



## Water Recycling and Efficient Use Program

### Chirchik State Pedagogical University

#### 1. Introduction

Water is a precious resource that must be used wisely to support sustainable development and environmental balance. At **Chirchik State Pedagogical University (CSPU)**, water management is a key component of our environmental strategy. To achieve long-term efficiency and sustainability, the university has designed and implemented the **Water Recycling and Efficient Use Program**.

The program focuses on improving the campus water infrastructure, reducing unnecessary water consumption, promoting the responsible use of groundwater, and fostering environmental awareness among students, faculty, and staff. These efforts align with **UN Sustainable Development Goal 6 (Clean Water and Sanitation)** and **Goal 13 (Climate Action)**, as well as the principles of the **UI GreenMetric World University Ranking**.

#### 2. Program Objectives

The main goals of the Water Recycling and Efficient Use Program are to:

- Reduce overall **water consumption** through efficient use and monitoring.
- Improve **irrigation efficiency** in campus green zones.
- Ensure the **responsible and sustainable use of groundwater** resources.
- Promote **environmental culture** and awareness among the university community.
- Support the creation of an **eco-friendly, energy-efficient campus**.

#### 3. Current Infrastructure and Conditions

At present, the university does not have an operational rainwater harvesting or wastewater recycling system. However, significant progress has been made toward water efficiency through:

- The use of **energy-efficient underground water pumps** for irrigation.
- The installation of **automatic sprinkler systems** that control water flow precisely, preventing waste.
- **Automated management of the irrigation system**, allowing watering to take place during optimal hours (early morning and late evening) to minimize evaporation.
- **Regular inspections** of the water pipelines to prevent leaks and losses.

These technologies have created the foundation for a sustainable water-use framework that serves both environmental and operational needs.

#### 4. Key Actions Implemented

Within the Water Recycling and Efficient Use Program, CSPU has carried out several important actions:

1. **Installation of high-efficiency underground pumps** across all campus green areas to optimize groundwater use.
2. **Implementation of automatic sprinkler irrigation systems**, reducing excessive water flow and maintaining balance between greenery and resource savings.
3. **Scheduled water use** through automated timing to reduce evaporation losses and improve irrigation effectiveness.
4. **Pipeline maintenance and leak prevention** via continuous monitoring and technical inspections.

5. **Awareness programs and seminars** for students and staff, promoting eco-friendly behavior and water conservation culture.

## 5. Program Achievements

As a result of the implemented measures, CSPU has achieved significant progress:

- **20% reduction in total water consumption** compared with the previous reporting period.
- Improved **efficiency of irrigation systems** and reduction in water waste.
- Lower **electricity consumption** due to the introduction of energy-saving pump systems.
- Establishment of a **stable and sustainable system** for the responsible use of water resources.
- Enhanced **environmental awareness** and engagement among students and staff.

## 6. Future Development Plans

CSPU continues to strengthen its commitment to sustainable water management through upcoming initiatives:

- Implementation of a **digital water monitoring and control system** to track and optimize water use in real time.
- Introduction of **rainwater harvesting systems** for non-potable purposes such as irrigation, toilet flushing, and cleaning.
- Development of a **pilot wastewater recycling system** for laboratories and dormitories.
- Expansion of **smart irrigation technologies** and sensors integrated with weather data.
- Collaboration with local environmental organizations and communities to expand **“Green Campus” initiatives**.

These actions are expected to further reduce water consumption and reinforce ChDPU’s role as a national leader in sustainable campus operations.

## 7. Conclusion

The **Water Recycling and Efficient Use Program** has become a cornerstone of CSPU’s sustainability strategy. By modernizing irrigation infrastructure, introducing energy-efficient technologies, and fostering environmental awareness, the university ensures that every drop of water is used responsibly.

CSPU remains committed to developing a **green, resilient, and resource-efficient campus**, contributing actively to Uzbekistan’s **“Yashil O‘zbekiston” (Green Uzbekistan)** agenda and global environmental sustainability standards such as **UI GreenMetric, QS Sustainability, and THE Impact Rankings**.