



— ISTANBUL —

GELISIM

— UNIVERSITY —

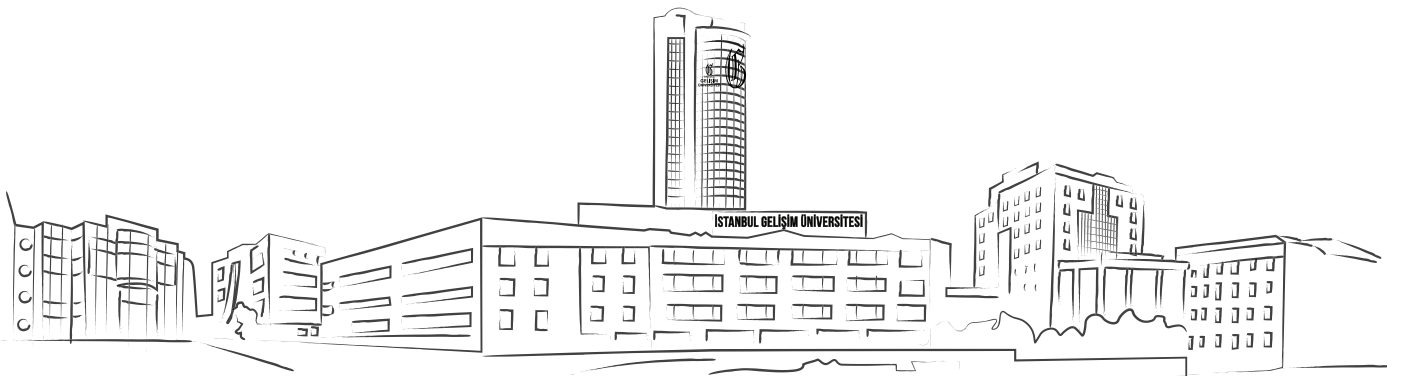
WATER MANAGEMENT REPORT

2018



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1. INTRODUCTION

The rapid increase of the world population and the developing industrial sector play an important role in increase of the water consumption. These developments bring with them the fact that there will be many difficulties in meeting the world's water need, and it is thought that a water scarcity will occur in the world within the next 25 years. Access to safe potable and domestic water is essential for human health, particularly for the healthy development of children. Although it is widely believed that water scarcity arises as a consequence of climate change, unconscious and unnecessary use is one of the biggest causes of water scarcity. One of the most important measures to be taken to reduce water consumption rates is efforts to raise awareness and taking structural measures for water conservation. With a vision of a sustainable future, this report includes details of the water management plan that Istanbul Gelisim University (IGU) will implement in line with the United Nations Sustainable Development Goals.

1.1. Scope of Plan

Istanbul Gelisim University Water Management Plan is based on data recorded between the dates 01.01.2018-31.12.2018. Water Management Plan covers the data of whole consumption realized in all campus areas, together with the improvement projects which are planned to implement for reducing consumption.

2. WATER CONSUMPTION ASSESSMENT

2.1. Water Consumption

The data given in Table 1 show the campus areas of Istanbul Gelisim University and their total surface area.

Table 1: Campus Areas and Their Surface Areas

Campus Areas	Campus Names	Closed Area (m2)
BLOCK A	RECTORATE School of Applied Sciences	39114
BLOCK B	School of Health Sciences	11755
BLOCK C	Vocational School of Health Sciences	10445
BLOCK D	Faculty of Engineering and Architecture	12353
BLOCK E	Faculty of Fine Arts	9836
BLOCK F	School of Foreign Languages	8285
BLOCK G	İstanbul Gelisim Vocational School	29536
TOWER	Faculty of Economics, Administrative and Social Sciences School of Physical Education and Sports	91054

The data for water consumption realized in the campus areas above between the dates 01.01.2018 – 31.12.2018 is given in Table 2.

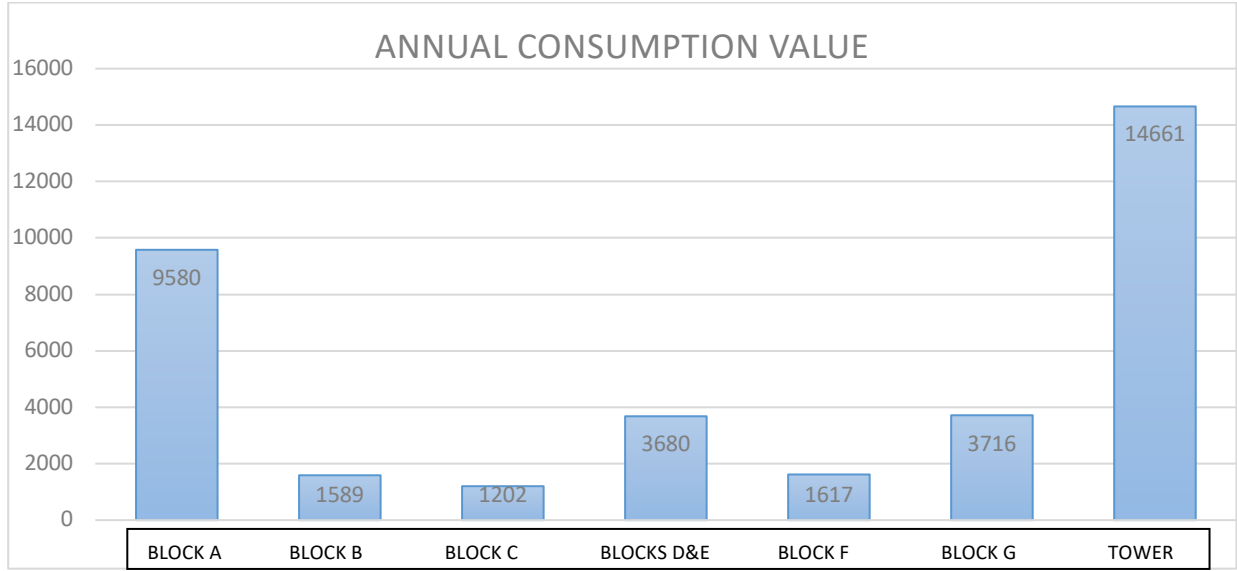


Table 2: 2018 Consumption Data

The total amount of potable water consumption of IGU, consisted of eight blocks on 323133 m^2 , for 2018 is 32645 m^3 , and the amount of well water consumption of Tower Block where the most water is consumed per unit block is 3400 m^3 . $[(m^3)]$ Total consumption amount is 36045 m^3 . Based on the above data, planning studies are being carried out to reduce the water consumption rate, and the details are presented in the relevant section of the report.

İGÜ provides 60 drinking water fountains for free to the students and the staff.



2.2. Importance of Water Consumption Analysis

For gaining positive results from the plan, the topics like consumption values and causes of consumption are important. As indicated in Table 2, the total water consumption of Tower Block is higher than the consumption of other blocks. However, if we make a consumption value assessment based on m^2 at this point, we can see that consumption of BLOCK A and BLOCK F is higher on this scale as indicated in Table 3. The causes of these consumption values are that BLOCK A is the Rectorate building and therefore, it includes many of the offices where administrative affairs are carried out, and the irrigation system for irrigation of $3960 m^2$ green area is supplied from potable water, and therefore the water consumption amount increases.

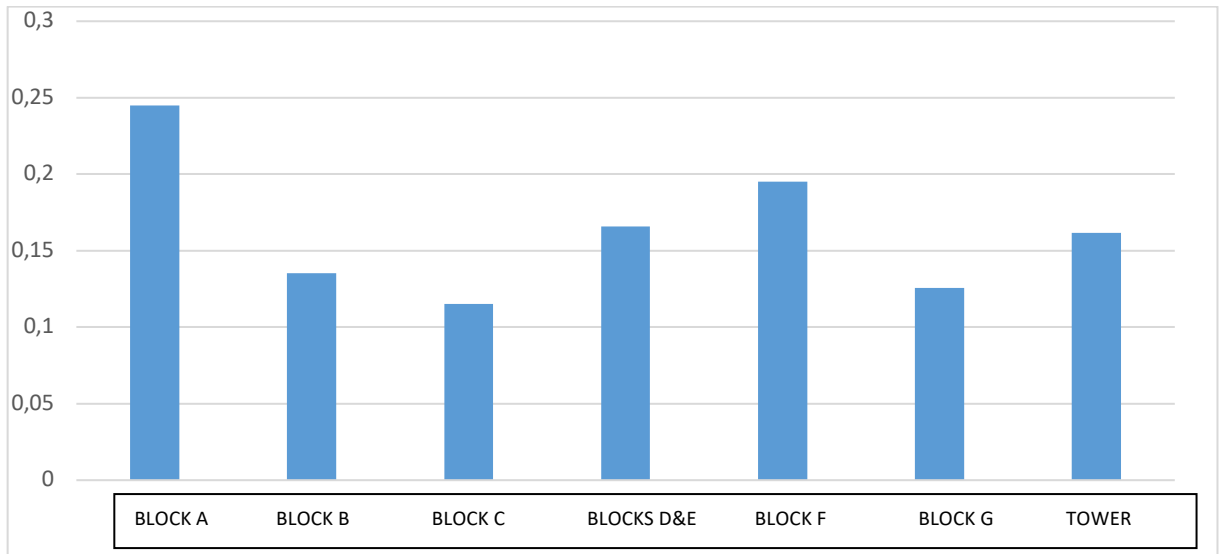


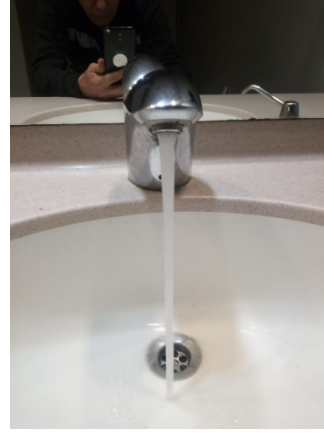
Table 3: Consumption Value for 1 m^2

3. CONSUMPTION DATA

The calculation of the water used in the university is based on the water bills and the well water bills recorded officially.

The university has an annual water consumption of $36045 m^3$. $3400 m^3$ is supplied from well water. The well water used for irrigation of green areas in the Tower Block is supplied by the firms supplying well water. A total of 445 faucets are used for water use in the university.

110 of these sensor faucets. There are 110 aerator used for the other faucets in order to minimize water use.



In the university:

- The green area in the Tower Block campus area is $2350 m^2$. The irrigation system of the said green area is operated with well water. The annual consumption amount of well water supplied by the suppliers is $3400 m^3$. There is a separate meter for counting the irrigation system using the well water.
- Block K 4th floor in the Tower Block Campus has a green area of $62 m^2$. The water used for irrigation of the said green area is provided from the central water mains.
- BLOCK A has a green area of $3960 m^2$. The water used for irrigation of the said green area is provided from the central water mains and there is no separate meter for monitoring the irrigation of this green area.
- BLOCK B has a green area of $45 m^2$. The water used for irrigation of the said green area is provided from the central water mains and there is no separate meter for monitoring the irrigation of this green area.
- BLOCK C has a green area of $80 m^2$. The water used for irrigation of the said green area is provided from the central water mains and there is no separate meter for monitoring the irrigation of this green area.
- BLOCK D has a green area of $70 m^2$. The water used for irrigation of the said green area is provided from the central water mains and there is no separate meter for monitoring the irrigation of this green area.
- BLOCK E has a green area of $210 m^2$. The water used for irrigation of the said green area is provided from the central water mains and there is no separate meter for monitoring the irrigation of this green area.

- BLOCK F has a green area of $10 m^2$. The water used for irrigation of the said green area is provided from the central water mains and there is no separate meter for monitoring the irrigation of this green area.
- BLOCK G has a green area of $1350 m^2$. The water used for irrigation of the said green area is provided from the central water mains and there is no separate meter for monitoring the irrigation of this green area.

4. CAMPUS IMPLICATIONS FOR WATER EFFICIENCY AND CONSCIOUS WATER CONSUMPTION

Water is the most important factor in the life of all living things as they need a significant amount of water to survive. Climate change, drought due to global warming and population increase reduce water resources. Due to the limited water resources, it cannot meet the water needs of all living things. From a qualitative and quantitative point of view, water consumption becomes more and more difficult.

Istanbul Gelişim University carry on several implications for conscious and efficient water consumption. The first implication is the Introduction to Sustainability course which is a compulsory course for several programs. There are also several courses including sustainability issues such as Sustainable Environmental Management, Sustainable and Green Logistics, Sustainable Media, Environmental Economy and Sustainability, Public Relations and Sustainability. The course contents include the implications that guarantee the sustainability of the environment. Conscious water management is one of the implications mentioned in the course contents. The contents of the courses can be reached through the web links below;

- <https://gbs.gelisim.edu.tr/en/lesson-details-9-99-8278-2>
- <https://gbs.gelisim.edu.tr/en/lesson-general-information-9-99-8940-2>
- <https://gbs.gelisim.edu.tr/en/lesson-general-information-2-79-8339-2>
- <https://gbs.gelisim.edu.tr/en/lesson-details-9-185-9122-2>
- <https://gbs.gelisim.edu.tr/en/course-contents-by-week-9-99-8998-2>
- <https://gbs.gelisim.edu.tr/en/objectives-and-contents-2-81-8427-2>

Besides the sustainability courses there are several posters at the water usage areas in the campus encouraging conscious water consumption.



İGÜ provides several free courses to the community about climate change and conscious consumption.



İGÜ also provides information to the community on the web site to increase water efficiency and conscious water consumption. The information about the conscious water consumption can be reached through the web link below;

<https://edk.gelisim.edu.tr/en/page/the-water-of-the-future>



4. PLANS FOR INCREASING WATER EFFICIENCY

Two important points that will contribute to the efficient use and sustainability of water resources are as given below:

- Waste water
- Clean water

Accordingly, some measures are taken to ensure water efficiency and sustainability of water resources.

Plans for increasing water efficiency;

- By filtering the waste water flowing from the sinks and other hand washing areas through a filter system, and by storing it in a tank and then directing it from the tank to the reservoirs through a booster, recollecting the waste water in the 'closet reservoir' area with a graywater plumbing system and thus ensuring reuse of waste water.
- Collecting the water from rainwater drainages in a common storage tank and recycling the collected water as landscape or domestic water. (Instead of using the rainwater collected in the long-term during winter just for landscape, reinforcement from the storage tank in hot weathers with a storage system)
- Recycling solid wastes from toilets and bathrooms as fertilizer for back landscape.
- Providing change of water tanks in reservoirs to be operated gradually and eliminating the risk of excess consumption.

- Adding a start/stop system in which the reservoirs are gradually used in order to prevent unnecessary use of the reservoirs, and accordingly, providing guidance with warning plates and instructions for the use of the system.
- Use of flow control and photocell faucets and taps for clean water to prevent unnecessary and long use.
- Replace the existing faucet systems with sensor systems, and change the taps, filters and aerators in order to ensure full saving in the system.
- Ensuring the replacement of existing urinals with odorless and waterless urinals, and in case of very high replacement costs, ensuring assembly of spring loaded reservoir covers with start/stop mechanism for providing conservation and taking necessary action.
- Other than the part used for irrigation, supply of remaining part of the rain water stored in a single tank to the sanitary installation in the building.
- In all courses and applications covering kitchen workshop, while using dishwashers, ensuring to place dirty dishes in the machines without rinsing them with water beforehand and to use dishwashers instead of hand washing. Ensuring that warning and encouraging plates and instructions are hang on the walls of the relevant areas.

5. STANDARDS TO BE APPLIED IN EXISTING CAMPUSES WITHIN THE UNIVERSITY AND CAMPUSES TO BE NEWLY ESTABLISHED

The aim of the study for implementation of this plan is to enhance the water efficiency of the existing buildings of the University. The vast majority of the concepts used in this study are although the concepts which have been started to use recently especially in Turkey; since this a new area of awareness, and at the point of prohibitions and requirements because of lack of strict sanctions and controls, many details which will facilitate and enable implementation of the abovementioned matters are ignored during construction of the buildings. For this reason, many existing buildings cause serious difficulties to achieve the mentioned transitions. There is a lot of responsibility for the existing societies to conserve the planet that we are living in a habitable state also in the future. The more the nature is supported for conservation, the more generous it is to sustain humanity. Therefore, in order to ensure that the above-mentioned issues become a part of life and to take easily the steps that will ensure conservation of water resources which are exhaustible resources and to make them sustainable, at the stage of construction of new campuses and buildings to be established within the University, performing these by

considering green buildings and designs supporting the sustainable environmental measures is adopted as the main duty by the University. Within the framework of this understanding, the University aims to implement the following standards in all its buildings;

- Reuse of even one drop of water.
- To ensure change of social considerations about water and agriculture within the scope of sustainability.
- To ensure that the plants used for landscaping and landscape planning are selected from the species that consume less water
- To ensure planning of systems to use cleaned water obtained from treatment of wastewater in garden irrigation
- To increase the awareness at the point of selection of materials suitable for recycling and conservation for all materials supplied
- To ensure informing the society about the importance of construction of green buildings in agricultural areas, historical areas and construction areas which cause ecological imbalance
- To ensure gaining of the understanding by all internal and external stakeholders that every use and irrigation process is realized from the exhausted resources of tomorrow and to instill the consciousness of acting in this direction.
- By taking into account the right of all stakeholders to access clean, healthy and reliable drinking water, to ensure access of employees, students and guests have access to free drinking water within University campuses.
- To ensure public awareness on effective use of water resources.
- To ensure implementation of selection of materials compatible with nature and environment through environmentalist approaches
- To ensure that materials which are not in danger of exhaustion and that are obtained from sources as close as possible are preferred
- To carry out studies to investigate the impact of climate change on ecological life and natural resources and to encourage these studies
- To ensure preparation and announcement of water management guidelines for different climate scenarios together with related organizations and organizations working on the use of water resources.
- To ensure co-evaluation of water quality standards and emission control and elimination of harmful substances having priority.

- To ensure participation of all stakeholders and all segments of the society in water management processes, and at this point, to ensure a mutual balance between the conservation of ecological resources and the environment and the beneficiaries of these resources.
- To ensure that the water distributed in water distribution mains is distributed on volume basis.

6. CONCLUSION

As institutions that produce science and works for the benefit of society, universities have the priority and principle to produce impartial, original, autonomous and constructive solutions without making any cost calculation in all studies that the society and the planet will benefit, and to cooperate with all segments of the society to this end. In this respect, IGU is taking steps to contribute, in terms of ideas and implementation, to both internal processes and external processes that will include other segments of the society within the scope of the struggle against climate change and exhaustible resources, especially water, which is considered as one of the biggest problems of our age. At this point, internally, IGU aims to establish an internal audit mechanism at the stage of completing the mentioned processes by establishing responsible persons and units for managing these processes, while it prioritizes the effort to provide a continuous, stable and proactive attitude among the external stakeholders. In all the steps it has taken, IGU is based on the principle of reaching healthy and free drinking water by its employees, students, guests and all segments of the society and carry out activities to ensure the clean and healthy use of water by all segments of the society. In this context, through the units to be established internally, it takes the necessary steps for water use and conservation in its internal processes, and subsequently, it contributes to form public opinion on raising public awareness and establishment of public policies on this issue.

7. REFERENCES

1. Anonymous 2007. Water for Food Water for Life. A Comprehensive Assessment of Water Management in Agriculture. Edited by
2. David Molden, International Water Management Institute.645p., Earthscan, USA.
3. Anonymous 2009. DSİ'ce İşletilen ve Devredilen Sulama Tesisleri 2008 Yılı Değerlendirme Raporu. DSİ Gn. Md., İşletme ve Bakım Dairesi Başkanlığı, Ankara.

The information on our buildings is given in Appendix 1.

There 8 campus areas in Istanbul Gelisim University.

Campus Name	Building Name	Closed Area (m2)	Construction Year	Type of Use before Becoming an Education Institution
BLOCK A	RECTORATE	39114	1997	Commerce House
BLOCK B	School of Health Sciences	11755	1996	Commerce House
BLOCK C	Vocational School of Health Sciences	10445	1996	Commerce House
BLOCK D	Faculty of Engineering and Architecture	12353	1991	Commerce House
BLOCK E	Faculty of Fine Arts	9836	1991	Commerce House
BLOCK F	Foreign Languages	8285	1995	Commerce House
BLOCK G	Vocational School	29536	1998	Commerce House
TOWER		91054	1999	Commerce House

Table 4: Building Information



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