



جامعة الإمام عبد الرحمن بن فيصل
IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY
عمادة خدمة المجتمع والتنمية المستدامة
Dsu



SDG 6

Clean Water &
Sanitation

Sustainable
Development Report

2024-2025

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1. IAU Participation in the fifth edition of the Water Research Community Initiative organized by the Saudi Water Authority



Imam Abdulrahman bin Faisal University (IAU) Participation in the fifth edition of the Water Research Community Initiative organized by the Saudi Water Authority.

https://x.com/CE_IAU_SA/status/1968561503134437880

2. Wastewater Analysis Lab at IAU

Wastewater/Organic Analysis Lab

Supervisors

Dr. Ismail Anil

Email: ianil@iau.edu.sa

Location: College of Engineering, A13 Building

Equipment/Service

- Gas chromatography coupled with mass spectrometry (GC-MS)
- Ion chromatography
- High-performance liquid chromatography (HPLC)
- Radioactivity Meter
- Solid phase extraction system
- Furnace
- Rotary evaporator
- Automatic titration unit

<https://www.iau.edu.sa/en/colleges/college-of-engineering/labs-and-equipment/environmental-engineering-laboratories>

3. Research Groups on Wastewater on IAU



Departments

- Biomedical Engineering Department
- Civil & Construction Engineering Department
- Environmental Engineering Department**
- Commercial Services
- Research Groups**
- Senior Design Projects
- Students Enrollment and Graduation Data
- Department of Basic Engineering Sciences
- Mechanical and Energy Engineering Department
- Transportation and Traffic Engineering Department

Programs

Water and Wastewater

Overview

Water and wastewater research group exerting continuous efforts in the areas of water and wastewater treatment.

The main focus area include:

- Water and wastewater quality monitoring
- Sustainable innovative adsorbents for water purification
- Solar disinfection
- Photodegradation of polyaromatics and pharmaceutical contaminants
- Biodegradation of organic pollutants
- Sewage sludge treatment
- Bio based membranes for desalination

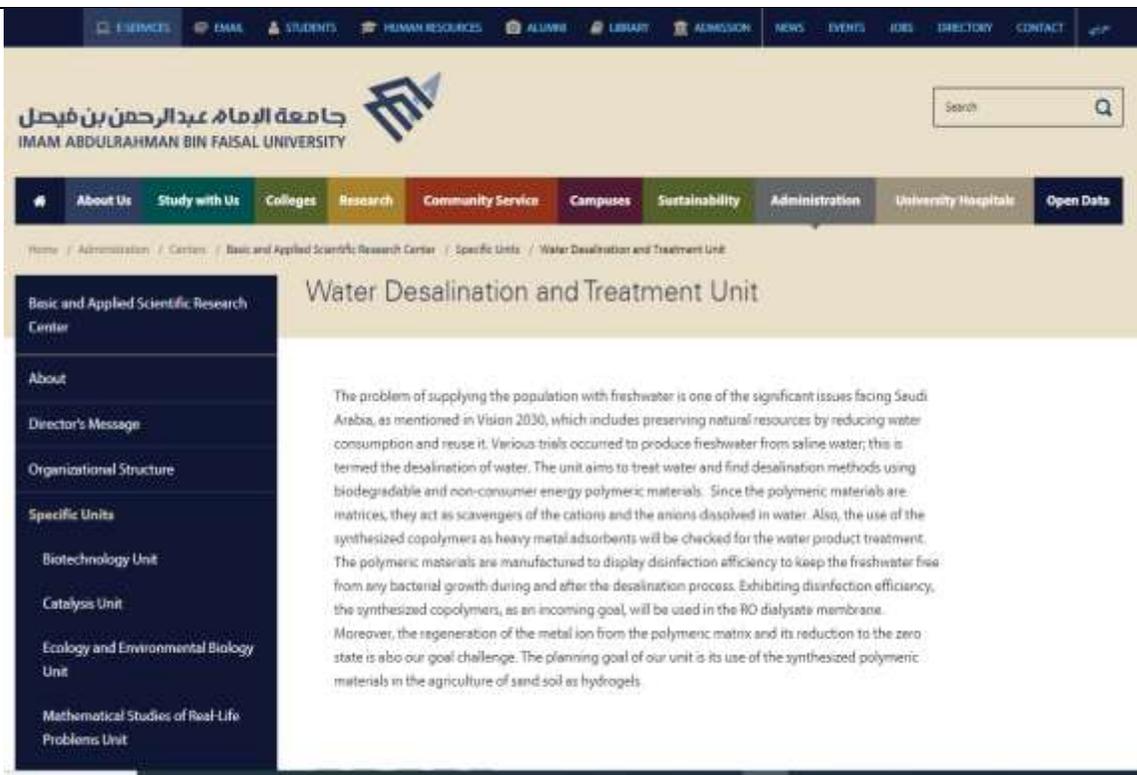
Objectives

To develop, design and implement sustainable solutions for solving global water and wastewater pollution control and treatment problems.

Group Members Names	Position	Contact
Dr. Nuhu	Associate Professor	nmdalhat@iau.edu.sa

<https://www.iau.edu.sa/en/colleges/college-of-engineering/departments/environmental-engineering-department/research-groups>

4. Water Desalination and Treatment Unit



The problem of supplying the population with freshwater is one of the significant issues facing Saudi Arabia, as mentioned in Vision 2030, which includes preserving natural resources by reducing water consumption and reuse it. Various trials occurred to produce freshwater from saline water; this is termed the desalination of water. The unit aims to treat water and find desalination methods using biodegradable and non-consumer energy polymeric materials. Since the polymeric materials are matrices, they act as scavengers of the cations and the anions dissolved in water. Also, the use of the synthesized copolymers as heavy metal adsorbents will be checked for the water product treatment. The polymeric materials are manufactured to display disinfection efficiency to keep the freshwater free from any bacterial growth during and after the desalination process. Exhibiting disinfection efficiency, the synthesized copolymers, as an incoming goal, will be used in the RO dialysate membrane. Moreover, the regeneration of the metal ion from the polymeric matrix and its reduction to the zero state is also our goal challenge. The planning goal of our unit is its use of the synthesized polymeric materials in the agriculture of sand soil as hydrogels.

Water Desalination and Treatment Unit

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<https://www.iau.edu.sa/en/administration/centers/basic-and-applied-scientific-research-center/specific-units/water-desalination-and-treatment-unit>

5. Wastewater consultation solutions by IAU



2. Division of Wastewater Treatment and Reuse:

water/wastewater team in IAU consultation office specializes in providing solutions for the industry's water/wastewater treatment challenges. We can guide you for the operations of wastewater system, provide troubleshooting, and can help or manage your analytical testing. We offer consulting services for both water and wastewater treatment plants. We offer consultation services, conducting studies, measurements, and training in the field of wastewater engineering, treatment, optimization, reuse, and design.

Our consultation services and laboratory analysis are authorized by the Presidency of Meteorology and Environment (GAMEP).

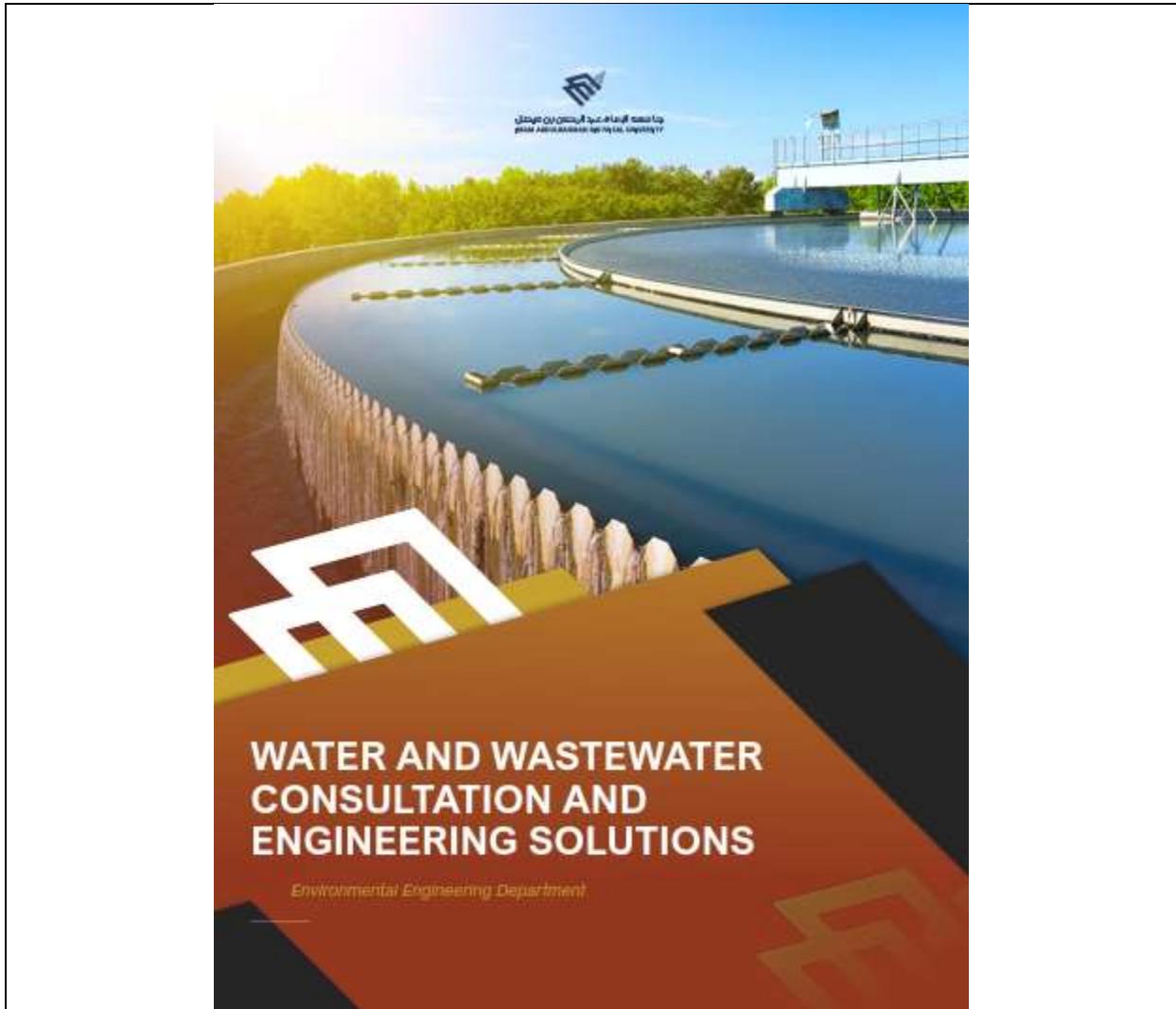
- Conducting analysis and modelling on the existing design of wastewater engineering systems and finding cost-saving opportunities that provide a return on investment.
- Designing, implementing, and upgrading wastewater treatment systems
- Advice on best practicable and cost-effective solutions for wastewater treatment.
- Wastewater analysis and characterization
- Marine pollution and deep discharge design
- Blue flag services and consultation
- Water footprint calculations and simulations
- Wastewater plant modelling and simulation studies



Wastewater treatment team in IAU Consultation Office

water/wastewater team in IAU consultation office specializes in providing solutions for the industry's water/wastewater treatment challenges. We can guide you for the operations of wastewater system, provide troubleshooting, and can help or manage your analytical testing. We offer consulting services for both water and wastewater treatment plants. We offer consultation services, conducting studies, measurements, and training in the field of wastewater engineering, treatment, optimization, reuse, and design

https://www.iau.edu.sa/sites/default/files/resources/general_introduction-compressed.pdf



Water and Wastewater Consultation Solutions by IAU

https://www.iau.edu.sa/sites/default/files/resources/general_introduction-compressed.pdf

6. IAU Publications on Water conservation and water pollution control in Reputed Journals

Open Access Article

Evaluating the Influence of Reverse Osmosis on Lakes Using Water Quality Indices: A Case Study in Saudi Arabia

by Mohammed T. Aljassim ^{*} , Abdulaziz A. AlMulla , Mahmoud M. Berekaa  and Abdulmalik S. Alsaif 

Department of Environmental Health, College of Public Health, Imam Abdulrahman Bin Faisal University (IAU), P.O. Box 1982, Dammam 31441, Saudi Arabia

^{*} Author to whom correspondence should be addressed.

Water **2024**, *16*(10), 1351; <https://doi.org/10.3390/w16101351>

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(This article belongs to the Special Issue Sustainable Water Treatment and Contaminants Control: Technologies and Strategies)

<https://www.mdpi.com/2073-4441/16/10/1351>

ORIGINAL RESEARCH article

Front. Mar. Sci., 27 August 2020
Sec. Marine Ecosystem Ecology
Volume 7 – 2020 | <https://doi.org/10.3389/fmars.2020.00600>

Perceptions of Marine Environmental Issues by Saudi Citizens

 Hanan Almasheer¹  Carlos M. Duarte²

¹ Department of Biology, College of Science, Imam Abdulrahman Bin Faisal University (IAU), Dammam, Saudi Arabia
² Red Sea Research Center and Computational Bioscience Research Center, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia

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Edited by
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<https://www.frontiersin.org/journals/marine-science/articles/10.3389/fmars.2020.00600/full>



International Journal of Water Resources Development
Volume 40, 2024 - Issue 2

514 Views
8 Crossref citations to date
1 Altmetric

Research Article
Understanding household attitudes to water conservation in Saudi Arabia: towards sustainable communities
Abdulaziz I. Almulhim & Ismaila Rimi Abubakar
Pages 174-193 | Received 09 Oct 2023, Accepted 08 Jul 2023, Published online 08 Aug 2023
Cite this article: <https://doi.org/10.1080/07900627.2023.2236245>

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<https://www.tandfonline.com/doi/abs/10.1080/07900627.2023.2236245>



IAEA
Published February 2022 | Version v1

Biomonitoring coastal pollution on the Arabian Gulf and the Gulf of Aden using macroalgae: A review
Ameen, Fiaz¹, Al-Hamdan, Al A.¹, Almahsheer, Hanan², Dawoud, Turis¹, Alwakeel, Sultan², AlMaarof, Sama⁴

Contact
Inquire about this record

Details
Resource type
Journal article

<https://inis.iaea.org/records/r85q5-0gy07>

Developing a Sustainable Water Conservation Strategy for Saudi Arabian Cities
Abdulaziz I. Almulhim¹, & Ismaila Rimi Abubakar²

¹ Department of Urban and Regional Planning, College of Architecture and Planning, Imam Abdulrahman Bin Faisal University, Dammam 31451, Saudi Arabia. aialmulhim@iau.edu.sa
² College of Architecture and Planning, Imam Abdulrahman Bin Faisal University, P.O. Box 1982, Dammam 31441, Saudi Arabia. irabubakar@iau.edu.sa

Highlights

- Water scarcity and unsustainable water management practices in Saudi Arabia are studied.
- The study evaluates the sustainability of water management practices in Jubail Industrial City
- It employs mixed-method approach: literature review, case studies, and document analysis.
- It proposes water conservation strategy: demand management, water efficiency, governance framework.
- Water conservation, optimization and reuse are significantly relevant to industry settings

<https://www.sciencedirect.com/science/article/abs/pii/S2352801X23001418>

Synchronous management of public green spaces: The case of Imam Abdulrahman bin Faisal University's eastern campus – Dammam, Saudi Arabia

Ali O. Al-Sulbi ^a  , Abdullah A. Alghanem ^b

^a Department of Landscape Architecture, College of architecture & Planning, Imam Abdulrahman bin Faisal University, Dammam, Saudi Arabia

^b Landscape Architect, Bödeker Partners Landscape Architects, Kloster Lehnin, Germany

Received 14 April 2021, Revised 12 September 2021, Accepted 30 September 2021, Available online 19 October 2021, Version of Record 23 December 2021.

<https://www.sciencedirect.com/science/article/pii/S2090447921003701>

Arabian Journal of Geosciences (2021) 14: 1950
<https://doi.org/10.1007/s12517-021-08353-z>

ORIGINAL PAPER



Sustainable water planning and management research in Saudi Arabia: a data-driven bibliometric analysis

Abdulaziz I. Almulhim ¹ · Mohammad Aqil ²  · Shakil Ahmad ²  · Isam Mohammed Abdel-Magid ³

Received: 31 May 2021 / Accepted: 26 August 2021 / Published online: 5 September 2021
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<https://link.springer.com/article/10.1007/s12517-021-08353-z>

7. Courses related to Water Pollution offered at IAU

Water Quality & Sanitation

<https://www.iau.edu.sa/en/courses/water-quality-sanitation>

Ground Water Engineering and Contamination

<https://www.iau.edu.sa/en/courses/ground-water-engineering-and-contamination>

Water Quality

<https://www.iau.edu.sa/en/courses/water-quality>

Marine Pollution and Control

<https://www.iau.edu.sa/en/courses/marine-pollution-and-control>

8. Marine Engineering Students of IAU had a Field Visit to the Zamil Shipbuilding and Repair Company



Marine Engineering Students of IAU had a Field Visit to the Zamil Shipbuilding and Repair Company

The Department of Marine Engineering organized a field visit for the first cohort students to Zamil Shipbuilding and Repair Company, where the students were introduced to the various fields of work in the shipbuilding industry, as a step aimed at enhancing the practical aspect and preparing them for the job market.

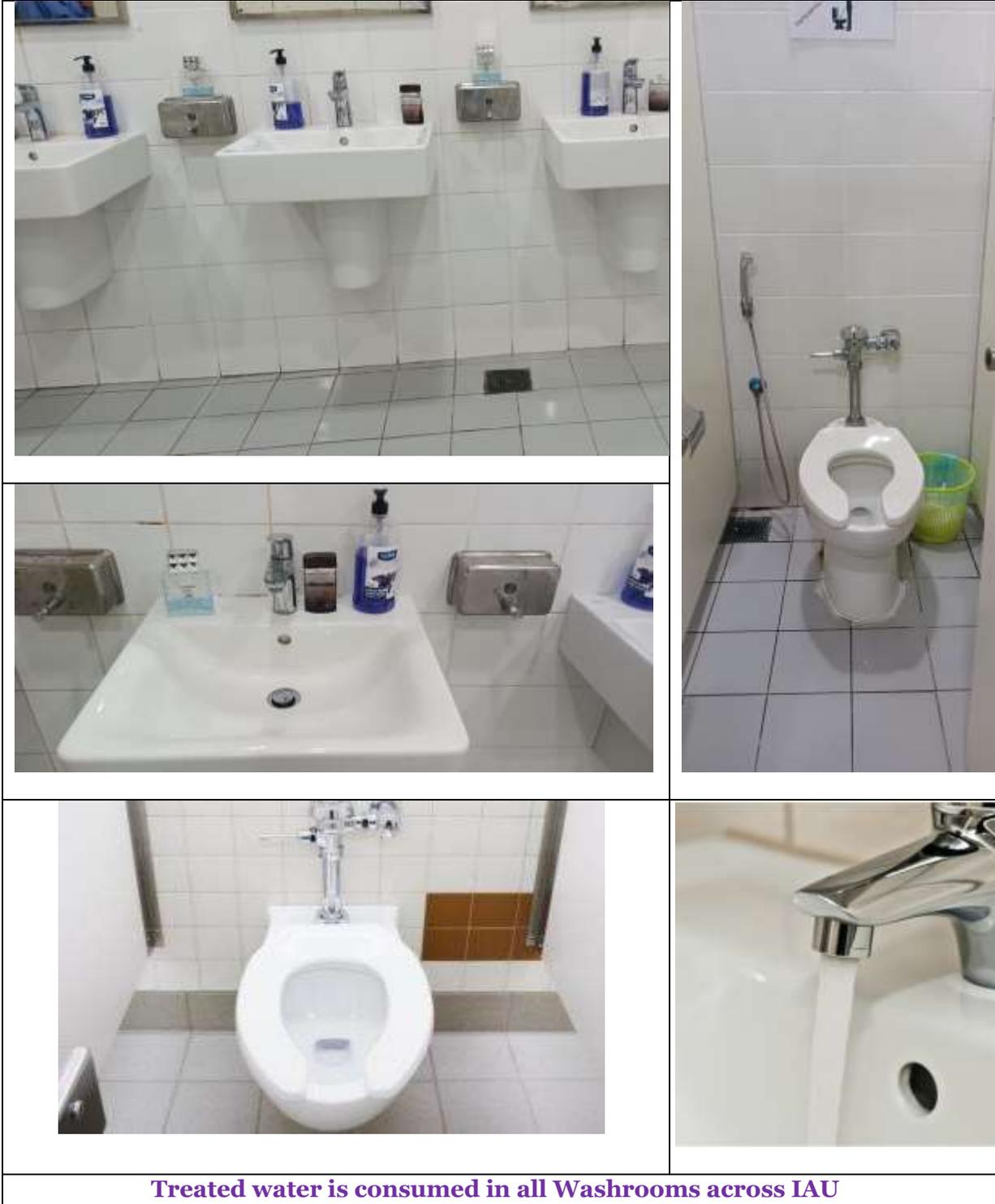
https://x.com/CE_IAU_SA/status/1976558183708848151

9. Water dispensers- Free for staff and students



Consumption of Treated Water in Water Dispensers at IAU

10. Treated water usage - washrooms



11. Treated water usage – Watering plants



Recycled water is utilized for Irrigation and for garden sprinkler system

12. IAU Active Participation in Water Conservation Program



IAU Participation in the Middle East Water Week Conference and Exhibition

13. Saline water conversion corporation

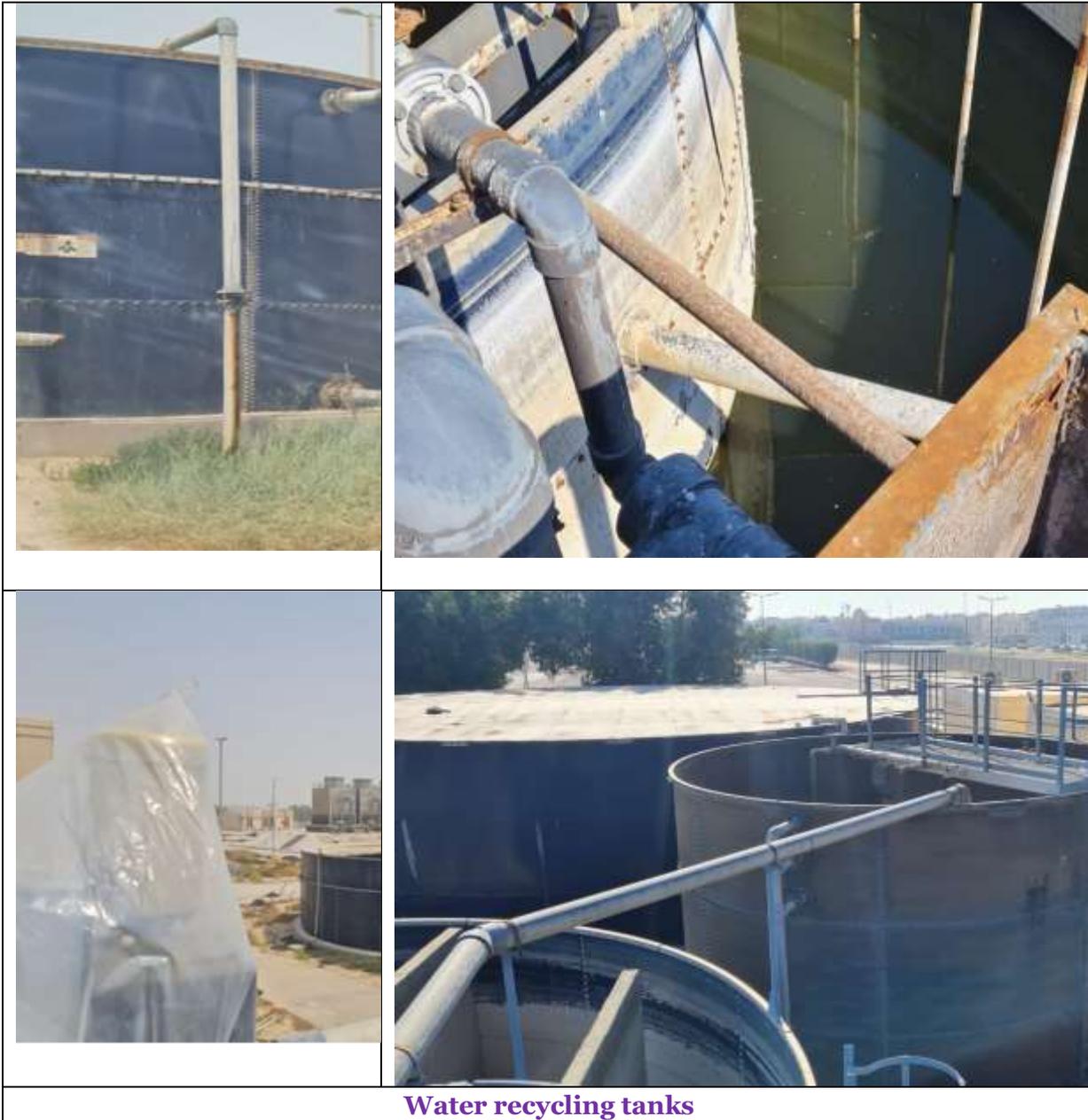




Visit of the Delegation of the Saline Water Conversion Corporation to IAU

Part of the visit of the delegation of the Saline Water Conversion Corporation to Imam Abdulrahman Bin Faisal University, which included a tour of: 1) Research Center, Faculty of Science, 2) Faculty of Computer Science and Information Technology, 3) Faculty of Engineering
https://twitter.com/IAU_KSA/status/1604581022351368192

14. Water recycling

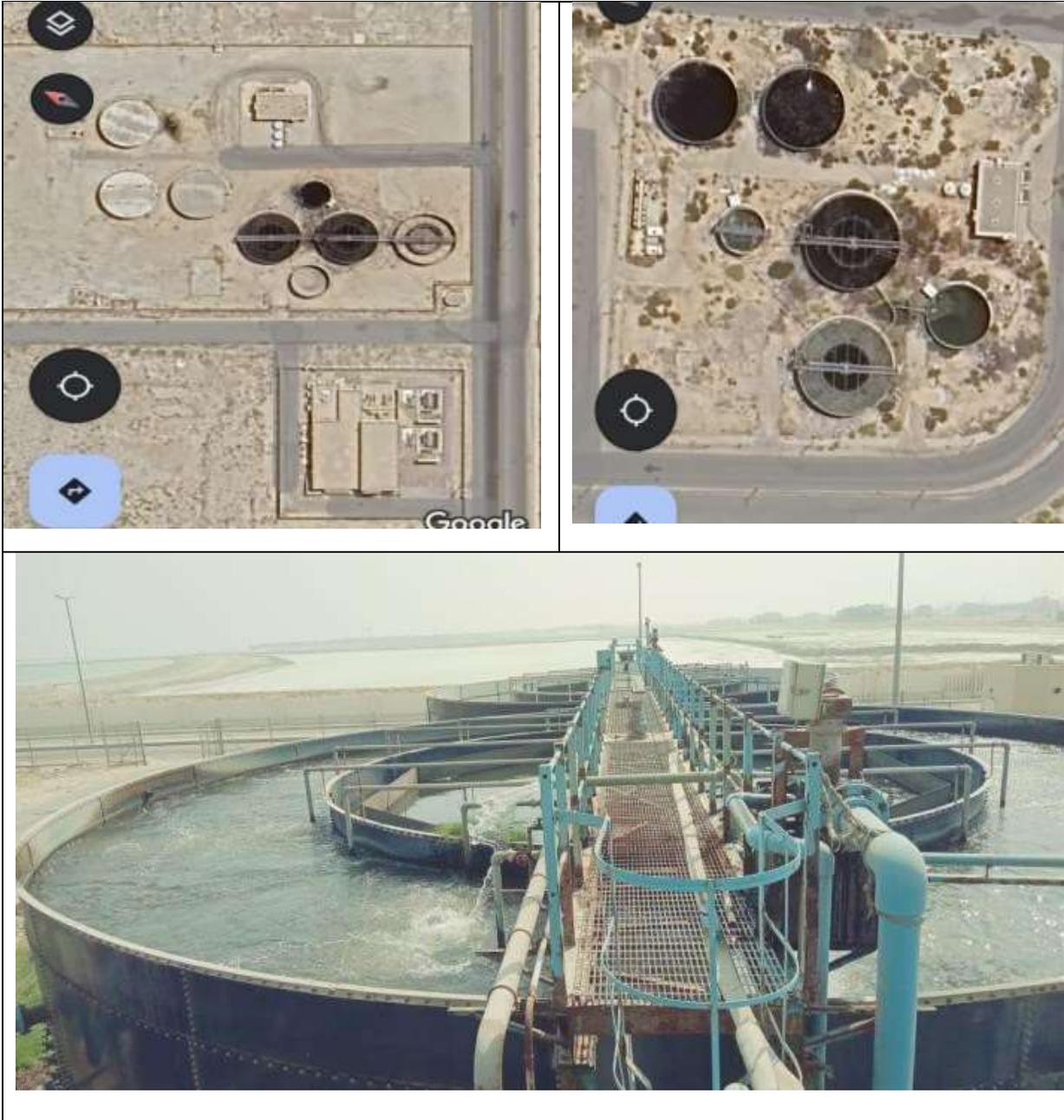


15. Water treatment plant



Water treatment plants

16. Drone Views of Water Recycling Tanks at IAU



17. Saudi water academy – Generations Summer program

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- قياس الرقم الهيدروجيني في السائل
- بطارية الليثيوم من باسكو
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- للاحتفال الاخضر

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IAU in cooperation with the Saudi Water Academy for “Generations Summer Program”

The Continuing Education Center is pleased to #Imam_AbdulRahman_Bin_Faisal_University In cooperation with the Saudi Water Academy. The announcement of the launch of “Generations Summer Program”. The Target group is Children from (7 years to 12 years).

https://twitter.com/IAU_KSA/status/1808112744589070344

