

Regional Experts Meeting on Climate Change Education for Sustainable Development in the Arab States (Beirut, 5 - 7 May 2015)

Working Document (1)

**Sub-Regional Study on Climate Change Education for
Sustainable Development in the Arab States
(Mashreq Countries: Iraq, Jordan, Lebanon, Palestine, and Syria)**

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Foreword

Education in general and Education for Sustainable Development (ESD) in particular play an essential role in increasing the adaptation and mitigation capacity of communities and nations in regard to climate change by enabling individuals to make informed decisions. Quality climate change education for sustainable development designed with the purpose of empowering people to address climate change and sustainability issues improves the adaptation capacities of affected communities. Climate change poses a serious and additional threat to water resources, agriculture and rural communities in the region, especially in remote areas, post-conflict countries, dry lands and deserts; and countries with limited natural resources, communication and transportation networks/systems are particularly impacted. These developments jeopardize the achievement of the current Millennium Development Goals (MDGs), as well as the transition towards Sustainable Development Goals (SDGs) by the year 2030.

UNESCO Regional Bureau-Beirut and the Education for Sustainable Development (ESD) Section at UNESCO HQ-Paris, in cooperation with the National Commission for UNESCO in Lebanon organized a Regional Expert Meeting on Climate Change Education for Sustainable Development (CCESD) in the Arab region (Beirut, 5-7 May 2015), as part of ESD work plan for 2014-2015. The Meeting Programme included the preparation of four Sub-Regional Studies on CCESD key issues and programme development at the country and regional levels. Dr. Mona Zoghbi, Lebanon and Dr. Hani Sewilam, Egypt had prepared the four studies and contributed to the technical programme of the Expert Meeting in Beirut. UNESCO Working Team: Dr. Sulieman Sulieman, Ms. Julia Heiss, and Ms. Julia Viehofer provided guidelines and coordination for the studies and the outcomes of the Regional Expert Meeting.

The Sub-Regional Studies and the Final Report of the Regional Expert Meeting will assist ESD experts and policy makers in the region in developing quality educational and learning opportunities related to Climate Change Education for Sustainable Development (CCESD), and the Global Action Programme on ESD (2015-2019).

We would like to thank the team of experts on their efforts and contributions to the studies and the ESD programme in general, which will reflect positively on developing joint actions in the education and learning communities around the world.

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Executive Summary

This Sub-Regional study highlights good experiences, identifies needs, and generates recommendations for the advancement of climate change education for sustainable development (CCESD) in the Mashreq countries (Iraq, Jordan, Lebanon, Palestine, Syria). This study is one of four sub-regional studies which have been prepared for the Arab states (Mashreq-5, Gulf & Yemen-7, Wadi El-Nile-3, and Maghrib Countries-4) to serve as background papers for the Regional Expert Meeting in the Arab region (Beirut, 5-7 May 2015). The findings presented in this study are based on a combination of desktop review and a needs assessment survey/questionnaire to identify organizational strategies and CCESD programmes in these countries, and the gaps and needs in capacity building in the area of policy development, teacher training and curriculum development on CCESD (including Disaster Risk Reduction-DRR) at the levels of general education (including technical and vocational education), higher education, and life-long learning (LLL) in the Mashreq countries.

General Education

The Ministries of Education in most of the Mashreq countries have recognized in their national educational strategies the importance of addressing environment and sustainability education in school curricula. Many national educational strategies have identified mechanisms for incorporating environmental education into teaching subjects, other national strategies have developed clear implementation frameworks for particularly integrating education for sustainability into the school curricula, whereas other countries still need to translate their visions and strategies for environment and sustainability education into practical programmes at the school level. However, there is a general tendency to focus on wide-ranging themes in environmental education including biodiversity, water pollution, and nature conservation, rather than focus more specifically on climate change education for sustainable development (CCESD), which can particularly build youth knowledge and skills for adapting to climate change impacts and risks in the Arab region (including natural disasters) and for promoting more sustainable lifestyles and practices. Furthermore, numerous schools in the Mashreq countries collaborate with the private sector and with local and international NGOs to promote experiential learning, hands-on activities and field visits for students and teachers on various environmental themes including climate change and sustainability.

Key Recommendations: i) developing policies and implementation frameworks for integrating CCESD into the curriculum in all teaching subjects at primary, middle and secondary levels; ii) linking CCESD values, principles, concepts and practices being taught in the classroom to application on campus through experiential learning and campus greening; iii) applying pre-service and in-service teacher training programmes on CCESD; and iv) investing in new technologies and ICT tools to support youth learning and employment, especially in TVET which is centered on technical skills and competences.

Higher Education

At the regional/sub-regional level, there are some promising partnership initiatives between numerous universities in the Arab states, such as the ProGreen Online Diploma in Green Technologies and the Climate Change and Sustainability Policy undergraduate programme. It would be valuable to expand these initiatives in order to engage a wider number of universities from the region, as well as to replicate these programmes in more specialized fields on climate change and disaster risk reduction with special focus on the Arab region. At the country level, numerous universities have developed courses on climate change and sustainability yet only a few universities have established long-standing specialized diplomas and degrees in climate change and sustainable development.

Key Recommendations: i) developing partnerships between universities, public and private sector to identify market needs and trends towards sustainability and green economy in the Mashreq countries and to tailor university courses and degrees accordingly to address green jobs; and ii) developing CCESD programmes that address the economic, social, environmental and employment dimensions of climate change and build youth skills in systems thinking, critical and fore-sighted thinking, partnerships, technological competences, innovation and eco-entrepreneurship.

Life-Long Learning

Initiatives by civil society and non-governmental organizations (NGOs) often focus on educating and engaging youth, practitioners, and local communities. Initiatives for youth are mainly focused on raising youth awareness on climate change impacts and solutions, on green jobs training and technologies, and on empowering youth for participating in local environmental action projects in their communities. Initiatives for practitioners mostly entail training workshops that seek to build the skills of government employees on issues such as climate modeling, green technologies, and response and management of natural disasters; whereas local community initiatives

often target specific stakeholder groups such as women. Overall, these important and successful initiatives tend to be applied for a short time-span or focused within a specific geographic region in each country with the lack of national coordination or long-term implementation strategy.

Key Recommendations: i) developing national committees for coordinating CCESD initiatives and partnerships of national and local authorities such as municipalities with the private sector and international organizations; ii) expanding, extending or scaling-up existing projects for more systematic, consistent, long-standing and wide-reaching programmes on life-long CCESD education and training; iii) designing policies and strategies for enhancing partnerships between government, private sector and international organizations for establishing teaching and training programmes for employees in the public and private sector and for local communities on disaster risk management with specific focus on the risks and challenges of climate change in the Arab states.

1. Introduction

The Arab region is witnessing rising risks and challenges from climate change, with impacts already being experienced and implications being observed on people's livelihoods and lives. There is evidence of prominent increases in the intensity and frequency of many extreme events such as heat waves, tropical cyclones, prolonged dry spells, intense rainfall, tornadoes, thunderstorms, and severe dust storms in the region. Furthermore, the region is highly subject to natural hazards, such as desertification's, earthquakes and landslides. Such impacts pose additional risks for already vulnerable communities striving to combat poverty and achieve sustainable development.

Climate change poses a serious and additional threat to water resources, agriculture and rural communities in the region, especially in remote areas, post-conflict countries, dry lands and deserts; and countries with limited natural resources, communication and transportation networks/systems are particularly impacted. These developments have posed challenges to the achievement of the Millennium Development Goals (MDGs) and continue to jeopardize the transition towards Sustainable Development Goals (SDGs) in the region.

Education in general and Education for Sustainable Development (ESD) in particular play an essential role in increasing the adaptation and mitigation capacity of communities and nations in regard to climate change by enabling individuals to make informed decisions. Quality climate change education for sustainable development designed with the purpose of empowering people to address climate change and sustainability issues improves the adaptation capacities of affected communities. It should be enhanced by educational programmes that explicitly prepare communities for natural disasters. Furthermore, it needs to incorporate sustainable knowledge, and promote sustainable lifestyles and development in which the importance of heritage is recognised as an integral part of their identity and an important asset that can help building resilience. Finally, climate change education for sustainable development can stress the unique cultural and natural heritage of countries in the region, which plays an important role in the building of community resilience.

While education plays a key role in strengthening adaptation and mitigation capacities, such capacities are also needed to equip education systems and infrastructures to prepare for climate change. Entire school communities - including local education authorities, administrative staff, teachers and parents - must be prepared to ensure a climate-safe and climate-friendly school environment. Adaptation needs also must be taken into account when constructing new schools

which are safe and have a climate-resilient design. Education for mitigation should be supported by sustainable school and campuses that serve as a learning laboratory for students to demonstrate and further deepen understanding of the principles learned in the classroom. Furthermore, the capacity of education systems to respond to new migration streams caused by climate change impacts – or to new skill requirements due to a changing environment - needs to be included in education strategies for adaptation to climate change.

In order to address these urgent needs, a three-day Regional Expert Meeting in the Arab region (Beirut, 5-7 May 2015) was held to address the challenges that climate change poses to education systems. The Expert Meeting was structured around four **Thematic Areas** of CCESD in the Arab region: a) engaging with youth and communities; b) developing partnerships for Climate Change Education (CCE); c) preparing for disaster and emergencies; and d) building green societies through green job training.

The Expert Meeting helped set the stage for UNESCO's action in support to Member States in the Arab region to integrate ESD and CCE in their education plans and practices. Moreover, the Meeting developed recommendations and a plan of action to promote education as an important means to enhance climate change mitigation and adaptation in the context of sustainable development in the Arab region.

Deliberations at the Meeting built on previous events, such as the *UNESCO World Conference on ESD* (Bonn, 2009), in particular a workshop entitled "Strengthening the educational response to climate change internationally", the International Seminar on Climate Change Education (Paris, 2009), the regional expert meetings on Climate Change Education for adaptation in SIDS (Bahamas, 2011), in Africa (Mauritius, March 2013), in Asia-Pacific region (Manila, Philippines, March 2014), the Regional High Level Forum on Sustainable Development in the Arab region (Amman, April 2014), and the ESD World Conference (Aichi-Nagoya, Japan, November 2014).

As part of the technical preparations for the meeting, the UNESCO Regional Bureau-Beirut has undertaken 4 sub-regional studies and country surveys on CCESD in the Arab States (Mashreq-5, Gulf & Yemen-7, Wadi El-Nile-3, and Maghrib Countries-4). The four sub-regional studies served as background papers for the Meeting, presenting an overview of challenges, needs and the state of climate change education for sustainable development (CCESD) in the sub-regions.

This sub-regional report presents an overview of challenges, needs and the state of CCESD in the Mashreq countries (Jordan, Lebanon, Iraq, Palestine, Syria).

2. Methodology

The methodology adopted for the preparation of this study included the following:

- a. Conduct Desk-study review which aimed to identify and collate the recent (2008 - onwards) and innovative CCESD initiatives in the Mashreq countries. The desk-study review covered the following:
 - Country-specific national documentation by public sector (Ministries, National Research Centres, etc.) of national education policies and programmes at the level of General Education (including TVET), Higher Education (including research and development) and Life-Long Learning (LLL), as well as teacher training programmes and curriculum materials on CCE, DRR and ESD;
 - Country-specific documentation by the private sector, universities (higher education institutions), and NGOs on CCESD initiatives in General Education, Higher Education, and Life-Long Learning and teacher training programmes;
 - Regional documentation on CCESD, DRR and ESD initiatives in the Arab Region and/or Mashreq sub-region conducted by international organizations such as UNESCO, ESCWA, UNEP, ILO; and
 - Academic reports and articles.
- b. Conduct Survey/Questionnaire on CCESD in the Arab States: The survey/questionnaire collected information on national, sub-regional and regional initiatives relevant to CCESD, organisations and entities that work on ESD and CCE (including Disaster Risk Reduction-DRR). The survey also reviewed relevant national policies, curricula and teacher education programmes. The survey was organized into three sections: Organisational Education Strategy; Organisational CCESD Programmes: Programme Details (including Best Practices); and General Insights into CCESD: Strategic. Questionnaires have been received from ESD Coordinators, policymakers, teachers and researchers from the concerned countries. A total of 8 questionnaires have been received from the Mashreq countries (specific number per countries is provided in Annex 2).
- c. Identify gaps and needs in capacity building in the area of policy development, teacher training and curriculum on CCESD including DRR.
- d. Consult with main stakeholders including concerned line ministries, NGOs, UN agencies and civil society working on CCESD and DRR on findings and challenges, needs and the state of CCESD in the Arab States.
- e. Undertake a mapping of partners to identify activities and responsibilities.

- f. Develop and submit a draft and final draft of the Study in English and Arabic for the CCESD education and learning programmes and activities.

The study output also includes a proposal for developing plans and strategies on CCESD at the Regional/Sub-Regional levels by potential national partner institutions including government, universities, international/regional organization, and NGOs. This proposal is based on the following format: i) Policy Planning and Programme Review; ii) Curriculum Development; iii) Teacher Education and Training; and iv) Programmes of Civil Society and NGOs (Life Long Learning).

3. CCESD in the Education and Learning Systems

i. Regional and Sub-Regional Initiatives

The desk study review in the Mashreq countries (Iraq, Jordan, Lebanon, Palestine, Syria) has identified several regional and sub-regional initiatives related to the four themes on CCESD. Many initiatives have been established by international institutions such as UNESCO, ESCWA and the European Union (EU). These initiatives include partners from several Arab countries, some at the level of government institutions and sectors, others at the level of private institutions, particularly universities. A shared aim of these different initiatives is their focus on building skills and capacities of local and national stakeholders on various climate change issues through awareness and training workshops. Some initiatives are designed for a specific timeline over a few years, such as training projects for staff in the public sector, whereas the educational initiatives at universities are often established as long-term programmes and permanent academic degrees. Table 1 below summarizes the main aims, objectives and partners of these regional/sub-regional initiatives.

Table 1: Aims, Objectives and Partners in Regional/Sub-Regional CCESD Initiatives

INITIATIVE	AIMS AND OBJECTIVES	PARTNERS
ProGreen Diploma - Online Joint/Dual Professional Diploma in Green Technologies	The ProGreen joint diploma is a professional diploma programme for green technologies in Lebanon and Egypt. It aims to enhance or complement technical and decision-making skills of professionals in green technologies and progress in green businesses. The Diploma is offered in 3 specializations: Energy, Buildings, and Water	The American University of Beirut, LB The Lebanese American University, LB The American University in Cairo, EG Helwan University, EG Suez Canal University, EG

	http://www.aub.edu.lb/units/masri_institute/researcheducation/Pages/progreenproject.aspx	
CLIMAtE change and Sustainability Policy - CLIMASP	<p>Project supported by "Tempus" Programme for European Partnership for the development of Higher Education, over span of 36 months. Aims to develop an inter-disciplinary program on climate change and sustainability policy through:</p> <ul style="list-style-type: none"> - Developing and implementing capacity building workshops for building interdisciplinary curricula on climate change focused on multi-stakeholder collaboration; - Involving university staff, students and professionals in developing an undergraduate interdisciplinary program on CLIMAtE change and Sustainability Policy (CLIMASP) in each partner country university; - Integrating, implementing and evaluating the CLIMASP program as an integral part to existing undergraduate academic degrees in various disciplines such as education sciences, applied sciences, technical sciences, economics/ business sciences, humanities and social sciences; and - Contextualizing the Europass supplement diploma in the partner countries' universities and the Arab region. <p>www.tempus-lb.org/sites/default/files/3.pdf</p>	<p>Lebanese American University, LB Heliopolis University for Sustainable Development, EG Suez Canal University, EG Aswan University, EG Port Said University, EG Education for Employment Foundation Egypt, EG Egyptian Business Women Association, EG Hashemite University, JO University of Jordan, JO American University of Madaba, JO Jerash Private University, JO Jordan Environment Society, JO Notre Dame University-Louaize, LB.</p>
ClimaSouth (2010-2014)	<p>The ClimaSouth project aims to assist with the transition of partner countries towards low carbon economies and enhanced climate resilience. It supports climate change mitigation and adaptation in 9 South Mediterranean countries. The project was initiated in February 2013 and implemented over 48 months with a total budget of 5 million Euros provided by the European Union (ENP). Key stakeholders include technical government departments at levels of operation and policy, UNFCCC focal points, policy-</p>	<p>Algeria, Egypt, Jordan, Lebanon, Libya, Morocco, Palestine and Tunisia.</p>

	<p>makers, and representatives from local government and civil society. The main project activities include building capacities in negotiation and implementation of climate change processes and instruments; low carbon development, modeling and analysis; resilience adaptation and improving climate data use; facilitating access to finance mechanisms; and supporting initiatives for national and regional dialogue and collaboration.</p> <p>http://www.climasouth.eu/drupal/en</p>	
Euro-Med (Shared Environmental Information System for the European Neighbourhood and Partnerships)	<p>Project timeframe: 2010-2014. The project worked with national institutions involved in environmental information systems and reporting, with 2 focal points in each country to coordinate activities. Project aimed to modernize and simplify the collection, sharing and application of data and information for the design and implementation of environmental policy processes. The project disseminated the principles of shared environmental information system and develops the capacity of competent authorities responsible for environmental data management and reporting.</p> <p>The project helped to develop the capacities of stakeholders in the areas of cooperation and networking, monitoring and evaluation, data management, and preparing environmental reports based on indicators.</p> <p>http://www.enpi-info.eu/mainmed.php?id=491&id_type=10</p>	Algeria, Egypt, Jordan, Lebanon, Libya, Morocco, Palestine, Syria, Tunisia (South) Armenia, Azerbaijan, Belarus, Georgia, Moldova, Russia, and Ukraine (east).
EuroMed-DRR	<p>Programme with focal points in different countries, funded by the European Union, aimed at the national level to enhance the national adaptation, management and resilience for each partner country (target countries through political European Neighbourhood) prone to natural disasters or those resulting from human activity; mainly through risk reduction (prevention, mitigation, awareness) and standby (capacity building and planning for emergencies), including better</p>	Algeria, Egypt, Jordan, Libya, Morocco, Palestine, Syria, Tunisia.

	<p>cooperation at the international level. For example: "Educational Toys for Children" project which distributed CDs with electronic educational games to schoolchildren across Lebanon aged 7-10, to enhance their awareness on avoiding risks and managing disasters such as hurricanes, and floods.</p> <p>http://www.euromedpprdsouth2.eu/ar/1-program/4-about-pprd-south-ii/</p>	
Addressing climate change in the Middle East and North Africa region	<p>This project is executed by the World Bank through a trust fund. It aims to strengthen the technical and institutional capacity in the region, and to promote knowledge on climate changes exchange, seeking to integrate climate change in various sectors planning processes, including water, agriculture, energy and social sectors to enhance pathway towards sustainable development and reduce vulnerability to climate change. www.enpi-info.eu/mainmed.php?id=471&id_type=10</p>	Algeria, Egypt, Jordan, Lebanon, Libya, Morocco, Palestine, Syria, Tunisia, Iran, Yemen, Djibouti
ESCWA- Capacity Development for Climate Change Negotiations for the Arab Countries	<p>ESCWA jointly with League of Arab States (LAS) conducted in October 2013 a regional training workshop on "Capacity Development for Climate Change Negotiations for the Arab Countries" in Amman, Jordan. The workshop was attended by 16 participants from nine Member States. The ESCWA-LAS training course contributed to enhanced knowledge and strengthened capacity of representatives and negotiators from Arab countries to adequately address issues related to climate change and the respective national concerns for mitigation and adaptation actions for upcoming future negotiation processes on climate change. With the acquired knowledge the Arab negotiators and representatives are better equipped to address climate change related negotiations at regional and global level. http://www.escwa.un.org/escwanewsdetails.asp?id=19</p>	
Reorient University	<p>This project was established through collaboration between six HEIs from the</p>	Hashemite University, Heliopolis University,

Curricula to Address Sustainability (RUCAS) Sustainable University Network (SUN)	European Union led by the University of Crete (UNESCO Chair ICT in ESD) and six HEIs from the Arab region along with UNESCO Regional Office for the Arab States and pioneering NGOs, to form a Consortium to tackle the identified sustainability challenges and needs. The project aims to help partner HEIs in Egypt, Jordan and Lebanon embed ESD into their curricula through initiating diverse activities to develop resources, revise and develop new curriculum initiatives, build capacity and strengthen national and regional networks. http://rucas.edc.uoc.gr/	Notre Dame University University La Sagesse Suez Canal University University of Jordan
Climate Change Awareness Project by the International Center for Agricultural Research in the Dry Areas (ICARDA)	IFAD-funded project aims to improve awareness of climate change at the policy and community levels, deliver technologies to resource-poor communities, and encourage farmers to adopt sustainable agricultural practices. http://www.icarda.org/	Project targets 1600 households in Iraq and Jordan (10,000 people), and will eventually extend interventions to communities living in similar agro-ecologies throughout the Middle East and North Africa.

ii. Country Initiatives

The Ministries of Education in most Mashreq countries have developed national strategies and policies on education which delineate the vision, goals and implementation approach for enhancing general education (including TVET) and higher education. Most of these national strategies recognize the importance of integrating education for sustainability (ESD) into the academic curriculum, yet not all strategies present a clear approach or specific framework for integrating ESD into the curriculum. Some strategies have specific targets and methods of implementation, whereas others merely point out that concepts of sustainable development should be covered in the curriculum but without any reference to, or information on planned implementation strategies. It must be noted however that most national educational strategies and policies include terminology on sustainable development and education for sustainable development (ESD), but not often particularly climate change education (CCE) and Disaster Risk Reduction (DRR), although the term climate change is often mentioned when listing the contemporary complex global challenges. This highlights the need for specific strategies and programmes on climate change education for

sustainable development (CCESD) in order to adequately prepare youth, communities, governments and other stakeholders to manage the rising risks and challenges from climate change in the Arab region.

Several CCESD initiatives by the public and private sectors target youth and communities; whereas DRR initiatives are most often covered by international organizations. Only a few initiatives target CCESD in the particular field of TVET and preparing for a green economy.

As a general overview, there are numerous, diverse and innovative initiatives on climate change education for sustainable development in the Mashreq countries. However, many initiatives tend to be scattered, are for a limited time span, and are not institutionalized initiatives. There is general lack of adequate mechanisms for coordination between such initiatives, which might result in duplication of efforts and resources, or less effective outcomes over the long-term.

The following are examples of Best Practices in each of the Mashreq countries:

Iraq

The Ministry of Education developed the National Strategy for Education and Higher Education 2010-2022, which sought to develop short, medium and long-term policies and plans to promote the educational conditions for all grades in general education, including TVET, and higher education. The Strategy addresses the importance of ESD, teacher training on ESD, and improving infrastructure and facilities at schools and universities to manage disasters and risks (based on Iraq Country Report for September 2014 consultation meetings – translated from Arabic).

Government and public sector initiatives:

- At the level of universities, the Ministry of Education established: i-environmental units in at the faculties of education, science, and engineering of various Iraqi universities; ii-monitoring centres on climate change and desertification. Examples include AlBadia Centre in Muthanna University, Centre for Desert Studies in AlAnbar University, Centre for Marine Studies in Basra University, Centre for Iraqi Marshes and Wetlands.

- At the level of schools, the Ministry of Education is: i-integrating key sustainability and climate change concepts into the curriculum; ii- engaging students in experiential learning through projects such as the 'child-friendly schools' and 'educate a child'; iii-renewing the parent-teacher system thus contributing to greater involvement of civil society organizations and the private sector in support of sustainable development and climate change projects; iv-establishing in the Ministry a specialized department on the 'school environment' which aims to identify the impacts of climate change on education and develop ways to adapt to it; v- examining the possibility of adapting the dates of students' final examinations with the changing environment and the rising temperatures; vi- adopting new specifications for recently constructed school buildings to enhance their adaptability to climate variables and rising temperatures.
- The Ministry of Education develops capacity building programmes (pre-service and in-service) for teachers and educators, as part of its National Strategy for Education and Higher Education 2010-2022, which includes training on education for sustainable development (ESD) and on disaster risk reduction (DRR) through civil defense lessons. The Institute for Preparation and Training of Teachers also conducts in-service teacher training which also incorporates ESD.

International organizations initiatives:

- Global Initiative towards a Sustainable Iraq (GITSI) is an initiative based on 'Partnerships for Sustainable Development', as a voluntary multi-stakeholder initiative to support Iraq in the implementation of inter-governmental commitments to sustainable development. Major partners at the national level include the Iraqi government and public authorities, Iraqi private sector (such as AlSharq "Orient" Group for Training and Development, Association of University Lecturers, National Company for Communications Technology); regional and international partners include Sustainable Development International (SDI) (UAE), SkyFi Foundation (Bahrain), Earth Resources Corporation (USA), UNDP-Iraq, among others.

GITSI focuses on providing support to Iraq for the development and implementation of the National Sustainable Development Strategy at the national and local levels; promotion of effective cooperation mechanisms among stakeholders including public and private sectors, inter-governmental organizations, local and international NGOs, civil society groups, UN agencies, and others working in the field of sustainable development; promotion of knowledge and capacity building, networking and partnerships among relevant groups of Iraqi Society about sustainable development; establishment of sustainable development capacity-building activities, including a comprehensive capacity building/development programme to complement existing activities by public and private agencies in Iraq. <https://sustainabledevelopment.un.org/index.php?page=view&type=1006&menu=1348&nr=1536>

- United Nations Assistance Mission for Iraq developed the 2014/2015 Iraq Humanitarian Strategic Response Plan, with strategic objectives that are focused on: protecting civilians and providing of emergency humanitarian services, ensuring and supporting access to essential governmental services for displaced and vulnerable individuals, and improving access of conflict-impacted individuals and communities to opportunities for enhancing their livelihoods and resilience, as well as for rebuilding Iraq's social fabric and easing tensions. The Strategy's 'Social Cohesion and Sustainable Livelihoods Objective 2 Resilience' focuses on increasing access to services and opportunities for employment through providing access to credit, grants, cash assistance, market assessments and vocational skills training initiatives. It includes vocational and business training to improve employment potential of vulnerable host community and internally displaced (IDP) breadwinners. <http://www.uniraq.org/>
- The World Bank invests in infrastructure and institutions to promote Iraq progress towards sustainable economic revival and social progress. The World Bank Group Country Partnership Strategy (CPS) for Iraq aims to support the National Development Strategy through improving governance, supporting economic diversification, improving social inclusion and reducing poverty, strengthening government capacity to enhance education, water management, environmental and social risks management through training workshops.

- UNESCO Iraq Office project "Training of Trainers in Teacher Education for Sustained Quality Education" developed lessons in an instructional design template for Iraqi science teacher education, including on environmental issues and sustainability. The project aims at improving the quality of teacher education in Iraq through strengthening the capacities of colleges of Science and Education in four Iraqi universities. <http://www.unesco.org/new/en/iraq-office/>
- USAID-Iraq Higher Education and Development for Archaeology and Environmental Health Research SUNY at Stony Brook University aims to develop academic programs in environmental health and archaeology to strengthen the capacity of Iraqi universities. In the area of environmental health, the Stony Brook consortium will establish three training and research centers in environmental health in Iraq, provide training in Iraq, as well as train 10 Iraqi faculty members at Stony Brook. Stony Brook will install three environmental analysis laboratories in Iraq, enabling Iraqi faculty and students to assess environmental problems and assist in the rebuilding of their country.

Private sector and NGOs initiatives:

- AlBadia Centre at Al Muthanna University conducts research on climate change and its impacts on Iraq, especially with regards to water scarcity, desertification, and its impacts on vegetation. The Centre also encourages postgraduate students to focus their studies and research on climate change topics. <http://eps.mu.edu.iq/>
- Lafarge-Iraq conducts activities on environmental protection and social responsibility under its Sustainable Development programme. These activities seek to enhance local job creation and community development through conducting adult training workshops on biodiversity, water conservation, skills training, often in partnership with local companies. <http://www.lafarge-iraq.com/>

Jordan

At the national level, Jordan's National Climate Change Policy (2013-2020) highlights the need to revise the school curricula to incorporate CCESD. Environmental concepts are addressed in school curricula in a general manner with some focus and activities on climate change. Similarly,

universities have environmental majors and courses, but only a few have specialized courses or degrees related to climate change. Teacher training programmes are developed mostly by universities. At the level of youth and communities, several partnerships have been developed on CCESD between international organizations and the private sector and NGOs in order to conduct training workshops on various ESD and climate change themes. There are only a few scattered workshops or training on DRR done mostly by international organizations.

Government and public sector initiatives:

- According to Jordan's National Climate Change Policy (2013-2020), there is a need to re-evaluate the school curricula for enhancing student education on climate change issues. Currently, only a few schools curricula address environmental concepts and national priorities and challenges in general and climate change issues in particular. Most Jordanian universities have special departments teaching environmental sciences and management and climate change topics. Only a few universities have specialized graduate programmes offering degrees related to climate change. The National Climate Change Policy also identified some government policies targeting CCESD, including: redirecting university education to counter climate change; establishing an academic diploma on climate change at the university level; conducting specialized training programmes on climate change and environmental sustainability for educators (Jordan's Country Report, September 2014 Consultative Meeting).
- The Higher Council for Science and Technology (HCST) developed a National Science and Technology Innovation Policy and Strategy 2012-2016. A national research group on climate change has been established by the Capacity Building 2 (CB-2) Project. The CB-2 project has analyzed the research priorities and the corresponding research guidelines, procedures, and tools needed for implementation of climate change research. The CB-2 Project identified cooperation mechanisms between environmental and climate change research institutions and policy making institutions. <http://hcst.gov.jo/>
- Initiative of HRH King Abdullah II Ibn Al Hussein, Princess Alia Foundation, in collaboration with the Ministry of Education, for

launching the project: "Sustainable Education through the Renewable Energy Programme." The project aims to use technology to generate electricity from solar energy in schools, to reduce conventional energy costs in schools, and contribute to improving the school environment for students.

- Aqaba Special Economic Zone Authority developed a programme on education for sustainable development (ESD) called "Innani Ahtam" (I care), which included three main themes or outputs: i- training documents on ESD in the Arabic language; ii- guidebook for schools containing the required specifications for the implementation of sustainable development model in schools and participating schools obtain a 'Labeling System' certificate (implemented in four schools as a first stage, to be expanded to other schools); and iii- teacher training programme on ESD, with special focus on marine and coastal resources, in cooperation with UNESCO and Jordanian universities.
- The Arab Association for Renewable Energy in cooperation with the Arab Organization for Renewable Energy and the Ministry of Education launched the Green Schools and Generations initiative, which aims to create a new culture among students and schools towards sustainable use of energy and water resources, to raise awareness about green energy and encourage schools to adopt green practices and technologies.

http://petra.gov.jo/Public_News/Nws_NewsDetails.aspx?Site_Id=2&lang=1&NewsID=172808&CatID=13

International organizations initiatives:

- The Institute of Sustainable Development Practice in Amman, Jordan in collaboration with the Earth Institute at Columbia University organized a series of training workshops to policymakers and development practitioners in the region, with 35 participants including representatives from government ministries and national and local non-governmental organizations. The programme combined theory, practical case studies, field-based activities and teamwork to develop skills (project management, negotiation and conflict resolution, monitoring and evaluation) and build strong networks for collaboration. Six rounds of trainings have been conducted in Jordan since the Institute was launched in

December 2010 by Columbia University, the Jordanian Ministry of Planning and International Cooperation, and the Columbia University Middle East Research Center. In total, 200 participants from more than 30 different organizations attended the 2011 training programme.

- Millennium Development Goals (MDGs) Achievement Fund in collaboration with national (Ministries, Water Authority, local municipalities) and international (IUCN, UNESCO, FAO, UNDP) partners developed a Joint Programme: "Adaptation to Climate Change to Sustain Jordan's MDG Achievements" (2009-2013). The aims of the Joint Programme was to address water scarcity and related threats to health, food and human security induced by climate change through enhancing the country's adaptation capacity. The Programme included awareness campaigns and training programmes targeting stakeholders such as decision-makers, professionals, youth and local communities.
- The International Union for Conservation of Nature (IUCN) and the Arab Women Organization in Jordan conducted a training course on gender and climate change for community based organizations (CBOs) and women groups, to develop skills and empower women to be agents of change in their communities. Twenty women from different CBOs and women groups participated in the training, to enable them to identify procedures and factors to evaluate gender considerations in climate change plans and actions. The training was conducted in preparation for producing the Arabic version of the Gender and Climate Change Training Manual by IUCN. <http://www.iucn.org/>
- UNDP-Jordan, in collaboration with the Jordanian government, developed the programme: "Developing the capacity for the implementation of global environmental conventions in Jordan." The project aims to develop policy-relevant capacity to implement global environmental conventions by strengthening the linkage between research and policy-making to global environmental management of climate change, biodiversity and land degradation. In order to achieve this aim, the project will target general research and teaching institutions and develop the necessary knowledge base by building on existing capabilities. It will be based on existing policies and legal frameworks in order to ensure

and strengthen national efforts for reform and implementation of these frameworks. <http://www.jo.undp.org/>

- UNDP conducted an intensive training programme (2014) for 134 young men and women for training in production and assembly lines as well as in heating and ventilation training. The training program comes within the context of the "Mitigating the Impact of the Syrian Refugee Crisis on Jordanian Vulnerable Host Communities" project funded by the Government of Japan. The training programme aims to provide sustainable employment opportunities for Jordanian youth living in the most affected areas by the Syrian Crises. This training programme has been designed through a comprehensive approach based on the job market needs and demands assessment. <http://www.jo.undp.org/>
- Partnership (2011-2014) between Red Rocks Community College (U.S.), Al Huson University College and Al Balqa Applied University (Jordan): "Expanding Jordan's Green Collar Workforce: Career Pathways in Solar Technology, Worker Safety Management, and Water Quality Management." The partnership's goal is to respond to Jordan's energy production needs by creating new career pathways for graduates of Al-Huson University College (HUC) to include Solar Energy Technicians with solar thermal and solar photovoltaic specializations, Safety Officers, and Water Quality and Waste Water Management Operators.

Private sector and NGOs initiatives:

- The Hashemite University/Faculty of Educational Sciences (lead institution), University of Jordan, American University of Madaba, and Jarash University in Amman developed academic diplomas on CCESD. For example, programmes such as the Reorienting Universities Curricula Towards ESD (RUCAS), and the Climate Change and Sustainability Policies (CLIMASP) are implemented in Jordan through several universities, and include academic diplomas and teacher training on climate change and sustainability education, as well as a community of practice website for sharing resources and exchanging experiences. <http://hu.edu.jo/faculties.aspx>
- Queen Rania Teacher Academy (QRTA) developed extensive programmes for training teachers and educators about the issues

of climate change, in cooperation with Teachers College, Columbia University, USA; USAID; DFATD, Canada. <http://www.grta.edu.jo/>

- Several NGOs, in collaboration with public authorities, conducted a national survey (2013) to explore the level of public awareness and knowledge on climate change in Jordan.
- Jordan Environment Society is the largest environmental NGO in Jordan. It conducts various environmental activities including awareness-raising campaigns and action projects in communities. It also develops innovative environmental education projects with youth and communities. An example of best practice is the Recycling Programme, first of its kind in Jordan. The programme aims to change citizen behavior towards the conservation of natural resources to promote sustainable development and reduce greenhouse gas emissions, and the promotion of integrated waste management for domestic, commercial and recycled wastes in Jordan. The programme conducts several activities including: educating housewives on sorting waste at home; organizing awareness lectures for students and employees of the participating companies, which need to provide educational materials distributed free of charge, such as CDs or manuals; organizing courses for teachers to secure the necessary educational materials in future lectures; conducting awareness sessions with educational materials for preachers and imams of mosques; organizing an annual contest for Omani schools on recycling and paper reduction; innovating new ways in raising environmental awareness in the area of recycling; and conducting studies and research to lay the foundations for the programme through a questionnaire distributed to a sample of 50 units of study participants to explore their attitudes to participate in sorting waste; results indicated the readiness of 90% to participate in the programme.
- Other projects by NGOs include the following:
 - Young Researcher and Young Scientist (in collaboration with the Royal Society for the Protection of Nature);
 - Eco-Schools project (in collaboration with the Royal Society for the Protection of the Marine Environment);

- GLOBE project (in collaboration with the Association of Friends of the Environment of Jordan);
- Environment and Agriculture Competition: (in collaboration with the Ministry of Agriculture and the Royal Society for the Protection of Nature);
- The Annual Competition in the Animal World (in collaboration with the Animal Protection Association);
- Workshop for course coordinators and supervisors of new environmental clubs (in collaboration with the Humanitarian Centre for Animal Care);
- Preparation of green buildings guide for Jordan;
- Establishment of the Jordan Green Building Council, associations on renewable energy, and the Union of Environmental Associations;
- Institutional capacity-building for municipalities in the field of waste management and energy building through the implementation of Agenda 21 Programmes; and
- Enhancing awareness of the concept and application of alternative energy among individuals, especially through women's associations.

Lebanon

At the national level, the Ministry of Education and Higher Education (MEHE) developed the Education Sector Development Plan, which contains a special file on education for sustainable development (ESD) addressing the targets, content, methods of implementation and mobilization, and methods of evaluation. In addition, the National Policy of Environmental Education in Lebanon was launched in 2012, yet focuses on environmental education in general and not particularly on ESD or CCESD. Most CCESD initiatives are undertaken by international organizations and the private sector (Universities and NGOs). Academically, the majority of CCESD initiatives are at the higher education level, few initiatives at general education level (scattered and selective by specific schools; often focused on environmental education in general rather than CCESD). At the level of communities, many initiatives are undertaken on continuous and lifelong education and non-formal learning, mostly by NGOs that seek to engage youth and communities.

Government and public sector initiatives:

- The National Policy of Environmental Education in Lebanon was launched in 2012, as collaboration between the Ministry of Environment, Ministry of Education and Higher Education (MEHE), Centre for Educational Research and Development (CERD), Association for Forests, Development and Conservation (AFDC), and Hanns Seidel Foundation. The Environmental Education (EE) Curriculum for the 1st educational cycle grades (1, 2 & 3) is divided into seven chapters addressing different environmental issues such as pollution, natural resources and sustainable development. The EE curriculum of the 1st cycle also presented the teaching methodology based on the competencies to achieve environmentally-aware citizens. The curriculum was tested through several workshops that engaged teachers and their students for the same cycle. The project also included the provision of an Available Resources booklet which presented information about environmental organizations and about games and activities that help students to understand and implement environmental education as intra and extra-curricular activities.
- The Centre for Educational Research and Development (CERD), in collaboration with MEHE, developed an Education for Sustainable Development programme (2009-2010) for incorporating ESD into general education programmes and activities in all subjects in public and private schools across different regions in Lebanon. The programme consisted of 5 educational packages on the following topics: Conservation of natural resources (forests and forest fires), Public health, Consumption, and Citizenship, in addition to practical activities and exercises. Teacher training workshops were conducted to prepare them for teaching these courses and activities. CERD conducted an evaluation survey with the teachers and educators who applied the ESD educational package in their classrooms. The evaluations highlighted the need for stronger support and guidance for teachers in applying ESD educational packages, and for relating the themes and intra and extra-curricular activities to local issues and the surrounding social and environmental context. The programme has reached over 40,000 students distributed across 428 public and private schools in Lebanon.
- The Centre for Educational Research and Development (CERD) conducted training courses for educators in public and private schools

on integrating ESD in all different academic subjects including science, mathematics, sociology, languages, arts, sport and kindergarten. These sessions will have follow-up in the schools during the next school year to re-motivate teachers to apply the acquired skills and training and to develop environmental projects relevant to their surrounding social and environmental context.

<http://www.crdp.org/en>

- Other initiatives by CERD include: i- awareness project for youth and communities on sustainable use of energy, in collaboration with Ministry of Electricity; ii-youth leadership training project, in collaboration with several public and private institutes. The project developed pilot educational programmes on leadership, and guidebooks and trainings for students and teachers; iii-community service project addressing various environmental and social themes; iv-training of trainers on educating students with disabilities; and v-training workshops for school principals and teachers on integrating climate change and sustainability into educational subjects.
- The Ministry of Environment developed an educational booklet called 'A Citizen's Guide to Climate Change' which explains the main concepts, impacts, and response strategies on climate change with particular examples to Lebanon.
- On occasion of the launch of the control room for natural resource management and early warning (2014), two training workshops were held by organizing partners (National Council for Scientific Research, World Bank, USAID) on the management of floods and forest fires risk, attended by representatives of the Disaster Management Unit at the head of the government, the Army, Civil Defense and the Ministry of Environment and other public and private parties.
- UNDP and the Lebanese government collaborated on initiating a project for strengthening capacities for disaster risk reduction (DRR) in Lebanon by building skills of public and private policymakers and practitioners on how to identify risk and vulnerabilities and implement the integrated strategy for disaster risk reduction and management. The project targets different stakeholders, for example: The Unit of Disaster Risk Management and UNDP organized a workshop (2015) on "Building Media Capabilities for Disaster Risk Reduction".

<http://www.lb.undp.org/content/lebanon/en/home.html>

- The Ministry of Environment in collaboration with UNDP conducted several projects including:
 - Preparing a teacher's guidebook (2015) on climate change education to be distributed to schools across Lebanon. The aim of the guidebook is to help teachers introduce concepts and activities on climate change within their teaching subjects.
 - Organizing a training workshop (2014) entitled "Financing Climate Change" to build the capacity of public and private institutions working in the development field. Participants included representatives from the Ministries, environmental organizations, banks, research institutes. Participants learned about the concept of climate change finance, and international sources of funding and discussed the institutional readiness and challenges of Lebanon for incorporating climate change within the environmental and economic policies.
 - Conducting the project: 'Building capacity for GHG inventory and action plans in response to UNFCCC communications obligations' (ended 2002), which included training of government planners and policymakers on climate change consideration in policy planning, training of national climate change experts on project proposal development and systematic observation networks and research and evaluation on climate change.

International organizations initiatives:

- UN agencies and development partners, with the support of the Global Partnership for Education (GPE) and led by the Ministry of Education and Higher Education (MEHE), developed in 2014 a coordinated three-year Programme: The Environmental Management Plan And Guidelines For Reaching All Children with Education in Lebanon (R.A.C.E. Lebanon). The purpose of these Guidelines is to guide and assist the Project technical staff, communities, implementing agencies, engineers, environmental consultants in determining and ameliorating the environmental impact of school rehabilitation efforts. The Guidelines are designed to assist all those who are working on rehabilitation projects to ensure that environmental concerns and risks are incorporated in project design and implementation.

- The UNESCO Regional Bureau-Beirut, in collaboration with the Lebanese National Commission for UNESCO (LNCU), Centre for Educational Research and Development, Makhzoumi Foundation and the Mediterranean Information Office for Environment, Culture and Sustainable Development (MIO-ESDE), organized a training course and workshops on ESD around the theme "Youth together towards sustainable development- towards patterns of sustainable living", with participation from 150 youth trainers. The topics covered sustainable consumption and production patterns and the role of education in shaping attitudes and values and behaviors and motivating young people to overcome barriers to achieve sustainable consumption. The project also launched a training manual (YouthXChange Resource Kit) in its Arabic version containing case studies and tools for triggering new consumer behaviors and can be used by educators, youth leaders and NGOs.
- UNESCO Regional Bureau-Beirut in partnership with Berytech organized a 2-day workshop (2013) on "Youth Innovation, Social Inclusion and Social Responsibility of Arab Entrepreneurs at the Time of Climate Change". The workshop aimed to provide Arab young entrepreneurs with the opportunity to learn, get inspired from and connect to regional and international experiences linking social cohesion, climate challenge response and entrepreneurship. The workshop included presentations, working group and plenary discussions addressing social responsibility of business leaders, social inclusion and youth engagement in ecological responses and climate change, making entrepreneurship more ecological, making social venture more business oriented, and making business plans more socially inclusive and more responsive to climate change.
- UNDP-Lebanon Low Emissions Capacity Building Project (2012-2015) aims to improve accessibility and management of natural resources and enhance responses to environmental challenges including climate change. This project will raise awareness on climate change and build capacity of decision-makers on suitable options for reducing carbon emissions while ensuring economic growth and will move forward the Nationally Appropriate Mitigation Actions (NAMAs) programme in Lebanon.
- A workshop was organized by ESCWA, ILO and UNDP to launch 'Green Jobs' project in the Arab region. The workshop focused on

'the transition to a green economy and promoting jobs and new skills for Arab youth', and took Lebanon as case study. The workshop is part of a green jobs program of the International Labour Organization and its goal to contribute to job creation and environmental sustainability and poverty reduction. The purpose of this workshop was to study the possibilities of use in the green economy, and to shed light on the relationship between climate change and decent work, and to initiate policy debates on stimulating youth employment in the green sectors in Lebanon.

Private sector and NGOs initiatives:

- AUB- Nature Conservation Centre conducts various programmes to raise awareness of youth and local communities on environmental protection, programmes such as Ana Shajara and Nature Conservation-3al Tabi3a, focused on field-based activities and practical experiential learning such as through tree planting campaigns for school children.
<http://www.aub.edu.lb/units/natureconservation/Pages/index.aspx>
- NDU- Water Energy and Environment Research Centre (WEERC) aims at investigating the water and energy resources, and the state of environment situation in Lebanon and the MENA region under its multi-facial aspects. The role of this centre is to develop appropriate strategies and provide training for the proper optimization and an integrated management of water and energy use that contributes to a prosperous environment.
- Balamand University- the Institute of the Environment aims to motivate the university community, the public in Lebanon and the region to participate more effectively in the advancement of ethical and competent environmental practices. Through scientific research, the Institute communicates scientific knowledge that promotes effective decision making supportive of sustainable development policies. The Programs focus on biodiversity management, marine resources management, and environmental communications.
- Association for Forests, Development and Conservation (AFDC) developed an Environmental Education and Awareness programme in collaboration with the Ministry of Education. The programme targeted over 500 public and private schools from different regions to raise awareness on issues such as sustainable development, sustainable

management of natural resources, resolving environmentally-induced conflicts through training workshops. For teachers, AFDC organizes two types of workshops; first by introducing basic concepts of environmental education and methods of establishing environmental school clubs; and second by providing teachers with detailed information and skills on various environmental topics such as forests, biodiversity, and water issues. Training kits with lesson-plans and hands-on activities are also provided for the schools. For students, the workshops constitute of field activities, educational games (including Annual Environment Competition; Eco-clubs National Festival Day; GLOBE program: Global Learning and Observations to Benefit the Environment) in schools and in natural areas to increase knowledge about environmental issues. More than 750 schoolteachers and 15,000 children from different age groups have participated in AFDC training workshops in the last few years. <http://www.afdc.org.lb/>

- The Association for Forests, Development and Conservation (AFDC) conducts capacity building programmes to raise awareness and skills for fostering sustainable development, and conducts training on disaster risk reduction and management. The programmes and trainings target various stakeholders including farmers and land owners, schools and universities, local NGOs, public entities (such as municipalities) and youth groups.
- Society for the Protection of Nature in Lebanon (SPNL) launched its School with No Walls (SNOW) programme in Hima Anjar –Kfar Zabad, through the initiation of the first Hima Educational Summer Camp in the area. SNOW is an educational programme initiated by SPNL in collaboration with Great Escape nature-based tourism company in Lebanon. The SNOW programme is developed for students aged 8-12. It consists of several hands-on activities and learning through fun to raise awareness about biodiversity and other environmental resources and issues. www.spnl.org/
- IndyACT, a Lebanese non-governmental organization, initiated several educational projects on climate change and other sustainability issues. Examples include Akhdar Azrak, a weekly half-hour reality environmental show highlighting and discussing different environmental issue in a direct and hands-on approach.
- Lebanon Eco Movement organized in collaboration with the Swedish organization a training workshop (2014) on combating and responding

to climate change through environmental education and guidance. The two-day workshop engaged 30 educators and practitioners in different local NGOs and civil society groups and teachers from different schools in Lebanon. Participants discussed the impacts and risks of climate change and how to respond through environmental education.

- The Arab Thought Foundation (ATF) Youth Programme engages youth in important national, regional and international issues including climate change and sustainable development, and helps them build skills for developing solutions. The Youth Programme has three components: youth Cafe (for dialogue and discussion), Youth Meetings (for discussions and skills development) and ATF Youth Ambassador programme (national youth representatives). An example of a youth project initiated in collaboration with ATF is 'Forsa Ya Shabeb', an online platform for informing youth of opportunities for employment, scholarship and development in different themes including environmental and sustainability, and providing guidance on these opportunities.
- Arab Forum for Environment and Development (AFED) developed a comprehensive environmental education program and handbook. It provides all material needed to initiate environment activities at schools and incorporate environment in the curricula, supported by graphics, documentaries, songs and plays, all available online. AFED program includes developing curricula at the national levels and teacher training workshops. AFED Environmental Education Handbook: Environment in Schools is an environmental education handbook. It provides updated information on major environmental topics, and targets 12-18 age group, through training teachers. <http://www.afedonline.org/en/>
- The International Center for Agricultural Research in the Dry Areas (ICARDA) develops training workshops and specialized intensive short courses, designed for researchers, scientists and technicians, focusing on various environmental themes including agricultural adaptation to climate change, water harvesting, and the use of Geographic Information Systems (GIS) for climate change modeling.
- Some schools developed a professional development department for teacher training. Activities include weekly workshops for training teachers on applying active learning strategies in the classroom;

organizing a Sustainability Fair with interdisciplinary projects and workshops on education for sustainability.

- Al Manar Modern School applies strategy of problem-oriented project based learning in science education. A recent student project was the Urine Power Generator done by grade ten students. They used the renewable resource of human urine to produce electricity. This project was patented by the Lebanese Ministry of Industry and it was selected by Ford Motor Company Conservation and Environmental grants to be funded in order to be implemented in school in a higher scale, thus making the school a Model school for ESD. The school is also in the process of integrating environmental education to enhance students' environmental knowledge, skills, and attitudes with extra emphasis on the ecosystem of Pine Forests. Environmental education is to be integrated in Languages, Math, Sciences, Social Studies, Arts, and Music in gradually in all cycles.

<http://almanarmodernschool.com/>

- Makhzoumi Foundation develops several education and training workshops and courses and several climate change and ESD awareness workshops in different regions. These projects include school activities such as tree-planting and beach cleaning, agricultural activities such as raising awareness on the use of environmentally-friendly agricultural products, environmental seminars and pamphlets to raise citizen awareness, Arab youth activities to exchange experiences and lessons, programme on Lebanese youth as messengers for sustainability, and the Green Lands project for afforestation of Lebanon. <http://www.makhzoumi-foundation.org/>

- Safadi Foundation conducts various environmental projects, focused on the North of Lebanon. Its approach aims for individual and collective empowerment based on principles of social responsibility and social integration through participatory learning. It conducts various awareness-raising and hands-on activities focused on enhancing life skills and adaptability to change, and on innovation and teamwork. One of the best practices is the 'Environmental Police' initiative which seeks to promote environmental awareness and behavior among youth and communities <http://www.safadi-foundation.org/web/Arabic/profileA.php>

Palestine

At the national level, the Palestinian National Authority developed a comprehensive national plan as well as sectoral action plans to achieve sustainable development and to manage natural disasters and climate change. These plans have included various sectors such as education, health, agriculture, industry and trade and the environment. The Ministry of Education and Higher Education has developed the general education curriculum and included some concepts on climate change and sustainability; and has included climate change and general environmental issues into teacher training curriculum. At the level of youth and communities and continuous and lifelong learning, most initiatives are undertaken by international organizations in partnership or collaboration with the private sector, civil society and local NGOs. Several such initiatives have focused on linking programmes of vocational education to sustainable development.

Government and public sector initiatives:

- The Ministry of Education and Higher Education has worked to improve the Palestinian curriculum to meet the needs of the Palestinian society, and the curriculum contains many topics related to climate change and sustainable development. The Ministry also cooperates with local institutions for implementing programmes on first aid, emergency evacuation and response.
- The Ministry of Education and Higher Education has integrated environmental themes such as sustainable use of water resources and climate change into the academic curriculum and into the teacher training programmes, often in collaboration with local and international institutions. The Ministry also conducts training for coordinators and health committees on topics related to emergency evacuation and dealing with natural disasters.
- The Water Authority, Ministry of Agriculture, the Environmental Quality Authority and other national bodies each develop projects in schools to raise awareness amongst students about water preservation, often with involvement from local community representatives, parents, rural and municipal institutions and youth. The aim of these projects is to empower students in research and investigation and to promote relevant skills and attitudes for development. www.pwa.ps/english.aspx

- Government is strengthening the role of local authorities and municipalities to support the provision of learning opportunities for sustainable development, through partnerships between the Ministries of Education and local government; in order to build relationships to improve education and to organize educational activities such as scientific seminars and conferences where students, teachers and local communities are encouraged to find solutions to the sustainability challenges facing the community.

<http://www.mohe.gov.ps/default.aspx?AspxAutoDetectCookieSupport=1>

- Government collaborates with local partners such as the Ministry of Work and educational institutions and with international partners such as USAID and ILO to link vocational education and sustainable development programmes through human resource development, and to develop the academic curriculum through partnerships with trade and industry. Such partnerships involve various education and training institutions to provide students with the skills necessary for entry into the labor market.
- Several national training programmes intersect with the goals and concepts of sustainable development, such as through training of new teachers to hone teaching skills that will reflect positively on student learning and achievement, training teachers on the use of technology in various subjects to help achieve educational goals and keep pace with technological and scientific developments, and to enable teachers to use the subsequent technological applications in class, as well as training of teachers to improve comprehensive science education (SEED): this programme focuses on raising efficiencies of science teachers for grades (1-4) and improving the teaching methods used in science education.
- The 'Healthy and Environmentally-Friendly Schools Programme' was implemented by Ramallah Municipality in cooperation with the Ministry of Education and Higher Education, Ministry of Health, Environment Quality Authority and other organizations. The programme aims to promote health and innovative environmental activities in schools and encourage students to develop action plans on efficient water use, solid waste disposal, and increasing green areas. It also presents certificates and flag-awards for participating schools that succeed in applying the programme. The programme has

won the Kingdom of Saudi Arabia Award for Environmental Management, second place in the government sector category.

International organizations initiatives:

- Environment Quality Authority held a workshop on the integration of climate change in national development plans and policies, and discussed opportunities for national capacity development in order to raise the efficiency of the national planning process for environmental issues.

<http://environment.pna.ps/ar/index.php?p=home>

- The National Committee for Climate Change in collaboration with UNDP and other international partners and funders seeks to prepare a national two-year plan to build the capacity of key institutions and other partners on raising awareness about climate change and developing environmental laws and policies related to climate change.

<http://www.ps.undp.org/content/papp/en/home.html>

- Clima-South project, funded by the European Union, conducted workshops to enable the Palestinian Authority to improve the management of climate change issues by facilitating dialogue between the relevant stakeholders. The workshop was organized to train staff on the procedures to make the best use of financial support for climate change projects and on the medium and long-term strategies to address the effects of climate change in the relevant sectors, particularly water and agriculture.
- ILO developed a capacity building programme (2010) for directors and managers at the Palestinian Federation of Commercial, Industrial and Agricultural Rooms on sustainable development issues. The programme aimed to build consensus among the members of the Rooms and the private sector on a strategy for capacity development and growth of the Federation, and on needs assessment to improve the ability to provide business development services to the Palestinian business community, with particular focus on small and medium enterprises.

Private sector and NGOs initiatives:

- Several universities have programmes in the field of environmental and sustainable development, including

undergraduate degrees at the Palestine Polytechnic University, and graduate degrees at Birzeit University and Alnajah University.

- Birzeit University conducted a project on implementing various activities related to sustainable development and environmental management, such as rainwater collection and use for irrigation, reuse of wastewater after treatment, paper recycling, and thermal insulation of buildings. The project has won first place in the Kingdom of Saudi Arabia Award for Environmental Management, first place in the private sector category.
- The educational institutions cooperate with many national and regional institutions including: Queen Rania Teacher Academy / Jordan, Injaz Al Arab / Jordan and other Arab countries, Early Childhood Centre ARC / Lebanon, Technology Center/ Tunisia, and UNESCO Regional Bureau-Beirut, for designing and developing a training strategy focused on sustainability education for academic and administrative staff, which includes linking the ESD training programme with daily life practice, and facilitating the use of school facilities for intra and extra-curricular health and environmental activities.

Syria

The National Strategy Framework for Sustainable Development Five Year Plan (2011-2015) focuses on a participatory approach to development, through emphasis on collaboration across different sectors such as agriculture, electricity, social protection, environmental and disaster management. The Strategy covers nine strategic priorities on sustainable development, including education and development of human resources (with emphasis on raising awareness and inclusion of sustainable development matters and criteria in educational curricula). There are also some particular important initiatives and examples of good practice on CCESD and ESD conducted by international organizations focused on youth and teacher education. This study found only a few programmes that target civil societies, communities and life-long learning on CCESD, DRR and ESD more generally.

Government and public sector initiatives:

- The Supreme Council for the Protection of the Environment is the senior responsible public entity for the environment. It develops the vision, policies, national strategy and its plans and

programmes. It also develops environmental regulations and agrees on the environmental disaster contingency plans.

- The Ministry of Education collaborates with other public and private institutes for the implementation of strategies for raising awareness and enhancing education on sustainable development, such as integrating sustainability concepts into the school curriculum, capacity building for teachers and educators on ESD, organizing environmental programmes in the media, and the 'One Tree for Every Citizen' project.
- The Syrian Higher Council of Science holds annually a science seminar for one week in which various topics on development and environment are handled.
- Damascus University, in collaboration with UNESCO, prepared the ESD-Teacher Education Project: Guidelines to Integrate Concepts of Education for Sustainable Development in the Programmes of Faculty of Educational/Damascus University (2011). The ESD-Teacher Education Guideline was prepared under the UNESCO Project "Reorienting Teacher Curriculum towards Education for Sustainable Development. The guideline incorporated ESD concepts with clear focus on the economic, social and environmental dimensions of sustainable development, and emphasized the important role of the teacher in promoting students' educational skills and competencies. The guide also included ESD concepts in several courses and programmes of study in the College of Education/University of Damascus to help develop ESD plans in a manner consistent with the programmes and courses in the Syrian and Arab universities.
www.damascusuniversity.edu.sy/

International organizations initiatives:

- Reach Out to Asia (ROTA) aims to introduce formal and non-formal education in sustainable environmental behavior, targeting students and teachers from primary and secondary levels and from universities. The Environmental Education Initiative for Primary and Secondary Pupils in Syria (2010-2013) was carried out with several partners including the Sustainable Business Associates (SBA), Massar, the Syrian Environmental Association, and the country's Ministry of Education, to encourage children to learn

through environmental awareness and to introduce formal and non-formal education for sustaining ethical environmental behavior. Over 20,000 students and teachers from primary and secondary school levels and universities are expected to benefit from this programme, creating awareness towards more responsible and ethical environmental behavior.
www.reachouttoasia.org/

Private sector and NGOs initiatives:

- Universities such as Damascus University run courses and training programmes and seminars on various environmental issues including sustainability and climate change. Environmental subjects have also been introduced in schools curricula.
- The Syria Trust for Development develops educational and civic participation programmes for youth and communities on various environmental and developmental , often in collaboration with civil society, private sector and international organizations
<http://www.syriatrust.sy/>
- According to Syriatel's Corporate Sustainability Report (2009-2010), the telecommunications company seeks to invest in energy-saving telecommunications infrastructure and other infrastructure such as building and transport, and encouraging environment-friendly habits among stakeholders. It also plans to embed sustainability strategies within the fabric of Syriatel's operations, including procurement as well as customer service and education.
www.syriatel.sy/

4. Partners and Stakeholders

There are numerous partners and stakeholders undertaking different roles and initiatives on climate change (including disaster risk reduction) and sustainable development, although not all are directly and particularly involved with climate change education for sustainable development (CCESD). At the international level, key partners and stakeholders in the Mashreq countries include the following:

ESCWA; UNDP; UNESCO; UNEP; ILO; FAO; European Union; USAID; World Bank; Global Partnership for Education.

At the national level in each of the Mashreq countries, the main national ministries that play an active and leading role on CCESD are the Ministry of Education and Ministry of Environment.

Some examples of partners and stakeholders from national and local public institutions, private sector institutions, NGOs and international organizations are listed below as per the following categories: General Education (including TVET)– Higher Education – Life-long Learning:

General Education (including TVET)

- Princess Alia Foundation (Jordan)
- AlManar Modern School (Lebanon)
- Centre for Educational Research and Development
- Environmental Quality Authority (Palestine)
- Palestinian National Authority

Higher Education

- Al Muthanna University (Iraq)
- Centre for Educational Research and Development (Lebanon)
- Environment and sustainable Development Unit (Lebanon)
- Damascus University (Syria)
- Hashemite University (Jordan)
- Higher Council for Science and Technology (Jordan)
- Birzeit University (Palestine)

Life-long Learning

- Institute of Sustainable Development Practice (Jordan)
- Jordan Environment Society
- Queen Rania Teacher Academy (Jordan)
- Lebanon Eco Movement
- Arab Thought Foundation Youth Programme (Lebanon)
- Syrian Higher Council of Science
- Syria Trust for Development
- Lafarge (Iraq)

5. Developing Plans and Strategies on CCESD

i. Policy Planning and Programme Review

The national educational policies and strategies in most of the Mashreq countries, at both the general and higher education levels, often highlight the importance of enhancing education and learning opportunities to enable people and communities to manage the rising challenges from climate change and natural disasters and the transition to a green economy. However, most national education policies lack clear strategies and frameworks for developing and implementing CCESD (including DRR) in general education, higher education and life-long learning. The absence of guiding mechanisms can create challenges for the implementation of policies and for coordinating efforts on CCESD across different stakeholders.

It is therefore important to develop clear implementation strategies for integrating climate change education for sustainable development in general and higher education. This requires that governments of the Mashreq countries design frameworks that enable them to identify the key processes, strategies and steps for the systematic and coordinated integration of CCESD in national educational policies. It is also important to promote more coordinated collaboration between different partners and stakeholders on CCESD. Governments can revise existing institutional policies and programmes on CCESD and establish coordinating units that can enhance collaboration and partnerships across government-public sector, international organizations, and the private sector and NGOs.

Another important area of policy consultation is for climate-proofing the infrastructure of academic institutions in order to minimize risks of natural disasters and to improve the capacity of schools and universities to respond to regionally and internally displaced populations. Based on the findings of this study, most disaster risk reduction (DRR) initiatives are usually undertaken by international organizations; hence the need to build national capacities and mainstream DRR in future policies and institutions.

ii. Curriculum Development

In terms of curriculum development towards CCESD, existing educational and teaching programmes at general and higher education need to be revised and re-oriented to promote environmentally-ethical values and behaviors

and to incorporate the science, impacts and solution/management strategies on climate change. Addressing the causes and consequences of climate change requires participatory and innovative teaching and learning programmes that build capacity in society for mitigation, adaptation, and transformability.

Key suggestions entail the following:

- Incorporate CCESD into all different educational levels (primary, middle and secondary school, TVET, higher education) and teaching subjects;
- Integrate concepts of environmental ethics and values, global citizenship, investigative science, environment and technology into CCESD programmes and courses;
- Skills for transformability implies that education should not just focus on technical knowledge and skills but also foster skills for creativity, problem-solving, and social transformation towards sustainability;
- Focus on positive (optimistic) participatory and solution-centered educational approach;
- CCESD should be integrated based on the local culture and context;
- Encourage innovative teaching approaches to integrate CCESD through inter-disciplinary education, TVET and DRR education and hands-on practice based and problem-solving based;
- Incorporate e-learning and ICTs into CCESD programmes; and
- Develop adequate monitoring and evaluation systems with clear and contextually relevant indicators to the Mashreq countries, for continuously assessing, revising and improving existing and future CCESD strategies and programmes.

iii. Teacher Education and Training

Educators and teachers need to develop the adequate knowledge, understanding and skills on climate change education for sustainable development in order to deliver effectively in their classrooms and to help raise young generations that are ethical, environmentally-aware and empowered to manage climate change challenges and risks in their daily lives and jobs (literacy and employability).

Based on the findings of this study, many teacher training programmes on CCESD, ESD and general environmental education are undertaken by international institutions and local private sector and NGOs. It is important to

develop systematic national strategies for teacher professional development on CCESD through incorporating these concepts in teacher preparation programmes, pre-service and in-service teacher training. Teachers' guidebooks on CCESD could also be developed with provision of adequate training on their application in the classroom.

It is also important to hold national and regional consultations for discussing the opportunities and ideas for developing innovative teaching approaches on CCESD that are targeted particularly for teachers (innovation in education often focuses on 'youth' and students'). Innovative monitoring and regular evaluation of implemented teaching methodologies should also be developed for regularly updating these programmes to meet rapid transformations in current education and learning environments. Finally, the governments of the Mashreq countries need to develop the infrastructure for technologies and for incorporating e-learning and ICTs into teacher training programmes on CCESD.

iv. Programmes for Civil Society and NGOs (Life-Long Learning)

The study findings for the Mashreq countries indicate that the majority of the initiatives on climate change education for sustainable development for life-long learning usually consist of trainings that are of short duration, or one-off events with no adequate follow-up or monitoring and evaluation. There is a need for more systemized and institutionalized community awareness and empowerment programmes on CCESD and DRR.

It is important to strengthen partnerships and to coordinate efforts between the public and private sector and international institutions on life-long learning so that technical, human and financial resources are more efficiently employed for long-term impacts and enhanced resilience of communities. It is also important to ensure that CCESD and DRR initiatives in life-long learning are tailored to target specific community groups (e.g.: women, farmers, people with disabilities...). For example, it is recommended that education initiatives on CCESD and DRR be developed to enhance opportunities for people with disabilities to learn life-long sustainability skills necessary to face climate change impacts, natural disaster risks as well as professional work transformations towards a green economy. Other target groups for capacity building and training include climate change practitioners in the public and private sector on monitoring and modeling climate data and

climate change adaptation planning; farmers and workers in the agricultural sector on climate-resilient crops and water and resource management for climate change adaptation; as well as general public training workshops on DRR and emergency response to enhance capacities of citizens and communities in the Mashreq countries to respond to, and manage any potential climate-induced natural disasters. Finally, media awareness programmes on CCESD should be encouraged and invested in (by public sector in partnership with international organizations) with focus on diversity of media channels especially social media which can facilitate wide-scale engagement of youth and local communities.

6. Issues, Challenges, Opportunities

This section addresses the main challenges and opportunities for climate change education for sustainable development (CCESD) in the Mashreq countries, as based on the study findings and on the mapping of key partners and stakeholders.

Issues/Challenges:

- Non-coordinated public efforts and initiatives on CCESD;
- Difficulty of transitioning from general focus in schools on integrating environmental education rather than specific CCESD themes and skills;
- Generally, current focus is on enhancing students' environmental knowledge through introducing few concepts or activities, rather than a more holistic vision and strategy that includes environmental, social, and economic concepts and pillars of sustainability and that prepares students for the transforming job market;
- Lack of pre-service and in-service teacher training on CCESD and ESD;
- Poor mechanisms and procedures for follow-up on CCESD initiatives;
- Lack of availability of technical resources and of educational resources and learning material and tools in Arabic language;
- The Arab region (including many Mashreq countries) speaks three languages: Arabic, English, French; and
- Political and economic situation in transition.

Opportunities:

There are numerous opportunities for advancing policy and practice on CCESD in the Mashreq countries. CCESD could be anchored into the national strategies of education that these countries have developed, through designing policies that

support and guide the integration of CCESD into academic curricula and the development of indicator frameworks for setting and assessing learning outcomes. It is also important to design policies and strategies that enhance coordination and collaboration mechanisms on CCESD initiatives between different public, private, and international partners and stakeholders.

Several CCESD projects that engage with youth, climate change practitioners, and local communities could be expanded to other geographic areas or scaled up to the national level. Examples of such projects include the gender and climate change training course by IUCN and the Arab Women Organization for community-based organizations (Jordan); 'A Citizen's Guide to Climate Change' (Lebanon); 'Building capacity of government planners and policymakers for GHG inventory and action plans in response to UNFCCC communications obligations' (Lebanon); and community training initiatives by industries/corporate such as Lafarge (Iraq). Moreover, national governments of the Mashreq countries could build on the short-term workshops or projects initiated by international institutions such as ESCWA and UNDP for youth and local community training for green jobs, the transition to a green economy, and DRR in order to develop more consistent and long-standing programs for green jobs training and for natural disaster management.

In addition, several initiatives delivered important and wide-scale outputs through collaborations across public, private and international institutions, such as "Expanding Jordan's Green Collar Workforce: Career Pathways in Solar Technology, Worker Safety Management, and Water Quality Management" (Jordan); "Youth together towards sustainable development- towards patterns of sustainable living" (Lebanon); and the UNESCO ESD-Teacher Education Project (Syria). Such initiatives and collaboration mechanisms could be expanded or applied in other Mashreq countries to encourage multi-sectoral collaboration on CCESD.

Regional partnerships across different universities, such as CLIMASP and RUCAS, could also be expanded to include other universities in the Mashreq countries and Arab region generally, in order to widen the scope of opportunity for students and teachers in different fields and higher academic institutions to be educated on, and engaged with climate change and sustainable development learning opportunities.

In addition, Regional Centres of Expertise (RCEs) present important opportunities for enhancing collaboration amongst universities and local communities on CCESD, and it is recommended to establish RCEs in universities across the Mashreq countries.

Finally, the presence of teacher education and training institutions in some of the Mashreq countries presents an opportunity to integrate CCESD into such programmes in order to enhance teacher preparedness and competence to teach climate change in the classroom.

7. Conclusions and Recommendations

Climate change poses grave and long-term challenges to the Mashreq countries and it is important to advance policy and practice on climate change education for sustainable development. CCESD can empower the different stakeholders, including national governments and public authorities, industries and corporate, academic institutions (General, TVET, and HE) and local citizens and communities, to manage the impacts of climate change on their daily lives, health and well-being, and career prospects. There are several good practices across the Mashreq countries on CCESD that can be improved, scaled up, or expanded in the provision of adequate financial, technical and human resources and multi-sectoral and multi-stakeholder partnerships. National governments of the Mashreq countries can take the lead in guiding, coordinating and legitimizing CCESD initiatives in their countries and can be supported by the private sector and international initiatives.

Specific recommendations for general education (including TVET), higher education, and lifelong learning include the following:

- General Education institutions (including TVET) in the Mashreq countries could develop a whole-system approach to CCESD through: i) integrating CCESD into the curriculum in all teaching subjects at primary, middle and secondary levels; ii) linking the CCESD principles, concepts and practices being taught in the classroom to application on campus in order to encourage and promote experiential learning of the students. National governments can promote and facilitate such processes by: i) developing supportive policies and guiding strategies on CCESD integration into academic curricula; ii) developing and implementing pre-service and in-service teacher training programmes on CCESD; and iii) providing new technologies and ICT tools to support youth learning and employment, especially in TVET which is centered on technical skills and competences.
- Higher education institutions in the Mashreq countries need to focus on developing transformative skills for youth to build green societies and manage life-long risks from climate change (including DRR). It is recommended that HEIs collaborate with national governments and the

private sector to: i) identify and project current and future market needs and trends in the Mashreq countries; in order to ii) design mechanisms and strategies to revise and assess current HE majors and courses across different disciplines; with the aim of iii) developing CCESD programmes that address the economic, social, environmental and employment dimensions of climate change and build youth skills in systems thinking, critical and fore-sighted thinking, partnerships, technological competences, and innovation and eco-entrepreneurship.

- Life-long learning initiatives need to focus on green job training for existing professionals, practitioners and staff across different disciplines and economic sectors. It is recommended that national governments establish a committee or council for enhancing and coordinating the collaboration of national as well as local authorities such as municipalities with the private sector and with international organizations on their current initiatives in this field, in order to expand, extend or scale-up such projects and programmes beyond a specific time-line, geographic area or stakeholder group. Such coordinated collaboration should seek to achieve more systematic, consistent, long-standing and wide-reaching programmes on life-long CCESD education and training.

Finally, across all these recommendations, it is important that the key partners and stakeholders collaborate on developing monitoring and evaluation mechanisms and indicators of success to continuously measure and improve process and performance of CCESD integration into education and learning environments in the Mashreq countries. UNESCO-Beirut could play an important role in steering this process and providing expertise guidance and consultation.

References and Resources

References for Regional Initiatives:

Progreen Diploma <http://www.aub.edu.lb/pro-green/Pages/index.aspx>

Tempus www.tempus-lb.org/sites/default/files/3.pdf

Clima South <http://www.climasouth.eu/drupal/en>

EuroMed http://www.enpi-info.eu/mainmed.php?id=491&id_type=10

EuroMed DRR <http://www.euromedpprdsouth2.eu/ar/1-program/4-about-pprd-south-ii/>

Addressing climate change in the Middle East and North Africa region www.enpi-info.eu/mainmed.php?id=471&id_type=10

FSCWA “Capacity Development for Climate Change Negotiations for the Arab Countries” <http://www.escwa.un.org/escwanewsdetails.asp?id=19>

RUCAS <http://rucas.edc.uoc.gr/>

ICARDA <http://www.icarda.org/barley-livestock-systems/about-climate-change-awareness>

References for Country Initiatives:

IRAQ

Global Initiative Towards a Sustainable Iraq

<https://sustainabledevelopment.un.org/index.php?page=view&type=1006&menu=1348&nr=1536>

Iraq Humanitarian Strategic Response Plan <http://www.uniraq.org/PDFUN/Iraq%20-%20Strategic%20Response%20Plan%20SRP%20%202014%20-%202015.pdf>

World Bank Group Country Partnership Strategy

<http://www.worldbank.org/en/results/2013/10/04/iraq-investing-in-infrastructure-and-institutions-to-create-an-environment-for-sustainable-economic-revival>

UNESCO Iraq Office: "Training of Trainers in Teacher Education for Sustained Quality Education"

<http://www.cmaste.ualberta.ca/en/Outreach/TeacherEducation/UNESCOLessonsforIraqTeacherEdu.aspx>

USAID-Iraq Higher Education and Development for Archaeology and Environmental Health Research www.stonybrook.edu/usaidhead/

Lafarge http://www.lafarge-iraq.com/wps/portal/iq/en/7-Sustainable_Development

JORDAN

National Climate Change Policy (2013-2020)

http://www.io.undp.org/content/dam/jordan/docs/Publications/Climate%20change%20policy_JO.pdf

Institute of Sustainable Development Practice

<http://blogs.ei.columbia.edu/2012/01/11/enabling-change-training-development-practitioners-in-jordan/>

MDG Achievement Fund

<http://www.mdgfund.org/program/adaptationclimatechangesustainjordan%E2%80%99smdgachievements>

IUCN and the Arab Women Organization

http://www.iucn.org/news_homepage/all_news_by_theme/gender_news/?6012/Training-local-communities-on-gender-and-climate-change-in-Jordan

UNDP-Jordan

<http://www.io.undp.org/content/jordan/en/home/presscenter/pressreleases/2014/12/26/undp-celebrated-the-graduation-of-134-young-men-and-women-from-the-vocational-training-programme-/>

"Expanding Jordan's Green Collar Workforce: Career Pathways in Solar Technology, Worker Safety Management, and Water Quality Management."

<http://archive.hedprogram.org/ourwork/partnerships/JOR-2012-08-01.html>

LEBANON

CERD ESD projects <http://www.crdp.org/ar/details-edumagazine/127/2609>

Ministry of Environment- Outreach -- A Citizen's Guide to Climate Change
<http://climatechange.moe.gov.lb/outreach>

National Policy of Environmental Education
<http://www.afdc.org.lb/content/environmental-education-awareness>

UNDP projects
http://www.undp.org.lb/WhatWeDo/recovery_ar.cfm

http://www.lb.undp.org/content/lebanon/en/home/operations/projects/environment_and_energy/national-action-programme-to-mainstream-climate-change-into-leba.html

http://www.lb.undp.org/content/lebanon/en/home/operations/projects/crisis_prevention_and_recovery/support-to-pm-office---strengthening-disaster-risk-management-ca.html

UNDP-Lebanon Low Emissions Capacity Building Project
http://www.lb.undp.org/content/lebanon/en/home/operations/projects/environment_and_energy/lebanon_s-low-emission-capacity-building-project.html

The Environmental Management Plan And Guidelines For Reaching All Children with Education in Lebanon (R.A.C.E. Lebanon)
<http://www.mehe.gov.lb/uploads/file/Nov2014/06-EMP%20and%20Guidelines%20draft-2014%20RACE-revMS-DF.pdf>

UNESCO-Berytech partnership
http://www.unesco.org/new/en/unesco/events/all-events/?tx_browser_pi1%5BshowUid%5D=15975&cHash=3131c5090f

ESCWA Green Jobs Project
<http://www.escwa.un.org/information/meetings.asp?division=sdpd&condition=old>

AUB Nature Conservation Center

<http://www.aub.edu.lb/units/natureconservation/Pages/index.aspx>

NDU-WEERC www.ndu.edu.lb/research/weerc.htm

Balamand University-Institute of the Environment

<http://www.balamand.edu.lb/Academics/CentersInstitutes/IOE/AboutInstitute/Pages/AboutIOE.aspx>

AFDC Environmental Education Policy

<http://www.afdc.org.lb/content/environmental-education-awareness>

SPNL projects <http://www.spnl.org/projects/search-project/>

AFED Environmental Education Booklet

<http://www.afedonline.org/en/inner.aspx?contentID=180>

PALESTINE

Palestinian Water Authority www.pwa.ps/english.aspx

Environment Quality Authority <http://environment.pna.ps/ar/index.php?p=home>

Climate Change Adaptation Strategy and Programme of Action for the Palestinian Authority http://www.papp.undp.org/en/newsroom/publications/pdf/other/climate_change.pdf

ClimaSouth Project <http://www.enpi-info.eu/>

EU-DRR workshops <http://www.enpi-info.eu/>

<http://www.enpi-info.eu/%D8%A7%D9%84%D8%B7%D8%A8%D9%8A%D8%B9%D9%8A%D8%A9>

UNDP project

<http://www.lse.ac.uk/researchAndExpertise/researchImpact/caseStudies/mason-palestinian-territory-climate-change.aspx>

SYRIA

National Strategy Framework for Sustainable Development Five Year Plan

file:///C:/Users/Mona/Downloads/270013_SYR_attachment_Ntionl%20Strtgy%20Fr_mwrk_2011.pdf

Reach Out to Asia project <http://www.reachouttoasia.org/en/project-detail/environmental-education-initiative-primary-and-secondary-pupils-syria>

UNESCO project http://www.unesco.org/new/en/unesco/events/all-events/?tx_browser_pi1%5BshowUid%5D=15975&cHash=3131c5090f

Syriatel http://www.syriatel.sy/sites/default/files/Upload/Corporate_Sustainability_Report_2009_2010.pdf

Annexes (1 – 2)

2. Number of Surveys Received per Country

<i>MASHREQ COUNTRY</i>	<i>NUMBER OF SURVEYS RECEIVED</i>
<i>IRAQ</i>	-
<i>JORDAN</i>	3
<i>LEBANON</i>	3
<i>PALESTINE</i>	2
<i>SYRIA</i>	-
<i>Total</i>	8

3. Mapping of Country/Sub-Regional CCESD Best Practices

Country	Engage with Youth and Communities إشراك الشباب والمجتمعات المحلية	Develop Partnerships for CCESD تطوير الشراكات حول التعليم في مجال التغير المناخي والتنمية المستدامة	Prepare for Disasters and Emergencies الاستعداد لمواجهة الكوارث والطوارئ	Building Green Societies through Green Job Training بناء المجتمعات الخضراء بواسطة التدريب على الوظائف الخضراء	البلد
Iraq	AlBadia Centre at Al Muthanna University http://eps.mu.edu.iq/	USAID-Iraq Higher Education and Development for Archaeology and Environmental Health Research SUNY at Stony Brook University www.stonybrook.edu/usaidhead/	United Nations Assistance Mission for Iraq developed the 2014/2015 Iraq Humanitarian Strategic Response Plan: The Strategy's 'Social Cohesion and Sustainable Livelihoods Objective 2 Resilience' http://www.uniraq.org/	Lafarge-Iraq adult training workshops http://www.lafarge-iraq.com/	العراق
Jordan	Institute of Sustainable Development Practice in Amman, Jordan in	Hashemite University/Faculty of Educational Sciences (lead institution), University of Jordan, American University of Madaba, and Jarash University	Millennium Development Goals (MDGs) Achievement Fund in collaboration with national and	Partnership (2011-2014) between Red Rocks Community College (U.S.), Al Huson University College and Al Balqa Applied University	الأردن

	<p>collaboration with the Earth Institute at Columbia University organized a series of trainings to policymakers and development practitioners in the region</p> <p>http://blogs.ei.columbia.edu/2012/01/11/enabling-change-training-development-practitioners-in-jordan/</p> <p>Jordan Environment Society Recycling Programme</p> <p>Queen Rania Teacher</p>	<p>in Amman developed academic diplomas on CCESD</p> <p>http://hu.edu.jo/faculties.aspx</p>	<p>international partners: Joint Programme: "Adaptation to climate change to sustain Jordan's MDG Achievements (2009-2013)</p> <p>http://www.mdgfund.org/program/adaptationclimatechangesustainjordan</p>	<p>(Jordan): "Expanding Jordan's Green Collar Workforce: Career Pathways in Solar Technology, Worker Safety Management, and Water Quality Management."</p> <p>http://archive.hedprogram.org/ourwork/partnerships/JOR-2012-08-01.html</p>	
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	Academy (QRTA) programmes for training teachers and educators on climate change http://www.qrta.edu.jo/				
Lebanon	Ministry of Environment developed an educational booklet: 'A Citizen's Guide to Climate Change' http://climatechange.moe.gov.lb/outreach UNESCO Regional Bureau-Beirut in partnership with Berytech organized a	National Policy of Environmental Education in Lebanon: partnership between Ministry of Environment, Ministry of Education and Higher Education, Educational Center for Research and Development (CRDP), Association for Forests, Development and Conservation (AFDC), Hanns Seidel Foundation www.afdc.org.lb/	The Unit of Disaster Risk Management and UNDP organized a workshop (2015) on "Building Media Capabilities for Disaster Risk Reduction" http://www.lb.undp.org/content/lebanon/en/home.html	ProGreen Diploma - Online Joint/Dual Professional Diploma in Green Technologies http://www.aub.edu.lb/units/masri_institute/researcheducation/Pages/progreenproject.aspx A workshop was organized by ESCWA, ILO and UNDP to launch 'Green Jobs' project in the Arab region. The workshop focused on 'the transition to a green economy and promoting	لبنان

	2-day workshop (2013) on “Youth Innovation, Social Inclusion and Social Responsibility of Arab Entrepreneurs at the Time of Climate Change” www.unesco.org/			jobs and new skills for Arab youth' www.escwa.un.org/	
Palestine	Ministry of Education developed programs on sustainable hydration issues and climate change in the teacher training curriculum Environment Quality Authority holds workshop on the integration of climate change in	Educational institutions cooperate with national and regional institutions including: Queen Rania Teacher Academy / Jordan, Injaz Al Arab / Jordan and other Arab countries, Early Childhood Centre ARC / Lebanon, Technology Center/ Tunisia, and UNESCO Regional Bureau-Beirut, for designing and developing training strategy focused on sustainability education for	Programme of prevention of, preparedness and response to natural disasters and disasters caused by human activity, funded by the European Union, organized workshop to assist partner countries to prepare and organize international requests for assistance in the	Government collaborates with local partners such as the Ministry of work and educational institutions and with international partners such as USAID and ILO to link vocational education and sustainable development programs through human resource development, curriculum development. (Country Report, Sept. 2014)	فلسطين

	national development plans and policies http://environment.pna.ps/ar/index.php?p=home	academic and administrative staff (Country Report, Sept. 2014)	event of a natural disaster. www.enpi-info.eu/		
Syria	Syria Trust for Development develops educational and civic participation programmes for youth and communities http://www.syriatrust.sy/	The Environmental Education Initiative for Primary and Secondary Pupils in Syria (2010-2013) was carried out with partners the Sustainable Business Associates, Massar, the Syrian Environmental Association, and the country's Ministry of Education		UNESCO & Damascus University prepared a guide including ESD guidelines for teacher preparation programs: UNESCO ESD-Teacher Education Project - Guidelines to Integrate Concepts of Education for Sustainable Development in the Programmes of Faculty of Educational/Damascus University www.damascusuniversity.edu.sy/	سورية

