



Clean Water and Sanitation (SDG 6)

SDG 6.2.1. The total volume of water used in the university that is taken from mains supply, desalinated, or extracted from rivers, lakes, or aquifers

1. The tap water used by Beni-Suef University (BSU) is treated by government water purification plant equipment.
2. BSU does not use water extracted from desalination, rivers, or lakes. However, there is:
 - a) A cooperation project in the field of research with York University in England, to desalinate sea water and to use it in the agriculture process or as pure water for drinking.

<https://ahlmasnews.com/news/local-news/1082221/%D8%A5%D8%AF%D8%B1%D8%A7%D8%AC-8-%D9%85%D9%86-%D8%A3%D8%B9%D8%B6%D8%A7%D8%A1-%D9%87%D9%8A%D8%A6%D8%A9-%D8%A7%D9%84%D8%AA%D8%AF%D8%B1%D9%8A%D8%B3-%D8%B6%D9%85%D9%86-%D9%82%D8%A7%D8%A6%D9%85%D8%A9-%D8%B3%D8%AA%D8%A7%D9%86%D9%81%D9%88%D8%B1%D8%AF-%D8%A5%D9%86%D8%AC%D8%A7%D8%B2-%D8%B9%D8%B8%D9%8A%D9%85>

- b) Different faculties at BSU as Faculty of Earth Science and Faculty of Postgraduate Studies for Advanced Research have different teaching courses and research projects related to agricultural and industrial water treatment as well as desalinating sea water and adding unconventional sources of pure water.

<https://www.facebook.com/100024024607600/videos/1330582720708432/>
http://www.earthsc.bsu.edu.eg/Content.aspx?side_id=1612&cat_id=50
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<https://www.facebook.com/advancedsciences/videos/437018341678633/>
http://www.psas.bsu.edu.eg/Content.aspx?section_id=420&cat_id=18
http://www.psas.bsu.edu.eg/Content.aspx?section_id=5780&cat_id=18

- c) Holding different conferences, workshops and training programs at BSU concerning desalination and reuse of water.

<https://www.albawabhnews.com/4656766>
https://www.bsu.edu.eg/News.aspx?NID=104875&cat_id=5
<https://www.shorouknews.com/news/view.aspx?cdate=11112019&id=d0931a3a-5f0d-4c3f-9851-a83bb78c2435>
http://www.bsu.edu.eg/News.aspx?NID=48763&cat_id=1
<https://www.facebook.com/advancedsciences/videos/459802619399287/>
https://www.bsu.edu.eg/News.aspx?NID=104734&cat_id=1

3. Beni-Suef University is the co-chair for the sustainability phase of the Center of Excellence for Water. The center continuously aims to have knowledgeable calibers in the field of water, to develop scientific solutions to water problems from lack of supplies, and pollution from different sources, and for reusing non-traditional water resources and desalination.

https://www.bsu.edu.eg/News.aspx?NID=86718&cat_id=1&fbclid=IwAR2i3qZcCALJIWmlu#
https://www.bsu.edu.eg/NewsDetails_New.aspx?NID=86718&cat_id=1
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<https://www.youm7.com/story/2019/9/4/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D8%AA%D8%B4%D8%A7%D8%B1%D9%83-%D9%81%D9%89-%D9%85%D8%B4%D8%B1%D9%88%D8%B9-%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%85%D8%B1%D9%83%D8%B2-%D8%AA%D9%85%D9%8A%D8%B2-%D8%B9%D9%84%D9%85%D9%89/4403354>



4. BSU uses water extracted from aquifers. A well for underground water was drilled at 130 m in the campus of 320 acres complex that contributes to the storage of the rainwater significantly in addition to the underground water. Then the stored water is used to irrigate the gardens of the campus.

<https://gate.ahram.org.eg/News/2130535.aspx>

https://www.bsu.edu.eg/News.aspx?NID=64372&cat_id=1

https://www.bsu.edu.eg/News.aspx?NID=64327&cat_id=1

6.2. Water consumption per person

In the reporting period of 2021-2022 , the total water consumption 58,883 m³ for a population of 84.806 with an average of 0.694m³/Person

6.2. Water consumption:

The volume of water used in the university: Inbound (treated/ extracted water)

6.2.1 In the reporting period of 2021-2022, the total annual water consumption by BSU was 58,883 m³ comprising 4,266 m³ of recycled water and 5,100 m³ of treated water. **Figures 1 and 2** Groundwater and stored rain water in the drilled well in the 320 acres complex campus of BSU aren't used as drinking water, but they are used only for irrigation of the campus gardens.

6.2.2 In the academic year 2020 – 2021, the total annual water consumption by BSU was 34,101 m³ comprise 2,673 m³ of recycled water and 2,885 m³ of treated water. **Figures 1 and 2**

6.2.3 There was an observable increase in the total water usage over the past three years, despite the continuous awareness programs at Beni-Suef University. The total annual water consumption in the academic year 2019-2020 was less than the following years due to the spread of the Covid-19 epidemic, and therefore the number of attendance days in all university buildings was reduced as a precautionary measure.

6.2.4 For the reporting year 2021 – 2022, the total annual water consumption by BSU was higher than its previous years. That was attributed to the different buildings constructed at BSU in this reporting year that increased the consumption of water.

6.2.5 Also, it was observed that the percentage of the used recycled and treated water increased gradually over the past three years. **Figure 2**

At all, it is thought that there will be a gradual decrease in the total annual water consumption in the next years at BSU due to the continuous awareness programs and recommendations to try and educate students, employees and faculty members on the importance of resource conservation.

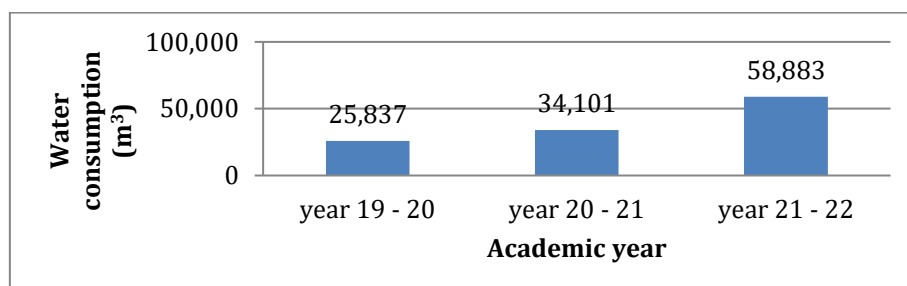


Figure 1. Total water consumption for past 3 academic years

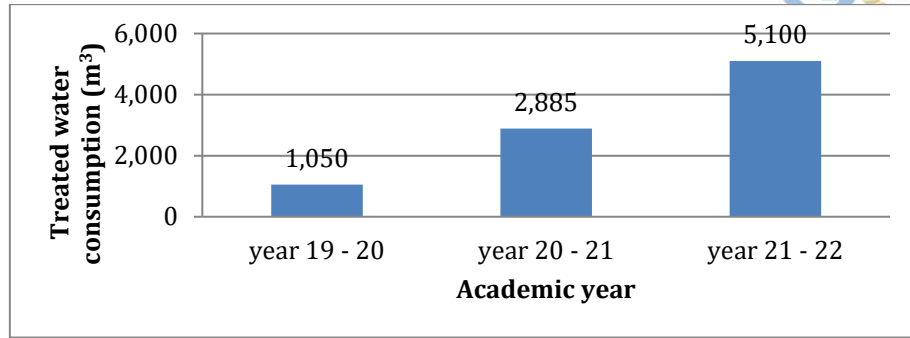


Figure 2. Treated water consumption for past 3 academic years



6.3. Water usage and care

SDG 6.3.1. Wastewater treatment

A process in place to treat wastewater.

BSU has no sewage treatment plants, yet. However, it contributes in the treatment of water with different programs, projects and strategies such as:

1. There are many courses related directly to water are studied in BSU:
 - Through different faculties such as Faculty of science and Faculty of Earth Science
 - Here are some of the teaching courses related to wastewater treatment:
 - a) Environmental chemistry and analysis
 - b) Water Reclamation Technology
 - c) Environmental Legislative Framework and Methods of Enforcement
 - d) Industrial wastewater technology
 - e) Monitoring and operation of wastewater treatment
 - f) Instrumental Techniques
2. Faculty of Earth Science and Faculty of Postgraduate Studies for Advanced Sciences have centers and laboratories that are concerned with the conservation, development and good management of water resources through the purification of drinking water and sewage treatment.
<https://www.elbalad.news/3263431>
<https://www.facebook.com/advancedsciences/videos/459802619399287/>
https://www.earthsc.bsu.edu.eg/Content.aspx?side_id=1611&cat_id=50
https://www.earthsc.bsu.edu.eg/ContentSide.aspx?section_id=4023&cat_id=50
<https://www.facebook.com/100024024607600/videos/1330582720708432/>
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https://www.psas.bsu.edu.eg/Content.aspx?section_id=5745&cat_id=18
<https://www.science.bsu.edu.eg/>
https://1drv.ms/v/s!Am6_uteZODGndCSsZACPjy8IKhQ
https://1drv.ms/v/s!Am6_uteZODGndX-bG5fkTgsjC5Y
<https://www.earthsc.bsu.edu.eg/Backend/Uploads/PDF/%D9%85%D8%B7%D9%88%D9%8A%D9%87%20%D8%A7%D9%84%D9%85%D8%B1%D9%83%D8%B2-%D9%85%D8%AD%D9%88%D9%84.pdf>
3. Faculty of Earth Science seeks to implement specialized research studies in the future on the following; i) the final treatment of desalinated water in different ways “case study”., ii) the use of “AOP” technology in wastewater treatment, iii) sponge fiber and its various applications in the field of purification and treatment of drinking and sewage water, in cooperation with the Academic City of Borg El Arab, iv) comprehensive assessment of groundwater at the level of the Republic, v) comprehensive assessment of groundwater in the Nile Valley and Delta.
https://www.bsu.edu.eg/Content.aspx?side_id=1616&cat_id=50



4. Establishment of different centers in BSU that aim to water treatment and safe reuse of it.
<https://www.earthsc.bsu.edu.eg/Backend/Uploads/PDF/%D9%85%D8%B7%D9%88%D9%8A%D9%87%20%D8%A7%D9%84%D9%85%D8%B1%D9%83%D8%B2-%D9%85%D8%AD%D9%88%D9%84.pdf>
<https://www.elwatannews.com/news/details/4316926?t=mpush>
https://www.bsu.edu.eg/News.aspx?NID=96324&cat_id=1
<https://www.shorouknews.com/news/view.aspx?cdate=25022019&id=03d06323-2a6e-48fe-816b-c28d0c4325e7>
5. Many research projects and inventions at Beni-Suef University had funding from different sources in the field of water treatment such as:
 - a) Production of nano-tubes from natural minerals and their use for water treatment.
 - b) A research project entitled "Hybrid Organic and Inorganic Nanomaterials; synthesis, characterization and their applications". It aims to treat wastewater and to improve and develop water management.
 - c) The effective removal of industrial wastewater pollutants using clay grafted with nanomagnetic compounds in Bayad Ell-Arab Region, East of Beni-Suef.
 - d) Evaluation of the efficiency of some environmentally friendly materials for wastewater treatment in Beni-Suef Governorate.
 - e) Photo degradation of some food dyes and bacterial inhibition of some bacteria that present in industrial wastewater and designing a treatment reactor prototype.
 - f) Recycling old newsprint and turning it into a super-adsorbent material and using it in the treatment of industrial wastewater.
 - g) The use of developed natural materials in the treatment of wastewater at the Beni-Suef University hospital.
 - h) advanced removal of selected pharmaceutical residues from wastewater using nano-metal/organic frameworks and the use of bacterial algae resulting from it in the extraction of fuel and organic fertilizers
 - i) The use of homemade raw materials in the treatment of industrial wastewater.
 - j) Industrial sewage treatment using cyanobacteria.
 - k) Using Egyptian raw materials instead of imported ones in the field of water treatment
 - l) Development of an innovative magnetic nanomaterial for industrial wastewater purification
 - m) Quaternary treatment for removal of heavy metals and ammonia ions from wastewater using ceramic weathered basalt membranes.
 - n) Manufacture of nanometer films from geological ores and industrial and agricultural wastes to purify industrial wastewater

<https://www.youm7.com/story/2020/7/28/%D8%B1%D8%A6%D9%8A%D8%B3-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D9%81%D9%88%D8%B2-%D9%81%D8%B1%D9%8A%D9%82-%D8%A8%D8%AD%D8%AB%D9%89-%D8%A8%D9%83%D9%84%D9%8A%D8%A9-%D8%A7%D9%84%D8%B9%D9%84%D9%88%D9%85-%D8%A8%D8%AA%D9%85%D9%88%D9%8A%D9%84/4902431>
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<https://www.elbalad.news/4807767>
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<https://alwafd.news/%D8%A3%D8%B3%D8%B1%D8%A9/%D8%A7%D9%84%D9%85%D8%AD%D8%A7%D9%81%D8%B8%D9%80%D8%A7%D8%AA/3216406-%D9%81%D9%88%D8%B2-%D9%85%D8%B4%D8%B1%D9%88%D8%B9-%D8%A8%D8%AD%D8%AB%D9%8A-%D9%84%D8%A5%D9%86%D8%AA%D8%A7%D8%AC-%D8%A7%D9%84%D8%A3%D9%86%D8%A7%D8%A8%D9%8A%D8%A8-%D8%A7%D9%84%D9%86%D8%A7%D9%86%D9%88%D9%85%D8%AA%D8%B1%D9%8A%D8%A9-%D9%84%D9%85%D8%B9%D8%A7%D9%84%D8%AC%D8%A9-%D8%A7%D9%84%D9%85%D9%8A%D8%A7%D9%87-%D8%A8%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81>
https://www.bsu.edu.eg/News.aspx?NID=104738&cat_id=1
https://www.bsu.edu.eg/News.aspx?NID=60088&cat_id=1
https://www.bsu.edu.eg/News.aspx?NID=56504&cat_id=1
https://www.bsu.edu.eg/News.aspx?NID=103855&cat_id=1

6. There are many registered theses related to wastewater treatment such as:

- a) Fabrication of nanofiber Composite membrane for industrial waste water treatment
- b) Synthesis of chitosan/poly acrylonitrilegraft and blend nanocomposite for heavy metal removal from ground water.
- c) STDF funded project titled” Advanced removal of selected pharmaceutical residues from wastewater using nano-metal/organic frameworks (MOFs)”
- d) spectroscopic investigation of semiconducting metal oxide nanoparticles in waste water treatment
- e) The impact of Main Drains On Qarun Lake And Waste Water Treatment Using Polymer Nanocomposites
- f) Optical and Magnetic Properties of Metals Substituted Bismuth Iron Oxide Nanopowder for Water Treatment Application
- g) Municipal wastewater treatment using carbon nanotubes-cellulose nanocomposite
- h) Wastewater purification using immobilized Nanophotocatalysts



- i) Application of nanotechnology methods in industrial wastewater treatment as an environmentally friendly in industrial food sector
- j) Extracted oils from variant domestic wastewater microalgae communities as a source of biodiesel
- k) Dual Applications of Duckweed in Wastewater Treatment and Biofuel Production
- l) Potentials of Nano - activated carbon prepared from agricultural Wastes for removal of heavy metals from waste water
- m) study on the electro spinning of polyimide fibers and its performance in waste water
- n) Using of algal free cells, treated and biofilms for Industrial waste water treatment

7. Beni-Suef University made a partnership with the Center of Excellence for Water, a USAID funded project where,
- a. It is concerned with Exchange and training, education, governance, sustainability and research.
 - b. It is also concerned with the discussion of the current and future challenges, innovative solutions and outlook for industrial waste water treatment in Egypt.
 - c. Beni-Suef University is the co-chair for the sustainability phase.
 - d. Six Research teams from Beni-Suef University won 6 competitive projects in the water research field.
 - e. BSU was the top university from the list of the winning Egyptian universities that won 48 master's scholarships from the water Excellence Center.

https://www.bsu.edu.eg/NewsDetails_New.aspx?NID=86718&cat_id=1

https://www.bsu.edu.eg/NewsDetails_New.aspx?NID=156802&cat_id=1

<https://www.almasryalyoum.com/news/details/2407801>

<https://www.facebook.com/egyptcoewater/posts/406066994067902>

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<https://www.youm7.com/story/2019/9/4/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D8%AA%D8%B4%D8%A7%D8%B1%D9%83-%D9%81%D9%89-%D9%85%D8%B4%D8%B1%D9%88%D8%B9-%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%85%D8%B1%D9%83%D8%B2-%D8%AA%D9%85%D9%8A%D8%B2-%D8%B9%D9%84%D9%85%D9%89/4403354>

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<https://www.youm7.com/story/2019/9/4/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D8%AA%D8%B4%D8%A7%D8%B1%D9%83-%D9%81%D9%89-%D9%85%D8%B4%D8%B1%D9%88%D8%B9-%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%85%D8%B1%D9%83%D8%B2-%D8%AA%D9%85%D9%8A%D8%B2-%D8%B9%D9%84%D9%85%D9%89/4403354>

<https://www.youm7.com/story/2019/9/4/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D8%AA%D8%B4%D8%A7%D8%B1%D9%83-%D9%81%D9%89-%D9%85%D8%B4%D8%B1%D9%88%D8%B9-%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%85%D8%B1%D9%83%D8%B2-%D8%AA%D9%85%D9%8A%D8%B2-%D8%B9%D9%84%D9%85%D9%89/4403354>

<https://www.youm7.com/story/2019/9/4/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D8%AA%D8%B4%D8%A7%D8%B1%D9%83-%D9%81%D9%89-%D9%85%D8%B4%D8%B1%D9%88%D8%B9-%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%85%D8%B1%D9%83%D8%B2-%D8%AA%D9%85%D9%8A%D8%B2-%D8%B9%D9%84%D9%85%D9%89/4403354>

<https://www.youm7.com/story/2019/9/4/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D8%AA%D8%B4%D8%A7%D8%B1%D9%83-%D9%81%D9%89-%D9%85%D8%B4%D8%B1%D9%88%D8%B9-%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%85%D8%B1%D9%83%D8%B2-%D8%AA%D9%85%D9%8A%D8%B2-%D8%B9%D9%84%D9%85%D9%89/4403354>

<https://www.youm7.com/story/2019/9/4/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D8%AA%D8%B4%D8%A7%D8%B1%D9%83-%D9%81%D9%89-%D9%85%D8%B4%D8%B1%D9%88%D8%B9-%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%85%D8%B1%D9%83%D8%B2-%D8%AA%D9%85%D9%8A%D8%B2-%D8%B9%D9%84%D9%85%D9%89/4403354>

8. There is a cooperation protocol between Beni-Suef University and the Holding Company for Drinking Water and Wastewater. This protocol aims to provide training opportunities for students of different faculties within the company and to cooperate in publishing scientific research and solving technical problems.

<https://www.dostor.org/4120495>

https://www.bsu.edu.eg/News.aspx?NID=151395&cat_id=1



<https://www.egyptcoewater.eg/sustainability/>

https://www.bsu.edu.eg/News.aspx?NID=52972&cat_id=1

9. A cooperation project in the field of research with York University in England, to desalinate sea water and to use it in the agriculture process or as pure water for drinking.

<https://ahlmasnews.com/news/local-news/1082221/%D8%A5%D8%AF%D8%B1%D8%A7%D8%AC-8-%D9%85%D9%86-%D8%A3%D8%B9%D8%B6%D8%A7%D8%A1-%D9%87%D9%8A%D8%A6%D8%A9-%D8%A7%D9%84%D8%AA%D8%AF%D8%B1%D9%8A%D8%B3-%D8%B6%D9%85%D9%86-%D9%82%D8%A7%D8%A6%D9%85%D8%A9-%D8%B3%D8%AA%D8%A7%D9%86%D9%81%D9%88%D8%B1%D8%AF-%D8%A5%D9%86%D8%AC%D8%A7%D8%B2-%D8%B9%D8%B8%D9%8A%D9%85>

10. A cooperation protocol between the university and Chinese Research Center of Excellence for Water Management and Technology for the treatment of sewage and industrial wastewater in the northern Upper Egypt region, as shown in the below image;.

قرارات مجلس جامعة بني سويف رقم (١٧٨) بتاريخ ٢٠١٩/١٢/٣١

أمانة المجلس واللجان

الجهة الصادر لها:
الموضوع:

المذكورة المعروضة من مدير مركز تطوير وسائل المحافظة على البيئة بشأن الموافقة على إنشاء مركز التميز البحثي المصري الصيني لإدارة وتكنولوجيا المياه من خلال مركز تطوير وسائل المحافظة على البيئة وذلك على النحو المعروض .

القرار
وافق المجلس

أمانة المجلس واللجان
مجلس الجامعة
الرقم: ١٧٨
تاريخ: ٣١ / ١٢ / ٢٠١٩

يتمسك ...
رئيس المجلس
د. / منصور حسن

أمين عام الجامعة - أمين المجلس



11. A cooperation protocol between Beni-Suef University and the Arab Organization for Industrialization with the aim of optimizing the use of local resources and capabilities. It allows cooperation in various research areas of common interest between the two sides, such as seawater desalination and industrial and sewage treatment,
https://www.masrawy.com/news/news_regions/details/2022/3/31/2200457/%D8%A8%D8%B1%D9%88%D8%AA%D9%88%D9%83%D9%88%D9%84-%D8%AA%D8%B9%D8%A7%D9%88%D9%86-%D8%A8%D9%8A%D9%86-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%8A-%D8%B3%D9%88%D9%8A%D9%81-%D9%88%D8%A7%D9%84%D9%87%D9%8A%D8%A6%D8%A9-%D8%A7%D9%84%D8%B9%D8%B1%D8%A8%D9%8A%D8%A9-%D9%84%D9%84%D8%AA%D8%B5%D9%86%D9%8A%D8%B9

12. The use of agricultural drainage water to irrigate the greenhouses located on the 320 acres complex.
https://www.bsu.edu.eg//News.aspx?NID=48763&cat_id=1

13. Implementation of a number of initiatives, training courses, workshops and campaigns to increase the awareness of importance of water and water treatment, for example;
 - a) University's plan to raise awareness of rationalization of water consumption
<https://www.elbalad.news/3192479>
 - b) Workshops on the use of water desalination for agricultural purposes
https://www.bsu.edu.eg//News.aspx?NID=48763&cat_id=1
 - c) A workshop on the importance of water and how to treat water for students of STEM schools in Beni-Suef Governorate
https://www.bsu.edu.eg/Gallery.aspx?ID=1191&cat_id=10
 - d) The visit of the President of Beni-Suef University to the wastewater treatment project in the village of Al-Basateen, accompanied by the Governor and the American delegation
https://www.bsu.edu.eg/News.aspx?NID=59742&cat_id=1
 - e) Conference of the Faculty of Postgraduate Studies for Advanced Sciences entitled "The Fifth International Conference on Advanced Sciences (ICASS). 9-12 November 2019 Hurgada, Egypt"
<https://www.shorouknews.com/news/view.aspx?cdate=11112019&id=d0931a3a-5f0d-4c3f-9851-a83bb78c2435>
 - f) The Fourth International Conference "The Risks of Environmental Pollution in Developing Countries",
https://www.bsu.edu.eg//News.aspx?NID=104875&cat_id=5
 - g) A series of seminars at Beni-Suef University to raise awareness of sustainable development goals
https://www.bsu.edu.eg/News.aspx?NID=104734&cat_id=1



Example of agreement with the Center of Excellence for Water (Beni-Suef University, Beni-Suef)



The Environment and Water Lab (Faculty of Postgraduate studies for Advanced Sciences., Beni-Suef University, Beni-Suef)



The Water Studies and Research Center (Beni-Suef University, Beni-Suef)

**جامعة بني سويف تعلن فوز
مشروع لإنتاج الأنابيب النانومترية
لمعالجة المياه**



Example of winning of research project; Production of nano-tubes from natural minerals and their use for water treatment (Beni-Suef University, Beni-Suef)

طلاب جامعة بني سويف يبتكرون

Jan 2020 5



Example of research project; advanced removal of selected pharmaceutical residues from wastewater using nano-metal/organic frameworks (Beni-Suef University, Beni-Suef)

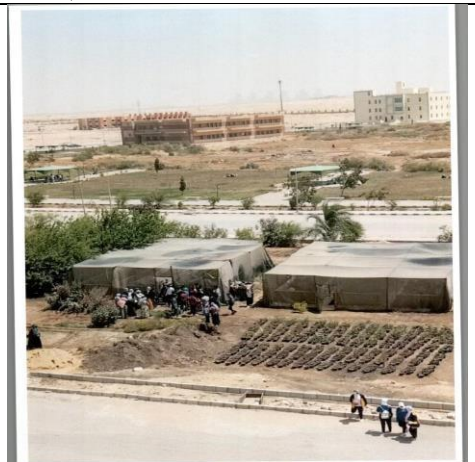
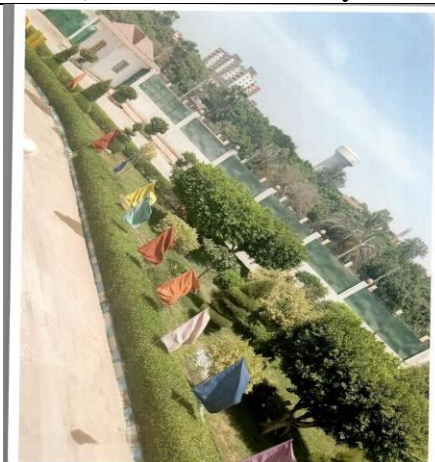
Example of research project; The effective removal of industrial wastewater pollutants using clay grafted with nanomagnetic compounds (Beni-Suef University, Beni-Suef)



خلال زيارة ابناء كلية الزراعة لمحطات المياه والصرف

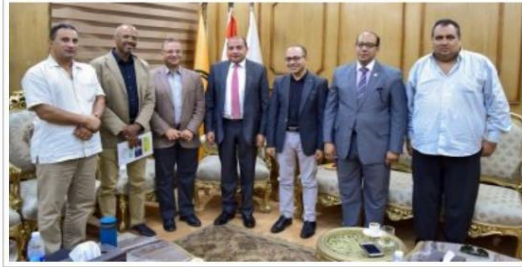
Example of visit of president of the university to the sewage treatment project in the village of El-Basateen. (Beni-Suef University, Beni-Suef)

Example of a training course for students of the Faculty of Agriculture to purify sewage (Beni-Suef University, Beni-Suef)

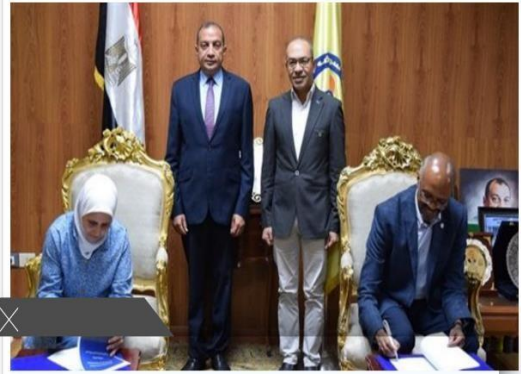


Greenhouses (Faculty of Agriculture, 320 Acres Complex Campus, Beni-Suef University, Beni-Suef)

جامعة بني سويف تشارك في
مشروع إنشاء مركز تميز علمي
لمعالجة مشاكل المياه



Example of the participation of Beni-Suef University in establishing the Research Center of Excellence for treatment of water problems (Beni-Suef University, Beni-Suef)



فريق البحث بالجامعة

Example of winning competitive projects in the water research field funded by the Water Excellence Center in Alexandria (Beni-Suef University, Beni-Suef)

CENTER OF EXCELLENCE FOR WATER
THIRD PUBLIC PRIVATE PARTNERSHIP
THE ROLE OF PUBLIC PRIVATE PARTNERSHIP
(PPP)
IN SOLVING INDUSTRIAL WASTE WATER TREATMENT PROBLEMS
IN EGYPT

Dr. Samaa El Dek – Co-chair of the Sustainability pillar

COMPONENT 5: SUSTAINABILITY

Component Leader: **AUC**

Component Co-Leader: **Beni-Suef University**

Date: **2nd of September 2020**

Venue: **zoom online workshop**

(https://aucegypt.zoom.us/webinar/register/WN_8Qiq-5LERW2oNwStOHzkYw)

Example of an online workshop that showed the role and relationship of Public Private Partnership of the Center of Excellence for water with Beni-Suef University to the long-term sustainability of the COE-Water activities.

Clean Water and Sanitation (SDG 6)

SDG 6.3.2. Preventing water system pollution

Processes to prevent polluted water entering the water system, including pollution caused by accidents and incidents at the university.

1. All three BSU campuses in addition to the separated buildings of BSU use tap water that meets the national drinking water quality standards as the main source of water.
2. The water supply and sewage pipe networks in BSU are installed independently. The principles for the installation of water supply and sewage pipes were done, as stipulated by the Holding Company of Water and Wastewater.
3. Water safety is ensured through the inspection, management, maintenance, cleaning of water storage towers, pipelines, drinking water equipment, and water quality testing.
4. The sewage pipe network is installed at a greater depth than the water supply pipe network, hence there is no contamination of the water supply system.
5. Periodic maintenance of water lines is done by the General Administration of Engineering Affairs of the university
6. Drinking water for our staff and students is supplied through well-distributed public water dispensers. The total number of dispensers are 300 on all Beni-Suef Campuses and separated buildings.
7. There are different centers and many appliances at BSU that are concerned with good management of water resources through the purification of drinking water and sewage treatment such as:
 - a) The Center for Environmental Studies and Research at Faculty of Earth Science.
 - b) An environment and water lab at the Faculty of Postgraduate studies for Advanced Sciences.
 - c) The Center for the Development of Means of Preserving the Environment at the main university campus.
 - d) The Water Studies and Research Center at Faculty of Earth Science
<https://www.elwatannews.com/news/details/4316926?t=mpush>
<https://www.earthsc.bsu.edu.eg/Backend/Uploads/PDF/%D9%85%D8%B7%D9%88%D9%8A%D9%87%20%D8%A7%D9%84%D9%85%D8%B1%D9%83%D8%B2-%D9%85%D8%AD%D9%88%D9%84.pdf>
https://www.bsu.edu.eg/News.aspx?NID=96324&cat_id=1

8. Faculties of Science, Earth Science, and postgraduate Studies for Advanced Sciences are interested in assessment of quality of drinking water in Beni-Suef using the latest scientific research devices.

<https://www.facebook.com/BSUUniv/videos/696420934669518/>

<https://www.facebook.com/advancedsciences/videos/459802619399287/>

<https://www.facebook.com/100024024607600/videos/1330582720708432/>

https://1drv.ms/v/s!Am6_uteZODGndCSsZACPjy8IKhQ

https://www.bsu.edu.eg/News.aspx?NID=86718&cat_id=1&fbclid=IwAR2i3qZcCALJWmlu

https://1drv.ms/v/s!Am6_uteZODGndX-bG5fkTgsjC5Y

https://www.bsu.edu.eg/Content.aspx?side_id=1615&cat_id=50

<https://alwafd.news/%D8%A3%D8%AE%D8%A8%D8%A7%D8%B1-%D9%88%D8%AA%D9%82%D8%A7%D8%B1%D9%8A%D8%B1/%D8%A7%D9%84%D9%85%D8%AD%D8%A7%D9%81%D8%B8%D9%80%D8%A7%D8%AA/3332807-%D9%85%D8%AC%D9%84%D8%B3-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%8A-%D8%B3%D9%88%D9%8A%D9%81-%D9%8A%D9%88%D8%A7%D9%81%D9%82-%D8%B9%D9%84%D9%89-%D8%AA%D9%86%D8%B8%D9%8A%D9%85-%D9%86%D8%AF%D9%88%D8%A9-%D8%A8%D8%B9%D9%86%D9%88%D8%A7%D9%86-%D9%85%D9%88%D8%A7%D8%B1%D8%AF%D9%86%D8%A7-%D8%A7%D9%84%D9%85%D8%A7%D8%A6%D9%8A%D8%A9-%D9%86%D8%AD%D8%A7%D9%81%D8%B9%D9%84%D9%8A%D9%87%D8%A7-%D9%84%D8%AE%D9%8A%D8%B1-%D8%A8%D9%84%D8%AF%D9%86%D8%A7>

https://1drv.ms/v/s!Am6_uteZODGndCSsZACPjy8IKhQ

https://1drv.ms/v/s!Am6_uteZODGndX-bG5fkTgsjC5

<https://www.elbalad.news/3263431>

<https://www.science.bsu.edu.eg/>

<https://www.elbalad.news/3263431>

<https://www.science.bsu.edu.eg/>

<https://www.elbalad.news/3263431>

<https://www.science.bsu.edu.eg/>

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<https://www.science.bsu.edu.eg/>

<https://www.elbalad.news/3263431>

<https://www.science.bsu.edu.eg/>

<https://www.science.bsu.edu.eg/>

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<https://gate.ahram.org.eg/News/3118024.aspx>

<https://www.dostor.org/4120495>

https://www.bsu.edu.eg/News.aspx?NID=151395&cat_id=1

<https://www.egyptcoewater.eg/sustainability/>

10. The university made an agreement with the Center of Excellence for Water, a USAID funded project that is interested in finding sustainable solutions for water problems.

<https://gate.ahram.org.eg/News/3118024.aspx>

https://bsu.edu.eg/SingleNews.aspx?NID=152109&cat_id=1#:~:text=%D8%A7%D9%84%D8%B9%D8%A7%D9%85%D8%A9%20%D9%84%D9%84%D9%85%D8%B4%D8%B1%D9%88%D8%B9%D8%A7%D8%AA%20%D8%A7%D9%84%D8%A8%D9%8A%D8%A6%D9%8A%D8%A9-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9%20%D8%A8%D9%86%D9%8A%20%D8%B3%D9%88%D9%8A%D9%81%20%D8%AA%D8%AA%D8%B5%D8%AF%D8%B1%20%D9%82%D8%A7%D8%A6%D9%85%D8%A9%20%D8%A7%D9%84%D9%81%D8%A7%D8%A6%D8%B2%D9%8A%D9%86%20%D9%88%D8%AA%D8%AD%D8%B5%D8%AF,%D9%85%D8%A7%D8%AC%D8%B3%D8%AA%D9%8A%D8%B1%20%D9%85%D9%86%20%D9%85%D8%B1%D9%83%D8%B2%20%D8%AA%D9%85%D9%8A%D8%B2%20%D8%A7%D9%84%D9%85%D9%8A%D8%A7%D9%87&text=%D8%A3%D8%B9%D9%84%D9%86%20%D8%A7%D9%84%D8%AF%D9%83%D8%AA%D9%88%D8%B1%20%D9%85%D9%86%D8%B5%D9%88%D8%B1%20%D8%AD%D8%B3%D9%86%20%D8%B1%D8%A6%D9%8A%D8%B3,%D9%85%D9%86%20%D9%85%D8%B1

https://bsu.edu.eg/SingleNews.aspx?NID=152109&cat_id=1#:~:text=%D8%A7%D9%84%D8%B9%D8%A7%D9%85%D8%A9%20%D9%84%D9%84%D9%85%D8%B4%D8%B1%D9%88%D8%B9%D8%A7%D8%AA%20%D8%A7%D9%84%D8%A8%D9%8A%D8%A6%D9%8A%D8%A9-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9%20%D8%A8%D9%86%D9%8A%20%D8%B3%D9%88%D9%8A%D9%81%20%D8%AA%D8%AA%D8%B5%D8%AF%D8%B1%20%D9%82%D8%A7%D8%A6%D9%85%D8%A9%20%D8%A7%D9%84%D9%81%D8%A7%D8%A6%D8%B2%D9%8A%D9%86%20%D9%88%D8%AA%D8%AD%D8%B5%D8%AF,%D9%85%D8%A7%D8%AC%D8%B3%D8%AA%D9%8A%D8%B1%20%D9%85%D9%86%20%D9%85%D8%B1%D9%83%D8%B2%20%D8%AA%D9%85%D9%8A%D8%B2%20%D8%A7%D9%84%D9%85%D9%8A%D8%A7%D9%87&text=%D8%A3%D8%B9%D9%84%D9%86%20%D8%A7%D9%84%D8%AF%D9%83%D8%AA%D9%88%D8%B1%20%D9%85%D9%86%D8%B5%D9%88%D8%B1%20%D8%AD%D8%B3%D9%86%20%D8%B1%D8%A6%D9%8A%D8%B3,%D9%85%D9%86%20%D9%85%D8%B1

https://bsu.edu.eg/SingleNews.aspx?NID=152109&cat_id=1#:~:text=%D8%A7%D9%84%D8%B9%D8%A7%D9%85%D8%A9%20%D9%84%D9%84%D9%85%D8%B4%D8%B1%D9%88%D8%B9%D8%A7%D8%AA%20%D8%A7%D9%84%D8%A8%D9%8A%D8%A6%D9%8A%D8%A9-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9%20%D8%A8%D9%86%D9%8A%20%D8%B3%D9%88%D9%8A%D9%81%20%D8%AA%D8%AA%D8%B5%D8%AF%D8%B1%20%D9%82%D8%A7%D8%A6%D9%85%D8%A9%20%D8%A7%D9%84%D9%81%D8%A7%D8%A6%D8%B2%D9%8A%D9%86%20%D9%88%D8%AA%D8%AD%D8%B5%D8%AF,%D9%85%D8%A7%D8%AC%D8%B3%D8%AA%D9%8A%D8%B1%20%D9%85%D9%86%20%D9%85%D8%B1%D9%83%D8%B2%20%D8%AA%D9%85%D9%8A%D8%B2%20%D8%A7%D9%84%D9%85%D9%8A%D8%A7%D9%87&text=%D8%A3%D8%B9%D9%84%D9%86%20%D8%A7%D9%84%D8%AF%D9%83%D8%AA%D9%88%D8%B1%20%D9%85%D9%86%D8%B5%D9%88%D8%B1%20%D8%AD%D8%B3%D9%86%20%D8%B1%D8%A6%D9%8A%D8%B3,%D9%85%D9%86%20%D9%85%D8%B1

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[https://bsu.edu.eg/SingleNews.aspx?NID=152109&cat_id=1#:~:text=%D8%A7%D9%84%D8%B9%D8%A7%D9%85%D8%A9%20%D9%84%D9%84%D9%85%D8%B4%D8%B1%D9%88%D8%B9%D8%A7%D8%AA%20%D8%A7%D9%84%D8%A8%D9%8A%D8%A6%D9%8A%D8%A9-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9%20%D8%A8%D9%86%D9%8A%20%D8%B3%D9%88%D9%8A%D9%81%20%D8%AA%D8%AA%D8%B5%D8%AF%D8%B1%20%D9%82%D8%A7%D8%A6%D9%85%D8%A9%20%D8%A7%D9%84%D9%81%D8%A7%D8%A6%D8%B2%D9%8A%D9%86%20%D9%88%D8%AA%D8%AD%D8%B5%D8%AF,%D9%85%D8%A7%D8%AC%D8%B3%D8%AA%D9%8A%D8%B1%20%D9%85%D9%86%20%D9%85%D8%B1%D9%83%D8%B2%20%D8%AA%D9%85%D9%8A%D8%B2%20%D8%A7%D9%84%D9%85%D9%8A%D8%A7%D9%87&text=%D8%A3%D8%B9%D9%84%D9%86%20%D8%A7%D9%84%D8%AF%D9%83%D8%AA%D9%88%D8%B](https://bsu.edu.eg/SingleNews.aspx?NID=152109&cat_id=1#:~:text=%D8%A7%D9%84%D8%B9%D8%A7%D9%85%D8%A9%20%D9%84%D9%84%D9%85%D8%B4%D8%B1%D9%88%D8%B9%D8%A7%D8%AA%20%D8%A7%D9%84%D8%A8%D9%8A%D8%A6%D9%8A%D8%A9-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9%20%D8%A8%D9%86%D9%8A%20%D8%B3%D9%88%D9%8A%D9%81%20%D8%AA%D8%AA%D8%B5%D8%AF%D8%B1%20%D9%82%D8%A7%D8%A6%D9%85%D8%A9%20%D8%A7%D9%84%D9%81%D8%A7%D8%A6%D8%B2%D9%8A%D9%86%20%D9%88%D8%AA%D8%AD%D8%B5%D8%AF,%D9%85%D8%A7%D8%AC%D8%B3%D8%AA%D9%8A%D8%B1%20%D9%85%D9%86%20%D9%85%D8%B1%D9%83%D8%B2%20%D8%AA%D9%85%D9%8A%D8%B2%20%D8%A7%D9%84%D9%85%D9%8A%D8%A7%D9%87&text=%D8%A3%D8%B9%D9%84%D9%86%20%D8%A7%D9%84%D8%AF%D9%83%D8%AA%D9%88%D8%B1%20%D9%85%D9%86%D8%B5%D9%88%D8%B1%20%D8%AD%D8%B3%D9%86%20%D8%B1%D8%A6%D9%8A%D8%B3,%D9%85%D9%86%20%D9%85%D8%B1)

<https://www.facebook.com/100024024607600/videos/1330582720708432/>
<https://wrc.wsu.edu/organization/beni-suef-university/>
<https://www.facebook.com/egyptcoewater/posts/406066994067902>
<https://www.usaid.gov/egypt/higher-education/center-excellence-water>

11. Different research projects at Beni-Suef University had funding in the field of water pollution control such as:

- a) Preparation and characterization of nanometric polymeric structures employed to remove heavy metals from contaminated water.
- b) Monitoring and treating drug residues in wastewater.
- c) Synthesis of innovative hollow fibers polymer Nano composite for selective removal of arsenic from drinking and ground water.
- d) Residues of drugs in the surface waters of the main course of the Nile: assessment of risk, geographical distribution, seasonal variation and biological accumulation.

<https://portal.arid.my/14272/ApplicationUsers/GetProfile/0004-9561>
<https://portal.arid.my/14272/Posts/Details/dab41d3f-eb6c-4e91-b73d-60882d350e25?t=%D9%85%D8%AC%D9%85%D9%88%D8%B9%D8%A9-%D8%B9%D9%85%D9%84-%D8%A7%D9%84%D9%86%D8%A7%D9%86%D9%88%D9%81%D9%88%D8%AA%D9%88%D9%86%D9%83-%D9%88%D8%AA%D8%B7%D8%A8%D9%8A%D9%82%D8%A7%D8%AA%D9%87%D8%A7-%E2%80%93%D9%83%D9%84%D9%8A%D8%A9-%D8%A7%D9%84%D8%B9%D9%84%D9%88%D9%85-%E2%80%93%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D8%AC%D9%85%D9%87%D9%88%D8%B1%D9%8A%D8%A9-%D9%85%D8%B5%D8%B1-%D8%A7%D9%84%D8%B9%D8%B1%D8%A8%D9%8A%D8%A9>
https://www.bsue.edu.eg/Content.aspx?section_id=13062&cat_id=361

12. Different teaching courses at Beni-Suef University are related water pollution such as:

- a) Clean Water Technology
- b) Environmental chemistry and analysis
- c) Environmental Legislative Framework and Methods of Enforcement
- d) Membrane science and technology
- e) Basic hydraulics

13. Some examples of registered theses are related to pure water research as:

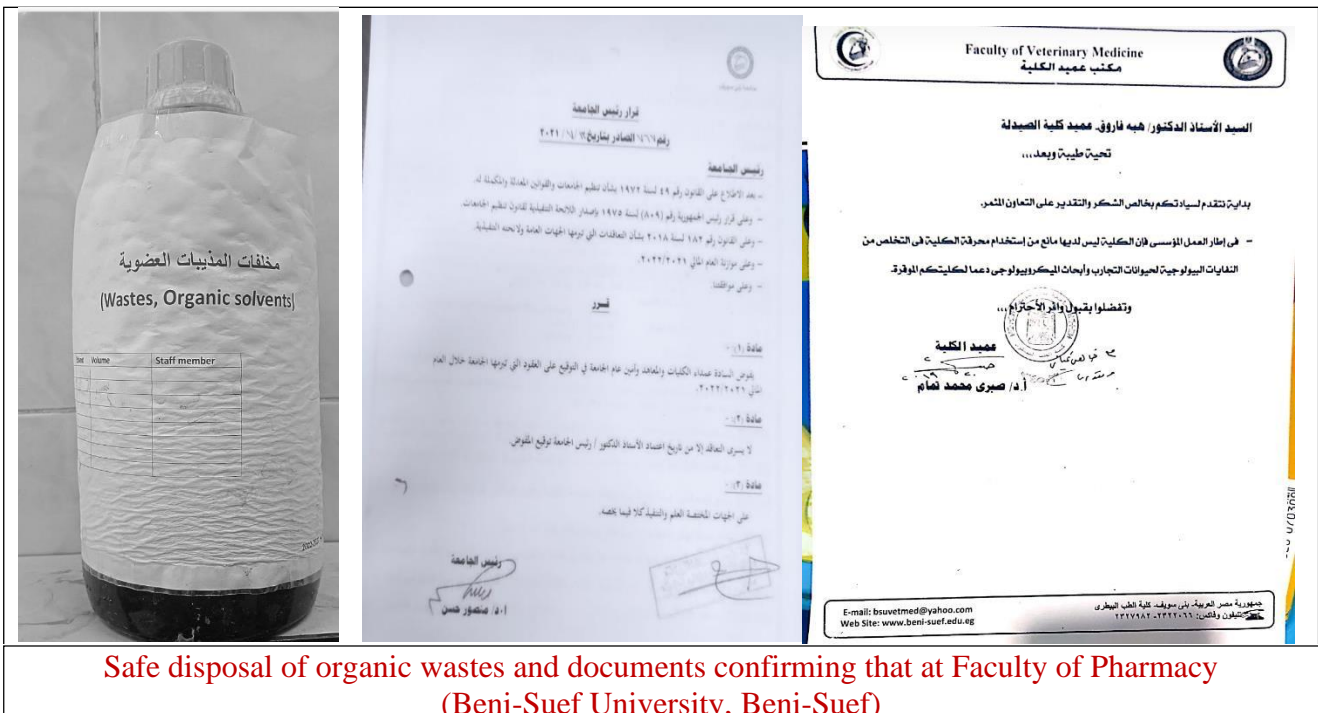
- a) Preparation and Characterization of polymeric Nanofibers-Based Composites for Heavy metals Removal from Drinking and Groundwater
- b) Nanocomposites for Arsenic Removal from Water
- c) Synthesis and characterization of titanate nanotubes for heavy metals and organic pollutants removal from contaminated water
- d) application of nanotechnology for remediation of radioactive pollutants in water
- e) Modeling of the Impact of Socio-Economic and Environmental alterations on Surface Water Quality
- f) Assessment the risks and benefits of discharged alum drinking water treatment plants (DWTPs) sludge on water quality at Fayoum governorate, Egypt

- g) Heavy metals monitoring in water, sediment and fish from the Nile River and their health risk assessment on humans at the East region of Beni-Suef, Egypt
- h) "Evaluation of drinking water quality using GIS: A case study in El Fayoum governorate-Egypt"
- i) Address salinity wells and using the effluent for agriculture and livestock production
- j) Investigation of some environmental impacts of anthropogenic pollutants on River Nile water quality
- k) Determination, monitoring and risk assessment of selected pesticides in agriculture drain and Nile River, Assiut Governorate

14. The water quality of stored rainwater in the well dug in the 320 acres complex campus is improved by natural processes such as sedimentation, chemical analysis, solar sterilization, and soil filtration. This also allows the treatment of sedimentary particles. As a natural system, storage tanks do not need a power source or high-tech equipment.

15. Improper disposal of different wastes leads to water pollution that adversely affects all life forms that directly or indirectly depend on this source. Hence, there are clear and cautionary policies and programs in all parts of the university for the safe and proper disposal of different waste types aiming to secure pure water through the following instructions:

- a) Avoiding throwing litter in toilets and sinks and the use of garbage cans instead.
- b) Avoiding throwing any organic or inorganic chemical wastes in toilets and sinks. There is safe collection of these hazardous wastes in specific containers at the university.
- c) Avoiding flushing medicines down the toilets.



Safe disposal of organic wastes and documents confirming that at Faculty of Pharmacy (Beni-Suef University, Beni-Suef)

الادارة العامة
٢٠٢٢ / ٥ / ١٨



جامعة بني سويف



قطاع خدمة المجتمع وتنمية البيئة
الادارة العامة للمشروعات البيئية

السيد الأستاذ / مدير عام المدن الجامعية

تحية طيبة .. وبعد

بناء على تعليمات معالي أ.د/سامح المراغى نائب رئيس الجامعة لشئون خدمة المجتمع وتنمية البيئة وفي إطار مشاركة جامعة بني سويف في مسابقة تصنيف الجامعات كجامعة خضراء لذا نرجوا من سيادتكم توفير البيانات الخاصة بإدارتكم الموقرة لتسهيل استكمال ملف المشاركة كما نامل ذكر اللينك الخاص بموقعكم الرسمي أو صفحة الفيس بوك مع توضيح البيانات المطلوبه وفي حالة عدم وجود البيانات لديكم نرجوا سرعة موافاتنا بالرد بعدم توافرها أو ترشيح الجهة المختصة في موعد أقصاه ٢٠٢٢/٥/١٥ مع الأخذ في الاعتبار أن الأمر هام وعاجل في توفير متطلبات المعيار الثالث (النفايات) ١٨% كما يلي:

- ٣-١ برنامج إعادة تدوير مخلفات الجامعة
- ٣-٢ برنامج للحد من استخدام الورق والبلاستيك في الحرم الجامعي
- ٣-٣ معالجة المخلفات العضوية
- ٣-٤ معالجة المخلفات غير العضوية
- ٣-٥ تداول المخلفات السامة
- ٣-٦ الصرف الصحي

شاكرين حسن تعاونكم معنا،،،،

مدير الادارة العامة للمشروعات البيئية

أ.أ. زينب رجب

٢٧١
٢٠٢٢ / ٥ / ١٨

An example of instructions given to the university's cities to safely separate and treat the different types of waste



Clean Water and Sanitation (SDG 6)

SDG 6.3.3 Free drinking water provided

Provide free drinking water for students, staff and visitors (e.g. drinking waterfountains).

BSU has installed a total of 300 drinking water dispensers in the various academic and administrative units. Students, faculty, staff, and visitors can obtain drinking water for free using their own receptacles. Filter cartridges are replaced every three months, hence, the dispensers provide free and clean drinkingwater for staff and students on campus.

Clean Water and Sanitation (SDG 6)

SDG6.3.4 Water-conscious building standards

Apply building standards to minimize water use

1. There are different water-saving equipment within Beni-Suef University as follows:
 - a) Water efficient water toilets (low-flush toilets).
 - b) Low flow urinal
 - c) Automatic water taps and low flow water taps



Example of water efficient water closet (toilet)
(Beni-Suef University, Beni-Suef)



Example of low flow urinals (Beni-Suef University,
Beni-Suef)



Example of automatic water taps (Beni-Suef University, Beni-Suef)



2. Leaky taps or toilets are repaired immediately and there is a periodic inspection of all water taps in faculties, institutes and various centers in the university.

<https://m.akhbarelyom.com/news/newdetails/3516527/1/%D8%B1%D8%A6%D9%8A%D8%B3-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D9%8A%D9%88%D8%AC%D9%87-%D8%A8%D8%A7%D9%84%D8%A7%D9%86%D8%AA%D9%87%D8%A7%D8%A1-%D9%85%D9%86-%D8%A3%D8%B9>
<https://gate.ahram.org.eg/News/2842952.aspx>

3. Periodic maintenance of water lines by the General Administration of Engineering Affairs of the university.

<https://www.facebook.com/new.bsu.edu/>

4. Faculty of Earth Science, Faculty of Science and Faculty of Postgraduate Studies for Advanced Sciences have centers and laboratories that are concerned with the conservation, development and good management of water resources through the purification of drinking water, sewage treatment.

<https://www.elbalad.news/3263431>
<https://www.facebook.com/advancedsciences/videos/459802619399287/>
https://www.earthsc.bsu.edu.eg/Content.aspx?side_id=1611&cat_id=50
https://www.earthsc.bsu.edu.eg/ContentSide.aspx?section_id=4023&cat_id=50
<https://www.facebook.com/100024024607600/videos/1330582720708432/>
https://www.psas.bsu.edu.eg/ContentSide.aspx?section_id=11742&cat_id=18
https://www.psas.bsu.edu.eg/Content.aspx?section_id=5745&cat_id=18
<https://www.science.bsu.edu.eg/>
https://1drv.ms/v/s!Am6_uteZODGndCSsZACPjy8IKhQ
https://1drv.ms/v/s!Am6_uteZODGndX-bG5fkTgsjC5Y

5. Making training courses for students at the Faculty of Agriculture for using different systems and designs of aquaponics (soilless farming) that is considered an ideal method to deal with water problems.

<https://almessa.gomhuriaonline.com/%D8%A7%D9%84%D8%B2%D8.../>
<https://www.facebook.com/groups/1564819540398888/posts/2790583604489136/?mibextid=6NoCDW>

6. The university has a declared and clear plan to increase the awareness of students of rationalizing water consumption that involves:

- a) Holding workshops, educational seminars, lectures and continuous awareness campaigns on ways to conserve water and its best use. For example;

- The "Green Environment" initiative on how to rationalize water and preserve the environment

https://www.bsu.edu.eg/News.aspx?NID=60336&cat_id=1

- A series of seminars at Beni-Suef University to raise awareness of sustainable development goals

https://www.bsu.edu.eg/News.aspx?NID=104734&cat_id=1

- University's plan to raise awareness of rationalization of water consumption

<https://www.elbalad.news/3192479>

- The launch of "Conserve Water ... Save Energy" initiative for Faculty of Social Work, and "With Our Hands We Cultivate It" initiative for Faculty of Environmental Agriculture and Bio-development.

<https://ahlmasrnews.com/828545>



- The inauguration of an environmental protection family within each college
<https://www.shorouknews.com/news/view.aspx?cdate=30122019&id=36c467d7-79a1-4175-aba6-c0916629b697>

- Workshops on the use of water desalination for agricultural purposes
https://www.bsu.edu.eg//News.aspx?NID=48763&cat_id=1
- Organizing a symposium entitled " Our Water Resources, We should preserve them for our country" that involves water resources on Egypt and the value of water.
<https://alwafd.news/%D8%A3%D8%AE%D8%A8%D8%A7%D8%B1-%D9%88%D8%AA%D9%82%D8%A7%D8%B1%D9%8A%D8%B1%D8%A7%D9%84%D9%85%D8%AD%D8%A7%D9%81%D8%B8%D9%80%D8%A7%D8%AA/3332807-%D9%85%D8%AC%D9%84%D8%B3-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%8A-%D8%B3%D9%88%D9%8A%D9%81-%D9%8A%D9%88%D8%A7%D9%81%D9%82-%D8%B9%D9%84%D9%89-%D8%AA%D9%86%D8%B8%D9%8A%D9%85-%D9%86%D8%AF%D9%88%D8%A9-%D8%A8%D8%B9%D9%86%D9%88%D8%A7%D9%86-%D9%85%D9%88%D8%A7%D8%B1%D8%AF%D9%86%D8%A7-%D8%A7%D9%84%D9%85%D8%A7%D8%A6%D9%8A%D8%A9-%D9%86%D8%AD%D8%A7%D9%81%D8%B8-%D8%B9%D9%84%D9%8A%D9%87%D8%A7-%D9%84%D8%AE%D9%8A%D8%B1-%D8%A8%D9%84%D8%AF%D9%86%D8%A7>

b) Encouraging different inventions with students aiming to save water, for example: i) invention of a device that can save 80 % of water consumption with a student at Faculty of Arts. It works by using the pressure of water balloon in the toilet water tank, hence only 8 L of water is used instead of using about 12 L water in one process, and ii) A number of students from the Faculty of Computers and information systems at Beni-Suef University designed a chip that will be installed on water meters to measure the daily consumption rate, and then enable it to follow up on waste and rationalization for re-pricing. They also created a Web Service & Mobile App for subscribers to enable them to view bills and consumption.

<https://www.youm7.com/story/2021/7/4/%D8%B7%D8%A7%D9%84%D8%A8%D8%A9-%D8%A8%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D8%AA%D8%AE%D8%AA%D8%B1%D8%B9-%D8%AC%D9%87%D8%A7%D8%B2%D9%8B%D8%A7-%D9%8A%D9%88%D9%81%D8%B1-80-%D9%85%D9%86-%D8%A7%D8%B3%D8%AA%D9%87%D9%84%D8%A7%D9%83/5378056>
https://www.bsu.edu.eg//News.aspx?NID=10938&cat_id=1

7. Digging a well for underground water at 130 m in the campus of 320 acres complex that contributes to the storage of the rainwater significantly in addition to the underground water. Then the stored water is used to irrigate the gardens of the campus. Water quality is improved by natural processes such as sedimentation, chemical analysis, solar sterilization, and soil filtration. This also allows the treatment of sedimentary particles. As a natural system, storage tanks do not need a power source or high-tech equipment. It can also be used to recharge groundwater.

<https://gate.ahram.org.eg/News/2130535.aspx>
https://www.bsu.edu.eg//News.aspx?NID=64372&cat_id=1
https://www.bsu.edu.eg//News.aspx?NID=64327&cat_id=1

8. The participation of students in competitive master’s scholarships from the Center of Excellence for Water in cooperation with the American University in Egypt. BSU students won 60 funded master studies for water research.

https://www.bsu.edu.eg/NewsDetails_New.aspx?NID=156387&cat_id=1

<https://www.facebook.com/egyptcoewater/posts/406066994067902>

https://www.bsu.edu.eg/News.aspx?NID=86718&cat_id=1&fbclid=IwAR2i3qZcCALJIWmlu#

https://www.bsu.edu.eg/News.aspx?NID=150952&cat_id=1

https://bsu.edu.eg/SingleNews.aspx?NID=152109&cat_id=1#:~:text=%D8%A7%D9%84%D8%B9%D8%A7%D9%85%D8%A9%20%D9%84%D9%84%D9%85%D8%B4%D8%B1%D9%88%D8%B9%D8%A7%D8%AA%20%D8%A7%D9%84%D8%A8%D9%8A%D8%A6%D9%8A%D8%A9-

[. %D8%AC%D8%A7%D9%85%D8%B9%D8%A9%20%D8%A8%D9%86%D9%8A%20%D8%B3%D9%88%D9%8A%D9%81%20%D8%AA%D8%AA%D8%B5%D8%AF%D](https://www.rayalauma.com/2022/09/15/%D8%B1%D8%A6%D9%8A%D8%B3-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D8%A7%D9%84%D8%AD%D8%B5%D9%88%D9%84-%D8%B9%D9%84%D9%89-6-%D9%85%D8%B4%D8%B1%D9%88%D8%B9%D8%A7/)

<https://www.youm7.com/story/2019/9/4/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D8%AA%D8%B4%D8%A7%D8%B1%D9%83-%D9%81%D9%89-%D9%85%D8%B4%D8%B1%D9%88%D8%B9-%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%85%D8%B1%D9%83%D8%B2-%D8%AA%D9%85%D9%8A%D8%B2-%D8%B9%D9%84%D9%85%D9%89/4403354>

<https://www.egyptcoewater.eg/sustainability/>

<https://wrc.wsu.edu/organization/beni-suef-university/>

<https://www.youm7.com/story/2019/9/4/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D8%AA%D8%B4%D8%A7%D8%B1%D9%83-%D9%81%D9%89-%D9%85%D8%B4%D8%B1%D9%88%D8%B9-%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%85%D8%B1%D9%83%D8%B2-%D8%AA%D9%85%D9%8A%D8%B2-%D8%B9%D9%84%D9%85%D9%89/4403354>

<https://www.youm7.com/story/2019/9/4/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D8%AA%D8%B4%D8%A7%D8%B1%D9%83-%D9%81%D9%89-%D9%85%D8%B4%D8%B1%D9%88%D8%B9-%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%85%D8%B1%D9%83%D8%B2-%D8%AA%D9%85%D9%8A%D8%B2-%D8%B9%D9%84%D9%85%D9%89/4403354>

<https://www.youm7.com/story/2019/9/4/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D8%AA%D8%B4%D8%A7%D8%B1%D9%83-%D9%81%D9%89-%D9%85%D8%B4%D8%B1%D9%88%D8%B9-%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%85%D8%B1%D9%83%D8%B2-%D8%AA%D9%85%D9%8A%D8%B2-%D8%B9%D9%84%D9%85%D9%89/4403354>

<https://www.youm7.com/story/2019/9/4/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D8%AA%D8%B4%D8%A7%D8%B1%D9%83-%D9%81%D9%89-%D9%85%D8%B4%D8%B1%D9%88%D8%B9-%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%85%D8%B1%D9%83%D8%B2-%D8%AA%D9%85%D9%8A%D8%B2-%D8%B9%D9%84%D9%85%D9%89/4403354>

<https://www.youm7.com/story/2019/9/4/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D8%AA%D8%B4%D8%A7%D8%B1%D9%83-%D9%81%D9%89-%D9%85%D8%B4%D8%B1%D9%88%D8%B9-%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%85%D8%B1%D9%83%D8%B2-%D8%AA%D9%85%D9%8A%D8%B2-%D8%B9%D9%84%D9%85%D9%89/4403354>

<https://www.youm7.com/story/2019/9/4/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D8%AA%D8%B4%D8%A7%D8%B1%D9%83-%D9%81%D9%89-%D9%85%D8%B4%D8%B1%D9%88%D8%B9-%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%85%D8%B1%D9%83%D8%B2-%D8%AA%D9%85%D9%8A%D8%B2-%D8%B9%D9%84%D9%85%D9%89/4403354>

<https://www.youm7.com/story/2019/9/4/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D8%AA%D8%B4%D8%A7%D8%B1%D9%83-%D9%81%D9%89-%D9%85%D8%B4%D8%B1%D9%88%D8%B9-%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%85%D8%B1%D9%83%D8%B2-%D8%AA%D9%85%D9%8A%D8%B2-%D8%B9%D9%84%D9%85%D9%89/4403354>

<https://www.youm7.com/story/2019/9/4/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D8%AA%D8%B4%D8%A7%D8%B1%D9%83-%D9%81%D9%89-%D9%85%D8%B4%D8%B1%D9%88%D8%B9-%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%85%D8%B1%D9%83%D8%B2-%D8%AA%D9%85%D9%8A%D8%B2-%D8%B9%D9%84%D9%85%D9%89/4403354>

<https://www.youm7.com/story/2019/9/4/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D8%AA%D8%B4%D8%A7%D8%B1%D9%83-%D9%81%D9%89-%D9%85%D8%B4%D8%B1%D9%88%D8%B9-%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%85%D8%B1%D9%83%D8%B2-%D8%AA%D9%85%D9%8A%D8%B2-%D8%B9%D9%84%D9%85%D9%89/4403354>



Example of Water Conservation - Plan about rationalizing water consumption (University Council meeting, Beni-Suef University, Beni-Suef)



Example of Water Conservation – Underground water well (Campus of 320 acres complex, Beni-Suef University, Beni-Suef)



Example of Water Conservation- Environment and Water Lab (Faculty of Earth Science, Beni-Suef University, Beni-Suef)



Example of Water Conservation-Invention of a device that can save 80 % of water



	<p>consumption (Faculty of Arts, Beni-Suef University, Beni-Suef)</p>
<p>Example of Water Conservation- a symposium of "Our Water Resources, We should preserve them for our country" (Beni-Suef University, Beni-Suef)</p>	<p>Example of Water Conservation - The winning of 48 students of competitive master's scholarships from the Center of Excellence for Water (Beni-Suef University, Beni-Suef)</p>
<p>Example of Water Conservation-Training courses for students for using different systems and designs of aquaponics (Faculty of Agriculture, Beni-Suef University, Beni-Suef)</p>	<p>Example of Water Conservation- The Environment and Water Lab (Faculty of Postgraduate studies for Advanced Sciences., Beni-Suef University, Beni-Suef)</p>

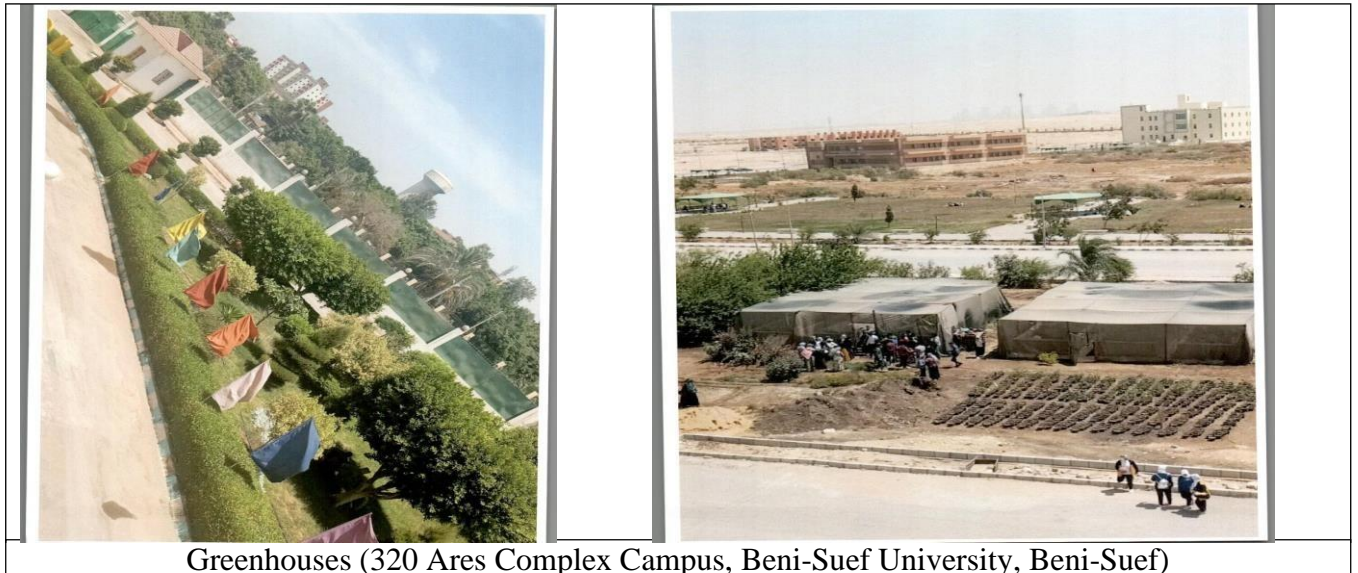
Clean Water and Sanitation (SDG 6)

SDG 6.3.5 Water-conscious planting

Plant landscapes to minimize water usage. (e.g. use drought-tolerant plants)

1. Beni-Suef University is interested in expanding the construction of greenhouses within the university as those located in the 320 acres complex campus and Medicinal and Aromatic Plants Research Institute. Greenhouses provide optimal temperatures for various vegetable crops, hence they face the challenges of water shortage, increase the efficiency of water use and save water consumption.

<https://www.elbalad.news/5477573?fbclid=IwAR2rZT9lUmSpESzIToWEQcRtsiKBfS6VjlXGXwxCc58zBTQCv8NXuGC2zc>



Greenhouses (320 Ares Complex Campus, Beni-Suef University, Beni-Suef)

2. There are different training courses about soilless farming and Aquaponics. One of the significant benefits of aquaponic growing is the minimal water wasted compared to conventional farming. Aquaponics use approximately 90 % less water than traditional farming. In aquaponics, the water is recycled and used timely, as there is no soil to absorb water, and aquaponics continuously uses the same recycled water.

<https://www.facebook.com/groups/1564819540398888/posts/2790583604489136/?mibextid=6NoCDW>

3. Students of the plant production program at Faculty of Agriculture did different field visits, such as ;

- a) A field visit to develop some strategic crops to withstand the shortage of water and nitrogen in the newly reclaimed lands in Middle Egypt and Toshka.

https://agri.bsu.edu.eg/Gallery.aspx?ID=774&cat_id=23&fbclid=IwAR0xROF0V9_B47xr6z4dVZhyhi8DPUsbQCqVKR4bLycwsxFU5REQiwrtVvQ



- b) A field visit to train students of the plant production program to Dina's farm on the Cairo-Alexandria Desert Road.

https://www.agri.bsu.edu.eg/News.aspx?NID=156193&cat_id=23



4. Making agricultural convoys to help the farmer to identify his real problems and to give support and provide him with everything new in modern agricultural methods and systems that aim for optimal practice in the use of fertilizers and rational management of nutrients for plants and access to the highest agricultural productivity.

<https://www.almasryalyoum.com/news/details/2027416>

https://www.agri.bsu.edu.eg/News.aspx?NID=156186&cat_id=23



The agricultural convoy to the village of Harbashant belonging to the village of Suds, Biba Center, Beni-Suef, on Sunday, 10/3/2022

5. Development of skills of the university's students and providing them with the latest information and scientific studies in the agricultural field. For example;
- Using simulation models to improve water productivity and yield in dry areas
 - Organizing training courses for the use of modern and non-traditional techniques in the agricultural sector, including the applications of area sciences, geographic information systems and remote sensing.

https://www.bsu.edu.eg//ShowConfDetails.aspx?conf_id=454&fbclid=IwAR0HcV6gN4qP5UgsMD8adGRgdMhGLXwcIc11Oq58ixvtdHgmaZ9RoGZN-E

https://bsu.edu.eg/NewsDetails_New.aspx?NID=156441&cat_id=1



دعوة

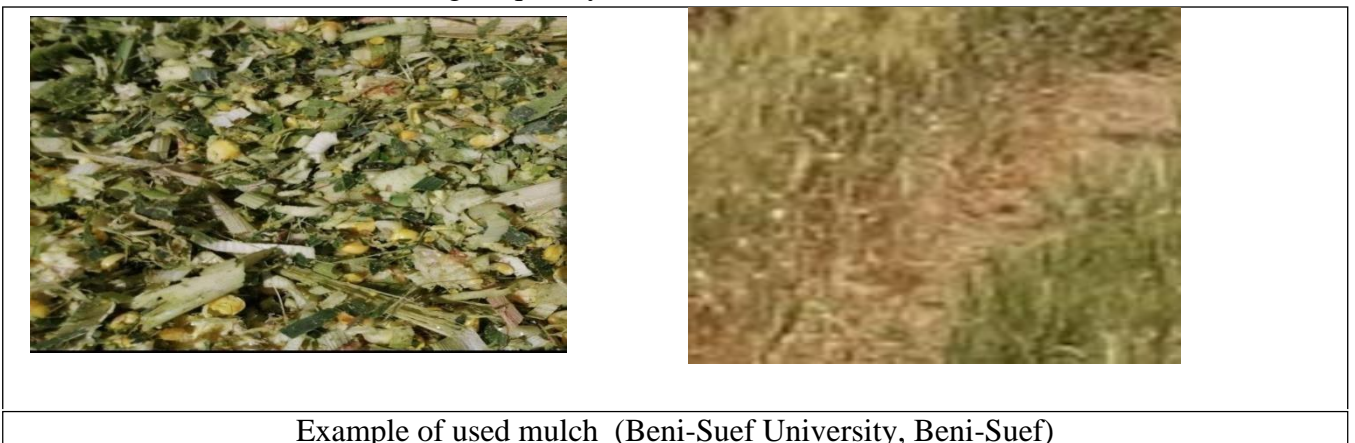
برعاية
الأستاذ الدكتور / منصور حسن أحمد رئيس جامعة بني سويف
وعناية
أ.د/ فاطمة حسن محمد نائب رئيس الجامعة للدراسات العليا والبحوث
أ.د/ محمود سليمان عميد كلية الزراعة البيئية والحيوية والتصنيع
الغذائي
وأشراف
أ.د/ جيهان جابر وكيل الكلية للدراسات العليا والبحوث
يسر كلية الزراعة البيئية والحيوية والتصنيع الغذائي ان تدعو حضراتكم
لحضور ندوة
**استخدام نماذج المحاكاة لتحسين إنتاجية المياه
والمحصول في المناطق الجافة**
المحاضر بالندوة
د/ مها البنا، مدرس بقسم الاراضي
وذلك يوم الاثنين الموافق ١٥ / ٤ / ٢٠١٩ م
في تمام الساعة العاشرة صباحا بمقر الكلية
المنسق د/ حسن علي
مع تحيات د/ رجااب يوسف

An invitation to a symposium on the use of simulation models to improve water productivity and yield in dry areas by Faculty of Agriculture

6. Cutting or trimming of extra grass and using more gravel instead. By using more gravel, the gardens become more decorative and help reducing the watering of grass.



7. Using Mulch to retain moisture that can keep the soil wet for much longer than usual, and it can reduce the need for watering frequently.





8. Reducing the use of clean drinking water for gardens.
9. The use of agricultural drainage water to irrigate the greenhouses located on the 320 acres complex.
https://www.bsu.edu.eg//News.aspx?NID=48763&cat_id=1
10. Digging a well for underground water at 130 m in the campus of 320 acres complex that contributes to the storage of the rainwater significantly in addition to the underground water. Then the stored water is used to irrigate the gardens of the campus.
<https://gate.ahram.org.eg/News/2130535.aspx>
https://www.bsu.edu.eg//News.aspx?NID=64372&cat_id=1
https://www.bsu.edu.eg//News.aspx?NID=64327&cat_id=1
11. A professor at Faculty of Science won a research project for the Academy of Scientific Research in cooperation with China in an applied research project of microbial diversity associated with drought-resistant plants and the mechanism of growth promotion. It is an innovative way to treat the problem of soil desertification and it aims to obtain new bacterial strains able to resist the problem of desertification in Egypt, China and many countries of the world suffer from. That is achieved by combining the results of antibacterial activity, salinity tolerance test and plant growth promotion test.
<https://www.facebook.com/BSUUnivGraduate/posts/pfbid0hzycRN4jAumMPdxNabJ1GaDWhZb9h3agszKqZqSHwbHXnkPqVZBsuaLdHuTMiCbyl>
12. A cooperation protocol between Beni-Suef University and the New Valley Governorate to exploit an area of 200 acres for reclamation and conduct agricultural research as well as, to increase the productivity of strategic agricultural crops achieving self-sufficiency.
<https://www.elbalad.news/4935544>



Clean Water and Sanitation (SDG 6)

SDG 6.4.1 Water reuse policy

1. According to the general strategy of managing water resources at the end of 2020 until 2050 and according to Egypt's strategy for sustainable development until the year 2030, BSU keens to follow these strategies that ensure reducing consumption of water and maximizing the utilization of water resources.

<https://www.sis.gov.eg/Story/545/%D9%85%D8%B5%D8%B1-%D9%88%D9%82%D8%B6%D9%8A%D8%A9-%D8%A7%D9%84%D9%85%D9%8A%D8%A7%D9%87?lang=ar>
<https://www.mwri.gov.eg/water-starety-2050/>
<https://www.facebook.com/sdsegypt2030/>

2. Rationalizing consumption is a collective societal behavior and a sustainable life system that extends to all aspects of life as long as it hurts in the interest of the citizen and the state at the same time. (Egypt's strategy for sustainable development until 2030)

<https://www.mwri.gov.eg/water-starety-2050/>

3. The university holds periodic meetings with different BSU centers and units to review the effectiveness of water usage and to regularly supervise and review the annual campus plan for water-saving goal, through meetings of Environmental Sustainability. For example;
 - a) Meeting with the Office of International Ranking and Sustainable Development to discuss its reports and proposed recommendations about the goals of sustainable development for the university according to the vision of Egypt 2030 for the following year.
 - b) Meeting with the Center for the Development of Means of Preserving the Environment to identify environmental problems, to combat their causes, and to show monitoring reports and referring violations of the environment.

<https://www.shorouknews.com/news/view.aspx?cdate=26082020&id=dc23f069-d73e-4ff9-b907-cbcdeee013b3>
<https://www.elwatannews.com/news/details/4316926?t=mpush>
https://www.bsu.edu.eg/News.aspx?NID=151567&cat_id=1
https://www.bsu.edu.eg/Content.aspx?section_id=11198&cat_id=1
<https://www.facebook.com/env.bsu/>
https://www.science.bsu.edu.eg/ContentSide.aspx?section_id=6392&cat_id=10

4. Participation of Beni-Suef University in the National Committee for Sustainable Development and Governance that is financially and technically funded by Academy of Scientific Research and Technology. The most important objectives and outputs of the committee, are the establishment of a center for sustainable development and governance in all Egyptian universities to ensure the sustainability of the committee's work, as well as cooperation with industrial bodies and strengthening community participation through the committee.

<https://www.lbalad.news/4810693>

Beni-Suef University
President of BSU

جامعة بني سويف
رئيس الجامعة

خطاب مشاركة
باللجنة القومية للتنمية المستدامة والحوكمة

في إطار إستراتيجية مصر للعلوم والتكنولوجيا والابتكار ٢٠٣٠ والتي من أهم أهدافها الاستراتيجية تبني بيئة مشجعة للبحث العلمي وبناء القدرات الوطنية، أصبحت الشبكات العلمية القومية المتخصصة أحد مبادرات أكاديمية البحث العلمي والتكنولوجيا إحدى الآليات التنفيذية لها، والتي تهدف إلى تجميع القدرات الوطنية المتخصصة في مجال ما بدأ من عمليا في جزر متفرقة متوازنة بالجامعات والمعاهد والمراكز البحثية مما يؤدي إلى تكرار الجهود بدلا من تكلفتها لتسيما لتفتت التمويل وإهدار الموارد.

ومن خلال هذا البرنامج ستوفر الأكاديمية الدعم التقني واللوجستي اللازم بما يعادل مليون ونصف مليون جنيه لتمويل اللجنة القومية للتنمية المستدامة والحوكمة بهدف المشاركة في إنتاج المعرفة عالميا والمشاركة في المشروعات البحثية العالمية وزيادة معدلات النشر الدولي وتحسين ترتيب مؤسسات البحث العلمي المصرية (الجامعات والمراكز والمعاهد البحثية) ونقل وتوطين التكنولوجيا بين الجهات التكوينية للشبكة. وعليه ستشارك جامعتنا في

مشاركة اللجنة القومية للتنمية المستدامة والحوكمة بناء على الفروع الآتية:

التوقعات
الهيئة المشاركة : جامعة بني سويف
المقر القاتوني : جامعة بني سويف
ممثلها القاتوني : رئيس الجامعة
عضو الشبكة : أ.د. سماء إسماعيل الشاذلي

يتمتع
رئيس الجامعة
أ.د. منصور حسن أحمد
ختم الإختصاص



The participation of Beni-Suef University in the National Committee for Sustainable Development and Governance



5. Encouraging the use of agricultural drainage to irrigate the greenhouses and gardens located on Beni-Suef University Campus.
6. Digging a well for underground water at 130 m in the campus of 320 acres complex that contributes to the storage of the rainwater significantly in addition to the underground water. Then the stored water is used to irrigate the gardens of the campus.

https://www.bsu.edu.eg/News.aspx?NID=48763&cat_id=1

<https://gate.ahram.org.eg/News/2130535.aspx>

https://www.bsu.edu.eg/News.aspx?NID=64372&cat_id=1 https://www.bsu.edu.eg/News.aspx?NID=64327&cat_id=1

SDG 6.4.2 Water reuse measurement

Measure the reuse of water across the university?

- The underground water well in the campus of 320 acres complex contributes to the storage of the rainwater significantly.
- The university uses stored rainwater to irrigate the gardens of the campus. According to statistics, rainwater recovery accounts for about 5 % of the total water consumption of the campus. In the future, BSU plans to install reclaimed water recycling equipment to continue to increase the reuse water ratio of the campus.
- All buildings on campus have been retrofitted with water-saving appliances. These include newtypes of taps and water-saving faucets, water efficient water toilets and Low flow urinal. These reduce the consumption of domestic water by students and staff. (As described in our approachSDG 6.3.4.)



SDG 6.5.1 Water management educational opportunities

Provide educational opportunities for local communities to learn about good water management.

- Free
- Paid

BSU supports the sustainable development of the local environment by helping community residents to understand sustainable development goals and effective strategies, and to provide them with professional knowledge on good water management. These are achieved through holding a series of seminars, workshops, conferences and initiatives to raise awareness of the sustainable development goals. Some programs are described in the below table:

Program	Short description
<p>The lighting of Beni-Suef University in green celebrating with the World Earth Day from seven to nine in the evening and for three days (20 to 22 April, each year).</p> <p>https://www.bsu.edu.eg/News.aspx?NID=154228&cat_id=1 https://fb.watch/foNGXWzu4I/</p>	<p>Celebrating with World Earth Day, aims to spread awareness and concern for the environment. A number of videos and posts have been published on the university's official page to raise the awareness of the environment, the dangers of pollution, and how to preserve the climate</p>
<p>The "Green Environment" initiative launched by Faculty of Postgraduate Studies for Advanced Sciences in cooperation with the Drinking Water and Sanitation Company, and a number of charitable institutions.</p> <p>https://www.bsu.edu.eg/News.aspx?NID=60336&cat_id=1</p>	<p>The initiative includes educating the outside community from villages, centers and cities affiliated with the governorate and schoolchildren through lectures and seminars to rationalize water and energy.</p>
<p>The Fourth International Conference "The Risks of Environmental Pollution in Developing Countries",</p> <p>https://www.bsu.edu.eg/News.aspx?NID=104875&cat_id=5</p>	<p>Its first session was held at the University of Beni-Suef involving scientific sessions on various initiatives, including prepare for green, our bag is paper and our package is glass, with field visits to the Angel Eight factory in the industrial zone. Several international and regional universities, participated and the goals of the conference revolve around</p>



	<p>environmental pollution, environmental risk management, modern technologies for environmental monitoring, protection of water resources, wastewater management, water quality, the impact of environmental pollution on food security, renewable energy, sustainable development, waste management, green chemistry, climate change and environmental risks.</p>
<p>“Save and Preserve Your Country” initiative https://www.shorouknews.com/news/view.aspx?cdate=22032017&id=84155a0e-35d8-4024-8584-7bf85ee547e0</p>	<p>It aims to instill the concepts of conservation of electricity and water energy, spread awareness of energy consumption, and how to rationalize by changing the patterns and habits of daily consumption, and to provide practical solutions for rationalization.</p>
<p>Conference of the Faculty of Postgraduate Studies for Advanced Sciences entitled "The Fifth International Conference on Advanced Sciences (ICASS). 9-12 November 2019 Hurgada, Egypt” https://www.shorouknews.com/news/view.aspx?cdate=11112019&id=d0931a3a-5f0d-4c3f-9851-a83bb78c2435</p>	<p>in cooperation with Misr International University and Prais Sud University in France, in the presence of a group of scholars and researchers from various Egyptian universities. European and Arabic. The activities of the International Conference on Advanced Sciences discussed the use of nanometric applications in water purification and desalination, energy storage, and in the treatment of cancer diseases.</p>
<p>Participation of Beni-Suef University in the National Committee for Sustainable Development and Governance https://www.elbalad.news/4810693</p>	<p>This participation allows the Academy of Scientific and Technological Research in Egypt to provide the university with the necessary financial and technical support. Hence, Beni-Suef University can participate in global research projects and improve ranking of the university among different universities in the field of sustainable development</p>
<p>The university won the first place at the level of Egyptian universities in the Sustainable Development Forum competition in designing an initiative model to protect the environment https://www.bsu.edu.eg/News.aspx?NID=52963&catid=1</p>	<p>This initiative was with the participation of Beni-Suef University with different organizations interested in environmental affairs and 18 Egyptian universities.</p>



<p>Inaugurating the Egyptian Public Universities Activities and Events Forum to Confront Climate Changes.</p> <p>https://www.albawabhnews.com/4656766</p>	<p>The forum has goals at the regional level, most notably the importance of regional integration between public universities in preserving the environment and achieving sustainable development, as well as national goals represented in supporting and developing scientific research in applied projects related to climate change, managing new and renewable energy, and developing research in the field of water purification and water treatment. Drainage and beach protection.</p>
<p>Holding of Climate Change Conference that is organized by Beni-Suef and Nile Universities.</p> <p>https://www.bsu.edu.eg/NewsDetails_New.aspx?NID=155915&cat_id=1</p>	<p>The most prominent recommendations of the conference are to continue supporting the implementation of presidential initiatives for various projects aimed at reducing the effects of climate change such as lining canals, a decent life project, desalination of sea water, the transition to drip irrigation, renewable energy projects such as the Benban project in Aswan, and materials recycling projects and the use of nano-fertilizers to reduce resource and energy consumption compared to conventional fertilizers that increase carbon emissions and pollute soil and water,</p>
<p>Holding a series of student seminars to raise awareness of the sustainable development goals with the participation of the faculties of media and developmental social work</p> <p>https://www.bsu.edu.eg/News.aspx?NID=104734&cat_id=1</p>	<p>They aim at quality education, achieving equal rights, inclusion, social justice, economic growth and productive employment, launching new cities and sustainable societies, combating climate change and its effects, and using all resources in a sustainable manner.</p>
<p>The university's plan to raise awareness of rationalizing water consumption, during the University Council No. 155.</p> <p>https://www.elbalad.news/3192479</p>	<p>It aims to raise awareness of rationalizing water consumption among young people, explaining that the plan includes holding workshops, educational seminars and lectures on how to conserve water, spread the culture of water scarcity, clarify the importance of rationalization, and introduce the present and future challenges of the water reality and good mechanisms for rationalization, in addition to encouraging university students to work Studies and field research in this field through scientific competitions.</p>



<p>A workshop on the importance of water and how to treat water</p> <p>https://www.bsu.edu.eg/Gallery.aspx?ID=1191&catid=10</p>	<p>Faculty of Science organized this workshop for students of STEM schools in Beni-Suef Governorate.</p>
<p>Workshops on the use of water desalination for agricultural purposes</p> <p>https://www.bsu.edu.eg/News.aspx?NID=48763&catid=1</p>	<p>It aims to serve civil society and farmers in solving the problem of high water salinity and its impact on the productivity of agricultural crops and the consequent worsening economic problems. The workshop also aims to introduce the concept of desalination and to develop a vision of those interested, researchers and specialists in the field of desalination, to use low-cost desalination systems to raise the productivity of agricultural crops.</p>
<p>The visit of the President of Beni-Suef University to the wastewater treatment project in the village of Al-Basateen, accompanied by the Governor and the American delegation</p> <p>https://www.bsu.edu.eg/News.aspx?NID=59742&catid=1</p>	<p>The visit comes within the framework of fruitful cooperation between the university and the governorate in the field of sustainable development. The president of the university listened to an explanation from the governor of the details of the project stage as a "pioneering experiment" that was implemented using the internationally approved "MBR" system in sewage treatment systems, to find out all the details of the project from "design, manufacture and operation", to evaluate the project from a technical and economic point of view.</p>
<p>Seminar about the worth of water for life organized by Faculty of Developmental Social Work</p> <p>https://www.bsu.edu.eg/Backend/Uploads/PDF/SDG/SDG/University%20Report%202019_compressed.pdf</p> <p>https://www.socialwork.bsu.edu.eg/</p>	<p>It aims to increase the awareness of students of El-Shaheed Mohamed Essam School with the worth of water for Life and the importance of its rationalization.</p>



Organizing a symposium entitled " Our Water Resources, We should preserve them for our country" that involves water resources on Egypt and the value of water.

<https://alwafd.news/%D8%A3%D8%AE%D8%A8%D8%A7%D8%B1-%D9%88%D8%AA%D9%82%D8%A7%D8%B1%D9%8A%D8%B1/%D8%A7%D9%84%D9%85%D8%AD%D8%A7%D9%81%D8%B8%D9%80%D8%A7%D8%AA/3332807-%D9%85%D8%AC%D9%84%D8%B3-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%8A-%D8%B3%D9%88%D9%8A%D9%81-%D9%8A%D9%88%D8%A7%D9%81%D9%82-%D8%B9%D9%84%D9%89-%D8%AA%D9%86%D8%B8%D9%8A%D9%85-%D9%86%D8%AF%D9%88%D8%A9-%D8%A8%D8%B9%D9%86%D9%88%D8%A7%D9%86-%D9%85%D9%88%D8%A7%D8%B1%D8%AF%D9%86%D8%A7-%D8%A7%D9%84%D9%85%D8%A7%D8%A6%D9%8A%D8%A9-%D9%86%D8%AD%D8%A7%D9%81%D8%B8-%D8%B9%D9%84%D9%8A%D9%87%D8%A7-%D9%84%D8%AE%D9%8A%D8%B1-%D8%A8%D9%84%D8%AF%D9%86%D8%A7>

The aim of the symposium is to educate students about the importance of the Nile River and how to conserve water under the current circumstances. The symposium will include four main axes: water sources in Egypt, the value of water for the population, and the socio-economic-political dimension of water.



Clean Water and Sanitation (SDG 6)

SDG 6.5.2 promoting conscious water usage

Actively promote conscious water usage on campus, and in the wider community

- **On campus**
- **Wider Community**

BSU has implemented various strategic measures in accordance with the United Nations' sustainable development indicators. Regarding water resources;

1. Leaky taps or toilets are repaired immediately
2. There is a periodic inspection of all water taps in faculties, institutes and various centers in the university.
3. Periodic maintenance of water lines by the General Administration of Engineering Affairs of the university.
4. Periodic maintenance of water lines is done by the General Administration of Engineering Affairs of the university
5. Faculties of Science, Earth Science, and postgraduate Studies for Advanced Sciences are interested in assessment of quality of drinking water in Beni-Suef using the latest scientific research devices. (As described in our approach 6.3.1)
6. The university has a declared and clear plan to increase the awareness of its students and staff of rationalizing water consumption through holding workshops, educational seminars, initiatives, research projects, teaching courses, master and PhD theses and continuous awareness campaigns on ways to conserve water and its best use and water resources management. (As described in our approaches 6.3.1, 6.3.2, 6.3.4, 6.5.1,)
7. BSU showed different educational opportunities for local communities that are concerned with good management of water resources through the purification of drinking water and sewage treatment. (As described in our approach 6.5.1)
8. BSU assists in guiding industries and local residents on strategies and methods for sustainable water resources conservation and management through different centers as follows;

I. Center for the Development of Means of Preserving the Environment

It aims to the following;

- a) Identify environmental problems in the province and work to solve them in a scientific manner to reduce them
- b) Combat the causes of pollution from all its sources.
- c) Deepening environmental awareness among students to become a nucleus for spreading and preserving the culture of the environment.



- d) Establish close cooperation with advisory offices, governmental and industrial bodies, and community and scientific institutions, to solve environmental problems and provide specialized technical advice
- e) Actively contribute to the development and implementation of policies, whether at the governorate or national level.

<https://edu.see.news/new/2020/09/22/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%8A-%D8%B3%D9%88%D9%8A%D9%81-%D9%85%D8%B4%D8%A7%D8%B1%D9%83%D8%A9-%D9%85%D8%B1%D9%83%D8%B2-%D8%A7%D9%84%D9%85%D8%AD%D8%A7%D9%81%D8%B8%D8%A9/>

<https://www.youm7.com/story/2020/7/19/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%8A-%D8%B3%D9%88%D9%8A%D9%81-%D8%A7%D8%B7%D9%84%D8%A7%D9%82-%D9%85%D8%A8%D8%A7%D8%AF%D8%B1%D8%A9-%D8%B2%D8%B1%D8%A7%D8%B9%D8%A9-%D8%A7%D9%84%D8%A3%D8%B3%D8%B7%D8%AD-%D8%A8%D9%8A%D9%86-%D8%B7%D9%84%D8%A7%D8%A8-%D8%A7%D9%84%D8%AC%D8%A7%D9%85%D8%B9%D8%A9/4886687>

<https://www.elbalad.news/4414088>

<https://gate.ahram.org.eg/News/2942904.aspx>

<https://www.elwatannews.com/news/details/4316926?t=mpush>

II. The University Performance Development Center through the Office of Consulting and linking research with industry

It aims to the following;

- a) Opening unconventional permanent channels of communication between the university, industry and society.
- b) Determining market and industry needs, whether training needs, technological or production needs.
- c) Providing suggestions for directing scientific research at Beni-Suef University towards the needs of the market and industry.
- d) Marketing the results of applied scientific research projects for industry and the private sector, whether local or international, in coordination with the beneficiary authorities and heads of research projects.
- e) Strengthening and activating cooperation between the industrial zones in Beni Suef or other governorates and between the universities on the other hand, which contributes to the development of the educational process and realizing the applied benefit of research at the university.
- f) The office, through experts in the university with various and different specializations, and the university units, provides technical and training consultations for the various industrial sectors.

<https://www.youtube.com/watch?v=LDz59R7pPoM>

https://www.bsu.edu.eg/Content.aspx?section_id=14560&cat_id=414

https://www.bsu.edu.eg/Sector_Home.aspx?cat_id=382



III. The Excellence Center for the economic production of approved nanometric materials

It aims to establish a small certified factory to produce specific and approved nanometric materials needed by society and by industry, to be an example of linking research with industry.

<https://www.shorouknews.com/news/view.aspx?cdate=25022019&id=03d06323-2a6e-48fe-816b-c28d0c4325e7>

IV. The Central Laboratory and Environment and Water Lab at Faculty of Postgraduate Studies for Advanced Sciences

It contains many devices and tools necessary to conduct analyzes and measurements of water pollutants, and analyzes for different companies and factories inside and outside Beni-Suef Governorate. It helps in making decisions and recommendations necessary to solve many environmental problems related to water pollution and its negative impact on the health of the citizen, which consequently affects the national economy.

<https://www.almasryalyoum.com/news/details/1334930>

<https://www.facebook.com/Central.Lab.AdvancedScience>

https://www.bsu.edu.eg/Content.aspx?section_id=5739&cat_id=18

V. The Water Studies and Research Center at Faculty of Earth Science.

It is one of the specialized centers at the level of Egyptian universities in conducting all studies related to the sustainable management of water resources (conventional and Unconventional, renewable and non-renewable) in terms of exploration, evaluation and purification and treatment and reuse as well as desalination, control and quality assurance for all Processes. Where it is concerned with the following strategic goals;

- a) Designing and implementing treatment units for all types of sewage, agricultural and industrial water.
- b) Conducting studies for the establishment and rehabilitation of wastewater treatment plants Existing stations and raising their efficiency
- c) Conducting studies for the establishment and rehabilitation of existing wastewater treatment plants and raising their efficiency
- d) Water desalination (sea water and ground water)
- e) Purification of surface and ground water
- f) Conducting studies on rising groundwater levels and their negative effects on the surrounding environment and infrastructure, as well as the quality of agricultural soil.

<https://www.facebook.com/BSUintoffice/posts/3757377684276585/>

<https://www.earthsc.bsu.edu.eg/Backend/Uploads/PDF/%D9%85%D8%B7%D9%88%D9%8A%D9%87%20%D8%A7%D9%84%D9%85%D8%B1%D9%83%D8%B2-%D9%85%D8%AD%D9%88%D9%84.pdf>

https://www.bsu.edu.eg/NewsDetails_New.aspx?NID=155769&cat_id=1

https://www.bsu.edu.eg/NewsDetails_New.aspx?NID=155373&cat_id=1

https://www.bsu.edu.eg/News.aspx?NID=96324&cat_id=1

https://www.bsu.edu.eg/News.aspx?NID=151395&cat_id=1

https://www.bsu.edu.eg/Sector_Home.aspx?cat_id=382



<https://www.facebook.com/BSUUniv/photos/%D8%A7%D9%84%D9%87%D9%8A%D9%83%D9%84->

[%D8%A7%D9%84%D8%AA%D9%86%D8%B8%D9%8A%D9%85%D9%8A-%D9%84%D9%85%D8%B1%D9%83%D8%B2-%D8%AA%D8%B7%D9%88%D9%8A%D8%B1-%D8%A7%D9%84%D8%A3%D8%AF%D8%A7%D8%A1-%D8%A7%D9%84%D8%AC%D8%A7%D9%85%D8%B9%D9%8A/2977523048925067/](https://www.facebook.com/BSUUniv/photos/%D8%A7%D9%84%D8%AA%D9%86%D8%B8%D9%8A%D9%85%D9%8A-%D9%84%D9%85%D8%B1%D9%83%D8%B2-%D8%AA%D8%B7%D9%88%D9%8A%D8%B1-%D8%A7%D9%84%D8%A3%D8%AF%D8%A7%D8%A1-%D8%A7%D9%84%D8%AC%D8%A7%D9%85%D8%B9%D9%8A/2977523048925067/)

[https://akheralasbo3.com/96647.html](https://www.facebook.com/BSUUniv/photos/%D8%A7%D9%84%D8%A3%D8%AF%D8%A7%D8%A1-%D8%A7%D9%84%D8%AC%D8%A7%D9%85%D8%B9%D9%8A/2977523048925067/)

[https://www.coenano.bsu.edu.eg/News.aspx?NID=1519](https://www.coenano.bsu.edu.eg/News.aspx?NID=151999&cat_id=372)

[https://shbabbek.com/show/147550](https://www.coenano.bsu.edu.eg/News.aspx?NID=151999&cat_id=372)

https://www.coenano.bsu.edu.eg/News.aspx?NID=151999&cat_id=372

[https://shbabbek.com/show/147550](https://www.coenano.bsu.edu.eg/News.aspx?NID=151999&cat_id=372)

[https://shbabbek.com/show/147550](https://www.coenano.bsu.edu.eg/News.aspx?NID=151999&cat_id=372)

[https://shbabbek.com/show/147550](https://www.coenano.bsu.edu.eg/News.aspx?NID=151999&cat_id=372)

VI. Crisis and Disaster Management Units at different BSU faculties and institutions

They pay a great attention of spreading cultural awareness of crisis and disaster management and training BSU members to implement plans to confront crises and disasters by setting a crisis simulator.

<https://www.youm7.com/story/2018/1/31/%D8%AA%D9%81%D8%B9%D9%8A%D9%84-%D8%A5%D8%AF%D8%A7%D8%B1%D8%A9-%D8%A7%D9%84%D8%A3%D8%B2%D9%85%D8%A7%D8%AA-%D9%88%D8%A7%D9%84%D9%83%D9%88%D8%A7%D8%B1%D8%AB-%D9%88%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%81%D8%B1%D9%88%D8%B9-%D8%A8%D9%83%D9%84%D9%8A%D8%A7%D8%AA-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81/3626738>

<https://www.youm7.com/story/2018/1/31/%D8%AA%D9%81%D8%B9%D9%8A%D9%84-%D8%A5%D8%AF%D8%A7%D8%B1%D8%A9-%D8%A7%D9%84%D8%A3%D8%B2%D9%85%D8%A7%D8%AA-%D9%88%D8%A7%D9%84%D9%83%D9%88%D8%A7%D8%B1%D8%AB-%D9%88%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%81%D8%B1%D9%88%D8%B9-%D8%A8%D9%83%D9%84%D9%8A%D8%A7%D8%AA-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81/3626738>

[https://www.bsu.edu.eg/ContentSide.aspx?section_id=10330&cat_id=12](https://www.youm7.com/story/2018/1/31/%D8%AA%D9%81%D8%B9%D9%8A%D9%84-%D8%A5%D8%AF%D8%A7%D8%B1%D8%A9-%D8%A7%D9%84%D8%A3%D8%B2%D9%85%D8%A7%D8%AA-%D9%88%D8%A7%D9%84%D9%83%D9%88%D8%A7%D8%B1%D8%AB-%D9%88%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%81%D8%B1%D9%88%D8%B9-%D8%A8%D9%83%D9%84%D9%8A%D8%A7%D8%AA-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81/3626738)

[https://www.bsu.edu.eg/ContentSide.aspx?section_id=6410&cat_id=10](https://www.youm7.com/story/2018/1/31/%D8%AA%D9%81%D8%B9%D9%8A%D9%84-%D8%A5%D8%AF%D8%A7%D8%B1%D8%A9-%D8%A7%D9%84%D8%A3%D8%B2%D9%85%D8%A7%D8%AA-%D9%88%D8%A7%D9%84%D9%83%D9%88%D8%A7%D8%B1%D8%AB-%D9%88%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%81%D8%B1%D9%88%D8%B9-%D8%A8%D9%83%D9%84%D9%8A%D8%A7%D8%AA-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81/3626738)

[https://www.bsu.edu.eg/ContentSide.aspx?section_id=10330&cat_id=12](https://www.youm7.com/story/2018/1/31/%D8%AA%D9%81%D8%B9%D9%8A%D9%84-%D8%A5%D8%AF%D8%A7%D8%B1%D8%A9-%D8%A7%D9%84%D8%A3%D8%B2%D9%85%D8%A7%D8%AA-%D9%88%D8%A7%D9%84%D9%83%D9%88%D8%A7%D8%B1%D8%AB-%D9%88%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%81%D8%B1%D9%88%D8%B9-%D8%A8%D9%83%D9%84%D9%8A%D8%A7%D8%AA-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81/3626738)

[https://www.bsu.edu.eg/ContentSide.aspx?section_id=6410&cat_id=10](https://www.youm7.com/story/2018/1/31/%D8%AA%D9%81%D8%B9%D9%8A%D9%84-%D8%A5%D8%AF%D8%A7%D8%B1%D8%A9-%D8%A7%D9%84%D8%A3%D8%B2%D9%85%D8%A7%D8%AA-%D9%88%D8%A7%D9%84%D9%83%D9%88%D8%A7%D8%B1%D8%AB-%D9%88%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%81%D8%B1%D9%88%D8%B9-%D8%A8%D9%83%D9%84%D9%8A%D8%A7%D8%AA-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81/3626738)

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[https://www.bsu.edu.eg/ContentSide.aspx?section_id=6410&cat_id=10](https://www.youm7.com/story/2018/1/31/%D8%AA%D9%81%D8%B9%D9%8A%D9%84-%D8%A5%D8%AF%D8%A7%D8%B1%D8%A9-%D8%A7%D9%84%D8%A3%D8%B2%D9%85%D8%A7%D8%AA-%D9%88%D8%A7%D9%84%D9%83%D9%88%D8%A7%D8%B1%D8%AB-%D9%88%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%81%D8%B1%D9%88%D8%B9-%D8%A8%D9%83%D9%84%D9%8A%D8%A7%D8%AA-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81/3626738)

[https://www.bsu.edu.eg/ContentSide.aspx?section_id=10330&cat_id=12](https://www.youm7.com/story/2018/1/31/%D8%AA%D9%81%D8%B9%D9%8A%D9%84-%D8%A5%D8%AF%D8%A7%D8%B1%D8%A9-%D8%A7%D9%84%D8%A3%D8%B2%D9%85%D8%A7%D8%AA-%D9%88%D8%A7%D9%84%D9%83%D9%88%D8%A7%D8%B1%D8%AB-%D9%88%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%81%D8%B1%D9%88%D8%B9-%D8%A8%D9%83%D9%84%D9%8A%D8%A7%D8%AA-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81/3626738)

[https://www.bsu.edu.eg/ContentSide.aspx?section_id=6410&cat_id=10](https://www.youm7.com/story/2018/1/31/%D8%AA%D9%81%D8%B9%D9%8A%D9%84-%D8%A5%D8%AF%D8%A7%D8%B1%D8%A9-%D8%A7%D9%84%D8%A3%D8%B2%D9%85%D8%A7%D8%AA-%D9%88%D8%A7%D9%84%D9%83%D9%88%D8%A7%D8%B1%D8%AB-%D9%88%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%81%D8%B1%D9%88%D8%B9-%D8%A8%D9%83%D9%84%D9%8A%D8%A7%D8%AA-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81/3626738)

[https://www.bsu.edu.eg/ContentSide.aspx?section_id=10330&cat_id=12](https://www.youm7.com/story/2018/1/31/%D8%AA%D9%81%D8%B9%D9%8A%D9%84-%D8%A5%D8%AF%D8%A7%D8%B1%D8%A9-%D8%A7%D9%84%D8%A3%D8%B2%D9%85%D8%A7%D8%AA-%D9%88%D8%A7%D9%84%D9%83%D9%88%D8%A7%D8%B1%D8%AB-%D9%88%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%81%D8%B1%D9%88%D8%B9-%D8%A8%D9%83%D9%84%D9%8A%D8%A7%D8%AA-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81/3626738)

[https://www.bsu.edu.eg/ContentSide.aspx?section_id=6410&cat_id=10](https://www.youm7.com/story/2018/1/31/%D8%AA%D9%81%D8%B9%D9%8A%D9%84-%D8%A5%D8%AF%D8%A7%D8%B1%D8%A9-%D8%A7%D9%84%D8%A3%D8%B2%D9%85%D8%A7%D8%AA-%D9%88%D8%A7%D9%84%D9%83%D9%88%D8%A7%D8%B1%D8%AB-%D9%88%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%81%D8%B1%D9%88%D8%B9-%D8%A8%D9%83%D9%84%D9%8A%D8%A7%D8%AA-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81/3626738)



Clean Water and Sanitation (SDG 6)

SDG 6.5.3 Off-campus water conservation support

Support water conservation off campus

- BSU promotes water conservation through holding a series of seminars, conferences, campaigns, and initiatives, research projects, teaching courses, master and PhD theses. Outside the campus, through awareness campaigns, initiatives, field visits, and other opportunities to promote effective use of water resources.
- BSU assists in guiding industries and local residents on strategies and methods for sustainable water resources conservation and management.

1. Administrative organization:

1.1. Center for the Development of Means of Preserving the Environment

It aims to the following;

- a) Identify environmental problems in the province and work to solve them in a scientific manner to reduce them
- b) Combat the causes of pollution from all its sources.
- c) Deepening environmental awareness among students to become a nucleus for spreading and preserving the culture of the environment.
- d) Establish close cooperation with advisory offices, governmental and industrial bodies, and community and scientific institutions, to solve environmental problems and provide specialized technical advice
- e) Actively contribute to the development and implementation of policies, whether at the governorate or national level.

<https://edu.see.news/new/2020/09/22/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%8A-%D8%B3%D9%88%D9%8A%D9%81-%D9%85%D8%B4%D8%A7%D8%B1%D9%83%D8%A9-%D9%85%D8%B1%D9%83%D8%B2-%D8%A7%D9%84%D9%85%D8%AD%D8%A7%D9%81%D8%B8%D8%A9/>

<https://www.youm7.com/story/2020/7/19/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%8A-%D8%B3%D9%88%D9%8A%D9%81-%D8%A7%D8%B7%D9%84%D8%A7%D9%82-%D9%85%D8%A8%D8%A7%D8%AF%D8%B1%D8%A9-%D8%B2%D8%B1%D8%A7%D8%B9%D8%A9-%D8%A7%D9%84%D8%A3%D8%B3%D8%B7%D8%AD-%D8%A8%D9%8A%D9%86-%D8%B7%D9%84%D8%A7%D8%A8-%D8%A7%D9%84%D8%AC%D8%A7%D9%85%D8%B9%D8%A9/4886687>

<https://www.elbalad.news/4414088>

<https://gate.ahram.org.eg/News/2942904.aspx>

<https://www.elwatannews.com/news/details/4316926?t=mpush>

<https://www.elwatannews.com/news/details/4316926?t=mpush>

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<https://www.elwatannews.com/news/details/4316926?t=mpush>



1.2. The University Performance Development Center through the Office of Consulting and linking research with industry

It aims to the following;

- a) Opening unconventional permanent channels of communication between the university, industry and society.
- b) Determining market and industry needs, whether training needs, technological or production needs.
- c) Providing suggestions for directing scientific research at Beni-Suef University towards the needs of the market and industry.
- d) Marketing the results of applied scientific research projects for industry and the private sector, whether local or international, in coordination with the beneficiary authorities and heads of research projects.
- e) Strengthening and activating cooperation between the industrial zones in Beni Suef or other governorates and between the universities on the other hand, which contributes to the development of the educational process and realizing the applied benefit of research at the university.
- f) The office, through experts in the university with various and different specializations, and the university units, provides technical and training consultations for the various industrial sectors.

<https://www.youtube.com/watch?v=LDz59R7pPoM>

https://www.bsu.edu.eg/Content.aspx?section_id=14560&cat_id=414

https://www.bsu.edu.eg/Sector_Home.aspx?cat_id=382

1.3. The Excellence Center for the economic production of approved nanometric materials

It aims to establish a small certified factory to produce specific and approved nanometric materials needed by society and by industry, to be an example of linking research with industry.

<https://www.shorouknews.com/news/view.aspx?cdate=25022019&id=03d06323-2a6e-48fe-816b-c28d0c4325e7>

1.4. The Central Laboratory and Environment and Water Lab at Faculty of Postgraduate Studies for Advanced Sciences

It contains many devices and tools necessary to conduct analyzes and measurements of water pollutants, and analyzes for different companies and factories inside and outside Beni-Suef Governorate. It helps in making decisions and recommendations necessary to solve many environmental problems related to water pollution and its negative impact on the health of the citizen, which consequently affects the national economy.

<https://www.almasryalyoum.com/news/details/1334930>

<https://www.facebook.com/Central.Lab.AdvancedScience>

https://www.bsu.edu.eg/Content.aspx?section_id=5739&cat_id=18



1.5. The Water Studies and Research Center at Faculty of Earth Science.

It is one of the specialized centers at the level of Egyptian universities in conducting all studies related to the sustainable management of water resources (conventional and Unconventional, renewable and non-renewable) in terms of exploration, evaluation and purification and treatment and reuse as well as desalination, control and quality assurance for all Processes.

1.5.1 It is concerned with the following strategic goals;

- a) Designing and implementing treatment units for all types of sewage, agricultural and industrial water.
- b) Conducting studies for the establishment and rehabilitation of wastewater treatment plants Existing stations and raising their efficiency
- c) Conducting studies for the establishment and rehabilitation of existing wastewater treatment plants and raising their efficiency
- d) Water desalination (sea water and ground water)
- e) Purification of surface and ground water
- f) Conducting studies on rising groundwater levels and their negative effects on the surrounding environment and infrastructure, as well as the quality of agricultural soil.

1.5.2 The center has carried out many studies and research related to community service, the most important of which are:

1. Designing an industrial sewage treatment unit for the Pharaohs Cardboard Factory - Kom Oshim area in Fayoum.
2. Rehabilitation of the industrial wastewater treatment unit of the Horus Paper Factory in the industrial zone of Bayad Al Arab in Beni-Suef to reuse wastewater and not waste it.
3. The current evaluation of several sewage treatment plants in Beni-Suef, such as the Kom Abu Radi plant, the new Beni-Suef plant and the Bayad Al Arab plant.
4. Making the necessary environmental measurements for many factories in Beni-Suef, such as Horus Paper Factory, Egypt Cables Company, Chemical Fertilizers Company, and others.
5. Making an integrated environmental record for the University (making environmental measurements for the various faculties of BSU from classrooms, student laboratories, research laboratories, service units,) and providing recommendations and proposals with periodic follow-up every 6 months so that the University of Beni-Suef is a university Environmentally friendly.
6. Make a plan to educate citizens on how to rationalize the consumption of water resources and make good use of them, provided that the university members implement this plan during the summer vacation in some villages of Beni-Suef Governorate.
7. Conducting studies for several land reclamation companies for the purpose of exploring and evaluating groundwater in the desert hinterland of Beni-Suef Governorate.

8. It prepared an integrated project to explore and evaluate the presence of groundwater in the desert hinterland of Beni-Suef Governorate for the purpose of horizontal expansion of the governorate and the creation of new urban communities with usable water sources.

<https://www.facebook.com/BSUintoffice/posts/3757377684276585/>

<https://www.earthsc.bsu.edu.eg/Backend/Uploads/PDF/%D9%85%D8%B7%D9%88%D9%8A%D9%87%20%D8%A7%D9%84%D9%85%D8%B1%D9%83%D8%B2-%D9%85%D8%AD%D9%88%D9%84.pdf>

https://www.bsu.edu.eg/NewsDetails_New.aspx?NID=155769&cat_id=1

https://www.bsu.edu.eg/NewsDetails_New.aspx?NID=155373&cat_id=1

https://www.bsu.edu.eg/News.aspx?NID=96324&cat_id=1

https://www.bsu.edu.eg/News.aspx?NID=151395&cat_id=1

https://www.bsu.edu.eg/Sector_Home.aspx?cat_id=382

<https://www.facebook.com/BSUUniv/photos/%D8%A7%D9%84%D9%87%D9%8A%D9%83%D9%84-%D8%A7%D9%84%D8%AA%D9%86%D8%B8%D9%8A%D9%85%D9%8A-%D9%84%D9%85%D8%B1%D9%83%D8%B2-%D8%AA%D8%B7%D9%88%D9%8A%D8%B1-%D8%A7%D9%84%D8%A3%D8%AF%D8%A7%D8%A1-%D8%A7%D9%84%D8%AC%D8%A7%D9%85%D8%B9%D9%8A/2977523048925067/>

<https://akheralasbo3.com/96647.html>

https://www.coenano.bsu.edu.eg/News.aspx?NID=151999&cat_id=372

<https://shbabbek.com/show/147550>



The Water Studies and Research Center at Faculty of Earth Science



جامعة بنى سويف – كلية علوم الارض
مركز الدراسات وبحوث المياه



كلية التعليم الصناعي

فيما يلي التقرير الفنى لبعض القياسات البيئية التى أجريت لبعض النقاط داخل الكلية يوم الثلاثاء الموافق 2021/5/4 بمعرفة مركز الدراسات وبحوث المياه بكلية علوم الارض جامعة بنى سويف.

أولاً: قياسات الغازات

H2S mg/m3	VOC mg/m3	NO2 mg/m3	SO2 mg/m3	CO mg/m3	• نقطة القياس
0.00	2.10	0.02	0.00	3.22	ورشة الخراطة
0.00	3.11	0.55	0.00	1.96	ورشة اللحام
0.00	0.02	0.35	0.00	1.33	ورشة النجارة
-	-	150	150	10 ⁽²⁾	(1)

(1) المواصفة القياسية المصرية لقيمة الحد الأقصى لجودة الهواء المحيط على النحو المنصوص عليه في القانون 1994/4 وتعديله (قانون 2009/9).

(2) متوسط 8 ساعات

ثانياً: قياسات المواد الغير غازية

PM ₁₀ µg/m3	اماكن القياس
0.644	ورشة الخراطة
0.681	ورشة اللحام
0.635	ورشة النجارة
150	(1)

(1) المواصفة القياسية المصرية لقيمة حد الأقصى لجودة الهواء المحيط على النحو المنصوص عليه في القانون 1994/4 وتعديله (قانون 2009/9).



جامعة بنى سويف – كلية علوم الارض
مركز الدراسات وبحوث المياه



ثالثاً: بعض القياسات البيئية Environmental measurements

Heat stress (°C)	Illumination intensity (lux)	Noisy (dp)	اماكن القياس
33	480	86	ورشة الخراطة
33	380	73	ورشة اللحام
34	104	65	ورشة النجارة
		90	(1)

الملاحظات و التوصيات:

شدة الإضاءة تحتاج لتعديل في ورشة النجارة لتحقيق الرؤية المطلوبة.
سجلت شدة الصوت قيم جميعها أقل من الحد الأقصى المسموح به للورشة الواحدة (8 ساعات) وهو 90 dp سجلت قيم شدة الإضاءة فيما تحقق الرؤية المطلوبة أثناء العمل لباقي الأماكن.
سجلت قيم درجات الحرارة مقاربة.
معظم الورش في مكان واحد واسع ينقصه التهوية والشفافيات المتواجده صغيره مقارنة بحجم المكان.
الورش لا يوجد بينها عازل ولا حواجز . ولذلك أي تلوث سينتشر في كل المكان.
المكان بحاجة ماسه للوحات ارشادية علي كل الأجهزة واللوحات الكهربائية ومسار الخروج أو الهروب.
الوصلات الكهربائية تحتاج لترميم لتحقيق السلامة للجميع.

وتفضلوا بقبول فائق الإحترام

د. محمد عبدالوهاب عطالله
مدير مركز الدراسات وبحوث المياه

أ.د. علي قرني سليم

رئيس مجلس إدارة مركز الدراسات وبحوث المياه



An example of making an integrated environmental record and recommendations and proposals with periodic follow-up for Faculty of Engineering at BSU



1.6. Crisis and Disaster Management Units at different BSU faculties and institutions

They pay a great attention of spreading cultural awareness of crisis and disaster management and training BSU members to implement plans to confront crises and disasters by setting a crisis simulator.

<https://www.youm7.com/story/2018/1/31/%D8%AA%D9%81%D8%B9%D9%8A%D9%84-%D8%A5%D8%AF%D8%A7%D8%B1%D8%A9-%D8%A7%D9%84%D8%A3%D8%B2%D9%85%D8%A7%D8%AA-%D9%88%D8%A7%D9%84%D9%83%D9%88%D8%A7%D8%B1%D8%AB-%D9%88%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%81%D8%B1%D9%88%D8%B9-%D8%A8%D9%83%D9%84%D9%8A%D8%A7%D8%AA-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81/3626738>
https://www.bsu.edu.eg/ContentSide.aspx?section_id=10330&cat_id=12
https://www.bsu.edu.eg/ContentSide.aspx?section_id=6410&cat_id=10

2. Research:

It aim to develop scientific solutions to water problems from lack of supplies and pollution from different sources and to conserve water.

2.1. Invention of a device that can save 80 % of water consumption. It works by using the pressure of water balloon in the toilet water tank, hence only 8 L of water is used instead of using about 12 L water in one process.

<https://www.youm7.com/story/2021/7/4/%D8%B7%D8%A7%D9%84%D8%A8%D8%A9-%D8%A8%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D8%AA%D8%AE%D8%AA%D8%B1%D8%B9-%D8%AC%D9%87%D8%A7%D8%B2%D9%8B%D8%A7-%D9%8A%D9%88%D9%81%D8%B1-%D9%85%D9%86-%D8%A7%D8%B3%D8%AA%D9%87%D9%84%D8%A7%D9%83/5378056>

2.2. The effective removal of industrial wastewater pollutants using clay grafted with nanomagnetic compounds in Bayad Ell-Arab Region, East of Beni-Suef.

https://www.bsu.edu.eg/News.aspx?NID=103855&cat_id=1
<https://www.shorouknews.com/news/view.aspx?cdate=05012020&id=2c03c6e0-cdca-46fc-a16a-aa3f167f517a>

2.3. The Effective treatment of wastewater from the textile industry using an innovative system of nano-membranes hollow tubes based on active carbon/polymer prepared from natural materials, industrial and agricultural wastes.

<https://www.youm7.com/story/2020/7/28/%D8%B1%D8%A6%D9%8A%D8%B3-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D9%81%D9%88%D8%B2-%D9%81%D8%B1%D9%8A%D9%82-%D8%A8%D8%AD%D8%AB%D9%89-%D8%A8%D9%83%D9%84%D9%8A%D8%A9-%D8%A7%D9%84%D8%B9%D9%84%D9%88%D9%85-%D8%A8%D8%AA%D9%85%D9%88%D9%8A%D9%84/4902431>



2.4. Quaternary treatment for removal of heavy metals and ammonia ions from wastewater using ceramic weathered basalt membranes.

<https://www.youm7.com/story/2020/7/28/%D8%B1%D8%A6%D9%8A%D8%B3-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D9%81%D9%88%D8%B2-%D9%81%D8%B1%D9%8A%D9%82-%D8%A8%D8%AD%D8%AB%D9%89-%D8%A8%D9%83%D9%84%D9%8A%D8%A9-%D8%A7%D9%84%D8%B9%D9%84%D9%88%D9%85-%D8%A8%D8%AA%D9%85%D9%88%D9%8A%D9%84/4902431>

2.5. Manufacture of nanometer films from geological ores and industrial and agricultural wastes to purify industrial wastewater

<https://www.youm7.com/story/2020/7/28/%D8%B1%D8%A6%D9%8A%D8%B3-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D9%81%D9%88%D8%B2-%D9%81%D8%B1%D9%8A%D9%82-%D8%A8%D8%AD%D8%AB%D9%89-%D8%A8%D9%83%D9%84%D9%8A%D8%A9-%D8%A7%D9%84%D8%B9%D9%84%D9%88%D9%85-%D8%A8%D8%AA%D9%85%D9%88%D9%8A%D9%84/4902431>

2.6. Designing a chip installed on water meters. It was done by a number of students from the Faculty of Computers and information systems at Beni-Suef University to measure the daily consumption rate, and then enable it to follow up on waste and rationalization for re-pricing. They also created a Web Service & Mobile App for subscribers to enable them to view bills and consumption.

https://www.bsu.edu.eg//News.aspx?NID=10938&cat_id=1

2.7. Having a Patent No. 29060 about “a home water desalination unit powered by solar energy, with a production rate of twenty liters of fresh water per day.

<https://www.elwatannews.com/news/details/4019891>

2.8. Having a patent from the Academy of Scientific Research and Technology of the Ministry of Higher Education, in the field of nanomaterials technology. The patent is entitled “Rapid and Bulk Purification of Closed Graphene Oxide Micro Flakes and Other Suspensions Using a System Containing Subterranean Fiber Filters”

<https://m.akhbarelyom.com/news/newdetails/3565155/1/%D9%81%D8%B1%D9%8A%D9%82-%D8%A8%D8%AD%D8%AB%D9%8A-%D8%A8%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%8A-%D8%B3%D9%88%D9%8A%D9%81-%D9%8A%D8%AD%D8%B5%D9%84-%D8%B9%D9%84%D9%89-%D8%A8%D8%B1%D8%A7%D8%A1%D8%A9>

2.9. A research team found an innovative method for the advanced removal of selected pharmaceutical residues from wastewater using nano-metal/organic frameworks and the use of bacterial algae resulting from it in the extraction of fuel and organic fertilizers. This innovative method was registered in the Egyptian Patent Office.

<https://ahlmarsnews.com/500919/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%8A-%D8%B3%D9%88%D9%8A%D9%81-%D8%AA%D8%A8%D8%AA%D9%83%D8%B1-%D8%B7%D8%B1%D9%8A%D9%82%D8%A9-%D9%84%D9%85%D8%B9%D8%A7%D9%84%D8%AC%D8%A9-%D9%85%D9%8A%D8%A7%D9%87-%D8%A7%D9%84%D8%B5%D8%B1%D9%81-%D8%B5%D9%88%D8%B1>



3. Educational opportunities for local communities

BSU supports the sustainable development of the local environment by helping community residents to understand sustainable development goals and effective strategies, and to provide them with professional knowledge on good water management. These are achieved through holding a series of seminars, workshops, conferences and initiatives to raise awareness of the sustainable development goals, as described by some examples in the below table:

Program	Short description
<p>The lighting of Beni-Suef University in green celebrating with the World Earth Day from seven to nine in the evening and for three days (20 to 22 April, each year).</p> <p>https://www.bsu.edu.eg/News.aspx?NID=154228&cat_id=1 https://fb.watch/foNGXWzu4I/</p>	<p>Celebrating with World Earth Day, aims to spread awareness and concern for the environment. A number of videos and posts have been published on the university's official page to raise the awareness of the environment, the dangers of pollution, and how to preserve the climate</p>
<p>The "Green Environment" initiative launched by Faculty of Postgraduate Studies for Advanced Sciences in cooperation with the Drinking Water and Sanitation Company, and a number of charitable institutions.</p> <p>https://www.bsu.edu.eg/News.aspx?NID=60336&cat_id=1</p>	<p>The initiative includes educating the outside community from villages, centers and cities affiliated with the governorate and schoolchildren through lectures and seminars to rationalize water and energy.</p>
<p>The Fourth International Conference "The Risks of Environmental Pollution in Developing Countries",</p> <p>https://www.bsu.edu.eg/News.aspx?NID=104875&cat_id=5</p>	<p>Its first session was held at the University of Beni-Suef involving scientific sessions on various initiatives, including prepare for green, our bag is paper and our package is glass, with field visits to the Angel Eight factory in the industrial zone. Several international and regional universities, participated and the goals of the conference revolve around environmental pollution, environmental risk management, modern technologies for environmental monitoring, protection of water resources, wastewater management, water quality, the impact of environmental pollution on food security, renewable energy, sustainable development, waste management, green chemistry, climate change and environmental risks.</p>
<p>"Save and Preserve Your Country" initiative</p>	<p>It aims to instill the concepts of conservation of electricity and water energy, spread awareness of</p>



<p>https://www.shorouknews.com/news/view.aspx?cdate=22032017&id=84155a0e-35d8-4024-8584-7bf85ee547e0</p>	<p>energy consumption, and how to rationalize by changing the patterns and habits of daily consumption, and to provide practical solutions for rationalization.</p>
<p>Conference of the Faculty of Postgraduate Studies for Advanced Sciences entitled "The Fifth International Conference on Advanced Sciences (ICASS). 9-12 November 2019 Hurgada, Egypt"</p> <p>https://www.shorouknews.com/news/view.aspx?cdate=11112019&id=d0931a3a-5f0d-4c3f-9851-a83bb78c2435</p>	<p>in cooperation with Misr International University and Prais Sud University in France, in the presence of a group of scholars and researchers from various Egyptian universities. European and Arabic. The activities of the International Conference on Advanced Sciences discussed the use of nanometric applications in water purification and desalination, energy storage, and in the treatment of cancer diseases.</p>
<p>Participation of Beni-Suef University in the National Committee for Sustainable Development and Governance</p> <p>https://www.elbalad.news/4810693</p>	<p>This participation allows the Academy of Scientific and Technological Research in Egypt to provide the university with the necessary financial and technical support. Hence, Beni-Suef University can participate in global research projects and improve ranking of the university among different universities in the field of sustainable development</p>
<p>The university won the first place at the level of Egyptian universities in the Sustainable Development Forum competition in designing an initiative model to protect the environment</p> <p>https://www.bsu.edu.eg/News.aspx?NID=52963&catid=1</p>	<p>This initiative was with the participation of Beni-Suef University with different organizations interested in environmental affairs and 18 Egyptian universities.</p>
<p>Inaugurating the Egyptian Public Universities Activities and Events Forum to Confront Climate Changes.</p> <p>https://www.albawabhnews.com/4656766</p>	<p>The forum has goals at the regional level, most notably the importance of regional integration between public universities in preserving the environment and achieving sustainable development, as well as national goals represented in supporting and developing scientific research in applied projects related to climate change, managing new and renewable energy, and developing research in the field of water purification and water treatment. Drainage and beach protection.</p>
<p>Holding of Climate Change Conference that is organized by Beni-Suef and Nile Universities.</p>	<p>The most prominent recommendations of the conference are to continue supporting the implementation of presidential initiatives for various projects aimed at reducing the effects of climate</p>



<p>https://www.bsu.edu.eg/NewsDetails_New.aspx?NID=155915&cat_id=1</p>	<p>change such as lining canals, a decent life project, desalination of sea water, the transition to drip irrigation, renewable energy projects such as the Benban project in Aswan, and materials recycling projects and the use of nano-fertilizers to reduce resource and energy consumption compared to conventional fertilizers that increase carbon emissions and pollute soil and water,</p>
<p>Holding a series of student seminars to raise awareness of the sustainable development goals with the participation of the faculties of media and developmental social work</p> <p>https://www.bsu.edu.eg/News.aspx?NID=104734&cat_id=1</p>	<p>They aim at quality education, achieving equal rights, inclusion, social justice, economic growth and productive employment, launching new cities and sustainable societies, combating climate change and its effects, and using all resources in a sustainable manner.</p>
<p>The university's plan to raise awareness of rationalizing water consumption, during the University Council No. 155.</p> <p>https://www.elbalad.news/3192479</p>	<p>It aims to raise awareness of rationalizing water consumption among young people, explaining that the plan includes holding workshops, educational seminars and lectures on how to conserve water, spread the culture of water scarcity, clarify the importance of rationalization, and introduce the present and future challenges of the water reality and good mechanisms for rationalization, in addition to encouraging university students to work Studies and field research in this field through scientific competitions.</p>
<p>A workshop on the importance of water and how to treat water</p> <p>https://www.bsu.edu.eg/Gallery.aspx?ID=1191&cat_id=10</p>	<p>Faculty of Science organized this workshop for students of STEM schools in Beni-Suef Governorate.</p>
<p>Workshops on the use of water desalination for agricultural purposes</p> <p>https://www.bsu.edu.eg/News.aspx?NID=48763&cat_id=1</p>	<p>It aims to serve civil society and farmers in solving the problem of high water salinity and its impact on the productivity of agricultural crops and the consequent worsening economic problems. The workshop also aims to introduce the concept of desalination and to develop a vision of those interested, researchers and specialists in the field of desalination, to use low-cost desalination systems to raise the productivity of agricultural crops.</p>



<p>The visit of the President of Beni-Suef University to the wastewater treatment project in the village of Al-Basateen, accompanied by the Governor and the American delegation</p> <p>https://www.bsu.edu.eg/News.aspx?NID=59742&catid=1</p>	<p>The visit comes within the framework of fruitful cooperation between the university and the governorate in the field of sustainable development. The president of the university listened to an explanation from the governor of the details of the project stage as a "pioneering experiment" that was implemented using the internationally approved "MBR" system in sewage treatment systems, to find out all the details of the project from "design, manufacture and operation", to evaluate the project from a technical and economic point of view.</p>
<p>Seminar about the worth of water for life organized by Faculty of Developmental Social Work</p> <p>https://www.bsu.edu.eg/Backend/Uploads/PDF/SDG/SDG/University%20Report%202019_compressed.pdf</p> <p>https://www.socialwork.bsu.edu.eg/</p>	<p>It aims to increase the awareness of students of El-Shaheed Mohamed Essam School with the worth of water for Life and the importance of its rationalization.</p>
<p>The first awareness convoy at the Faculty of Earth Science to the village of Ashmant within the initiative of a Generous Life</p> <p>https://www.youm7.com/story/2021/9/21/%D8%B1%D8%A6%D9%8A%D8%B3-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D9%8A%D9%82%D9%88%D8%AF-%D9%82%D8%A7%D9%81%D9%84%D8%A9-%D9%84%D9%82%D8%B1%D9%8A%D8%A9-%D8%A3%D8%B4%D9%85%D9%86%D8%AA-%D8%B6%D9%85%D9%86-%D8%AD%D9%8A%D8%A7%D8%A9/5468949</p>	<p>Faculty of Earth Science, in cooperation with the Industrial Control Authority, participated in raising awareness in the field of water pollution, sewage networks, water desalination, water problems, dealing with waste, and the best method for maintaining clean drinking water.</p>
<p>Organizing a symposium entitled " Our Water Resources, We should preserve them for our country" that involves water resources on Egypt and the value of water.</p> <p>https://alwafd.news/%D8%A3%D8%AE%D8%A8%D8%A7%D8%B1-%D9%88%D8%AA%D9%82%D8%A7%D8%B1%D9%8A%D8%B1/%D8%A7%D9%84%D9%85%D8%AD%D8%A7%D9%81%D8%B8%D9%80%D8%A7%D8%AA/3332807-%D9%85%D8%AC%D9%84%D8%B3-</p>	<p>The aim of the symposium is to educate students about the importance of the Nile River and how to conserve water under the current circumstances. The symposium will include four main axes: water sources in Egypt, the value of water for the population, and the socio-economic-political dimension of water.</p>



<p><u>%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%8A-</u></p> <p><u>%D8%B3%D9%88%D9%8A%D9%81-%D9%8A%D9%88%D8%A7%D9%81%D9%82-%D8%B9%D9%84%D9%89-</u></p> <p><u>%D8%AA%D9%86%D8%B8%D9%8A%D9%85-%D9%86%D8%AF%D9%88%D8%A9-%D8%A8%D8%B9%D9%86%D9%88%D8%A7%D9%86-</u></p> <p><u>%D9%85%D9%88%D8%A7%D8%B1%D8%AF%D9%86%D8%A7-</u></p> <p><u>%D8%A7%D9%84%D9%85%D8%A7%D8%A6%D9%8A%D8%A9-</u></p> <p><u>%D9%86%D8%AD%D8%A7%D9%81%D8%B8-%D8%B9%D9%84%D9%8A%D9%87%D8%A7-%D9%84%D8%AE%D9%8A%D8%B1-%D8%A8%D9%84%D8%AF%D9%86%D8%A7</u></p>	
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SDG 6.5.4 Sustainable water extraction

Utilize sustainable water extraction technologies on associated university grounds off campus.

Regarding technologies for sustainable water extraction from aquifers, BSU focuses on the storage and utilization of rainwater and the use of abundant local underground aquifers to meet the water needs for irrigation and planting. Where, an underground water well was drilled at 130 m in the campus of 320 acres complex that contributes to the storage of the rainwater significantly in addition to the underground water. Then the stored water is used to irrigate the gardens of the campus. As a natural system, the drilled well do not need a power source or high-tech equipment. It can also be used to recharge groundwater. Also, the water quality increases dramatically, due to the filtration of stagnant water from solid and dissolved pollutants as well as excess salts.

- <https://gate.ahram.org.eg/News/2130535.aspx>
- https://www.bsu.edu.eg//News.aspx?NID=64372&cat_id=1
- https://www.bsu.edu.eg//News.aspx?NID=64327&cat_id=1

SDG 6.5.5 Cooperation on water security

Cooperate with local, regional, national, or global governments on water security.

•Local

•Regional

•National

The university continues to cooperate with governmental water resources related departments, such as

1. There is a cooperation protocol between Beni-Suef University and the Holding Company for Drinking Water and Wastewater. This protocol aims to provide training opportunities for students of different faculties within the company and to cooperate in publishing scientific research and solving technical problems. Regarding flood risk, the company help providing the necessary precautions and precautionary measures, and spreading water-suction vehicles to deal with water immediately.

<https://www.almasryalyoum.com/news/details/2429817>

<https://www.dostor.org/4120495>

https://www.bsu.edu.eg/News.aspx?NID=151395&cat_id=1

<https://www.egyptcoewater.eg/sustainability/>

https://www.bsu.edu.eg/News.aspx?NID=52972&cat_id=1

2. Beni-Suef University made a partnership with the Center of Excellence for Water, a USAID funded project where;
 - a. Centre of excellence in water research in cooperation with 5 Egyptian universities and 5 US universities funded from USAID is concerned with Exchange and training, education, governance, sustainability and research. It develops scientific solutions to water problems from lack of supplies and pollution, and develops the infrastructure for water research laboratories. It is also concerned with the discussion of the current and future challenges, innovative solutions and outlook for industrial waste water treatment in Egypt.
 - b. Beni-Suef University is the co-chair for the sustainability phase.
 - c. The Center of Excellence for water COE-Water is involved in third public private partnership PPP with Egypt aiming to long-term sustainability of the COE-water activities.
 - d. Six Research teams from Beni-Suef University won 6 competitive projects in the water research field.
 - e. BSU was the top university from the list of the winning Egyptian universities that won 48 master's scholarships from the water Excellence Center.

<https://www.almasryalyoum.com/news/details/2407801>

<https://www.facebook.com/egyptcoewater/posts/406066994067902>

https://www.bsu.edu.eg/News.aspx?NID=86718&cat_id=1&fbclid=IwAR2i3qZcCALJWmlu#

https://www.bsu.edu.eg/News.aspx?NID=150952&cat_id=1



https://bsu.edu.eg/SingleNews.aspx?NID=152109&cat_id=1#:~:text=%D8%A7%D9%84%D8%B9%D8%A7%D9%85%D8%A9%20%D9%84%D9%84%D9%85%D8%B4%D8%B1%D9%88%D8%B9%D8%A7%D8%AA%20%D8%A7%D9%84%D8%A8%D9%8A%D8%A6%D9%8A%D8%A9-

<https://www.rayalauma.com/2022/09/15/%D8%B1%D8%A6%D9%8A%D8%B3-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D8%A7%D9%84%D8%AD%D8%B5%D9%88%D9%84-%D8%B9%D9%84%D9%89-6-%D9%85%D8%B4%D8%B1%D9%88%D8%B9%D8%A7/>

<https://www.youm7.com/story/2019/9/4/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%89-%D8%B3%D9%88%D9%8A%D9%81-%D8%AA%D8%B4%D8%A7%D8%B1%D9%83-%D9%81%D9%89-%D9%85%D8%B4%D8%B1%D9%88%D8%B9-%D8%A5%D9%86%D8%B4%D8%A7%D8%A1-%D9%85%D8%B1%D9%83%D8%B2-%D8%AA%D9%85%D9%8A%D8%B2-%D8%B9%D9%84%D9%85%D9%89/4403354>

<https://www.egyptcoewater.eg/sustainability/>

<https://wrc.wsu.edu/organization/beni-suef-university/>



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The American University in Cairo

Center of Excellence for Water

CENTER OF EXCELLENCE FOR WATER

BRIEF ON

BENI SUEF UNIVERSITY
PARTICIPATION IN THE CENTER OF
EXCELLENCE FOR WATER

Project Name: Center of Excellence for Water
Award Number: 72026319CA00001
Reporting Period: (February 2019 – October 2022)

Submitted by: Prof. Essam Shaban, Chief of Party of
the Center of Excellence for Water



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The American University in Cairo

Participation of Beni Suez University in the Center of Excellence for Water's Activities

The following sections describe the participation of Beni Suez University in key activities from February 2019 to October 2022:

Component I: Governance

- Beni Suez University (BSU) participated in the governance workshop held in Cairo from October 24-29, 2021 (3 participants).

Component II: Instructional Innovation and Curriculum Development

- Undergraduate Courses Development:** 17 courses were assigned to 24 Egyptian faculty from the 5 EPUs, among them **1** course-developer from BSU assigned for **3** courses.

Component III: High-Quality Applied Research

- Small, Medium and Large Research Grants:** The largest number of research proposals were submitted by BSU; **20** research proposals, 6 Research grants contracted with Beni Suez University (BSU). 5 Large-size projects - 8 medium-size projects - 4 small-size projects
- Out of 21 shortlisted proposals **6** are ~~are~~ contracted (1 Large, 2 medium & 3 small).
- Cairo Water Week:** active participation of BSU in CWW2020, CWW2021 and CWW2022.
- International Symposium:** active participation of BSU in the Center of Excellence for Water International Symposium held in September 2022.

Component IV: Exchange, Training and Scholarships

- Training and Workshops (Total of 17 participants from BSU):

The Center of Excellence for Water Organized 10 training for EPUs as follows :

1. Learning Management System using Moodle; held at Alexandria University from February 4-6, 2020 **(25 participants; 2 from BSU)**

- ~~2. Advanced Learning Management System (LMS) Workshop; held from February 24 – March 6, 2020, at Utah State University. (9 participants; None from BSU)~~

- ~~3-2.~~ 2. Water-Energy-Food (WEF):

WEF 2020: held from November 9 - December 9, 2020, **(12 Participants, 1 from BSU)**

WEF 2021: held from December 12 2021 to March 31 2022 **(28 Participants, 10 from BSU)**

- ~~4-3.~~ 3. Innovative Teaching Strategies workshop; held online from January 28 – March 10, 2021, with face-to-face follow-ups in Ain Sokhna (April 2021) and Alexandria (October 2021). **(9 participants; 1 from BSU)**

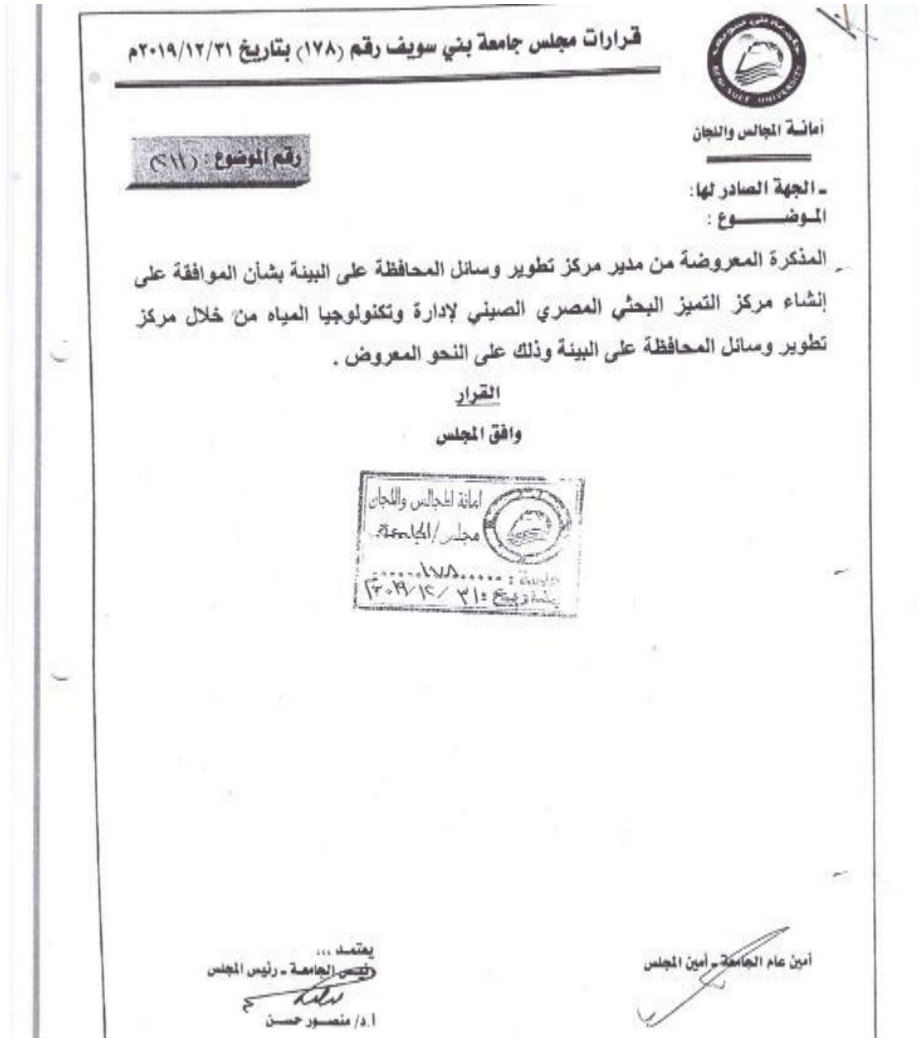
- ~~5-4.~~ 4. Governance and Strategic Planning Workshop; held in Cairo from October 24-29, 2021. **(19 participants; 3 from BSU)**

- ~~6-5.~~ 5. A series of tailored training were delivered for the EPUs (in cooperation with the Pedagogical Innovation and Distance Learning Unit at Alexandria University) including a face-to-face training on "Learning Management Systems" at BSU **(10 participants).**

- ~~7-6.~~ 6. Three Water Quality workshops:

First Water Quality Workshop: **19 Participants non from BSU**

3. A cooperation protocol between the university and Chinese Research Center of Excellence for Water Management and Technology for the treatment of sewage and industrial wastewater in the northern Upper Egypt region, as described by the below image;



4. A cooperation protocol between Beni-Suef University and the Arab Organization for Industrialization with the aim of optimizing the use of local resources and capabilities. It allows cooperation in various research areas of common interest between the two sides, such as; a) seawater desalination, b) industrial and sewage treatment, c) new and renewable energy, d) artificial intelligence, computing, and automated control, as well as e) training students of the Faculty of Engineering at the Organization's Academy and its units and training centers and cooperation in the implementation of student graduation projects.

https://www.masrawy.com/news/news_regions/details/2022/3/31/2200457/%D8%A8%D8%B1%D9%88%D8%AA%D9%88%D9%83%D9%88%D9%84-%D8%AA%D8%B9%D8%A7%D9%88%D9%86-%D8%A8%D9%8A%D9%86-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A8%D9%86%D9%8A-%D8%B3%D9%88%D9%8A%D9%81-%D9%88%D8%A7%D9%84%D9%87%D9%8A%D8%A6%D8%A9-%D8%A7%D9%84%D8%B9%D8%B1%D8%A8%D9%8A%D8%A9-%D9%84%D9%84%D8%AA%D8%B5%D9%86%D9%8A%D8%B9

5. A Cooperation protocol between Faculty of Earth Science and the Industrial Control Authority.



6. Cooperation protocols and international exchange between Beni-Suef University and French, Spanish and Japanese universities.

https://www.psas.bsu.edu.eg/News.aspx?NID=146774&cat_id=18

https://www.bsu.edu.eg/News.aspx?NID=104169&cat_id=1&fbclid=IwAR2vpXEWp6UjiiwyeCE3-w1vx0YlBk4kFTUJ20vALQzdHMs-KEzDVzPfknc

7. A cooperation project in the field of research with York University in England, to desalinate sea water and to use it in the agriculture process or as pure water for drinking.

<https://ahlmasrnews.com/news/local-news/1082221/%D8%A5%D8%AF%D8%B1%D8%A7%D8%AC-8-%D9%85%D9%86-%D8%A3%D8%B9%D8%B6%D8%A7%D8%A1-%D9%87%D9%8A%D8%A6%D8%A9-%D8%A7%D9%84%D8%AA%D8%AF%D8%B1%D9%8A%D8%B3-%D8%B6%D9%85%D9%86-%D9%82%D8%A7%D8%A6%D9%85%D8%A9-%D8%B3%D8%AA%D8%A7%D9%86%D9%81%D9%88%D8%B1%D8%AF-%D8%A5%D9%86%D8%AC%D8%A7%D8%B2-%D8%B9%D8%B8%D9%8A%D9%85>

8. Research partnership with the University of Utah, USA.

<https://www.albawabhnews.com/3858208>

9. Scientific cooperation programs with Italy under the auspices of the Science, Technology and Innovation Funding Authority in fields of renewable energy, materials science and engineering and environmental sciences.

https://www.bsu.edu.eg/News.aspx?NID=156044&cat_id=361

10. A cooperation protocol between BSU and the universities of Toliara in Madagascar and Dakar in Senegal in the scientific fields, and the expansion of the establishment of new programs in various projects and activities. It aims to;

- Engineering consultancy services in the fields of renewable energy and water.
- Enhance cooperation in fields of education and scientific research, academic programs and degrees
- Exchanging faculty members and students
- Scholarships and mutual visits
- Organizing joint conferences, seminars and workshops,
- Integrating laboratories between the two universities
- Engineering consultancy services in the fields of renewable energy and water.

<https://www.elwatannews.com/news/details/5258570>

