AGÜ

2022
Sustainability Report
SDG15

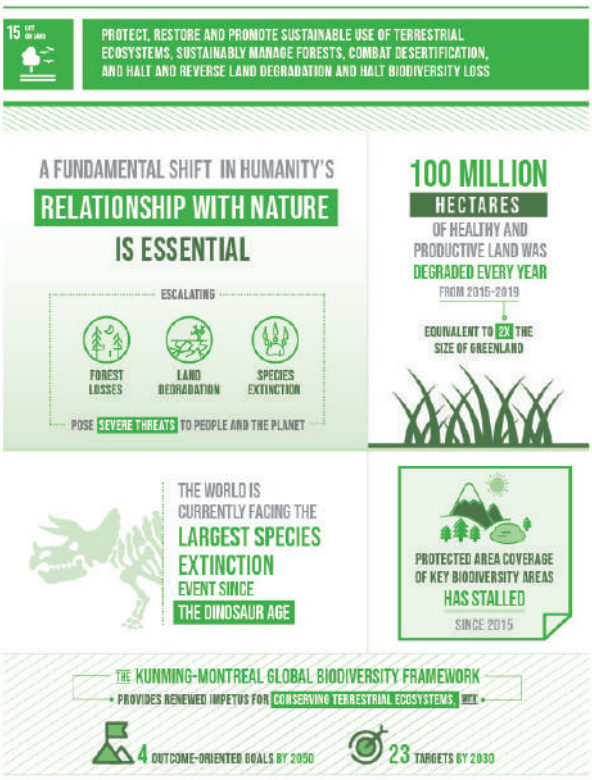
ABDULLAH GÜL
UNIVERSITY

SUSTAINABLE DEVELOPMENT GOALS

SDG15: Life on Land

SDG 15 aims to **protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss**.

Continued global deforestation, land and ecosystem degradation, and biodiversity loss pose major risks to human survival and sustainable development. Even as efforts are made in the domain of sustainable forest and natural resource management, commitments and instruments designed to protect, restore and sustainably use forests and biodiversity need to be urgently implemented to ensure healthy, resilient societies.



[1]

The world's forest area continues to decrease but at a slightly slower rate compared with previous decades. The proportion of forest area fell from 31.9 per cent of total land area in 2000 to 31.2 per cent of total land area in 2020. Despite the overall loss of forest, the world continues to progress towards sustainable forest management. Between 2010 and 2020, the share of forests under certification schemes, the proportion of forest within a protected area and the proportion of forests under a long-term management plan increased globally.

[1] *https://sdgs.un.org/goals/goal15*

Safeguarding key biodiversity areas through the establishment of protected areas or other effective area-based conservation is an essential contribution towards Sustainable Development Goals 14 and 15. Globally, this coverage of marine, terrestrial, freshwater, and mountain key biodiversity areas has increased from about one quarter of each site on average covered by protected areas 20 years ago to nearly half of each site covered in 2021.

Vegetation coverage of the world's mountains remains roughly stable at approximately 73 per cent since 2015. Disaggregated data by mountain class shows that green cover tends to decrease with mountain elevation, evidencing the strong role of climate in mountain green cover patterns.

By February 2022, 129 countries had committed to setting their voluntary targets for achieving land degradation neutrality, and in 71 countries, Governments had already officially endorsed those targets. Overall, commitments to land restoration are estimated at 1 billion ha, out of which over 450 million ha are committed through land degradation neutrality targets.

The Red List Index shows continuing deterioration in terms of species extinction risk around the world, based on repeated assessments of the extinction risk of all amphibians, birds, mammals, corals and cycads, representing about 25,000 species in total. The index went from 0.80 in 2000 to 0.72 in 2022. The prevalence and rate of extinction risk are particularly severe in Central and Southern Asia, Eastern and South-Eastern Asia and small island developing States. COVID-19 pandemic impacts on species extinction risk are likely negative mainly because of reduced conservation capacity and resources, along with increased threats.

At the end of 2021, 68 countries had at least one legislative, administrative or policy measure in place to ensure the fair and equitable sharing of benefits arising from the use of genetic resources and associated traditional knowledge in accordance with the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization to the Convention on Biological Diversity. Furthermore, 79 countries reported measures in place to implement the International Treaty on Plant Genetic Resources for Food and Agriculture.

Nearly all countries (98 per cent) have adopted national legislation relevant to the prevention or control of invasive alien species, although there is wide variation in the coverage of this legislation across sectors.

There has been a steady upward trend in the number of countries incorporating biodiversity values into national accounting and reporting systems. Most countries have established national targets in relation to Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity 2011–2020. However only about one third of countries are reporting that they are on track to reach or exceed their national targets. Despite progress, Target 2 was not met by 2020.

As of March 2022, 89 countries and territories had implemented the System of Environmental-Economic Accounting (SEEA) to make nature count in policies and build back better through accounts for natural resources and/or ecosystems. This number is unchanged from 2021. Four countries started compiling the newly adopted SEEA Ecosystem Accounting in 2021.

In 2021, a total of 234 biodiversity-relevant taxes are in force, spanning 62 countries. While these policy instruments provide incentives for sustainable consumption and production and thus to conserve and sustainably use biodiversity, they also generated revenue in the order of $8.9 billion per year (2017–2019 average).

In 2020, the official development assistance of members of the Development Assistance Committee of the Organisation for Economic Co-operation and Development in support of biodiversity was $7.2 billion, an increase of 3 per cent in real terms over 2019.[2]

AGU'S POLICIES AND PRACTICES

According to the Turkish Ministry of Culture and Tourism, Abdullah Gül University (AGU) is located on a protected site (historical heritage of Sümerbank Textile Factory) and declared as a 1st Group Immovable Cultural Property. Thus, most of the buildings located on the factory land have been registered as 1st or 2nd group buildings as a result of the decisions taken. In this direction, the Sümer Campus continues to be protected and repaired in accordance with Law No. 2863 on the Protection of Cultural and Natural Assets.

Sümerbank Factory

The Turkish Ministry of Environment and Urbanization introduced the Zero-Waste Regulation on July 12, 2019, regarding waste minimization in our country. In this direction, a "Zero Waste" project has been launched in coordination with the Ministry of Environment and Urbanization. Furthermore, AGU's Strategic Plan 2018-2022 contains a policy on reducing AGU's environmental footprint and hazardous materials

[1] *https://unstats.un.org/sdgs/files/report/2022/secretary-general-sdg-report-2022--EN.pdf*

on campus and establishing recycling systems. With this in mind, the AGU Waste Management Committee was established and introduced several directives and principles towards those targets. AGU Technology Transfer Office (TTO) and Waste Management Committee have also published Carbon Footprint and Waste Management Reports. As a result of its efforts, AGU was awarded a Zero-Waste Certificate in 2020. As of the certificate date, AGU is the first university in Kayseri to receive a zero-waste certificate. Also, The inventory of Greenhouse Gas emissions of AGU has been verified in accordance with ISO 14064-3:2019 as meeting the requirements of ISO 14064-1:2018.

AGU has created its own Hazardous Waste Disposal Policy and committed to safely and responsibly managing hazardous waste generated on campus. This policy establishes the process and practices for the proper disposal of hazardous materials to protect the health and safety of the university community and minimize environmental impact. This policy applies to all university departments, laboratories, research facilities, and other areas where hazardous materials are generated or used. AGU identifies Hazardous Waste as any material that meets the criteria for classification as hazardous, including but not limited to chemicals, solvents, batteries, electronic waste, and biological waste.

AGU has a Reducing the Use of Plastics and Disposable Items Policy. With this policy, AGU is committed to reducing the amount of plastic and disposable (single-use) products on its campus. It continues its efforts to reduce the use of plastic and disposable materials instead of plastic cups in all its activities and services and to find positive solutions to reduce unnecessary waste on its campus. For this purpose, the AGU Waste Management Committee carries out annual monitoring and reporting of plastic consumption in accordance with the Control of Packaging Waste Regulation No. 38745 and the AGU Waste Management Directive and Implementation Principles.

AGU created a Sustainable Use Conservation and Restoration of Land Policy to provide a systematic framework for conservation and restoration commitments and to provide environmental sustainability. Furthermore, this policy not only aims reducing human impact on the nature but also take actions for sustainable development. AGU focuses on both creating awareness and making life on campus sustainable without disturbing the surrounding ecosystem. With this policy, AGU aims to support the protection, improvement and sustainable use of natural and artificial ecosystems, to prevent the loss of biological diversity, to stop and reverse the land degradation and to sustainably manage and protect the marine and coastal ecosystems that ITU campuses are associated with from pollution in AGU Sumer Campus.

AGU has also created a policy to identify, monitor and protect any IUCN Red Listed species and national conservation list species with habitats in areas affected by the operation of our university. AGU intends to more effectively direct the creation and application of legislation in response to the IUCN classification of a species as threatened by establishing this policy. AGU also meant to encourage research related to endangered species.

Our University recognizes the detrimental effects of alien species on ecosystems and biodiversity. AGU committed to minimizing the introduction and spread of alien species and mitigating their environmental impact. AGU has created its own Alien Species Management Policy to maintain the health and integrity of ecosystems, protect biodiversity, and mitigate the negative impacts of invasive species on both natural and human systems. This policy aims to guide our organization in implementing effective measures for the prevention, monitoring, and management of alien species. Our organization will take proactive measures to prevent the introduction of alien species into our facilities and surrounding areas.

AGU uses a precise system to treat wastewater and reuse the purified end product in its toilet flushing system in order to reduce its consumption of drinking quality water. The usage of this Grey Water Treatment System has contributed to AGU's being awarded the LEED Silver Award in 2015. Moreover, all tap water on campus is potable, and water quality checks are conducted regularly. AGU sends its wastewater to Kayseri Advanced Biological Wastewater Treatment Plant. Domestic and Industrial wastewater reaching the KASKI's (Kayseri Water and Sewage Administration) Treatment Plant is treated in a way that does not cause any environmental problems, and the sludge from the facility is safely removed. Kayseri Advanced Biological Wastewater Treatment Plant provides the removal of nutrients such as nitrogen (N) and phosphorus (P) that cause pollution in water resources, as well as carbon in wastewater.

AGU's technical procurement and contract with a private company include combating pests on campus, checking conditions of chemicals used on campus (once a month, controlled every 15 days), and regulations to preserve campus from harmful species. In addition, AGU's Technical Specifications for Food Procurement is provides purchasing food from trusted, local companies, which partner with suppliers working with farmers and producers. Also, online Sustainability Survey was organizes for suppliers to monitor and support the sustainability of the university's suppliers and to see where they focus annually in AGU.

The Young TEMA Club is a student club established at AGU under the umbrella of the TEMA Foundation with the aim of contributing to young people to become individuals who are sensitive to the problems of the environment they live in and have an ecological perspective. Young TEMA organizes many events throughout the year on the sustainability of ecology.

AGU PROGRESS

Number of Courses Offered	Number of Students Enroll the Course	Number of publications	Number of Dissertations	Number of projects
3	1463	7	5	2

RESEARCH AND PROJECTS

AGU aims to ensure life on land by conducting a lot of research and projects. Some of the projects, publications and dissertations carried out by AGU in this area are shared below.

Project Title	Project Members	Organization Supporting the Project	Date
A Guideline for methodology development for the land-use modelling applications using the METRONOMICA Model: A case study of the Pendik District, Istanbul	Eda Ustaoğlu, Arif Cagdas Aydınoğlu	TUBITAK	2022
Optimization of Energy Efficiency in Water Supply Systems with Hybrid Methods Project	Bahriye Akay, Rıfat Kurban, Derviş Karaboğa	TUBITAK	2022

Projects conducted at AGU in 2022

Publication Title	Author(s)	Collaborating Universities	Journal Name	Publication Date
A Review on Drought Analysis Studies in Turkey	Yasemin Deniz Öztürk, Ramazan Ünlü	Artvin Çoruh University, Abdullah Gül University	Journal of Disaster and Risk	2022
Prediction of Linear Cationic Antimicrobial Peptides Active against Gram-Negative and Gram-Positive Bacteria Based on Machine Learning Models	Ummu Gulsum Soylemez, Malik Yousef, Zülal Kesmen, Mine Erdem Buyukkiraz, Burcu Güngör	Muş Alparslan University, Zefat Acad Coll, Erciyes University, Kapadokya University, Abdullah Gül University	Applied Sciences-Basel	2022
Factors determining agricultural land conversion in the EU	Eda Ustaoğlu	Abdullah Gül University	10th International Academic Conference on Economics, Business, Technology and Social Sciences	2022

Publications published in 2022

Thesis Title	Author	Master/ Doctoral	Completion Date
A methodology for assessing the continuity of cultural landscapes in collective memory: Kayseri Derevenk, Gesi and Koramaz Valley Settlements	Ö. K.	Doctoral	2022
Developing a biological solution to agricultural problems from industrial waste	D. B.	Master	Ongoing
Forest Fire Detection at Night from Video	A. K. A.	Doctoral	Ongoing
Using Data Mining Methods in Forest Fires	M. T.	Doctoral	Ongoing
Analytical Policy Development for Sustainability in Agriculture by Combining Operations Research and System Dynamics	T. D.	Doctoral	Ongoing

Dissertations in progress and completed in 2022

• **AGU Bostan**

AGU has been involved in various sustainability projects, including "AGU Bostan" (AGU Garden). The main target of the project, to be realized on an 800-square-meter area on the Sümer Campus, is designing an ecological, sustainable, and public campus experience. The project's originality lies in the desire to continue the production tradition on the AGU Sümer Campus. In order to protect and expand the existing ecosystems and biodiversity of threatened ecosystems, activities are carried out by planting ancestral seeds as part of the AGU Garden Project. Ancestor seeds have been used since ancient times and enable the products obtained from the field to be used again as seeds the following year. Clustered around the principles of green campus and neighborhood, the project is to be realized in collaboration with the Kayseri Kocasinan District Municipality and aims to include residents, students, civil society organizations, and AGU members for a participatory designing experience. During the implementation of this project, AGU disseminates knowledge on sustainable and ecological design via training and workshops to the local community.

In addition, AGU's Department of Architecture has an environment-oriented platform for alternative architectural experiences known as "Arch | for | Earth." The platform features a series of workshops and seminars, where local/natural/waste materials and components are handled within the scope of traditional/contemporary construction and construction technologies focusing on environmentally friendly design, and on-site construction practices based on co-production and discussion.

AGU Bostan

• **Rural Architectural Heritage Sites and Cultural Landscape of Kayseri: Neighborhoods of Karahüyük, Mancusun, and Ispidin**

The Department of Architecture also has an ongoing project, "Rural Architectural Heritage Sites and Cultural Landscape of Kayseri: Neighborhoods of Karahüyük, Mancusun, and Ispidin," running since 2019. Led by Prof. Dr. Nilüfer Yöney, Bahar Elagöz Timur, Özlem Kevseroğlu, and Gülsüm Oygur, the project is within the category of Projects Supported by Higher Education Institutions.

• **Kerkenes Project**

AGU is also involved in the archeological "Kerkenes Project." Kerkenes Mountain in Yozgat Province of Central Turkey was briefly the subject of archaeological investigations by the University of Chicago in the 1920s. In 1993, Geoffrey and Françoise Summers began a new research program, including excavations and geophysical surveys. The current project has continued and expanded upon this work, revolutionizing researchers' understanding of this important ancient city. This project aims at conducting excavations and geophysical surveys on the remains of this major Iron Age city.

• **Climate Ambassadors Movement Project**

Türkiye became a party to the Paris Agreement in the second half of 2021 to strengthen national contributions to the fight against global climate change. Türkiye also announced its 2053 net-zero emission target and green development policy. In this context, the Ministry of Environment, Urbanization and Climate Change also declared that young people should be a part of Türkiye's green transformation, and the "Climate Ambassadors Movement Project" was implemented by establishing official contacts with all national universities. Yunus Yıldız, one of AGU's students, was chosen as the Climate Ambassador for this project.

Climate Ambassadors Movement Project

EDUCATIONAL PROGRAMS AND COURSES

As a research university seeking solutions to global challenges and aiming at educating citizens who can contribute to societies and shape the future, AGU developed an innovative Global Challenge Curriculum (GLB) composed of one mandatory course and several elective courses taught throughout the four academic years at the undergraduate level. For example, in AGU's GLB301: Sustainability course, the bio-based economy is explored with students. In the Civil Engineering CE 474 course, students explore "Engineering for Sustainability" and in CE 475 course students also explore "Water and Wastewater Treatment Engineering." Moreover, all AGU courses are open to non-AGU community members.

AGU students also exhibited their projects as a part of the "GLB 301 Sustainability" course. The students worked on these projects to understand the concept of sustainability, become knowledgeable on the topic, identify and evaluate sustainability-related problems, and develop critical thinking skills.

Sustainability Projects presented by AGU Students

The World Around Us course is offered to students studying foreign language preparatory courses at AGU. The aim of the World Around Us course is that by the end of this lesson students will be able to use specific skills to learn more vocabulary, learn a large number of words from the target vocabulary list and be able to speak more easily in English about the world.

The World Around Us consists of a large number of texts and target words. The texts are organized into thematic units. These are; Continents and Countries, Flora and Fauna, Food products, Geographical features, Industry, People, Population and Demography, Regions, Provinces and States, Transport, Resources, School and University Study Topics.

COOPERATION AND EVENTS

- **Protocol agreement with AGU and Kayseri Talas Municipality**

AGU signed a protocol with Kayseri Talas Municipality to grow crops on the 200 decares of unused land belonging to AGU. The grown products were distributed to people in need within the scope of social support. Furthermore, in addition to the protocol signed between AGU and Talas Municipality within the scope of Social Support, additional protocol has been signed to allow the planting and cultivation of crops within the land of AGU, Mimar Sinan Campus.

- **Partnership with Ardahan City Council**

A cooeration protocol was signed between AGU and Ardahan City Council for the SDG workshop program within the framework of climate change.

With the protocol, joint studies will be carried out between the two institutions within the framework of UN SDGs, including topics such as climate change, water footprint, carbon footprint, food waste, quality education, sustainability of culture, smart cities and societies, clean energy, terrestrial and aquatic ecosystems.

Within the scope of the protocol, studies will also be carried out on the trainings to be given to teachers working at all levels in Ardahan and students studying in primary, secondary and high schools.

- **Labor & Food Event from AGU Bostan**

AGU Bostan organized a Labor & Food event. Within the scope of the event, participants planted vegetable, fruit and flower seedlings.





- **Wheat Harvest from AGU Mimar Sinan Campus Brownfield Site**

Within the scope of the protocol signed with AGU, Talas Municipality harvested wheat from the brownfield site on the Mimar Sinan Campus of AGU.



- **AGU Plants Seedlings on National Afforestation Day**

Hundreds of saplings were planted by AGU at Mimar Sinan Campus as part of the "Breath for Turkey's Century" campaign on November 11, National Afforestation Day.

Within the scope of the afforestation campaign carried out simultaneously in 81 provinces to increase the environmental awareness of the society and to spread the love of trees, 330 saplings of pine and plane trees were planted in a predetermined area at AGU Mimar Sinan Campus.

- **Young TEMA Oak Propagation Training**

The 14th workshop of the "Sustainable Development Goals for Children" workshop series was organized for the 5th grade students of Yahyalı Mustafabeyli Hacı İzzet Kurmel Regional Boarding School for Girls. Young TEMA supported this workshop by providing oak tubing training.

• **Terrestrial Life Workshop for World Forest Week**

The 8th "Sustainable Development Goals for Children" workshop program was held by AGU Faculty of Architecture with the participation of Hikmet Kozan Secondary School 7th grade students within the scope of "World Forest Week".

In the workshop organized within the scope of "Life on Land", the 15th of the UN's SDGs, national and international examples on forest protection and afforestation were shared after general information. In the workshop where an empathy map was also created, nature-themed designs were made from recycled materials.

• **Oak Tubing Training to Volunteers**

As part of the World Volunteer Day celebrations, Young TEMA met with TEMA volunteers in nature. Volunteers were trained on oak tubing.

• **Practical Sapling Planting Training**

Young TEMA organized a nature hike and practical sapling planting training with TEMA as part of the Forest Week celebrations.

- **Acorn Tubing Training**

Young TEMA provided acorn tubing training to Cevdet Sunay Primary School.



- **Tree Planting Event within the Scope of "International Youth Day"**

"International Youth Day" Celebrated at AGU. Participants also planted a plane tree on the campus where environmental cleaning was carried out.

After the tree planting, a workshop titled "Carbon Footprint and Global Warming" was organized at the Presidential Abdullah Gül Museum and Library.



- **Awareness Program on Climate Change, Sustainable Cities and Terrestrial Life**

"Sustainable Development Certificate Program" was organized in cooperation with AGU and TED Kayseri College Foundation Private Secondary School. The certificate program was held online with the support of the United Nations High Commissioner for Refugees (UNHCR) and the United Nations Volunteers Office (UN Volunteers).

• Meeting for Koramaz Valley Projects with the Participation of AGU, KAYEMA and ORAN Pepresentatives

A wide participation meeting was organized for Koramaz Valley, which was included in UNESCO's World Heritage Tentative List. Projects related to the Valley were evaluated at the meeting. At the meeting, representatives of AGU, KAYEMA and ORAN stated that they will cooperate extensively for the Koramaz Valley, and representatives of the Metropolitan Municipality and Melikgazi Municipality stated that they will support the initiatives with all their units.

• 3Ws of Biodiversity Seminar

The seminar titled "3Ws of Biodiversity" (What It Means, What We Do, Why It Is Important?) for 5th Grade students was held at Osman Düşüngel Secondary School affiliated to Kocasinan District Directorate of National Education. The seminar was given by Res. Ass. Efe Berk Bozkurt.

The seminar was related with what biodiversity is, what it is affected by, what benefits it has and what we should do to protect it. In the event, views on the species distribution of living things, how biodiversity is affected in the evolutionary process and results of the applications were shared.

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