EDUCATION FOR SUSTAINABLE DEVELOPMENT IN THE ARAB COUNTRIES

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I. INTRODUCTION

As with several other parts of the world, there are many environmental challenges facing the Arab region. While some of these challenges relate to the mismanagement and inefficient and ineffective processing of available natural resources, others relate directly to the availability or scarcity of natural resources and the extreme climate in some parts of the region (AFED 2017). Moreover, pollution related issues, climate change problems and their mitigation and adaptation measures persist and require a systematic and robust approach. Such a system may require modified governance structures (including institutional, legal and regulatory reform), strategies, programmes and/or projects with quantifiable outputs. However, for the outputs to achieve the required outcomes, awareness, education and professional development activities must be incorporated. For these reasons, education has become a key factor for achieving and enhancing development worldwide, enabling nations to actively tackle national and regional challenges.

Despite the global responsiveness towards environmental education (EE) since the 1960s, the Arab countries only started taking note of EE in the early 1980s. Education for Sustainable Development (ESD) started to be introduced at a slower pace in the past ten years. According to Dr. Mohammed Selim, Professor of Political Science at Cairo University, it was not before then that policy makers in the Arab region had begun to enunciate the common apprehension about the environment. It was not before the 1980s that Arabic books were published expressing these environmental concerns to the Arab nations. The first of these books was published in 1976 by Al-Sharnouby entitled Al-Insan wa Al-Bee'a (Man and the Environment) (Selim, 2009). In many Arab states, the emergence of ESD has provided a stimulus for EE reform, and in countries where there was no tradition in EE or where it was marginally present, the ESD movement provided an opportunity for a jumpstart (UNESCO, 2009a).

Being the lead implementer of global ESD initiatives, UNESCO has developed strategies for ESD for different regions of the world, such as Latin America and the Caribbean, Sub-Saharan Africa, Asia Pacific, and the Arab states. The strategies are tailored to each region and address different issues and needs. According to the regional guiding framework, ESD's meaning in the context of the Arab region encompasses "the acquisition and practice of knowledge, values and skills that ensure balance between the economic, social and environmental aspects of development and the observance of both individuals and society development and progress in life" (UNESCO Office Beirut, 2008). Hence, UNESCO's regional strategy of ESD for Arab states aims to address specific issues and challenges that face the region, which include the following:

- Poverty, unemployment and brain drain
- Agriculture and water scarcity
- Desertification and rational use of scarce water resources
- Heath awareness
- Political security and demographic stability
- Environmental awareness
- Unsustainable consumption patterns
- Problems related to increase in pollution (water, air and soil) (OECD, 2019)

This chapter aims at providing an overview of ESD in the Arab region, the involvement of the Arab states in the Decade of Education for Sustainable Development (DESD) and the Global Action Program (GAP) through national and regional initiatives and programs. In this sense, this chapter presents, discusses and analyses the following:

- Arab states' involvement in ESD and its impacts when available. This includes global, regional and local strategies, policies, programs, projects and initiatives that Arab states are involved in.

- Good practices, strengths and weaknesses of ESD in the region, identifying trends and success stories, alongside relevant case studies

II. ARAB STATES' INVOLVEMENT IN ESD

The UN Decade for Education on Sustainable Development (DESD) was launched in the Arab region in September 2005, at a regional meeting in Bahrain, with experts, researchers and specialists in education and training. The meeting

was an opportunity to exchange experiences and dialogue to define roles of different stakeholders for the DESD and discuss a regional ESD strategy (UNESCO, 2014). Following this meeting, the Arab Conference on Education and Sustainable Development was held in Beirut, Lebanon in April 2006, which was attended by ministers and experts from countries in the region (UNESCO, 2007).

In May 2007, the UNESCO regional office for Education in Beirut, in cooperation with the DESD secretariat and UNESCO offices in Cairo, Doha, and Rabat, organized a regional workshop on enhancing teachers' competencies in sustainable development, which was held at Alexandria University in Egypt. The workshop included discussions and consultations on the regional strategy on the DESD for the Arab States region (UNESCO, 2007). Following the previous events, the Regional Guiding Framework of Education for Sustainable Development in the Arab Region was released in June 2008 in Beirut, which identified priority areas and challenges facing the active implementation of ESD in the Arab region. Most Arab States have participated in the preparation of this document (UNESCO Office Beirut, 2008).

The Arab region has been involved in the DESD at different levels since its inception in 2005. Currently 10 out of 22 Arab countries are involved in the Global Action Program (GAP) for ESD, namely Algeria, Egypt, Jordan, Lebanon, Libya, Morocco, Oman, Palestine, Tunisia and the United Arab Emirates. At the beginning of the DESD, ESD primarily focused on environmental issues and had a stronger presence in formal education than in non-formal/informal education. However, by the end of the DESD in 2014, ESD started to align with more local pressing issues, which included access to quality education and gender equality (UNESCO, 2014).

While significant progress in implementing ESD has been reported from the Arab region, the range of implementation activities varies widely among countries. For example, ESD is now integrated into early childhood care and education (ECCE) in Kuwait and Oman, while Kuwait also reports a

full integration of ESD in government education programming (UNESCO, 2014). On the other hand, ESD is only included in selected courses in Qatar and is rarely mentioned explicitly in education curriculums in Morocco, whereby ideas related to sustainable development and an environment-friendly culture are introduced. With respect to technical and vocational education and training (TVET), some Arab states achieved significant advances such as Kuwait, Oman and Qatar, who indicated a full integration of ESD in TVET (UNESCO, 2014). Promising progress has also been reported in implementing ESD in higher education in Jordan, Lebanon, Egypt, Qatar and Oman, which include university staff member trainings on integrating ESD themes into curricula, incorporating ESD in university courses, and funding ESD-related scholarships and programmes (UNESCO, 2014).

The Arab countries' efforts in implementing ESD encompass national and regional level projects and/or initiatives. The following section details the regional and national ESD programmes, initiatives and strategies implemented in various Arab states, which have been made publicly available through published literature as well as on government and non/governmental organizations (NGO) websites.

A. Regional ESD Programmes and Initiatives

ESD programs, initiatives and strategies in the region started in the early 2000s. Some programs targeted the Arab region specifically, while others included some Arab states as part of other regions, such as the Mediterranean region. Programs such as the Regional Centre of Expertise on Education for Sustainable Development (RCE) and the UNESCO Associated Schools Project Network (ASPnet) are global programs involving all regions of the world, including the Arab region. The following subsections offer a brief summary on seven relevant regional programs and their impact, and Figure 3 shows a timeline for the regional initiatives involving the Arab region and how they fit within global and region-specific key ESD-related milestones.

i. Mediterranean Education Initiative for Environment and Sustainability (MEdIES)

The MEdIES is an initiative on ESD, launched in Johannesburg during the World Summit on Sustainable Development in 2002. It followed the implementation of the UNDESD in Mediterranean countries, and currently follows several international post-UNDESD initiatives, such as the Mediterranean Strategy on ESD and its Action Plan and the UNESCO GAP Programme. MEdIES aims to facilitate the educational community at large to contribute in a systematic and concrete way to the Sustainable Development Goals (SDGs), through the successful application of innovative educational programs in all countries around the Mediterranean basin, which include eight Arab countries, namely Egypt, Libya, Tunisia, Algeria, Morocco, Syria, Lebanon and Palestine. The main activities of MEdIES include the development of educational materials, conferences, trainings and a library of resources on the initiative's website (MEdIES, 2019b).

The main stakeholders of the initiative are the Mediterranean Information Office for Environment, Culture and Sustainable Development (MIO-ECSDE), UNEP, UNESCO and the Hellenic Ministry for the Environment, Energy and Climate Change. There are state partners from three Arab countries: Egypt, Tunisia and Palestine.

ii. Regional Centre of Expertise on Education for Sustainable Development Programme

In 2003, the United Nations University's Institute for the Advanced Study of Sustainability (UNU-IAS) launched the ESD project, with funding support from the Ministry of the Environment in Japan. The ESD project designs and implements research and development activities through two flagship initiatives: a global multi-stakeholder network of Regional Centres of Expertise on ESD (RCEs) and a network of higher education institutions called the Promotion of Sustainability in Postgraduate Education and Research Network (ProSPER). An RCE is a network of existing formal, non-formal and informal organisations that facilitate learning towards sustainable development in local and regional communities. This network involves school teachers, professors at higher education institutions, environmental NGOs, scientists, researchers, museums, zoos, botanical gardens, local government officials, representatives of local enterprises, volunteers, media, civic associations or individuals who work in the spheres of sustainable development.

RCEs play a crucial role in implementing ESD goals using their local knowledge and global network. As of December 2018, 168 RCEs on ESD have officially been acknowledged by the United Nations University worldwide. Each RCE is regionally-based and members bring in-depth knowledge of the challenges facing their villages, towns, and cities in their regions (Global RCE Network, 2019b). There are two RCEs in the Arab region, located in Egypt and Jordan, which serve Africa and the Middle East regions. RCE Cairo was launched in 2008 and it works throughout six governorates, including Cairo, Giza, Qalyubia, Sharqia, Helwan, and the 6th of October (Global RCE Network, 2019a). RCE Cairo's goal is to enable Egypt to implement the SDGs till 2030 and support the realization of GAP on the ground. The specific objectives of RCE Cairo are:

- To disseminate ESD nationwide in terms of enhancing learning environments, empowering the role of the youth, developing educators' capacity, advancing ESD policy, and accelerating sustainable solutions at local levels.
- To carry out applied research to support the implementation of the SDGs.

- Many ESD-related initiatives and projects in Egypt have been implemented through the Cairo RCE, such as:

- Establishing seven centres of excellence on ESD at seven Egyptian universities in Egypt (three-year project).

- Implementing ESD in slum areas as summer school projects (1-year project, GIZ Funding).

- Developing ESD kits for grades 1-9 (three-year project, EU Funding).

- Developing ESD kits available in iBook store with other international partners.

- Developing MSc in sustainable development and two other green entrepreneurship MSc degrees (three-year project, EU funding).

- Training many schoolteachers and university professors on ESD and integrating sustainability in existing curriculum (Global RCE Network, 2019a).

iii. Mediterranean Strategy on Education for Sustainable Development (MSESD)

The MSESD is the first regional strategy on ESD prepared on the basis of the ESD Strategy of the UN Economic Commission for Europe (UNECE), adopted in 2005 following the adoption of UN DESD (2005-2014). The Strategy was drafted through a participatory process carried out under the scientific and technical coordination of the UNESCO Chair on Sustainable Development Management and Education in the Mediterranean, with the support of the MEdIES. The process involved experts from universities, governments, non-governmental and civil society organisations, from the north and the south of the Mediterranean (UfM, 2014; UNEP, 2019). The MSESD included a mandate to develop an Action Plan for the MSESD to guide its implementation and to promote regional and sub-regional activities on ESD including capacity building activities at the national level (MEdIES, 2019a). The Strategy was endorsed

ENVIRONMENTAL EDUCATION FOR SUSTAINABLE DEVELOPMENT IN THE ARAB REGION

Ahmed Al Qabany

The world's economy today is more diverse and interconnected than at any other time in history, witnessing significant growth in trade, revenues, and consumption of resources. The natural environment and ecosystem have always provided the necessary resources to support livelihoods in the form of water, energy, food, land, and transport, among others. As economies and populations continue to grow, the pressure on natural resources and ecosystems are becoming increasingly apparent as witnessed through waste, land degradation, abiotic depletion, deforestation, and pollution.

In the context of sustainable development, economic growth should be coupled with minimal negative impact on the environment and natural ecosystems. Preservation of the environment is one of the key features of any type of sustainable development. This calls for concrete action at the global, regional, national and local levels to mainstream environmental considerations in development plans and goals. It also calls for enhanced awareness, knowledge and innovation in this mainstreaming process, which could be done through effective environmental education.

Environmental education is meant to connect us to the world around us, teaching us about both natural and built environments. It offers an opportunity to explore environmental issues, engage in problem solving and act towards improving and sustaining the environment for present and future generations. Environmental education also serves as a key driver of the effective implementation of environmental action plans. Societal ethics and actions form an integral part of environmental education, which holistically drive behavioral change towards sustainability.

Geographically, the Arab world covers a vast land area of more than 13.3 million km^2 in the Middle East and North Africa. The region is characterized by rich and diverse natural landscapes, resources and centuries of man-made imprints including a rich archaeological heritage, artefacts, ancient ruins and cities, vast deserts, plains, high mountains and coastal endowments. These natural and built environments are increasingly being threatened by natural and anthropogenic drivers such as changing global climate regimes and increased human consumption caused by rapid population growth in the Arab world. The predominant environmental challenges in the Arab region include municipal waste management, depletion of water resources and pollution, high energy intensity and rapid changes in local and regional climate.

Although environmental awareness and action has increased significantly at the global level over the last two decades, more effort is needed towards increasing environmental awareness and education in the Arab region. Recent surveys conducted by the Arab Forum for Environment and Development (AFED) in 22 Arab countries in 2017 revealed that over 60 percent believe that the environment has deteriorated in their countries over the last ten years, while 95 percent think their country is not doing enough to tackle environmental challenges. This means there is an urgent need to educate the growing population in the region on the environment.

To achieve the sustainable development agenda in the Arab region by 2030, environmental education will remain essential, considering its rapidly growing population, increasing consumption patterns and the high dependence on natural resources. The goal of environmental education within the context of sustainable development is to make behavioral changes that drive sustainable practices. For sustainable behavioral change to take effect, the following actions could be considered:

Change of Environmental Education Approach: Traditionally, formal learning institutions have often initiated environmental education initiatives, whereas non-governmental organizations (NGOs) would usually play a role in spreading environmental awareness. For environmental education to work for development, the traditional approach must be transformed to include broader, more comprehensive, participatory, all-inclusive and forward-thinking methods that accommodate all stakeholders including government, private actors, academia, financial institutions, organized private sector, non-governmental organizations, women and youth. The newly adopted approach should mainstream environmental education into school curriculums, private

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businesses, public and non-governmental organizations and civil society groups, among others.

Embrace Innovation/Digital Revolution: For environmental education to effectively work for sustainable development, the region needs to capitalize on leveraging the potential contributions of digital technology and innovation. First, digital literacy needs to be a strategic area of focus for countries and stakeholders operating in the region. Digital literacy tools can thus be harnessed for environmental initiatives and actions needed to simultaneously address sustainability and human development in the region. Second, environmental education should embrace innovation as a key pillar for engagement in the region.

Increase Investment in Environmental Learning, Skills Enhancement and Capacity Development: Education is essential to convert information and ideas into useable and applicable knowledge. The capacity development gap in the region needs to be urgently addressed. Despite the increasing interest in environmental learning, there is a need for conscious effort to target impactful initiatives that will support environmental literacy in all aspects of societal endeavors. Dedicated financial and human resources will help boost efforts towards increasing knowledge of environmental issues regionally and globally.

Partnership: Partnership remains instrumental in achieving the objectives of the SDGs, as underscored by SDG 17 (Partnerships for the Goals). Hence, to achieve the objectives of increasing environmental education in the region, partnership for environmental education needs to be prioritized by various stakeholders. This includes multiple actors and stakeholders such as government agencies, international financial institutions, research institutions and agencies as well as the private sector.

Environmental education remains vital to build an effective and sustainable society. At the Islamic Development Bank (IsDB), we are complementing the numerous efforts made by countries in the region through capacity development for relevant stakeholders, investments in longstanding and impactful development interventions that would help address some of the critical environmental and development challenges faced by the region. In our effort to contribute towards environmental sustainability, the Bank established a dedicated climate change function that focuses on helping member countries mainstream climate change action into projects. In addition, the IsDB has recently increased its strategic contributions through tailored capacity development initiatives, implemented through local and regional workshops. In February 2019, the Bank released its first Climate Change Policy and it is expected to release its Environmental and Social Safeguards by end of 2019.

IsDB is also increasing its support to countries in the region to help enhance school curricula and pedagogical methods to include climate change and environmental education. In terms of resource mobilization for environmental and climate action, the Bank is partnering with numerous regional institutions and leveraging its international networks to mobilize resources to support climate, environmental and human development initiatives.

For these measures to work, as well as to effectively deliver the much-needed environmental education and start seeing its positive results in the region, genuine leadership is needed at all levels from all stakeholders. As countries in the region work on the development of their low carbon resilient development pathways and transitioning to green economy, it is the generation receiving this education that will ultimately ensure the Arab region achieves sustainable development by 2030 and beyond.

in 2014 by the Union for the Mediterranean (UfM) Ministerial Meeting on Environment and Climate Change. Its aim is to encourage countries of the Mediterranean develop and incorporate ESD into all relevant subjects of their formal educational systems, as well as in non-formal and informal educational systems.

iv. The UNESCO Associated Schools Project Network (ASPnet)

The UNESCO ASPnet links educational institutions across the world with the goal to build notions of peace in the minds of children and young people. There are over 11,500 ASPnet member schools in 182 countries, all of which work in support of international understanding, peace, intercultural dialogue, sustainable development and quality education in practice. ASPnet is recognized as an effective tool for reaching Global Citizenship Education (GCED) and ESD as part of the SDGs within Education 2030. The ASPnet Strategy for 2014-2021, Global Network of Schools addressing Global Challenges, identifies ESD as one of its two priorities (UNESCO, 2019). The 2030 Agenda specifically highlights how important it is for all learners to "acquire the knowledge and the skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles" (UN, 2015). The ASPnet schools adopt a "whole-school" approach in their ESD activities, in which schools attempt to integrate local and global sustainability issues into the curriculum, while reinforcing interactive, participatory teaching and learning that foster critical thinking and bring about changes in attitudes. Examples of ESD projects implemented through the ASPnet in the Arab region include:

- Recycling: Solidarity in Action (Lebanon)
- Photographing the beauty of our environment (Oman)
- How to save water (Palestine)
- Recuperate rain water for growing medicinal plants (Tunisia)
- First ASPnet regional flagship project on water education in the Arab region (Egypt, Jordan, Kuwait, Lebanon, Libya, Oman, Palestine, Qatar, Syria, Tunisia, and UAE) (UNESCO, 2009b)

v. Regional Expert Meeting on Climate Change Education for Sustainable Development (CCESD) in the Arab region

The regional experts meeting on CCESD in the Arab region was held in Beirut from 5 to 7 May 2015. It was organised as part of the ESD work plan for 2014–2015 and was funded by the ESD Japanese Funds-in-Trust (ESD-JFIT).

TABLE 1 **ESD RELATED ACTIVITIES IN ARAB COUNTRIES BETWEEN 2016 AND 2019 UNDER THE SWIM AND HORIZON 2020 SUPPORT MECHANISM PROJECT**

ESD Activity	Location	Date
SWIM-H2020 SM Training on ESD	Amman, Jordan	13-14 September 2017
	Ramallah, Palestine	17-18 September 2017
	Tunis, Tunisia	16-17 October 2017
	Tozeur, Tunisia	19-20 October 2017
Strengthening of public awareness and ESD in view of promoting: A shift away from the use of plastic bags; and/or the use of non-conventional water resources	Jordan	June 2017
Support in the implementation of ESD	Tunisia	October 2017
Effective design and implementation of ESD projects	Algiers, Algeria	12-13 November 2017
SWIM-H2020 SM training & consultation "Enabling Egyptian Educators to Implement in Practice ESD"	Cairo, Egypt	2-6 December 2018
Enhancing environmental awareness including of the media and support for implementing education for sustainable development	Palestine	March 2019

The meeting identified the main challenges that climate change poses to education systems in the Arab region and explored the role that education can play in climate change adaptation and mitigation. The main objectives of the regional experts meeting were to:

- Promote the important contribution education can make to climate change adaptation and mitigation in Arab countries, including infrastructure, management and resourcing.
- Further the effective integration of climate change issues and disaster risk reduction (DRR) into education programs and school curricula in the Arab region.
- Enhance the exchange of experiences and good practices on climate change education (CCE) among research institutions, ministries, educators, civil society organizations, multilateral agencies and young people.
- Identify opportunities for partnerships among ministries, schools, research institutions, NGOs, UN agencies and UNESCO networks to enhance formal and non-formal education programs on CCESD.
- Develop regional/sub-regional plans of action identifying key steps and regional recommendations for the development of CCE strategies, guided by the GAP on ESD (UNESCO, 2015c).

As part of the meeting, a team of experts in cooperation with the UNESCO working team (HQ and UNESCO field offices in Beirut, Cairo, Doha and Rabat) prepared four sub/regional studies on CCESD, which included:

- Mashriq countries (Beirut Office Cluster) Iraq, Jordan, Lebanon, Palestine, Syria (UNESCO, 2015d)
- Arab Gulf countries and Yemen (Doha Office Cluster) Bahrain, Kuwait, Oman, Saudi Arabia, Qatar, UAE and Yemen (UNESCO, 2015e)
- Red Sea (Wadi ElNile) countries (Cairo Office Cluster) Egypt, Libya, Sudan (UNESCO, 2015f)
- North Africa/Maghreb countries (Rabat Office Cluster) Algeria, Morocco, Tunisia (UNESCO, 2015g)

vi. Sustainable Water Integrated Management (SWIM) and Horizon 2020 Support Mechanism (SM) Project

The SWIM-H2020 SM Project is a three-year (2016-2019) EU funded project that aims to contribute to reduced marine pollution and sustainable use of scarce water resources in a select number of countries in North Africa and the Middle East (Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine, Syria and Tunisia). The Project is the continuation and merging of two previous EU-funded service contracts, Horizon 2020 Capacity Building/ Mediterranean Environment Program (H2020 CB/MEP) (2009-2014) and the Sustainable Water Integrated Management Support Mechanism (SWIM SM) (2010-2015). The project provides tailored and targeted support to authorities and other stakeholders of partner countries in order to tackle the reduction of industrial emissions, municipal waste and urban wastewater into the Mediterranean Sea. It also ensures the sustainable use of water resources in an effort to facilitate sustainable development at country level (SWIM & Horizon 2020 SM, 2019a). Another goal of the project is to promote ESD through various trainings, consultations and workshops. Table 1 shows the ESD-related activities undertaken by SWIM-H2020 SM in Arab countries from 2016 to 2019 which were all implemented in collaboration with MEdIES (SWIM & Horizon 2020 SM, 2019b):

vii. UNESCO Regional ESD Flagship Training Program for Arab Youth

The UNESCO Regional ESD Leadership Training Program for Arab Youth was held in Beirut from 1st to 3rd August 2017. The training was organised by NGO Organization de Developpement Durable (ODDD), a UNESCO GAP on ESD key partner, in collaboration with the UNESCO Beirut office and the UNESCO Headquarters. The training programme was a project of the GAP on ESD which has five action areas, one of which is dedicated to mobilizing and engaging youth. The training was designed for young people aged 18-35 who are active leaders in sustainable development in their communities and regions. The training programme consisted of a three-day workshop where participants engaged with the theory and practice of ESD in order

TABLE 2 **NATIONAL ESD PROGRAMS/INITIATIVES IMPLEMENTED IN THE ARAB REGION**

Country	National Program / Initiative	Theme	Stakeholders	Date
Egypt	Learning by Earning Recycling School: Establishing the Mokattam Recycling School for Boys, who work as garbage collectors. The initiative aims to improve living conditions for the community through non/formal education (UNESCO, 2012c, 2015b).	Environmental education and poverty reduction	Organisers/implementers: The Spirit of Youth NGO, CID consulting, Procter and Gamble, the Bill Gates Foundation, the Hands on the Nile Foundation and the African Star Foundation Funding: UNESCO, P&G and Bill Gates Foundation Target: Young garbage collectors in Mokattam (Garbage City)	2001 - Present
	The program aims at promoting and implementing ESD in Egypt (CSD/AUC, 2019) Educamp I: Developed ESD resource kits and a teachers training program, in addition to seven Centres of Excellence in seven universities to promote the concept of ESD. Educamp II: Introduced ESD in informal areas (two schools in El Warraq) Educamp III: Transformed poor schools in Egypt into schools that meet the objectives of the country's Sustainable Development Strategy "Egypt 2030" (two schools in Boulaq El-Dakrour)	Environmental education	Organisers/implementers: The RWTH Aachen University in Germany, The Center for Sustainable Development (CSD) at the American University in Cairo, AlMofid Foundation for Development and Human Resources (NGO), Rowad El Ghad for Local Society Development (NGO) Funding: The EU and the German government Targets: Educamp I: Teachers and students Educamp II: Administration staff and teachers of the local schools, El Warraq community, other local NGOs, youth groups and local units of the Ministry of Education (MoE) Educamp III: Students from both schools, their teachers, administrators and ministry officials.	Educamp I started 2010, Educamp II started 2014, Educamp III started in 2017
	International Conference on ESD in Egypt: International conference on the role of education in supporting sustainable development and how to enhance education's contribution in Egypt (Institute of National Planning, 2017).	Education and sustainable development in Egypt	Organisers/implementers: The Institute of National Planning (INP) Target: Researchers from Egypt and other Arab and foreign countries as well as local, regional and international institutions concerned with education	6-8 May 2017
	The 5-year Action Plan on ESD in Egypt: Two trainings on ESD that aimed to raise awareness and contribute to building the capacity of formal and non-formal educators and Ministries Officers on ESD programs (MEdIES, 2018).	Solid waste management (recycling, marine litter)	Organisers/implementers: Mediterranean Education Initiative for Environment and Sustainability, SWIM-Horizon 2020 Support Mechanism Programme, Egyptian Environmental Affairs Agency (EEAA) Target: Educators and ministries' officers on ESD	2-6 December 2018
Jordan	ESD Biodiversity Initiative: An initiative focusing on integrating biodiversity concepts including those related to herbal and medicinal plants in the national curricula in Jordan (UNESCO, 2012a).	Biodiversity	Organisers/implementers: The Royal Society for the Conservation of Nature RSCN (NGO), and the Ministry of Education - Directorate of Curricula and Textbooks Target: Students and teachers	2004-2008

Country	National Program / Initiative	Theme	Stakeholders	Date
Jordan	Zikra for Popular Learning Program: Zikra promotes alternative learning to empower people to reconnect with their local culture and traditions, and to utilize local knowledge to inspire sustainable solutions to the local community's most stressing social, economic and environmental challenges (UNESCO, 2018a).	Environmental education and sustainable development	Organisers/implementers: The local non-profit organization Zikra Initiative Target: The marginalized village of Ghor Al-Mazra'a in one of the poorest areas of southern Jordan.	2011 - Present
	Queen Rania Teachers Academy (QRTA) ESD training program: Aims to enhance the academic and professional capabilities of teachers by incorporating three of the most critical environmental risks in Jordan (water, energy and solid waste) into an inquiry based, interdisciplinary, project based training program (QRTA, 2019).	Water, energy and solid waste	Organisers/implementers: Queen Rania Teachers Academy (QRTA), and Public Action Project PAP (USAID funded) Target: Teachers in 50 schools across 6 directorates in the central governorates of Jordan.	2014 - Present
	K-12 Arab Online Learning Platform: Offers both sequential learning material, as well as student-cantered inquiry based learning that allows users to search for concepts or skills without having to enrol in a predefined learning sequence. It will also provide key resources for use in the classroom and will eventually align with national curricula (UNESCO, 2018b).	Quality education, technology and innovation, sustainable development	Organisers/implementers: Google and Queen Rania Foundation Target: K-12 students and their educators across the Middle East and North Africa region.	Launched in 2017
Lebanon	ESD in the Shouf Biosphere Reserve (Lebanon): Education and raising children's awareness to protect the environment is an important task of the Reserve. Facilitators offer several educational workshops that focus on the role of a nature reserve, knowledge ecosystems, eco-citizen actions, and environmental pollution (UNESCO, 2013a).	Environmental education	Organisers/implementers: The Association of the Shouf Cedars (ASC), the Ministry of the Environment, the Canadian Embassy, Funding: International Organizations, donations, and entrance fees Target: Students in public schools	2011 - Present
	Sustainability 4 Youth: A series of experimental awareness workshops on SDG/ESD to enhance the skills of young people in Lebanon through developing, implementing and conducting ESD youth-led activities in various public and private schools across Lebanon (ODDD, 2017).	Environmental education, water conservation, permaculture, upcycling	Organisers/implementers: UNESCO Beirut office, Le Drageon, Friends of Nature NGO, Lebanese National Commission for UNESCO (LNCU), ODDD NGO Target: ESD youth leaders in Lebanon (UNESCO Flagship local youth participants) and school students age 8-12 in 11 schools	Oct- Dec 2017

TABLE 2(Cntd.) **NATIONAL ESD PROGRAMS/INITIATIVES IMPLEMENTED IN THE ARAB REGION**

Country	National Program / Initiative	Theme	Stakeholders	Date
Morocco	Young Reporters for the Environment: An educational program that aims to increase awareness of local environmental issues and empower young people to articulate these issues through the media of writing, photography or video (M6FE, 2019).	ESD	Organisers/implementers: Mohamed VI Foundation for the Protection of Environment (M6FE), The Foundation of Economic Education (FEE) Target: High School Students	Launched in 2002
	Eco-Schools: Aims at educating students about positive ecological principles so as to prepare them for some of the environmental issues that their schools might face with regards to water, energy and waste management (UNESCO, 2013b).	Environmental education, sustainability, recycling, and clean energy	Organisers/implementers: FEE, M6FE Funding: The EU Target: School students	Launched in 2006
	National Program for Environmental Rehabilitation of Rural Schools: The program has three main objectives: improving the infrastructure of rural schools, developing environmental clubs and libraries on environmental and SD topics, and supporting environmental clubs activities such as field visits and other environmental education activities (Ministry of National Education, 2019).	Water, energy and waste management	Organisers/implementers: The Ministry of Education, the Ministry of Energy, Mines, Water and Environment and municipalities Target: Rural schools and students	2006 - 2015
	Functional Literacy Programme of Women of the Argan Cooperative through Amazigh (Berber) Language: The main objectives of the programme are: Making the cooperative's women aware of the importance of environmental protection and preservation of the importance of the Argan Biosphere and what is at stake in the preservation of the Argan forest (UiL, 2015).	Environmental protection and sustainable development	Organisers/implementers: Association Ibn Albaytar (NGO), National Centre of Development and Literacy (Centre National de Développement et d'Alphabétisation – CNDA), Nutrition Act and the international cooperation of Monaco Target: Women in the Argan cooperative	Launched in 2008
Oman	Workshop on ESD in a World of Cultural Diversity: Taking our Responsibilities for the Future The workshop aimed at promoting ESD through the exchange of experiences between students and teachers from various cultures, and at preparing joint projects around the DESD (UNESCO, 2011)	Sustainable urbanization	Organisers/implementers: The Ministry of Education and the Oman National Commission for Education, Culture and Science in cooperation with UNESCO, the Islamic Organization for Education, Culture and Science, the German National Commission, the Kuwait National Commission for UNESCO and a number of private sector companies. Target: Students and teachers	Nov 2008

Country	National Program / Initiative	Theme	Stakeholders	Date
Oman	Green Schools Initiative: The objective is to implement a number of activities, trainings and programs aimed at students and teachers and administrators in schools and parents to make them aware of the concept of sustainability and ESD as well as a way for inculcating new behaviour patterns and values based on the three Rs of sustainability: Reduce; Reuse and Recycle (UNESCO, 2015a) and (UNESCO, 2018d).	Biodiversity, natural resource management, sustainable production and consumption	Organisers/implementers: The Oman National Commission to UNESCO, the Specialized Centre for Professional Training of Teachers, Sultan Qaboos University/College of Education, the National Team for ESD, the Ministry of Education, Ministry of Environment, Ministry of Agriculture and Irrigation and the municipality. Target: Students and teachers in schools throughout Oman	Launched in 2015
Tunisia	Re-greening Tunisia Project: The project works on educational establishments in two cities, Mareth and the ancient oasis of Zarat in the coastal zone of Gabès, notorious for pollution due to the production of phosphates. The project combines classroom study with field experience and offers practical ways to mitigate climate change and develop sustainable agricultural production. Students use old and new techniques to plant trees and re-green the country (UNESCO, 2018c).	Climate change	Organisers/implementers: ISSBAT (the Higher Institute of Applied Biological Sciences of Tunis), Eco-Conscience (a civil society association that raises awareness on environmental issues), and the Tunisian Permaculture Association. Target: Students and teachers	Launched in 2013
UAE	Shaheen's World Project: Shaheen's World is a publicly accessible online learning website that aims to enhance children's knowledge, skills and attitudes towards the environment and global issues through friendly online activities and games. Shaheen's website contributes not only to awareness raising among Emirati children but also community members such as consumers, business people and women (UNESCO, 2014).	Environmental education, sustainable development, water, energy, waste, air and biodiversity.	Organisers/implementers: The Environment Agency – Abu Dhabi (EAD) Target: Children 6-16 years old	Launched in 2009

TABLE 2(Cntd.) **NATIONAL ESD PROGRAMS/INITIATIVES IMPLEMENTED IN THE ARAB REGION**

Country	National Program / Initiative	Theme	Stakeholders	Date
	Sustainable Schools Initiative (SSI): An initiative which aims to strengthen the skills and leadership capacity among youth, to address the challenges of environmental sustainability. The programme strives to provide a platform that addresses students, parents, teachers, administrative staff and the non-teaching staff to gain hands on experience, knowledge and create change from within in their everyday behaviour and attitude for a sustainable future (EAD, 2019).	Environmental education, sustainable development	Organisers/implementers: The Environment Agency – Abu Dhabi (EAD), Centre for Science and Environment (CSE), the Department of Education and Knowledge Sponsor: British Petroleum (BP) Target: Intermediate and secondary school students.	Launched in 2009
UAE	ESD Climate Change Initiative: The initiative included conducting workshops for teachers and students on ESD to enhance the knowledge and equip the educational segment of the society with the tools to combat climate change at the local level (UNESCO, 2012b).	Environmental education, climate change, water conservation	Organisers/implementers: Emirates Environmental Group EEG (NGO), local authorities, pre-school institutions, schools, higher education institutions, NGOs, private sector, media, intergovernmental and international institutions Target: Teachers/students from various schools and colleges in the UAE	2010
	Sheikh Zayed Desert Learning Centre (SZDLC): The Sheikh Zayed Desert Learning Centre in Abu Dhabi is an educational facility combining knowledge and learning through interactive exhibits, multimedia and visual materials that are specially designed by world-class experts and specialists. The SZDLC creates an opportunity to teach students on sustainable living using low-carbon technologies, helps them examine their relationship with the environment and encourages them to adopt more sustainable lifestyles (UNESCO, 2018b).	Environmental education and sustainable living	Organisers/implementers: The government of the UAE Target: Students	Opened in 2016

to build their capacity as ESD leaders. During the workshop, participants engaged with the theory and practice on the following different themes: sustainability, ESD, system thinking, conflict transformation, leadership, visioning, communication, facilitation, networking and monitoring and evaluation (UNESCO, 2017). The training's objectives were to empower youth leaders to inspire and mobilize others to take action towards building more sustainable, just and resilient communities, and build a youth-led ESD network for exchange and collaboration.

B.National ESD Programs and Initiatives

Many national programmes, projects and initiatives targeting ESD have been initiated and have been or are still being implemented at the

EDUCATION FOR SUSTAINABLE DEVELOPMENT IN THE MEDITERRANEAN NEEDS MORE POLITICAL BACKING

Michael Scoullos

The Mediterranean Strategy on Education for Sustainable Development (MSESD) aims at assisting Mediterranean countries to develop and incorporate Education for Sustainable Development (ESD) into their formal education systems. It aims for ESD to be integrated in all relevant subjects, also in non-formal and informal education. The Strategy serves as a flexible framework for the countries to fulfill regional, global and national agendas, given that its implementation is driven by a country-specific approach.

MSESD responds to Target 4.7, under Goal 4 of the SDGs which focuses on quality education, and refers explicitly to ESD, stating that: "By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development."

After being endorsed by the Union for the Mediterranean Ministers of Environment in 2014, MSESD was embraced as an integral part of the Mediterranean Strategy for Sustainable Development (2016-2025) of the MAP-Barcelona Convention system, under strategic direction 6.4 on education. At the 19th meeting of the Contracting Parties to the Barcelona Convention in Athens, MSESD was acknowledged as important to "enhance public awareness and promote sustainability and the implementation of the SDGs in the Mediterranean".

In line with promoting the action plan set for implementing MSESD, seven training of trainers workshops were organized over the past two years, in Algeria, Egypt, Jordan, Palestine and Tunisia. Supported by the EU SWIM-H2020 Support Mechanism a regional workshop was also convened in Cyprus in 2017, together with the first meeting of the Mediterranean ESD committee. The training sessions gathered some 400 ESD professionals with advanced capacities on the potential application

of AP/MSESD and ESD. The workshops were combined with inter-institutional consultation meetings to identify strengths, priorities and needs of countries for mainstreaming MSESD implementation.

Significant achievements were observed in many countries: Malta took into account the MSESD in the National Plan on Sustainable Management of Water; in Cyprus, the National ESD Plan was effectively linked with the Strategy; and Morocco is among the champion countries of the UNESCO Global Action Program (GAP) on ESD. The second Meeting of the Mediterranean ESD Committee convened in Greece in June 2019, combined with a regional workshop on ESD.

Although widely recognized as a prerequisite for the promotion of sustainable development and the SDGs, ESD does not yet receive the needed political backing and, therefore, is still not fully and homogeneously developed throughout the Mediterranean region. Better coordination is needed between formal, non-formal, and informal ESD initiatives, which are frequently supervised by different ministries, including those of education, environment, and health. Moreover, the availability of adequate human and financial resources is lacking, which hinders the much needed expansion of training and retraining programs of educators. The secretariat continues its efforts to attract more political support and mobilize resources for enhancing the implementation of the Strategy through its MSESD Action Plan.

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ENVIRONMENT IN MOROCCAN SCHOOLS AND UNIVERSITIES

Mohammed Tafraouti

Environment has been a part of the Moroccan educational curricula for decades, which has contributed to the formation of a new generation that has efficiently led environmental work at the governmental and civil levels. Morocco now has a national charter for education, which includes "the acquisition of principles for health protection, preservation of natural resources, and the discovery of basic concepts, systems and techniques applicable to the direct natural, social and cultural environment of the student".

The Charter of Sustainable Environmental Development called for the need to create specializations in the field of environment and sustainable development, stressing that environmental conservation should be integrated into the knowledge systems and the practical and behavioral knowledge provided within these systems and programs. There are now many examples of environmental concepts that have been integrated into textbooks used at Moroccan secondary and elementary schools:

The textbook "History and Geography Manar" used in the first year of the Baccalaureate program, includes a chapter that explains the concept of sustainable development and examines the characteristics of the biosphere, natural resources and the requirements of urban and rural development. It also covers water and desertification issues in the Arab world, within the framework of sustainability.

The second year of the Baccalaureate program's English course is partly devoted to sustainable development. Students are introduced to the vocabulary used in environmental care plans and international development goals. This section includes many activities and exercises that integrate the concepts of sustainable development into language teaching, which allows the students to improve their language skills while simultaneously learning about sustainable development.

The book "Al Mukhtar in Arabic Language", for the first year of secondary preparatory level, includes a section on natural balance and environmental protection. The Arabic language textbook for third year elementary students addresses the theme of population, environment and health.

The French language book for the fifth elementary level uses a selection of expressive environmental images. The book includes three texts in a special environmental section entitled "Encounter with Nature", covering a range of environmental information through a text on "Living Nature" and a poem on nature by Paul Verlaine, entitled "After Three Years". It also includes a text entitled "Underwater Explosion" designed to teach writing techniques by describing nature scenes.

The Arabic language book for fourth elementary students includes a chapter on "Natural Balance and Environmental Protection", with texts dealing with pollution and humans and the environment.

Mohammed VI Foundation for Environmental Protection

The efforts of the Ministry of Education are supplemented by the work of civil society organizations at various levels. The Mohammed VI Foundation for Environmental Protection supports many activities and programs targeting young people, especially through the Eco-Schools program it sponsors. In 2014, the Foundation launched a digital environmental platform aimed at nurturing an emerging environmental culture, raising awareness and promoting environmentally friendly behavior. The digital platform equips school children with the necessary tools to acquire basic information about various environmental concepts, independently and interactively, through tests, fun games, and drawings. In the first phase, it focuses on the topics of energy and climate, especially renewable energy and efficiency, in the second it deals with water, and in the third phase it addresses the air quality and climate change. The foundation also produced an Eco-Schools Guide, which present the program's various aspects and guides schools on using the portal.

The Moroccan program is similar to AFED Ecoschool (www.afed-ecoschool.org), the environmental

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education program launched by the Arab Forum for Environment and Development (AFED) in 1999. The AFED program comprises a comprehensive guide to environmental knowledge and activities, and a digital platform available to students and schools throughout the Arab world. Local editions of the AFED educational guide were published in several Arab countries including Algeria, Syria and the UAE.

Environmental Education at Universities

Most Moroccan universities have also incorporated the environment into their programs:

At Mohamed V University in Rabat, one of the oldest universities in Morocco, environment and development issues are taught at many faculties. The Faculty of Legal, Economic and Social Sciences offers a Master's program in Environment and Sustainable Development. Environmental and sustainable development subjects also overlap in the Master's programs in Geography, at the water, waste, coastal areas, biodiversity, energy, climate change and local development levels. The Center for Doctoral Studies includes a research body that focuses on education and communication in the fields of population and environment and development, where environment and sustainable development are integrated into subjects dealing with environmental citizenship and education for sustainable development.

Within a period of three years at the Earth and Life Sciences Department at the Cadi Ayyad University in Marrakech, students have extensive exposure to environmental fields of learning. The curriculum covers topics including the adaptation of organisms to environmental factors, population dynamics, international environmental conventions and global impacts on social management. The two-year master's program covers overall ecosystems management including continental water systems, biological conservation, engineering and industrial environment management, sanitation engineering and environmental management.

At the slopes of the Atlas Mountains, Al Akhawayn University in Ifran covers issues of sustainable development from different perspectives, ranging from environmental chemistry to environmental biology, in its Master of Science in Sustainable Energy Management.

Sidi Mohamed Ben Abdellah University in Fez covers the various components of environment and sustainable development among a variety of disciplines including chemistry, biology and earth sciences. The university also conducts research on water and solid and industrial waste management. The Center for Excellence in Water, Environment and Sustainable Development was established at this university, with research teams working in the fields of functional ecology, geographic resources, renewable energies and intelligent systems, pathology and biomedicine. The university is also preparing a multidisciplinary masters program named Conservation of the Environment for Sustainable Development, which will be the first of its kind in Morocco.

The students of the Sociology Department at the at the University of Ibn Zahr in Agadir are offered a course entitled Environment and Development, which tackles the topics in question from the perspective of social philosophy, the theoretical trends of environmental sociology and applied models on environment and development in Morocco.

A Graduate Institute for Sustainable Development, founded by a group of Moroccan and Canadian researchers, called the Research and Sustainable Development Group, Morocco-Canada. The institute specializes in water sciences, environment and sustainable development, and offers a Master's degree in Water Sciences, Resource Management and Organization Management.

national level in some Arab countries. Table 2 presents a summary of the initiatives in Arab states that have been made publicly available through published literature, as well as on government and NGO websites. While most Arab countries have been involved in the DESD or the GAP, not all have managed to implement ESD projects or initiatives at the national level, and countries such as Algeria, Libya, Sudan, Iraq, Syria, Palestine, Bahrain, and Qatar, have only been part of regional ESD programs and/or initiatives undertaken by international organizations.

National ESD programs, projects and initiatives in Arab countries feature various themes such as environmental education, waste management, recycling, clean energy, water conservation, biodiversity, and climate change. Some projects or initiatives were implemented over multiple years, such as the EduCamp Project in Egypt which included three phases, and the National Program for Environmental Rehabilitation of Rural Schools in Morocco, a ten-year program that is part of Morocco's sustainable development strategy. On the other hand some programs, which involved workshops, conferences or trainings, were implemented over a few days such as the workshop on ESD in Oman titled "A World of Cultural Diversity: Taking our Responsibilities for the Future".

Several stakeholders were involved in national ESD projects in Arab countries, as shown in Table 2. It can be seen that there is a high involvement of NGOs who worked in collaboration with different partners, such as government and private institutions, ministries and universities. Most of the funding originated from international organisations such as UNESCO and the EU. The main targeted audience in most of the national ESD programs were school students and teachers, through formal education, with a focus on primary and high school education. However, some projects targeted women and young adults through informal education.

C. ESD Impacts, Challenges and Opportunities

Some ESD projects in the Arab region gained international recognition as ESD success stories. Worthy examples are the Learning by Earning Recycling School in Mokkattam, Egypt, which targeted young boys who work as garbage collectors, and the ESD in the Shouf Biosphere Reserve project in Lebanon. Moreover, "Zikra" programme for popular learning in Jordan is a UNESCO sustainability education award-winning project that promotes alternative learning to inspire sustainable solutions to the local community's most stressing social, economic and environmental challenges. In addition, the re-greening Tunisia project was one of the nominees for the 2018 UNESCO-Japan Prize on Education for Sustainable Development. The project combines classroom study with field experience and offers practical ways to mitigate climate change and develop sustainable agricultural. Both Zikra and the Recycling School projects, in Jordan and in Egypt respectively, targeted marginalized communities and aimed at improving living conditions for young people through non-formal environmental education.

Apparently, Egypt, Jordan, Lebanon, Morocco, Oman and the UAE are the Arab countries with the highest involvement in ESD initiatives on both the national and regional levels. Other Arab countries such as Syria, Iraq and Yemen have taken part in the DESD since 2005, but their involvement has been diminished in recent years due to ongoing conflict.

In most Arab countries, except for the Sultanate of Oman, there is no specific entity responsible for implementing ESD projects.

Oman was one of the first Arab countries to express a commitment to ESD, and accordingly formed a national ESD team and appointed a national coordinator to guide the ESD implementation process. The Ministerial Decision No. 78/2008, issued in April 2008, resulted in the establishment of an ESD national team, chaired by the Minister of Education, which includes representatives from the Oman National Commission for Education, Culture and Science (Focal Point), the Sultan Qaboos University, and the ministries of manpower, health, education, higher education, national economy, environment and climate affairs, agriculture, and social development. The objective of the national team is the coordination of policies, events and activities in the field of ESD at the country level. The ESD national team also delegates functions to other organisations and stakeholders from the private sector as well as NGOs with expertise on ESD domains. Furthermore, the ESD national team has participated in the development of a Draft DESD National Strategy for the Sultanate of Oman (UNESCO, 2011).

The Arab states' involvement in the DESD and then the GAP has generally shown consistent progress, which promises even more impact going forward after the GAP. UNESCO's Global Monitoring and Evaluation Framework (GMEF) has identified significant strengths for implementing ESD programs and initiatives in the Arab region, based on a questionnaire targeting 19 Arab countries. The global assessment of ESD provisions shows slow signs of a favourable trend in the Arab region, in which 4 out of 19 countries have a budget designated specifically to ESD. It is worth noting, however, that ESD legislation tends to target formal education. The key sustainable development themes addressed were peace and human security, conflict resolution, biological diversity and climate change, which were considered to represent the most pressing issues in the Arab region. Other strengths of ESD implementation in the Arab region included providing teacher training for ESD at primary and secondary levels of education and the availability of ESD tools for primary and secondary levels of education (OECD, 2019).

Despite the promising achievements in ESD activities in the Arab region at both the national and regional levels, there are still some challenges to the full integration of ESD. However, the region is confronted with many challenges related to education in general, such as:

- The difficulties in reaching full participation of all children and youth in the present education systems.
- The difficulties in providing the necessary resources for the development and implementation of high quality education.
- The lack of relevant, culturally appropriate educational materials (UNESCO, 2009a).
- Regarding challenges related specifically to ESD, the results of the UNESCO 2013 Arab States ESD consultation revealed that:
- Better coordination is needed between experiences with the DESD at the regional level versus at the national level.
- Stronger coordination between ministries of education and ministries of environment and sustainable development is crucial to be able to go forward with ESD (UNESCO, 2014).

According to the UNESCO's Global Monitoring & Evaluation Framework (GMEF) and the regional guiding framework of education for sustainable development in the Arab region, the challenges of implementing ESD programs and initiatives in the Arab region were identified as follows:

- The understanding of the wide concept of education for sustainable development and of its nature is a challenge as there is still a lack of differentiation between ESD and environmental education.
- The complex nature of ESD represents a great challenge in integration in school materials as it makes it overlap with other educational materials and activities.
- The Arab states' values and traditions (such as protecting the environment, rational consumption, and social cooperation) are not considered when planning and implementing ESD and are not used enough in the preparation of ESD curricula and teaching materials.
- The lack of regional and sub-regional cooperation due to the lack of previous experience in the Arab region.

EDUCATION AS KEY SHAPING FACTOR OF A COMMON AND PROSPEROUS EURO-MEDITERRANEAN FUTURE: THE UNION FOR THE MEDITERRANEAN'S PERSPECTIVE

UfM Secretariat

The Union for the Mediterranean (UfM) is an intergovernmental, Euro-Mediterranean organization that brings together all 28 countries of the European Union and 15 countries of the southern and eastern Mediterranean. It aims to enhance peace, stability and shared prosperity in the Euro-Mediterranean region, through the promotion of inclusive and sustainable development.

The activities of the UfM – as an organization uniquely positioned to bridge and strengthen dialogue across the northern, southern, and eastern Mediterranean – address a broad spectrum of shared strategic issues in the region such as water, environment, higher education, research and innovation, among others. They notably contribute towards the achievement of the Sustainable Development Goals (SDGs) in a crosscutting, results-focused, and consensus-based manner.

In order to fulfill this mission and promote inclusive and sustainable development in the region, the 43 UfM member states work on common agendas and portfolios of activities, on topics including higher education and environment. In particular, Education for Sustainable Development (ESD) and mobility play an essential role in achieving a positive agenda for youth in the Mediterranean. This is especially important in a region where almost 60 percent of the population is below the age of 30. In this context, the UfM works to guide and advance the member states' education and ESD-related objectives across all of its thematic axis.

Mediterranean Strategy on Education for Sustainable Development (MSESD)

ESD is at the core of the international and regional agenda and is the basis for sustainable consumption and behavioural change towards more sustainable lifestyles. These are goals that the UfM is deeply involved in and is currently promoting through targeted support. In pursuit of its mission and the will of its member states, the Mediterranean Strategy on Education for Sustainable Development (MSESD) was endorsed by UfM Ministers responsible for environment and climate change issues, in Athens on 13 May 2014[1].

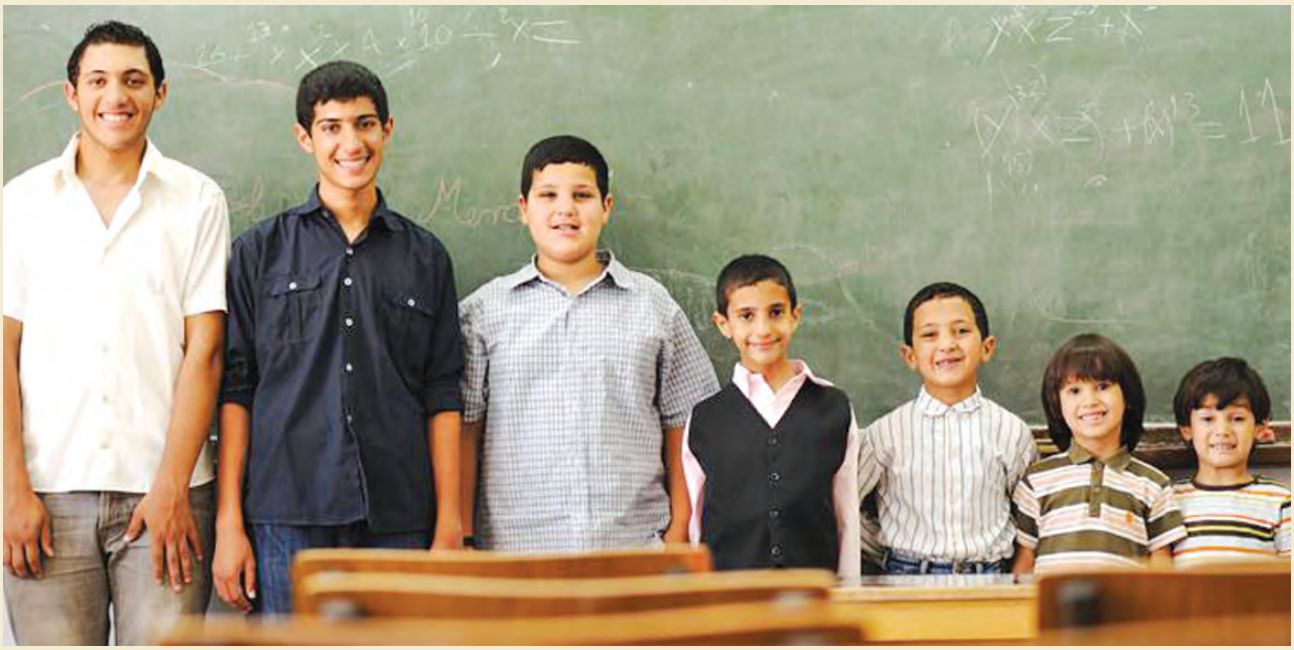
The Strategy was developed under the framework of the UfM as result of a participatory process involving experts from universities, governmental institutions, non-governmental and civil society organizations. It was coordinated by the University of Athens/UNESCO Chair and Network on Sustainable Development Management and Education in the Mediterranean, and supported by the Mediterranean Educational Initiative on Environment and Sustainability (MEdIES) of the Mediterranean Information Office for Environment, Culture and Sustainable Development (MIO-ECSDE).

As education for sustainable development under the MSESD must take local, subnational, national and regional circumstances into account, it places varying degrees of emphasis on the different aspects of sustainable development depending on the country and the field of education. This Strategy will serve as a flexible framework for the countries of the region, given that the implementation of the MSESD is driven by countries' priorities, initiatives and specific needs and circumstances.

In response to the UfM-endorsed MSESD, the Action Plan of the Mediterranean Strategy on Education for Sustainable Development was shaped and presented at the high-level Ministerial Conference held in Nicosia (Cyprus) on 8-9 December 2016. The Action Plan is a "new generation" instrument, which incorporates all major international commitments of the countries of the region related to ESD in a way that it can be easily followed by national administrations, reducing unnecessary overlaps and repetitions.

The Action Plan targets priority thematic issues – one of which is sustainable consumption and production patterns – regarding ESD and promotes the development of regional programs and activities, either independently or in partnership with others.

The Action Plan is directly related to the two major, relevant regional Mediterranean processes, namely: the Mediterranean Strategy on Education for Sustainable Development, under the UfM, as well as the Mediterranean Strategy for Sustainable Development (MSSD) (2016-2025) of the Barcelona Convention, coordinated by the UN Environment Program/Mediterranean Action Plan



(UNEP/MAP). The Action Plan integrates other relevant provisions deriving from international conventions and important international developments that have occurred since May 2014, including the Regional Action Plan on Sustainable Consumption and Production for the Mediterranean and its Roadmap for implementation, and promotes the achievement of the SDGs.

Global University Network for Innovation (GUNi)

The UfM also takes part in and supports the Global University Network for Innovation (GUNi), as a network currently composed of over 210 members from 78 countries, which includes the UNESCO Chairs in Higher Education, higher education institutions, research centers and networks related to innovation and the social commitment of higher education.

Following the collaboration initiated during the GUNi International Conference on Sustainable Development Goals: 'Actors and Implementation', held in September 2017, GUNi and the UfM Secretariat established a cooperation framework in 2018 for the upcoming three years. Here, they signed a memorandum of understanding aimed at continuing to work together in accordance to the mission and objectives of both institutions.

Under this partnership, the UfM Secretariat and GUNi co-organised a first meeting of the Group of Experts on Sustainable Development Goals and Higher Education, which aims to help higher education institutions, students and policymakers implement the SDGs, in synergy with the efforts undertaken within the Mediterranean Strategy on Education for Sustainable Development.

The UfM's perspective on coordinated action for education in the Euro-Mediterranean region is underpinned by a holistic and interdisciplinary approach, fully in tune with the current and future complex environmental, economic, and social challenges facing the region. ESD is a key driver of positive change and an essential prerequisite for a sustainable and prosperous future in the Euro-Mediterranean region.

Environmental education is a key element for ensuring that the new generations are aware of the sustainability needs of their region. Additionally, by mainstreaming environmental knowledge in curricula and specialized training, it could be easier to achieve a change of paradigm in economic growth through innovative small and medium-sized enterprises tackling environmental challenges as a way to achieve inclusive sustainable development.

Note:

1.http://ufmsecretariat.org/wp-content/uploads/2014/05/20140515_UfM_declaration_FINAL_compromiseeditorial-changes.pdf

- Lack of coordination between countries and institutions on ESD.
- The lack of necessary funding and training, and the promotion of the principle of equal partnership.
- Wars and conflicts still constitute a challenge not only for ESD but also for development in general.
- Non availability of resource materials in Arabic (policy development, curricula development and teacher training).
- Role of NGOs vis-à-vis ESD promotion is not well defined (OECD, 2019; UNESCO, 2008).

III. CONCLUSION AND RECOMMENDATIONS

The Arab region faces many environmental challenges, which require the active application of the concept of sustainable development in every sector. Environmental issues in the Arab region include the management of available natural resources, the extraction and production of oil and gas, water shortages, aridity and drought, various types of pollution, as well as climate change and its impacts. Education is a key tool in tackling environmental issues through promoting environmental awareness and sustainable development. Arab countries have recognized the importance of education for sustainable development since the launching of the UNESCO-led DESD in the Arab region in 2005, which was followed by the release of the Regional Guiding Framework of Education for Sustainable Development in the Arab Region in 2008. After the conclusion of the DESD in 2014, ten Arab countries got involved in the GAP. Nevertheless, Arab countries had no major role in the initiation of the DESD before 2005, and it seems that with global initiatives such as EE and ESD, the Arab region tends to take part a few years after the concept has been globally recognized.

The Arab countries' efforts in implementing ESD encompass national and regional level projects and/or initiatives. Major regional programmes, initiatives and strategies related to ESD in the Arab region started in 2002, with the Mediterranean

Education Initiative for Environment and Sustainability (MEdIES), which included eight Arab countries. Other initiatives include the Regional Centres of Expertise on ESD in Egypt and Jordan, the UNESCO-Associated Schools Project Network (ASPnet), the Regional Expert Meeting on CCESD in the Arab region, The SWIM and Horizon 2020 Support Mechanism (SM) project, the Mediterranean Strategy on ESD, and the UNESCO's Regional ESD Flagship Training Program for Arab Youth. There are three Arab countries that are totally absent from all regional ESD projects and initiatives: Comoros, Djibouti, and Mauritania. Somalia's involvement has also been very limited. Other countries such as Algeria, Libya, Sudan, Iraq, Syria, Palestine, Bahrain, and Qatar, have only been part of regional ESD programs and/or initiatives undertaken by international organizations, and no data is available regarding ESD projects on the national level in these countries.

The Arab states' involvement in the DESD and the GAP has generally shown positive progress, which promises even more impact going forward after the GAP. Some projects implemented in the Arab region have gained recognition and were considered case studies for good practice of ESD, such as the "Zikra" program for popular learning in Jordan and the Shouf Biosphere Reserve project in Lebanon. However, the range of implementation activities varies widely between Arab states. It seems that Egypt, Jordan, Lebanon, Morocco, Oman and the UAE are the Arab countries with the highest involvement in ESD initiatives on both the national and regional levels, while countries such as Syria, Iraq and Yemen have taken part in the DESD since 2005 but have witnessed diminished involvement in recent years due to ongoing wars and conflicts. In Kuwait and Oman, ESD is now integrated into early childhood care and education and some significant advances of ESD in vocational education and training have also been achieved. Qatar reports a full integration of ESD in vocational education and training and Kuwait reports a full integration of ESD in government education programming. Promising progress has also been reported in implementing ESD in higher education in Jordan, Lebanon, Egypt,

Qatar and Oman. On the other hand, ESD is only included in selected courses in Qatar and is rarely mentioned explicitly in education curriculums in Morocco.

Despite promising achievements in ESD activities in the Arab region on both the national and regional levels, there seems to be a clear gap between the Arab region and other parts of the world when it comes to ESD. As this chapter shows, the vast majority of the national and regional ESD initiatives and projects in the Arab countries are dependent on international donors and hence are largely not sustainable. Moreover, there is no solid ESD legislation or specific ESD allocated budgets, which are crucial steps towards establishing a consistent national ESD structure that is not dependent on external funding. It seems that the involvement of most Arab countries in ESD lacks a real commitment to adopt ESD beyond the UNESCO led initiatives. This commitment might have been hindered by the general education challenges confronting the region, such as the difficulties in reaching full participation of all children and youth in the present education systems, the difficulties in providing the necessary resources for the development and implementation of high quality education, and the lack of relevant, culturally appropriate educational materials (UNESCO, 2009a).

Furthermore, the Arab region is not utilizing its full potential as to what can be collectively done on a regional level to advance ESD, given the diversity in the region's resources. A lack in regional and sub-regional cooperation and collaboration between Arab states on ESD is apparent. In addition, the region lacks initiatives and programs that are directed to ESD research and development. Coupled with the lack of proper monitoring and evaluation, this situation threatens the potential for progress and impedes the impact of projects already in place. It is clear that the Arab region is faced with many challenges in the adoption of ESD, the most prominent of which are the lack of funding and the ongoing unrest and conflict in some Arab countries. Addressing these challenges should be a priority for Arab countries aiming to move forward with transformative and impactful education for sustainable development structures based on the Global Action Program.

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