



We are happy to share with you the number 1 of our newsletter.

We will try to keep you informed of ASARI news with a zoom on our programs, our projects, our talents, our initiatives, ... In short, everything you need to know about our daily life in Laayoune.

In this edition, we will introduce you to ASARI through our ambitions, our research programs, our commitment and much more.

Lamfeddal KOUISNI

WELCOMING REMARKS: ASARI'S NEWSLETTER - 1ST EDITION

The current evidence indicates that, apart from the expected temperature rise and drying in most parts of Africa, climate change will result in increases in both the frequency and severity of extreme weather. Decreasing crop yields and increasing population will put additional pressure on an already fragile food production system. That is why experts have warned that if the current situation persists, Africa will be fulfilling only 13% of its food needs by 2050.

In response to these challenges, University Mohammed VI Polytechnic is armed with a motto that emphasizes investment in innovation and research to address current and emerging challenges in Africa. Our ambition is to embody tangible impact and bring positive change in Morocco and across the African continent.

Itisin line with the High Instructions of His Majesty King Mohammed VI, May God Assist Him, to promote the development dynamic in our southern provinces, especially in the most promising sectors, the blue economy and renewable energy, that UM6P has established its Branche in Laayoune. It aims to contribute to the sustainable development of southern regions through a structure of practical-based research intended to solve real Local, Regional, and African challenges by leveraging up-to-date science and technology.

In addition to research, our commitment is fueled by our dedication to actively involve the local community in addressing the major challenges of the region. The purpose is to cultivate a close connection between our institution and its community, aligning with our vision for a collaborative and impactful role in the various regions.

In this regard, I am delighted to introduce the first edition of ASARI Newsletter. In this edition, you will encounter a wide range of information on ASARI's mission and research areas on which it is working for the scientific development of several sectors.



Hicham El Habti President

ASARI is the story of an incredible, challenging but a successful gamble to set up a research institute in the middle of the desert to contribute to the development of the southern regions.













STRATEGIC RESEARCH PLANNING

Al Pla ac

APRIL 2019

Planning Workshop for R&D activities around Biosaline Agriculture



2.

MAY 2019

lst edition of the International Forum on Biosaline Agriculture



3.

JULY 2019

Planning Workshop for R&D activities on the Animal Value Chain



4.

ASARI action plan

Implementation of 4 research programs resulting from a consultation process with various partners



Discussions and workshops were held with all the stakeholders including the region's socio-economic players and national & international researchers to develop a roadmap for prioritizing the research programs and topics tailored to the needs of the southern regions



RESEARCH PROGRAMS

AGRICULTURE IN MARGINAL LANDS



Given the alarming situation of soil and groundwater salinization and its negative impacts on agricultural production, it is necessary to adopt resilient and adapted cropping systems such as the biosaline agriculture. Our program is dedicated to pioneering sustainable solutions for food security in some of the world's most challenging environments.

By harnessing the potential of salt-tolerant crops and innovative cultivation techniques, we aim to transform saline-affected soils into productive farmland. This program holds immense importance for global food security as it not only expands arable land in arid regions but also reduces pressure on freshwater resources and offers resilient food production in the face of climate change.





creating income opportunities and promoting industry sustainability.

Through rigorous research and collaborative efforts, we aim to uncover innovative strategies that optimize the entire spectrum of animal-based industries. From enhancing production efficiency to fostering ethical practices, our program seeks to revolutionize animal value chains for a

The animal value chain encompasses interconnected activities and stakeholders involved in producing, processing, marketing, and distributing animal-related products and services with a focus on camels and goats. This chain transforms raw resources into valuable consumer products,

more prosperous, humane, and sustainable future.

RESEARCH **PROGRAMS**

WATER AND ENERGY **SUSTAINABILITY**



The Water and Energy sustainability research program in marginal lands focuses on sustainable approaches for integrated water and energy management.

Interdisciplinary experts develop tailored solutions using innovative technologies, resilient infrastructure designs, and adaptive strategies.

The program aims to optimize water usage, energy generation, and address challenges specific to marginal lands such as water scarcity and

limited energy access.

By empowering communities, it fosters sustainable development and resilience in the face of environmental and socio-economic challenges.



BIOREFINARY AND BIOENERGY



The Biorefinary and Bioenergy program is an innovative research initiative focused on unlocking the potential of biomass as a valuable resource. Through interdisciplinary collaboration, the program brings together researchers from fields such as chemistry, engineering, and biotechnology to explore sustainable ways of converting biomass into high value-added products.

By empowering communities, it fosters sustainable development and resilience in the face of environmental and socio-economic challenges. With a strong emphasis on environmental sustainability and resource efficiency, the Biorefinarey and Bioenergy program plays a vital role in advancing the development of a bio-based economy, reducing reliance on fossil fuels, and promoting a more sustainable future.



STATE OF THE ART LABORATORIES

IN SAFETY WE TRUST!





The design of our laboratories meets the most stringent safety standards, guaranteeing all our researchers a safe and high-quality working environment.



We strongly believe that researchers should have access to the state-of-the-art equipment to provide them with the ideal conditions for carrying out their research projects.

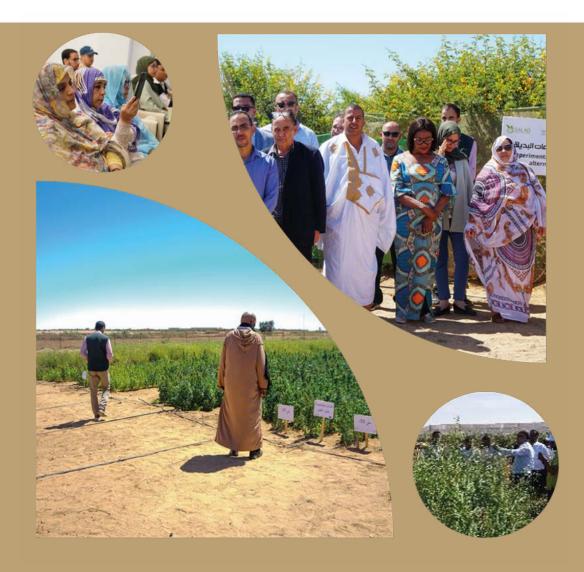
STATE OF THE ART EQUIPMENT

THE QUEST FOR CERTIFICATION





OUR PATH 1) CLEAR!



Scientific research holds tremendous potential to positively impact local communities, fostering their inclusion and sustainable development. Beyond the pursuit of knowledge, our research initiatives prioritize practical applications that directly benefit the communities in which we work. Through comprehensive training programs, we empower individuals within these communities with valuable skills and knowledge, enabling them to actively participate in research and innovation. By sharing best practices and collaborating closely with local stakeholders, we aim to build capacity and promote the adoption

of sustainable approaches tailored to the specific needs and contexts of the communities. Moreover, our research endeavors strive to create economic opportunities, through the development of new technologies, the establishment of value chains, or the promotion of entrepreneurship. By fostering economic growth and empowerment, we aim to enhance the overall well-being and social inclusion of local communities, ensuring that the benefits of scientific research reach those who need it most.

ASARI PLAYS A KEY ROLE IN THE REGION'S DEVELOPMENT



WE ARE CAPACITY BUILDERS ...

Our mission is to strengthen the capacities of local communities. we put research at the service of economic and social development, to contribute to the growth of southern regions.



WE ARE TRUE AMBASSADORS ...

ASARI is also a crossroads for forums, workshops and large-scale events, enabling the southern regions to benefit from the scientific and cultural influence essential to their socio-economic development. In a way, we are true ambassadors for the development of the Kingdom of Morocco in terms of scientific research, territorial development and much more.



WE ARE TRUE INFLUENCERS ...

Our positive influence in the region through our research and ongoing contact with our community is clear.

ASARI IS RESULTS-ORIENTED ...

QUALITATIVE AND IMPACTFUL PUBLICATIONS

Our researchers regularly publish in topquality scientific journals. Since 2020, we have published more than a hundred scientific articles.



MATURE TECHNOLOGIES UNDER DEVELOPMENT

ASARI is clearly focused on thedevelopment of applied research. To date, 3 patents have been registered and discussions are underway for scale up and potential commercialization.



TRAINING AND SUPPORTING HUNDREDS OF BENEFICIARIES

Since its creation, ASARI has made training and capacity building its high priorities. We regularly train cooperatives and farmers to bring them up to speed.



INNOVATIVE RESEARCH PROJECTS IN TUNE WITH GLOBAL CHANGES

Our research projects are often innovative and original, to keep pace with the latest trends in scientific research.





+ 110

PUBLICATIONS

Since 2020, we have published more than 110 scientific articles; ASARI is one of the top 10 publishers in the UM6P ecosystem, with a steady annual increase in the number of publications, more than half of which are Q1 and Q2.



+150

BENEFICIARIES

ASARI regularly trains cooperatives, farmers and breeders, with the aim of providing them with regular updates on scientific advances in their respective fields.



+12

DEMONSTRATION PLATFORMS

A dozen platforms have been set up in different sites for our field experiments to be as close as possible to farmers.



04

MATURE TECHNOLOGIES

04 mature technologies are currently being developed at the institute.



+15

CROPS TESTED

To date, more than 15 crops have been testes and upscaled, all tolerant to the climatic conditions of the southern regions.



06

WORKSHOPS & TRAININGS

ASARI regularly organizes large-scale workshops and scientific events, with the aim of being close to its ecosystem and interacting with the scientific community.



03

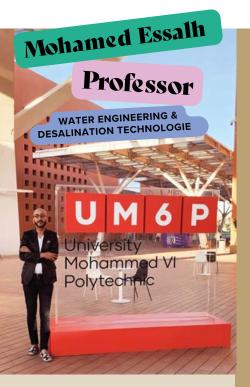
PATENT APPLICATIONS

03 patents have recently been granted, the fruit of highly promising research results and paving the way for a connection with industry.



ASARI began its research activities in the midst of the covid pandemic. However, the results to date testify to the commitment of everyone involved in bringing this courageous project to fruition.

MEET OUR RESEARCHERS



My name is Mohamed Essalhi. I am pleased to introduce myself as the newest ASARI/UM6P community member. As an assistant professor, my specialty is membrane technology, desalination, and water treatment.

My experience abroad (more than 15 years) has prepared me well for this role. I have completed a Master's degree and a

Ph.D. in renewable energy, such as solar energy production, along with my specialization in membrane technology, desalination techniques, etc.

During this time, during my stay in Sweden, I was also able to gain valuable hands-on experience as a postdoctoral fellow and senior research engineer specializing in artificial membrane production & blue energy applications

WHY IS WATER TREATMENT NECESSARY IN SOUTH MOROCCO?

Water is the elixir of life. It is an invaluable resource that sustains all forms of life on our planet. The importance of adequate water treatment is even more pronounced in the arid Saharan region, particularly in the municipality of Laayoune, where water is scarce. As the population continues to grow and the effects of climate change become more severe, the demand for water will continue to increase. Our mission is to secure the future of the region's people and environment by meeting this challenge.

BE INNOVATIVE: THE USE OF MEMBRANE TECHNOLOGY

Harnessing the power of membrane technology, a revolutionary method of water treatment is our approach. Membrane technology is the use of semi-permeable membranes for the removal of impurities, salts, and contaminants from water. It ensures that water is safe for consumption and other uses. It is particularly suitable for southern Morocco. Its benefits include increased efficiency, reduced use of chemicals, and a smaller environmental footprint. The technology is energy and environmentally efficient and filters out pollutants. It provides high-quality, safe water for human and agricultural use and meets international safety standards

EDUCATING AND EMPOWERING LOCAL COMMUNITIES

My commitment is to share insights and practical applications of this technology through a comprehensive newsletter. It will be a combination of research findings and visual explanations of how this technology is changing the way water is treated.

The aim is to educate communities about the importance of sustainable practices and accessible solutions that can improve their daily lives, from better hygiene to healthier farming.

TOGETHER, LET'S MAKE A DIFFERENCE!

At ASARI/UM6P, we are in a unique position to have a significant impact on the south of Morocco. We can tackle water scarcity and improve the quality of life in the Sahara and beyond by introducing and promoting advanced membrane technology.



