Strategy Guiding Paper for the period 2020-2025
SGP

Rational:

This Strategy Guiding Paper (SGP) provides 4 years guidance principles help the center staff to achieve its objectives. The SGP developed in a consultation with internal and external water and environmental stakeholders, governmental and non-governmental, as well as civil society and private sector environmental activists.

Introduction about the center:

IRCWEE: International Research Centre for Water, Environment and Energy (IRCWEE), was established in the late 2009 under the umbrella of Al-Balqa Applied University (BAU) to complement the university's vision in offering and maintaining balance between the high academic standards and applied requirements that it has committed itself to achieve, in addition to draw upon the expertise of faculties in a wide range of their disciplines. The center was founded with a generous contribution from the please write the name (MDG) achievement fund (MDGIF) and UNESCO.

IRCWEE has significant and relevant experience conducting training for a wide range of topics including wastewater management and reuse, and to be specific on decentralized wastewater collection and treatment. In fact, IRCWEE has similar experience and good cooperation with many national and international organizations in field of water, wastewater and environment program like (GIZ, UN, ICARDA, USID, UFZ, BMZ, and IHE Delft institute). In addition, IRCWEE (under BAU-Umbrella), conducted several Environmental Impact Assessment for Wastewater Treatment Unit at the Public Security Directorate Compound in Amman - Jordan.

During these relevant experiences, and many others in the field of capacity building for decentralized wastewater management in the MENA region in adaption with climate change, IRCWEE built a proactive network with a wide range of stakeholders in this field including international agencies, communities, municipalities, and the Jordanian Ministry of Environment. Further, BAU (Al - Balqa Applied University), is highly involved in the Decentralized wastewater management in Jordan, and completely aware of the subject strategy in the country and its activities and objectives, and therefore has the advantage to work on this particular assignment in a more efficient way in terms of quality and delivery time. Considering the effective involvement of BAU in the Decentralized Wastewater Management in Jordan, and the deep understanding of such dimensions, this technical offer will not provide lengthy paragraphs on the description of Decentralized Wastewater Management in the country. Instead, this technical offer is prepared in a more practical way and to the point to strengthen the practical experience by providing high level of onsite training using the Al Fuhies location (SMART-Move project) as training and demonstration center for that (Now SMART-Al Fuhies Location is belong the IRCWEE under BAU Umbrella).

About SMART Project

One of the most important and vital projects is SMART (Sustainable Management of Available Water Resources with Innovative Technologies) project on Integrated Water Resources Management (IWRM) in the Lower Jordan Rift Valley. The SAMAT responsibility now is moved to be under supervisor of IRCWEE and under Supervision of Dr. Amal Al-Abbadi (the new Director of IRCWEE).

SMART project- demonstration, research and test site is a place, which accommodates variety of technologies that needs to be calibrated and adapted to local conditions in order to produce effluents that comply with the Jordanian Standards 893/2006. Doctorate and Master's research

projects and dissertations have been conducted mainly to develop efficient systems that provide high quality effluent suitable for irrigation and reuse.

SMART-Move is one of the pioneer and unique development projects in Jordan, and in the Middle East. It provides principals and applications of decentralized wastewater management in way that simulates the European approach considering conditions such as wastewater characteristics and climatic variability in Jordan and in the Arab Region. Further, this project focuses on decentralized wastewater treatment and reuse as a management strategy to alleviate demand on conventional water resources. The project provides demonstration, operation and maintenance of decentralized wastewater treatment technologies and it builds on and completes the efforts exerted earlier in the previous SMART and SMART 2 projects by the design and operation of a competence facility for demonstration, decentralized wastewater management in Fuhais within the premises of Fuhais wastewater treatment plant and in coordination with the Jordanian Ministry of Water and Irrigation (MWI). This facility provides services in demonstration, research and training to help researchers and institutions from Jordan and from the Arab Region as well. In addition, SMART-Move follows up on the previously constructed technologies at ten private homes and institutions. Hence, the project is providing competence research and tangible community services at a time. Further, the activities of SMART-Move and its various contributions helped MWI form a National Committee for Decentralized Wastewater Management. Al-Balqa Applied University is part of this committee and therefore a significant contribution from BAU toward serving the society as well as the governmental institutions. Moreover, SMART-Move emphasis on the role of BAU at International Research and Development activities and projects and voluntarily provided several contributions on the form of talks, training, and awareness activities in wastewater management.

The primary partner of SMART-Move project is Helmholtz Environmental Research (UFZ), in Germany. The project is implemented in coordination with the Jordanian Ministry of Water and Irrigation.

SMART-Move aims at the evaluation of the performance of a range of decentralized wastewater treatment technologies under local conditions, mainly wastewater features and climatic settings.

The ownership and supervision on the facility by IRCWEE of decentralized wastewater management located in Fuhais are transferred to BAU including all equipment and technologies. This has been done by the ownership agreement signed by UFZ and BAU in coordination with MWI. Around 10 designs of wastewater treatment technologies were executed at homes and institution.

IRCWEE History

Key water, energy Environment challenges as well as sanitation:

The main environmental challenges facing Jordan are water scarcity. The natural rapid growth rate in the country and recent immigration/influx of refugees and climate change impact add tremendous pressure on the limited water resources. The situation has been intensified by the fact that Jordan shares most of its surface water resources with neighboring countries.

Furthermore, water resources are under the threat by mismanagement and over-exploitation linked in particular to the expansion of irrigated agriculture areas. The unsustainable water resources management and aridity have contributed in the degradation of the environmental resources. In addition, to the high-energy consumption in the water sector pumping and desalination. Around 50% of the operation cost is energy consumption, which is impacted by low water recovery, which created the demand to utilize the potential of using renewable energy such as solar in water sector in order to increase the water recovery. There is a need to adopt holistic approach to address not only water issues but also energy to improve the resilience of rural Jordanian and water and environmental sectors energy. The high solar potential, along with the high-energy demand, offers exponential growth opportunities for solar energy applications in the country.

Vision

Knowledge hub uses collaborative dialogue to address water, environmental and energy pressing issues and build an innovative approach for problem solving in a sustainable way.

Mission

To serve as a place for exchanging knowledge among diverse people of interest toward water and energy efficient use to reach a sustainable natural environment and thriving the livelihood of the local community.

Objective and Priority Interventions for 2020-2025

The Water-Energy Environment Nexus enhancement of water, energy and natural environment while preserving the ecosystems and their functions, including under conditions of climate variability and change and building synergies and improving governance across sectors.

1. Environnent protection (Natural ressources mangement) :
   - Increase water use efficiency along with preserving the functionality of the ecosystem.
   - Contribute in the increase of the country resilience to climate change.
   - Contribute in the achievement of Sustainable Development Goals (SDGs) ,6,7 and 13 (water and sanitation, energy and climate action).
   - Increase afforestation and reforestation by increasing the land greening cover. To establish of community-based tree planning model.
   - Entrepreneurship approach to involve the youth in the problem-solving processes and promote W, E and E as key themes for small business creation.
2. Energy efficient use : The center Will introduce the use of the renewable energy resources in the water at a Small /local scale to reduce the operational cost of the water. This will be by :
   - Improve water harvesting at the household and farm level conjunctive with the use of solar-power.
   - Increase the awareness among public on the efficient use of the energy at household and farm levels.
   - Introduce the solar energy power used in irrigation systems and brackish water desalination.
3. Water and sanitation management at the local level :
   - Capacity building for water and sanitation management,
   - Improve water resources and sanitation planning and monitoring.
   - Development of legal framework for water and soil management.

IRCWEE Workflow

To achieve the vision, the following principals (guiding principles) will guide the center:

- Innovation: to act as an incubator for W, E and E entrepreneurial endeavours.
- Learning and knowledge creation: through encouraging action research-based and offering an environment that enables students and interested people, with a focus in youth, to achieve their intended sustainable solutions.
- Partnership; through carrying stakeholders analysis for the key relevant ones and develop a partnership aiming at complimentary, experience exchange, sharing results, etc.
- Publicity and networking: Through developing specific valuable messages tackling the current and future water and energy challenges as well as the environmental pressing issues. This will be implemented through developing a communication plan with all the relevant audiences.
- Trust building; through promoting integrity, honesty, fairness, and mutual respect.
- Teamwork; inside the center among the staff and involvement of the university relevant colleges.
- Fostering the use of entrepreneurship approach that enhances the sustainable management of the natural resources and the economic well-being; business creation.

IRCWEE Partners and Supporters:

- Ministry of Water and Irrigation – Jordan
- NICE Project: (Integrated wastewater Management in Jordan) supported by UFZ-Germany.
- Middle East and North Africa-Network of Water Centers of Excellence (MENA NWC)
- Center of Accreditation and Quality Assurance – Jordan
- International Center for Migration Development (CIM)-Frankfurt.
- German International Cooperation (GIZ-Office Amman)
- Swedish International Development Cooperation Agency (SIDA)
- HCWW: Holding company for water and wastewater in Cairo
- Stockholm International Water Institute (SIWI)
- Arab-German Chamber of Commerce and Industry (Ghorfa)
- Euro-Mediterranean Association for Cooperation and Development (EMA Hamburg)

	2020											
Activities	**Q1**			**Q2**			**Q3**			**Q4**		
Develop clear organogram for the Center with clear ToRs for each (Turn of Reference)												
Agree with the management on the communication protocol												
Establish Technical Advisory Committee (TAC) from the university staff with clear ToRs												
Establish technical committee from the most promising and interested students with clear ToRs												
Carry our S/H analysis												
Development of communication plan												
Development of partnership and collaborative plan												
Promote the center as entrepreneurial hub for W,E and E.												
Establishment of partnership and sign MoU with relevant partners												
Consortium and joint projects ideas development												
Implementation and monitoring												
Knowledge sharing internally and externally												
Reporting to the President of the University every 3 months												

Monitoring Plan

Objectives	**Indictors**	**Means of verifications**	**Assumptions**
Develop clear organogram for the Center with clear ToRs for each	- The minutes of the meetings - ToRS - OG itself	Reviewing the documents	The long time needed to agree with the management, this will be solved by reaching an agreement with the management on how to accelerate the process and overcome the challenges
Agree with the management on the communication protocol	- The agreement with the management - New communication protocol	Endorsement of the document by the management	Same as above
Establish Technical Advisory Committee (TAC) from the university staff with clear ToRs	- Communication letters in this regards - Names of the TAC	- MoM - reports	
Establish technical committee from the most promising and interested students with clear ToRs			
Carry our S/H analysis			
Development of communication plan			
Development of partnership and			

collaborative plan			
Promote the center as entrepreneurial hub for W,E and E.			
Establishment of partnership and sign MoU with relevant partners			
Consortium and joint projects ideas development			
Implementation and monitoring			
Knowledge sharing internally and externally			
Reporting to the President of the University every 3 months			

The constrains that face our center

Internal threats:

1-The tight budget available

2- Limited staff.

3- lack of practical solutions

4- Workload on the existing staff.

5-Internal long cycle to get the documents completed.

6- Intensive follow up needed and lack of well archiving system in place.

7- Lack of flexibility and central management system.

External threats:

1-Competition with other system

2-Lack of funding from the donors community.

3-The gap capacity to get involved in the latest internal trends.