SDG 6



Indicator 6.2.1

Water Consumption Tracking

Potable Water Measurement (Mains Supply)	The university tracks the consumption of drinking water with precise metrics for daily, weekly, and annual usage. • **Daily Consumption:** The average daily consumption is recorded at 230 m^3 • **Annual Volume:** The total annual volume of drinking water used is 83,720 m^3 • **Per Capita Tracking:** Usage is calculated against a campus population of 8,888 people (students, faculty, and staff), resulting in an average of 9.4 m^3 per person annually under normal operating conditions.
Irrigation Water Measurement (External & Recycled)	MIU measures the total volume of water used for landscaping, separating the data by source to distinguish between external supplies and recycled water. • **Total Irrigation Volume:** The total annual water used for irrigation is 98,098 m^3.

	• **Source Breakdown:**
	  ○ **Recycled Water:** The university operates a sewage treatment plant with a capacity of 225 m^3 per day. From this, 75,348 m^3 of treated wastewater is used annually for irrigation.
	  ○ **External Supply (Mains/Aquifer):** To supplement the recycled water, the university measures the intake from an "external line." This amounts to 62.5 m^3 daily, totaling 22,750 m^3 annually.

Infrastructure for Measurement and Storage	The report details specific infrastructure used to collect, store, and measure these volumes, demonstrating the physical capacity for accurate tracking.
	• **Station 1:** Contains two underground concrete tanks:
	  ○ 220 m^3 capacity for drinking water.
	  ○ 220 m^3 capacity for irrigation water.
	• **Station 2:** Contains multiple storage units:
	  ○ One underground concrete tank 220 m^3 for drinking water.
	  ○ Six surface tanks with a combined capacity of 120 m^3 for drinking water, all linked via a network.
	• **Irrigation Support:** Four polyethylene tanks with a total capacity of 80 m^3 are used to support the irrigation network, supplied by either the treatment plant or the external line.

Firefighting Water Management	The university also measures water stored specifically for emergency use. • **Volume:** An independent station holds 150 m^3 of water dedicated to firefighting. • **Conservation:** This water is renewed twice annually. Crucially, the discharged water is measured and diverted to the irrigation tanks to ensure it is utilized rather than wasted.

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Indicator 6.3.1

Wastewater Treatment

Misr International University (MIU) acts as a responsible body regarding waste management. By maintaining a treatment plant with a 225 m^3 daily capacity and successfully recycling over 75,000 m^3 of water annually for irrigation, the university has a proven, effective process in place for treating and reusing wastewater.

Treatment Infrastructure and Capacity	The university has established a robust infrastructure to handle campus-wide sanitation needs. • **Collection Network:** The university operates a centralized sewage network that collects all wastewater generated across the campus. • **Treatment Facility:** All collected wastewater is transferred to an on-site sewage treatment plant. • **Operational Capacity:** The plant is designed to operate with a treatment capacity of **225 m^3 per day**.

<table>
<tr>
<td>Treatment Process and Utilization</td>
<td>The core objective of the university's treatment process is the conversion of waste into a reusable resource, minimizing the environmental footprint.
• The Process: Wastewater undergoes treatment within the plant to meet safety standards for non-potable use.
• End-Use Application: The treated water is strictly utilized for the irrigation of the university’s green spaces, reducing the demand for freshwater reserves.</td>
</tr>
<tr>
<td>Quantitative Analysis & Water Usage Statistics</td>
<td>Data collected regarding the plant's output and campus irrigation needs demonstrates a high level of dependency on recycled water.
• Daily Output Analysis
On normal working days, the treated sewage output is calculated based on a 90% recovery rate from the input.
<table>
<tr><th>Metric</th><th>Value</th><th>Note</th></tr>
<tr><td>Daily Treated Output</td><td>207 m³</td><td>Calculated as 90% of 230 m³ input</td></tr>
</table>
• Contribution to Irrigation
The treated wastewater forms most of the water volume used for maintaining campus vegetation.
• Total Annual Irrigation Usage: 98,098 m³
• Annual Treated Wastewater Contribution: 75,348 m³
• Daily Total Irrigation Usage: 269.5 m³
This data confirms that most of the university's annual irrigation needs are met through its internal wastewater treatment process.</td>
</tr>
<tr>
<td>Integration of Air Conditioning Drainage</td>
<td>The university has implemented a secondary water capture process involving the air conditioning (AC) systems.
• Methodology: Water generated from AC drainage is not discarded; it is diverted into the university’s sewage network to be processed and reused.</td>
</tr>
</table>

- **Volume Recovered:** Approximately **12 m³ per day**.
- **Operational Basis:** This figure is based on the operation of total AC units for an average of 8 hours per day (excluding central air conditioning), considering permitted operating periods.

SDG 6



Indicator 6.3.2

Preventing water system pollution

This report outlines the institutional protocols and infrastructure safeguards established by Misr International University to ensure the integrity of its water system. The data, derived from the university's "Mechanism for Preserving Water from Pollution," demonstrates a two-pronged approach: structural isolation of water networks to prevent cross-contamination and strict operational controls regarding hazardous chemical disposal, specifically within laboratory environments.

Infrastructure Safeguards and Network Isolation	To prevent polluted water from entering the primary water system, the university has implemented specific engineering controls regarding its water stations and piping infrastructure. **1. Independent Piping Networks** The university maintains complete physical separation between different water systems. The water pipe network connecting Station 1 and Station 2, as well as the stations themselves, is **completely independent**. This structural isolation

	eliminates the risk of cross-contamination between potable water supplies and other water sources. 2. **Maintenance and Monitoring** • **Periodic Sanitation:** Water storage tanks undergo periodic washing and disinfection to prevent the buildup of contaminants. • **Laboratory Analysis:** To verify safety, water samples are analyzed periodically by certified laboratories in the Arab Republic of Egypt. • **Leakage Prevention:** The university asserts that the maintenance schedule effectively prevents the leakage of polluted water into the clean water network. 3. **Sustainable Management of Auxiliary Water Systems** The university manages secondary water resources (irrigation and fire safety) in a closed-loop or controlled manner to prevent runoff pollution: • **Irrigation Reserves:** Four polyethylene tanks with a total capacity of **80 m³** support the irrigation station. These are supplied by the treatment plant or external irrigation lines, keeping non-potable water contained. • **Fire Water Recycling:** The fire protection water station (capacity **150 m³**) is renewed twice annually. To prevent waste and pollution, the water discharged during this renewal process is diverted to the irrigation tanks for reuse, rather than being dumped into the general sewage system. •
Pollution Prevention in Academic Laboratories	A critical vector for university water pollution is the accidental release of chemicals into the drainage system. The report highlights the Faculty of Pharmacy as a primary case study for strict pollution control protocols. 1. **Prohibition of Hazardous Discharge** There is a **strict prohibition** on disposing of hazardous or polluting materials into laboratory sinks/drains. The banned categories include:

- **Corrosive Materials:** Strong acids and strong bases.
- **Reactive/Active Materials:** Unstable substances, materials that react violently with water to produce smoke/fumes, and substances generating cyanide or sulfide gases upon contact with acids/bases.
- **Toxic Materials:** Specifically, those containing heavy metal residues in filtration products, including Arsenic (As), Barium (Ba), Cadmium (Cd), Mercury (Hg), Selenium (Se), and Silver (Ag).
- **Flammable Materials:**
    - Liquids containing at least 24% alcohol.
    - Substances with a boiling point below 60°C.
    - Materials capable of causing fire through friction, moisture absorption, or spontaneous reaction.
    - Compressed flammable gases and oxidizers.

2. **Hazardous Waste Management Procedures**

To ensure these pollutants do not enter the water system, the university employs the following workflows:

- **Collection:** Chemical residues resulting from student experiments are collected in dedicated containers prepared specifically for each laboratory.
- **Disposal:** These collected wastes are processed according to the university's "Hazardous Chemical Waste Disposal Mechanism," ensuring they are treated appropriately according to their chemical nature rather than flushed.

3. **Permissible Limits**

The protocols are specific about what *can* enter the system, limiting discharge to only safe substances:

- Small quantities of diluted acids are permitted only if the pH level is between **5.5 and 10.5**.
- Safe salts are permitted.

Oversight and Incident Prevention	To prevent pollution caused by accidents or negligence, the university enforces continuous oversight: • **Supervision:** The Occupational Safety and Health Administration at the college supervises the cleaning and clearing of watercourses. • **Continuous Maintenance:** Drainage systems are cleaned continuously to prevent blockages that could lead to backflow or overflow incidents.

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Indicator 6.3.3

Free Drinking Water Provided

Misr International University (MIU) ensures the availability of free, potable drinking water for all members of the university community, including students, academic and administrative staff, and visitors.

Provision for Students and Staff	The university ensures widespread access to drinking water across campus facilities through the following measures: • **Campus-Wide Access:** All water outlets located in every building on campus are equipped with separate desalination units. • **Filtration Technology:** These units operate using a Reverse Osmosis (RO) system to ensure the water is suitable for daily consumption.

	• **Maintenance:** A specialized company is contracted to perform periodic maintenance on these units to guarantee water quality and safety.

Provision for Visitors and Patients
 	
Enhanced Service Coverage And Flexible Scheduling
	The university extends its free water provision to visitors, specifically targeting patients in medical facilities and guests at university events:
	• **Medical Facilities (Clinics Complex):**
	  ○ The university provides drinking water for patients at the Clinics Complex.
	  ○ This is facilitated by two dedicated desalination stations installed specifically for the complex's usage.
	• **Events and Guests:**
	  ○ During cultural and community activities—such as conferences, parties, seminars, and scientific days—the Public Relations Office provides free mineral water.
	  ○ This is considered part of the standard hospitality offered to visitors attending these events.

Technical Specifications and Quality Control	To ensure the highest standards of water safety, the Engineering Administration has implemented specific technical infrastructure and management protocols: • **Station Capacity:** The two stations located at the Clinics Complex each have a total capacity of **3 m³/hour**. • **Treatment Method:** These stations utilize a system that separates positive ions (cations) to prevent scaling/cyst formation caused by dissolved positive ions. • **Operational Management:** The daily operation, management, and maintenance of these stations are assigned to an executing company through a formal contract concluded between the University and the company.

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Indicator 6.3.4

Water-Conscious Building Standards

The university demonstrates a holistic approach to water conservation. By combining high-efficiency construction materials (pre-fabricated elements), water recycling infrastructure (sewage and AC condensate reuse), and smart retrofitting (infrared sensors), the institution successfully minimizes water waste while maintaining its operational needs.

Construction and Material Standards	To address the "excessive use of water in construction works," the university has adopted specific building standards to minimize water waste during the development phase: • **Ready-Mix Concrete:** The university prioritizes the use of ready-mix concrete instead of mixing concrete on-site, which reduces uncontrolled water usage. • **Prefabricated Materials:** There is a strategic shift away from water-intensive traditional masonry and internal/external plastering. These are being replaced by pre-fabricated partitions and cladding (both internal and external) at a rate exceeding **75%**.

Water Recycling and Reuse Standards	The university has established comprehensive infrastructure to recycle water for irrigation, significantly reducing the demand for freshwater supplies for landscaping. • **Sewage Water Treatment:** The university diverts all sewage water through its own network to a specialized treatment plant. This plant operates with a capacity of **225 m³ per day**, converting sewage into treated water suitable for irrigation. This recycled water maintains approximately **12,000 m²** of green spaces within the campus. • **Air Conditioning Condensate Recovery:** The university capitalizes on water generated by air conditioning systems. Approximately **12 m³ of water is recovered daily** (based on 8 operational hours, excluding central AC output) and directed into the sewage network to be repurposed for irrigation. • **Rainwater Harvesting:** A complete rainwater drainage network has been installed to collect water from building roofs and grounds. This water is gathered in wells and a new collection station with a **100 m³ capacity**, after which it is pumped into the irrigation network.
Renovation and Technology Integration	The university is actively retrofitting existing facilities to ensure water efficiency at the point of use: • **Infrared Sensor Technology:** As part of a comprehensive bathroom development plan, traditional water outlets are being replaced with infrared sensor-operated faucets to strictly control and minimize the quantity of water used in sinks.
Potable Water Management	The university maintains strict standards for drinking water quality and efficiency: • **Desalination Units:** Two desalination stations utilizing ion-separation technology have been installed at the Clinics Complex, with a total capacity of **3 m³/hour per station**. • **Reverse Osmosis (RO) Systems:** All office water outlets across university buildings are equipped with separate Reverse Osmosis (RO) units to provide

safe drinking water. These units are maintained periodically by specialized companies.

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Indicator 6.3.5

Water-Conscious Planting

The university has demonstrated a clear, data-backed commitment to minimizing water usage. By transitioning to drought-tolerant flora (succulents and cacti), installing artificial turf, and implementing rainwater harvesting, the institution has successfully lowered daily water consumption and established a framework for sustainable campus management.

Integration of Drought-Tolerant Vegetation	To minimize irrigation requirements, the university has actively altered its landscape composition by moving away from traditional green turf (grass), which requires heavy watering. • **Adoption of Xeriscaping:** Many green turf areas have been replaced with various types of cacti and succulents. This shift was designed to economize both water consumption and maintenance expenses. • **Specific Species Used:** The university has used a variety of drought-resistant plants, including Sansevieria, White Furcraea, Pachypodium, Cereus, Echinocactus, Asparagus, Ruscus (Sefander), and Chlorophytum (Phalangium).

	• **Professional Oversight:** These replacement operations are conducted under the continuous coordination and arrangement of specialized agricultural engineers appointed by the university. • **Seasonal Adjustment:** Plant replacements are also carried out periodically based on the seasons to further limit water consumption rates.
Reduction of Water Usage in Sports Facilities	A significant reduction in water usage was achieved by altering the infrastructure of the university's sports grounds. • **Turf Replacement:** The university replaced natural grass in the playground areas with artificial turf to reduce the water used for irrigation. • **Quantifiable Impact:** This change reduced daily irrigation water consumption from **269.5 m³** to **227 m³**.
Irrigation Infrastructure and Rainwater Harvesting	Beyond plant selection, the university has engineered systems to recapture water and optimize distribution. • **Rainwater Harvesting Network:** A rainwater drainage network has been constructed within the university campus. • **Recycling Process:** Rainwater is collected in wells and then gathered in a new collection station with a capacity of 100 m³. This collected water is subsequently pumped back into the irrigation network for reuse. • **Future Modernization:** A technical and financial study is currently underway to replace the existing irrigation network with a computer-controlled system. This upgrade aims to further decrease the percentage of water waste through precise automated operation.

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Indicator 6.4.1

Water Reuse Policy

Policy	The university is committed to preserving water resources by promoting consumption efficiency and maximizing the use of all available water sources on campus. The policy includes upgrading water infrastructure, replacing traditional fixtures with water-saving technologies, and using low-water-demand plants. Additionally, desalination units are installed in key facilities. Wastewater is treated and reused for irrigation, along with water collected from air conditioning systems and rain. The university also prioritizes awareness through signage and educational seminars held both on and off campus. **Policy created:** 2012 **Policy reviewed:** 2024 https://www.miuegypt.edu.eg/policies/policies-summary/#policy24
	The university has implemented specific infrastructure to capture, treat, and reuse water that would otherwise be discarded.

Water Reuse Infrastructure & Initiatives	**1. On-Site Wastewater Treatment and Reuse** The backbone of the reuse strategy is the university's ability to treat its own sewage effectively. • **Treatment Capacity:** The university operates a dedicated Sewage Treatment Plant (STP) with a daily capacity of **225 m^3**. • **Application:** 100% of the wastewater generated is directed to this network. After treatment, this recycled water is repurposed to irrigate approximately **12,000 m^2** of green spaces on campus, replacing the need for fresh water in landscaping. **2. Air Conditioning Condensate Recovery** To maximize reuse from non-traditional sources, the university captures water generated by HVAC systems. • **Volume Recovered:** An estimated **12 m^3 of water per day** is recovered from the drainage of air conditioning units (based on an 8-hour operating cycle). • **Reuse Path:** Instead of being lost to evaporation or external drainage, this condensate is routed into the university's sewage network so that it can be treated and subsequently used for irrigation. **3. Firefighting Water Recycling:** The university has adopted an innovative protocol for maintaining its firefighting reservoirs. • **Process:** The firefighting network (fed by a 150 m^3 tank) requires water renewal twice annually. Rather than discharging this large volume into the sewer system as waste, the policy mandates that this water be discharged directly into the **irrigation tanks** for immediate reuse in landscaping. **4. Rainwater Harvesting** Infrastructure is in place to capture precipitation. • **Storage:** Rainwater is collected in ground pits with a capacity of **100 m^3**.

	• **Utilization:** Pumps transfer this harvested water into the irrigation network, further reducing the draw on freshwater aquifers.
Conservation Measures Supporting Reuse	While maximizing reuse, the university also reduces overall demand to ensure the reused water is sufficient for campus needs. • **Artificial Turf:** The substitution of natural grass with artificial turf in specific areas has reduced daily irrigation requirements from **269.5 m^3 to 227 m^3**. • **Xeriscaping:** The landscaping strategy prioritizes drought-resistant plants (cacti and succulents) to align water demand with the available supply of treated wastewater.

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Indicator 6.4.2

Water Reuse Measurement

Water conservation and reuse strategies implemented by Misr International University (MIU). Based on official engineering data for the academic year 2023-2024, the University acts as a centralized body to measure, treat, and reuse wastewater. The data confirms that a significant portion of the university's landscape irrigation requirements are met through on-site water treatment and reuse.

Infrastructure and Measurement Methodology	**1. Centralized Collection and Treatment** The University has established a comprehensive infrastructure to measure and manage water reuse. All wastewater generated within the campus is diverted through a dedicated sewage network to the on-site **Sewage Treatment Plant (STP)**. • **Plant Capacity:** The STP operates with a capacity of **225 m³ per day**. • **Process:** The plant treats sewage water to levels safe for irrigation purposes, adhering to environmental standards for the maintenance of green spaces.

<table>
<tr><td></td><td>

2. **Measurement Protocols**

The Engineering Department utilizes specific metering system to track water volume at three intervals:

1. **Daily Flow**
2. **Weekly Aggregates**
3. **Annual Totals**

</td></tr>
<tr><td>Quantitative Data Analysis (2023-2024)</td><td>

The following data demonstrates the University's active measurement of its water cycles.

1. **Irrigation Water Consumption**

The university maintains extensive green spaces which require consistent irrigation. The measured consumption rates are as follows:

Metric	Measured Volume
Daily Irrigation Usage	269.5 m^3 / day
Weekly Irrigation Usage	1,886.5 m^3 / week
Total Annual Usage	98,098 m^3 / year

2. **Impact of Water Reuse**

The University measures the specific contribution of treated wastewater to the total water budget.

- **Daily Treated Effluent:** Approximately **207 m^3** of treated water is produced daily (during standard operation days).
- **Annual Reused Contribution:** Out of the total 98,098 m^3 used for irrigation annually, **75,348 m^3** is sourced directly from treated wastewater.

Conclusion of Data: Approximately **76.8%** of the University's annual irrigation needs are met through measured, reused water.

</td></tr>
<tr><td>Innovative Recovery: Air</td><td>In addition to sewage treatment, the University measures and captures "grey water" generated by air conditioning systems.</td></tr>
</table>

Conditioning Condensate	• **Measurement:** The Engineering Department has calculated the condensate recovery based on an 8-hour daily operation cycle. • **Volume Recovered: 12 m³ per day**. • **Method:** This water is diverted into the university's sewage network, where it joins the treatment cycle to be processed and reused for irrigation.

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Indicator 6.5.1

Water Management Educational Opportunities

Misr international University (MIU) has an active role in promoting water sustainability awareness within the local Egyptian community. Through both undergraduate fieldwork and advanced graduate research within the Faculty of Al-Alsun and Mass Communication, the university has successfully bridged the gap between academic study and community engagement. The data presented below demonstrates how the university facilitates understanding of water consumption behaviors and evaluates the effectiveness of public awareness strategies.

Undergraduate Engagement: Community Interaction & Surveying	**In a lively, open discussion with students and Faculty at Misr International University, Egypt's Minister of Water Resources and Irrigation, Hani Sewilam said:** • **Egypt is ready for "all possible scenarios" when it comes to the Nile River.** • **The creation of a National Water Council is a long-awaited milestone for Egypt's water experts.** Responding to audience questions, Sewilam revealed that President Abdel Fattah el-Sisi personally ordered the council's formation. The body, which will be chaired by the Prime Minister, is tasked with managing what Sewilam called "Egypt's lifeline: its water resources".

	Sewilam also highlighted several major infrastructure projects, from the development of the Toshka spillway to the significant expansion of the country's water recycling efforts. According to the Minister, Egypt is now reusing roughly 5 billion cubic meters of irrigation water annually. https://www.miuegypt.edu.eg/water-security-seminar-by-dr-hani-sewilam-at-miu/
Graduate Research: Enhancing Public Awareness Strategies	At the postgraduate level, the university produces high-level research aimed at optimizing how water management education is delivered to the public. This ensures that future educational campaigns are evidence-based and effective. **Activity:** Master's Thesis Defense **Specialization:** Comparative Media Studies **Date:** June 6, 2024 **Thesis Title:** *"The impact of Media Awareness Messages on Egyptians' Attitudes Toward Rationalizing Water Consumption: A Comparative Study between Television and Social Media Platforms."* **Key Contributions to Community Education:** This research specifically targets the methodology of education. By analyzing the impact of awareness messages, the university provides a framework for: 1. **Identifying Channels:** Determining whether TV or social media is more effective for educating specific demographics about water conservation. 2. **Message Tailoring:** Understanding which types of messages successfully persuade the community to rationalize water use. 3. **Policy Support:** Providing data-backed recommendations for national or local campaigns aiming to teach effective water management practices. https://www.miuegypt.edu.eg/ranim-fathi-anwar-azzam-masters/

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Indicator 6.5.3

Off-Campus Water Conservation Support

Misr international University (MIU) has a commitment to water sustainability, specifically highlighting efforts that extend beyond campus operations into the wider community. Through the Faculty of Al-Alsun and Mass Media, the university has utilized academic rigor to assess and influence public behavior regarding water conservation. The following evidence demonstrates the University's active engagement with the Egyptian public regarding water rationalization.

The university supports water conservation off-campus in the following ways:

Mechanism	Description of Support
Data Generation	The university is generating empirical data on how the public (not just students) views water consumption.
Policy Relevance	The master's thesis compares media effectiveness, offering insights that can guide national advertising campaigns for water security.
Public Discourse	By conducting surveys and defending theses on this topic, the university keeps the conversation about "Water Rationalization" active in the public sphere.

Community Outreach via	*Context: Integrating community surveying into curriculum.*

Undergraduate Fieldwork	As part of the practical requirements for the **"Introduction to Research Methods"** course, undergraduate students from the Media Department engaged directly with the local community. • **The Activity:** Students distributed public opinion surveys to a diverse sample of Egyptian citizens. • **The Focus:** The surveys were designed to gauge **"Egyptians' attitudes toward water consumption."** • **Off-Campus Impact:** By taking these surveys outside the classroom and into the general population, the university achieved two goals: gathering data on real-world public behavior and subtly raising awareness among respondents regarding the urgency of water issues. https://www.miuegypt.edu.eg/minister-of-water-resources-and-irrigation-highlights-egypts-water-security/ https://www.miuegypt.edu.eg/mass-communication-students-visit-verynile-to-raise-environmental-awareness/ https://www.miuegypt.edu.eg/als-mcm-visits-fatma-al-zahraa-orphanage/
Advanced Research on Public Awareness Strategies	*Context: Master's level contribution to national sustainability strategies.* The Faculty of Al-Alsun and Mass Media (Mass Communication Department) continues to support high-level research dedicated to solving national environmental challenges. • **The Event:** A master's Thesis defense held on **Thursday, June 6, 2024**. • **The Thesis Title:** *"The Impact of Media Awareness Messages on Egyptians' Attitudes Towards Water Rationalization: A Comparative Study between Television and Social Media Platforms."* • **Off-Campus Impact:** This research directly addresses how to effectively communicate water conservation to the public. By analyzing Television and

social media—the two primary channels for reaching the masses—this study provides actionable data on how to convince the Egyptian population to rationalize water use.

https://www.miuegypt.edu.eg/ranim-fathi-anwar-azzam-masters/

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Indicator 6.5.4

Sustainable Water Extraction On Campus

Misr International University (MIU) has implemented sustainable water technologies on its campus. Specifically, the university has constructed infrastructure to extract and collect rainwater from building surfaces, effectively diverting it for use in landscape irrigation rather than allowing it to be wasted or burdening municipal sewage systems.

Sustainable Extraction Methodology	**Rainwater Harvesting** The primary sustainable extraction technology utilized by the university is a comprehensive rainwater harvesting system. The process involves the following stages: • **Extraction Source:** Water is extracted directly from natural precipitation collected on the rooftops of university buildings. • **Conveyance:** A specialized network of pipes transports the water from the rooftops into the campus drainage network. • **Collection:** The water flows into designated collection pits (cesspools) before being consolidated.

Infrastructure and Storage Capacity	The university has completed the construction of a dedicated rainwater drainage network to facilitate this process. • **Central Station:** The collected water is routed to a newly constructed collection station. • **Storage Capacity:** This station has a storage capacity of **100 m^3**. • **Utilization:** Once collected, the water is pumped directly from the station into the university's **irrigation network**, ensuring the water is recycled for maintaining campus greenery.
Environmental Context and Impact	The implementation of this extraction technology is particularly significant given the local environmental context. The Engineering Department notes the following regarding the scarcity of water sources in the region: Egypt is considered a country suffering from rainfall scarcity. It receives between 20 millimeters (0.79 inches) and 200 millimeters of average annual rainfall along the Mediterranean coast, with the rate dropping to nearly 0 millimeters in the central and southern parts of the country. Despite these low precipitation rates, the university's investment in capturing this resource demonstrates a strong commitment to maximizing sustainable water extraction opportunities.

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Indicator 6.5.5

Cooperation On Water Security

Misr international University (MIU) has an active engagement in supporting national and regional government goals regarding water security. Through the Faculty of Al-Alsun and Mass Communication, the University acts as a vital research partner, providing data-driven insights into public sentiment and evaluating the efficacy of national awareness campaigns.

The data presented below demonstrates how the University contributes to **Goal 6 (Clean Water and Sanitation)** by aligning academic research with the Egyptian government's national strategy for the **rationalization of water consumption**.

The integration of these academic outputs can support the government in the following ways:

Research Output	**Government Application**
Comparative Study (TV vs. Social Media)	Helps the Ministry of Water Resources and Irrigation decide where to place ads for maximum impact.
Public Attitude Surveys	Provides demographic data on which segments of the population are least likely to conserve water, allowing for targeted policy interventions.

Awareness Analysis	Validates the effectiveness of current "Water Rationalization" (Trsheed) initiatives.

Fieldwork and Data Collection: Monitoring Public Sentiment	*Context: Integrating community surveying into curriculum.* As part of the practical requirements for the **"Introduction to Research Methods"** course, undergraduate students from the Media Department engaged directly with the local community. • **The Activity:** Students distributed public opinion surveys to a diverse sample of Egyptian citizens. • **The Focus:** The surveys were designed to gauge **"Egyptians' attitudes toward water consumption."** • **Off-Campus Impact:** By taking these surveys outside the classroom and into the general population, the university achieved two goals: gathering data on real-world public behavior and subtly raising awareness among respondents regarding the urgency of water issues. https://www.miuegypt.edu.eg/mass-communication-students-visit-verynile-to-raise-environmental-awareness/
Advanced Graduate Research: Evaluating National Awareness Campaigns	*Context: Master's level contribution to national sustainability strategies.* The Faculty of Al-Alsun and Mass Media (Mass Communication Department) continues to support high-level research dedicated to solving national environmental challenges. • **The Event:** A master's Thesis defense held on **Thursday, June 6, 2024**. • **The Thesis Title:** *"The Impact of Media Awareness Messages on Egyptians' Attitudes Towards Water Rationalization: A Comparative Study between Television and Social Media Platforms."* • **Off-Campus Impact:** This research directly addresses how to effectively communicate water conservation to the public. By analyzing Television and Social Media—the two primary channels for reaching the masses—this study

provides actionable data on how to convince the Egyptian population to rationalize water use.

https://www.miuegypt.edu.eg/ranim-fathi-anwar-azzam-masters/

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Indicator 6.5.6

Promoting Conscious Water Usage On Campus

Misr International University actively promotes conscious water usage. By recycling approximately 225 cubic meters of wastewater daily for irrigation, the university significantly reduces its reliance on fresh water for landscaping, demonstrating a clear commitment to environmental sustainability and water security

Wastewater Treatment and Recycling	The primary evidence of conscious water usage is the university's closed-loop system for irrigation, which minimizes the waste of fresh water. • **On-Site Treatment:** All wastewater generated by the university is diverted through a private sewage network directly to an on-site sewage treatment plant. • **Daily Capacity:** This treatment plant operates with a capacity of **225 cubic meters per day**. • **Recycling for Irrigation:** The facility converts sewage water into treated water suitable for irrigation. This recycled water is actively used to irrigate the green spaces across the campus.

	• **Supplemental Resources:** To ensure green spaces are maintained without depleting potable water reserves, the recycled water is supplemented daily by a dedicated line from the "Orabi Station" source. • **Professional Management:** To ensure efficiency and safety, the station is operated and managed under a contract with a leading company specialized in this field.
Potable Water Storage and Infrastructure	The university has invested in substantial infrastructure to manage fresh water efficiently and hygienically. The "Station 2" facility includes the following: • **Underground Storage:** A concrete underground tank with a capacity of **220 cubic meters** for drinking water. • **Surface Storage:** Six additional surface tanks with a total combined capacity of **120 cubic meters** of drinking water. • **Network Integration:** All tanks are connected via a linking network to ensure consistent distribution. • **Maintenance and Safety:** Periodic purification and cleaning operations are conducted for all tanks to maintain water quality. Both Station 1 and Station 2 were designed by a specialized consulting firm to ensure optimal operation

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Indicator 6.5.7

Promoting Conscious Water Usage In the Wider Community

Misr international University (MIU) operates as an active agent of social change regarding water security. Moving beyond passive instruction, the University utilizes its academic apparatus—specifically the Department of Mass Communication—to engage directly with the wider community.

The integration of these academic outputs can support the government in the following ways:

Research Output	**Government Application**
Comparative Study (TV vs. Social Media)	Helps the Ministry of Water Resources and Irrigation decide where to place ads for maximum impact.
Public Attitude Surveys	Provides demographic data on which segments of the population are least likely to conserve water, allowing for targeted policy interventions.
Awareness Analysis	Validates the effectiveness of current "Water Rationalization" (Trsheed) initiatives.

Fieldwork and Data Collection: Monitoring Public Sentiment	*Context: Integrating community surveying into curriculum.* As part of the practical requirements for the **"Introduction to Research Methods"** course, undergraduate students from the Media Department engaged directly with the local community. • **The Activity:** Students distributed public opinion surveys to a diverse sample of Egyptian citizens. • **The Focus:** The surveys were designed to gauge **"Egyptians' attitudes toward water consumption."** • **Off-Campus Impact:** By taking these surveys outside the classroom and into the general population, the university achieved two goals: gathering data on real-world public behavior and subtly raising awareness among respondents regarding the urgency of water issues. https://www.miuegypt.edu.eg/mass-communication-students-visit-verynile-to-raise-environmental-awareness/ https://www.miuegypt.edu.eg/als-mcm-visits-fatma-al-zahraa-orphanage/
Advanced Graduate Research: Evaluating National Awareness Campaigns	*Context: Master's level contribution to national sustainability strategies.* The Faculty of Al-Alsun and Mass Media (Mass Communication Department) continues to support high-level research dedicated to solving national environmental challenges. • **The Event:** A master's Thesis defense held on **Thursday, June 6, 2024.** • **The Thesis Title:** *"The Impact of Media Awareness Messages on Egyptians' Attitudes Towards Water Rationalization: A Comparative Study between Television and Social Media Platforms."* • **Off-Campus Impact:** This research directly addresses how to effectively communicate water conservation to the public. By analyzing Television and Social Media—the two primary channels for reaching the masses—this study

provides actionable data on how to convince the Egyptian population to rationalize water use.

https://www.miuegypt.edu.eg/ranim-fathi-anwar-azzam-masters/