees Celsius) above pre-industrial temperatures.

But according to a new study in the journal *Frontiers in Forests and Global Change*, there aren’t enough tree seedlings currently being grown, and if reforestation efforts are to help tackle climate change, the study finds, tree nurseries should increase their production to more than double current levels. This needs to happen “sooner than later,” said the study’s lead author, Joe Fargione, science director for The Nature Conservancy’s North America Region. “You can’t plant a tree until you grow it. And you can’t grow it in the nursery until you have the seed.”

Ramping up seedling production that much, and making sure they live long enough to trap enough carbon emissions, will cost tens of billions of dollars, according to the study. It will require training specialized seed collectors and investing in new infrastructure, as well as bolstering long-term monitoring to ensure forests survive in the face of pests, disease, drought, and wildfires—threats that are all on the rise because of climate change.

Beyond individual corporate or local goals, growing trees can contribute something to national climate targets. The land sector—which includes everything from tree planting and avoiding deforestation to increasing the amount of carbon stored in soils—accounted for a small portion of the national governmental commitment. The current rate of reforestation, however, can't even keep up with the amount of land that has been burned by devastating wildfires in recent years. Climate change is only expected to make wildfires more intense, which will increase that backlog. “We're just now recognizing the increasing backlog of areas that need to be planted that aren't being met yet,” said seed ecologist and study co-author Olga Kildisheva, a project manager at The Nature Conservancy.

Planting more trees to offset carbon emissions will further increase demand for seedlings. The good news, said Fargione, is that only a third of public and private nurseries surveyed are currently operating at full capacity. That means there's a big opportunity to expand.

Boosting seedling production and planting them means increasing support and investment across the entire process. As the study found, there has been “chronic under-investment” in specialized labor, infrastructure, and training. “Workforce challenges,” said Sprague, “are the number one barrier to scaling up.”

Seed collectors need to understand everything from predicting when certain species will release their seeds—making them available to gather—to how to safely clean seeds. Staff then need to be trained on how to test the seeds' quality and store them so they stay viable over the years. “It's a perishable product; it needs to be treated carefully,” said study co-author Greg Edge, a forest ecologist with the Wisconsin

Department of Natural Resources' Forestry Division. Yet the number of people specializing in this work continues to dwindle.

Nurseries, meanwhile, rely only on a handful of year-round staff; the rest are seasonal workers who help with sowing, harvesting, sorting, and packing. It can be difficult to attract these workers, though, due to the remote locations of many nurseries, as well as competition from other agriculture jobs. Immigration policies can also affect the number of available workers, the study noted.

A tree-planting campaign with stable, long-term funding—whether national or private—could provide nurseries the certainty they need to ramp up production, experts agreed. And even a tree-planting campaign can be doomed by a “misplaced emphasis on how many trees are planted rather than how many survive,” the study warned. It calls for developing guidelines on what seeds will thrive in different environments, especially as climate change shifts plant species to new regions.

The nationwide project "Yashil makon" (Green space) initiated by the President of Uzbekistan in November 2021 envisages planting 1 billion seedlings of trees and shrubs throughout the country over the next five years, as well as increasing the area of green areas and parks from 8 % to 30% by 2026.

The nationwide program "Yashil makon" is published on the UN electronic platform as an exemplary project for achieving the Sustainable Development Goals. Detailed information about the Yashil Makon program has been posted on the SDG Acceleration Actions platform of the UN Department of Economic and Social Affairs.

The concrete results of the project implementation for one year are given - the creation of 535 hectares of forest plantations and 638 hectares of public parks.

It describes in detail the ongoing purposeful work to: improve the management system in the field of planting and caring for trees; conducting research to determine the soil and climatic conditions of the regions; increase in the number of nurseries; strengthening responsibility for damage and destruction of trees, further increasing public control.

The expected contribution of the project to the implementation of the Sustainable Development Goals is highlighted separately. “This ambitious and far-reaching program is helping to accelerate the achievement of various SDG targets at the local, national and regional levels,” the publication says. As noted, the section on the Yashil Makon project will be regularly updated as the goals and milestones are achieved.

The UN Platform for Action to Accelerate the SDGs is a database of innovative and pioneering projects aimed at accelerating the implementation of the Sustainable Development Goals. It is designed to inspire and mobilize practical action by the global community to advance the SDGs, ensure a sustainable and inclusive recovery from the COVID-19 pandemic.

It should be noted that the projects registered in the register of this platform will be demonstrated at key international events, including the annual High-Level Political Forum on Sustainable Development, the ECOSOC Partnership Forum, and will also be actively promoted in social networks.

Our educational institutions encouraging and supporting the education and training sector to take action for a greener, more sustainable future and to build the sustainability competences of learners. Support for the green and digital transitions is a priority area for DIEP in education.

The move to a climate-neutral earth will have significant social, economic and employment impacts. A socially just transformation needs people to have the knowledge, skills and attitudes to shape and cope with profound change. Education and training systems and institutions can act as catalysts and support a shift to a more sustainable society.

A wide range of initiatives and actions on the environment and sustainability are taking place in education and training across Uzbekistan. They reflect progress and growing public interest, but more needs to be done so that learning for sustainability becomes a systemic feature of education policy and practice in the Uzbek educational sphere.

Higher education institutions all around the world play an important role in the national project "green space and green energy." The national project is designed to improve the environment and reduce energy consumption. Higher education institutions are responsible for developing and implementing new technologies to improve energy efficiency and sustainability. They also play a role in outreach and education, raising awareness of the importance of green space and green energy. So, on the initiative - the "Green Space" project is being implemented in our country from March 1, 2022. At the level of the newly opened institute in Denau District, the "Green Space" project was actively participated in by the residents of the district, the management staff, teachers and students of the Denau institute of Entrepreneurship and Pedagogy and contributed to this good project. The project was planned to two seasons (autumn, spring). On the first season, about 6000 trees were planted with ornamental trees and shrubs in 2022. It is planned to plant 10,000 thousand saplings in the spring season of 2023, and according to March 9, 2023 report, a total of 7,335 fruit and ornamental seedlings and 1,500 poplar and rose cuttings were planted. A modern eco-garden will also be built at the institute. In addition, A 50kW solar panel was purchased and installed for use in the buildings of the institute. Installation of solar panels to education buildings (50 kW), the building of the Information Resource Center (35Kw), the building of Pedagogy Faculty (50kW) are planned for the 2nd quarter of 2023. In addition, the installation of 14 units of water heating stations with solar panels is planned for the 3rd and 4th quarters of 2023. The use of renewable energy will not only save limited energy resources, but also contribute to the stability of our economy. As well as, Increasing the supply of renewable energy would allow us to replace carbon-intensive energy sources and significantly reduce global warming emissions. Projects on the establishment of "green spaces" and "green energy" are being implemented in all universities in Uzbekistan and practical work on their implementation is underway.

Sustaining healthy and functioning green areas are natural assets or natural capital which are interconnected and provide services which are of significant value to sustaining local and global economies.

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