

Successes in ALECSO's mission to achieve sustainable development

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Proceeding from its Vision 2030, its educational, cultural and scientific mandate and founding charter, and in line with its goals and objectives pursued in vital sectors, especially education, research, innovation and entrepreneurship, the Arab League Educational, Cultural and Scientific Organization (ALECSO) has grown into a leading player at Arab, regional and global levels, helping Arab Member States to create a stimulating, future-oriented educational environment.

ALECSO has been serving as an Arab house of expertise in terms of research, production and development, helping Arab countries to achieve many of their goals, most notably:

- Establishing a system of research, development and innovation linked to key drivers of socio-economic development
- Involving the private sector in financing scientific research, development and innovation
- Developing effective mechanisms for cooperation among Arab and international institutions active in research, development and innovation
- Creating a stimulating environment for intellectual property, and promoting patent registration, protection and investment
- Providing an adequate environment to retain the Arab brains
- Participation in achieving food security and global environmental sustainability.

Scientific research plays a key role in the progress of societies and the prosperity of nations. However, a careful look at the current state of scientific research policies and institutions in the Arab world reveals a wide gap between the Arab and global levels in terms of scientific research.

Whatever the reasons underlying its backwardness in this field, it is no longer acceptable for the Arab world to lag behind in terms of scientific and technological progress. The development of coherent policies and plans is, therefore, necessary to bring about real and sustainable change in the field of scientific research. Despite awareness that this research plays a crucial role in building advanced societies, and is closely associated with increased production and sustainable development, it is still not effective in overcoming many of the problems facing the Arab world. In spite of their

wealth of resources, Arab countries still lack a solid base in science and technology, and their scientific research systems show poor performance in terms of knowledge production.

It has therefore become necessary to enhance and upgrade scientific research policies, by increasing the funding allocated to this field, encouraging creativity and innovation, protecting intellectual and industrial property rights, and leveraging the expertise of Arab migrant brains, the Arab brain-drain being a waste of capacities and competencies that can help bring about the desired change in Arab societies. It is also necessary to support scientific research centres and institutions in the Arab countries, especially amid the great challenges facing the region in all fields of socio-economic development. Through its multiple applications, scientific research can help address these challenges and thus promote the advancement of Arab societies.

ALECSO is well aware of the vital importance of its civilizational mission to promote the future of scientific research in the Arab countries. The impacts of the Fourth Industrial Revolution, with its remarkable technological innovations and endless flows of information, inform the current choices of the Organization. They strengthen shared convictions about future prospects offered by science and knowledge and their impact on society in the educational, cultural and scientific arenas. ALECSO is, therefore, called on to best leverage the digital technologies that are now available as well as those expected to appear in future. To that end, it is necessary to consider a new model for capacity development that would ensure the optimal use of digital technologies, which has now become a civilizational challenge of utmost importance. The new model will also confirm the interconnectedness of the Organization's activities and programmes in the fields of education, culture, science and scientific research. In line with these choices, this article covers the following points:

- Current regional and international orientations: looking ahead
- Digital transformation: challenges and opportunities
- Arab experiences including the role of governmental and non-governmental institutions as well as the role of youth.

ALECSO has launched a number of bilateral and joint programmes in the fields of education (at all levels), innovation and entrepreneurship. It has also expanded the scope of



ALECSO Olympiad for Arab Child Capacity Building in Scientific Research Approach, Tunisia, September 2022

its scientific partnerships with the aim of increasing awareness of the key role of scientific research, and integrating the research- and inquiry-based approach into professional practices, thereby building qualitative Arab competencies that can meet the requirements of the global labour market. In so doing, ALECSO is keen to remain a beacon of thought, science, development and contribution.

Aware of the importance of scientific and technological development in the progress of nations, and as part of its support for joint Arab action in the field of science and scientific research, ALECSO has undertaken, since the early 1980s, jointly with other Arab organizations, institutions and bodies, to implement Arab strategies in various fields of science and technology, in pursuit of the 2030 Agenda for Sustainable Development.

ALECSO's contribution to achieving the SDGs

— *SDG 1: End poverty in all its forms everywhere*

— *SDG 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture*

ALECSO has implemented various workshops on the integrated and sustainable management of water resources and the promotion of water security. It has called on Arab States to work on developing policies, strategies and master plans for promoting the use of non-conventional water resources (treated wastewater, agricultural wastewater and desalinated water), ensuring water sustainability, and building resilience to climate change.

ALECSO has also called for promoting and encouraging scientific research and innovation, building local skills and knowledge in the field of water resources and localizing the related industries, sharing relevant experiences, success stories, and lessons learned, and establishing an Arab regional policy initiative — financial, legal and technical support — to meet water security challenges.

— *SDG 3: Ensure healthy lives and promote well-being for all at all ages*

ALECSO launched the ALECSO-Mada Apps Award, granted to the best Arab mobile applications developed for users

with special needs. It has also developed mobile applications designed to facilitate the daily life of persons with disabilities and ensure equal opportunities in society.

— *SDG 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all*

ALECSO has worked to produce easily accessible open educational resources (OERs), to promote inclusive and fair access to Arab quality OERs, to enrich and support the Arab OER Hub, and to enhance the culture of programming, innovation, digital creativity, and entrepreneurship among Arab youth. It has also launched the ALECSO Olympiad to Enhance Scientific Awareness among Arab Children, and held a series of training courses in the field of robotics and artificial intelligence for Arab countries.

Believing that knowledge shared is knowledge multiplied, and as part of its efforts to strengthen cooperation and open channels of communication among academics, researchers and postgraduate students as well as among universities and scientific research centres and institutions, ALECSO has launched the ALECSO Science Gate:

<https://alecso-science-gate.org/Science-Gate>

It is designed to enable academics, researchers, universities, and research centres and institutions to create web pages and to link them with pages on other science gateways such as ResearchGate, Google Scholar, ORCID and Scopus, as well as on social media websites such as Facebook, Twitter and LinkedIn. Through this initiative, ALECSO seeks to build bridges of communication within the Arab world and beyond, and to select experts, referees and participants for its projects, conferences and specialized events.

— *SDG 4 Target 7: Promote a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development*

ALECSO took part in the Council of Europe Conference of Ministers of Culture, held under the theme of Creating Our Future: Creativity and Cultural Heritage as Strategic Resources for a Diverse and Democratic Europe. The Conference emphasized the importance of cultural heritage

as a source of creativity, especially in the field of cultural industries and digital cultural economy. On the other hand, ALECSO developed an Arab strategy to protect women and children with special needs against all forms of violence and exploitation. It also launched an awareness programme on mechanisms and policies for the protection of women and children against violence in the Arab countries.

— *SDG 7: Ensure access to affordable, reliable, sustainable and modern energy for all*

ALECSO conducted nine studies on the Moroccan experience in the use of new and renewable energies in rural areas. It also produced a unified dictionary of renewable energy terms (1,180 terms in Arabic, English and French), as well as an interactive dictionary of renewable energy terms (7,289 terms in Arabic, English, French and German) as part of the ARABTERM interactive technical dictionary available online for free.

— *SDG 8: Promote inclusive and sustainable economic growth, employment and decent work for all*

ALECSO convened the Fourth Conference of Arab Ministers and Officials in charge of Technical and Vocational Education and Training (TVET). It also held training workshops to discuss ways of improving the competitive advantage of TVET systems and enhancing employment opportunities for Arab youth, to showcase and disseminate successful Arab national experiences, and to explore a number of relevant issues in depth.

— *SDG 9: Build resilient infrastructure, promote sustainable industrialization, and foster innovation*

ALECSO launched the Technology Innovation Award for Young Researchers, and the Arab Forum for Scientific Research and Sustainable Development. It also developed the Arab Strategy for Scientific Research, Technology and Innovation, and followed up its implementation in order to meet the sustainable development goals in the field of scientific research.

Keen on strengthening cooperation for the promotion of science, scientific research and knowledge, ALECSO implemented a high-level workshop aimed at enhancing future cooperation between specialized institutions in serving the Red Sea region environmentally, scientifically and educationally, by preserving its environment and promoting sustainable investment in all sectors that serve individuals and societies in the Red Sea region, thereby making it a hub for tourism and global trade. Through this workshop, ALECSO sought to highlight the vital economic importance of the Red Sea, with its attractive geographic location, its significant contribution to the economies of the red sea riparian countries, and its important role in the global movement of trade, including oil and gas, especially with the advent of the Blue Economy concept.

Based on the Arab Strategy for Scientific Research, Technology and Innovation, and in order to activate one of its mechanisms designed to enhance scientific research, entrepreneurship and innovation in the Arab world, and promote the relevant culture among Arab youth of all ages, ALECSO

launched the project of establishing the ALECSO Fund for Scientific Research, Entrepreneurship and Innovation. The project is designed to achieve the following goals:

- Stimulate the industrial and economic sectors, both public and private, and attract them to finance the Fund
- Attract international scientific organizations, bodies and funds to partner with the Fund through various mechanisms
- Identify current and future scientific research priorities, collectively for the Arab world and individually for each country
- Launch research projects by Arab research teams to address the priorities of the Arab World and globe
- Align research priorities with the needs of the Arab industrial, economic and societal sectors
- Develop and implement a coherent programme to enhance the Arab and global scientific mobility, while drawing on successful international experiences.

This is an opportunity to call on all those concerned with scientific research, whether they are countries, institutions or bodies, to support this fund as a means of encouraging entrepreneurship and innovation in the Arab world.

In this regard, ALECSO implemented workshops on Methods for Building Sustainable Development Indicators and Monitoring, Evaluation and Utilization Systems, on The Integrated and Sustainable Management of Water Resources toward Achieving Sustainable Development Goals in the Arab World, as well as on Smart Sustainable Cities. These workshops were designed to explore the concept of sustainable development and the related goals and indicators, to master scientific methods so as to produce the needed indicators, and to build capacities in SDG reporting at country level. They also aimed at scaling up Arab capacities in water resources conservation, sharing Arab experience and expertise in water resources protection, and providing opportunities for officials from public sector institutions including relevant departments and ministries, government bodies, research centres, universities and cities, as well as from private sector companies, to share the knowledge gained about Smart Sustainable Cities through the research and projects implemented in this regard. Training focused on the key components of Smart Cities — concept, governance, data collection and analysis, smart services — with focus on three specific sectors, namely water, energy and urban mobility.

— *SDG 10: Reduce inequality within and among countries*

ALECSO developed a matrix of knowledge, skills and attitudes to strengthen social cohesion and promote diversity in schools. It also convened a regional forum on follow-up to the implementation of the Arab Decade for the Cultural Right (2018–2027) in the Arab countries, and ways of supporting mechanisms to enhance citizen engagement in cultural life and foster the role of civil society institutions in providing cultural services to all.

ALECSO also implemented a regional workshop on Geological Heritage Conservation and Designation of UNESCO Global Geoparks. The workshop aimed at spreading awareness about the Geopark concept and the significant



Workshop On Protection of Global Natural Heritage and Developing Geoparks, Iraq, May 2023

and positive effects of Geoparks on the environment and the economy. It was also designed to support Arab countries in inscribing Geoparks on the list of UNESCO Global Geoparks, raise awareness of geological hazards, and help decisionmakers to enhance the value of Geoparks and make best use of the opportunities they offer to protect the environment and advance national economies, while involving local communities and making them aware of the relevant economic and development benefits.

— *SDG 11: Make cities and human settlements inclusive, safe, resilient and sustainable*

ALECSO began implementing the Arab Strategy for Disaster Risk Reduction, and launched the Arab Network for Disaster Risk Reduction. It also began implementing the Arab Architectural Heritage Register, provided for in the Charter for the Preservation of Architectural and Urban Heritage in the Arab Countries. This project is aimed at preserving the Arab cultural memory and providing the needed care to all cultural assets, both tangible and intangible. It involves documenting these assets using the latest technological and digital methods, and leveraging them to serve sustainable development. In the same context, ALECSO formed the Arab Working Group on Culture, Urban Future and Local Cultural Policies.

— *SDG 13: Take urgent action to combat climate change and its impacts*

One of the main goals of ALECSO is to promote the key drivers of environmental development in the Arab countries, which enables them to preserve their natural resources and use them in a scientific and balanced manner to meet their current and future needs.

ALECSO's approach in this regard rests on the following premises:

- Protecting the Arab environment in relation with the global environment
- Reconciling the requirements of environment protection and of development
- Establishing environmental relations based on rights, duties and social solidarity at all levels.

The Sustainable Development Goals are among the permanent benchmarks that inform the work of the Organization, as is clear in the Action Plan set out for the period 2023–2028.

As part of its efforts to support Arab States' capacity to adapt to climate change, ALECSO continues to support the Arab Network for Natural Disaster Risks Reduction, which it has nurtured since 2013. In the same context, it held workshops on monitoring climate change and its impacts on green belts and green areas in the Arab countries.

— *SDG 14: Conserve and sustainably use the oceans, seas and marine resources*

ALECSO held dozens of scientific conferences and seminars which offered opportunities to share information among Arab experts in various environmental fields. It also produced a unified dictionary of marine terms (3,913 terms in Arabic, English and French).

— *SDG 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development*

Since 2013, ALECSO has launched the Arab Forum for Scientific Research and Sustainable Development, as a contribution to strengthening partnership among Arab countries



Arab Forum for Scientific Research and Sustainable Development – The Arab Women Researchers for Achieving Sustainable Development – 9th session, January 2023, Muscat, Oman

and regional groupings to further enhance scientific research in the countries of the region. The Forum brings together a large number of researchers, academics and business people to develop a joint vision on ways of linking industry, economy and technology with scientific research and promoting wide access to knowledge.

The ninth session of the Forum was devoted to highlighting the role of women in scientific research, development and education in the Arab countries. It emphasized the significant role of Arab female researchers in achieving sustainable development in Arab societies, in enhancing scientific publishing, as well as in addressing issues pertaining to the environment, climate change, and desertification. It also highlighted their contributions to the health and medical sector, to agricultural research in relation to sustainable food security, as well as to the field of engineering and entrepreneurship.

What ALECSO is looking forward to doing

ALECSO is seeking to pool the efforts of its technical departments and subsidiary institutions for the implementation of the activities and programmes set out in its Action Plan for the period 2023–2028. It continues to support Member States' efforts to implement the 2030 Agenda for Sustainable Development. More efforts will be devoted to advancing and enhancing scientific research, supporting the related policies and systems, and harnessing research to serve Arab peoples and help meet hazards and natural disasters. More work will also be done toward further strengthening the culture of scientific research in Arab societies.

As part of its Strategic Plan for the period 2023–2028,

ALECSO has developed a package of priority programmes and projects designed to contribute to enabling Arab countries to achieve the Sustainable Development Goals 2030. The implementation of these goals in the Arab world will be given special priority and will be the primary focus of ALECSO's work during the coming period.

On the other hand, ALECSO is open for continued and sustainable cooperation with all international institutions and organizations, toward achieving the Sustainable Development Goals in the scientific, cultural and educational fields for the benefit of all humanity. In this regard, it has already initiated the establishment of the ALECSO Fund to Support Scientific Research, Innovation and Entrepreneurship, with a seed capital amounting to US\$ 2m. It invites institutions and donors to contribute to this Fund, designed to support scientific research, innovation and entrepreneurship in the Arab world, and to encourage young and women researchers to embrace sciences as a means of facing challenges, especially those related to climate change, food security, and the promotion of green economy. The Fund will also work on implementing the scientific mobility project between Arab researchers and their counterparts in international academic and research institutions.

In addition, ALECSO looks forward to cooperating with all Arab and international institutions and organizations to safeguard world heritage, to enhance scientific and ecological tourism, to promote a culture of scientific research among youth, and to network Arab youth with their counterparts all over the world, thereby promoting a mixing of cultures and building friendships in the service of humankind.