



REGIONE AUTÓNOMA DE SARDIGNA
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34EBM



National Workshop

ورشة عمل وطنية

شراكات المشاريع والتشاور لتحديد أولويات التدريب في إدارة الموارد البحرية والساحلية في العقبة، الأردن

Synergy and Stakeholders Consultation for Identification of Priority Training Needs in the Coastal and Marine Ecosystem Resources Management in Aqaba, Jordan

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Synergy and Stakeholders Consultation for Identification of Priority Training Needs in the Coastal and Marine Ecosystem Resources Management in Aqaba, Jordan
UNDP & JREDS in Collaboration with the Aqaba Special Economic Zone Authority
July 7th - 08th 2021, Aqaba, Jordan

Background

The Mediterranean Forum for Applied Ecosystem-Based Management (MED4EBM) is a partnership project funded by ENI CBC MED Program 2014-2020, under the Thematic Objective B.4 (Environmental Protection, Climate Change Adaptation and Mitigation), particularly Thematic Priority B.4.4 (Incorporate the Ecosystem-Based Management Approach to ICZM in Local Development Planning).

MED4EBM endeavours to introduce an innovative computerised tool that simplifies handling the complex and inter-crossing ICZM issues, following an indicator-based, and participatory approach. This will lead to develop a highly informative Decision Support System (EB-ICZM-DSS) and an effective EB-ICZM Implementation Protocol (EB-ICZM-IP). The Project will help wide-spreading EBM in the Mediterranean and other coastal and marine ecosystems adhering to the UN Environment Regional Seas Program. MED4EBM Project priorities include enhancing capacities of various stakeholders and institutional actors involved in the management of coastal and marine areas, and at establishing a cooperation and coordination platform for effective implementation of Ecosystem Based Integrated Coastal Zone Management (EB-ICZM). Governments and other ICZM stakeholders can benefit from this platform to make informed decisions on planning and managing coastal resources and achieve effective coordination on the ground.

Objectives

The workshop objective was to establish synergy and linkages between projects and the competent management bodies in the field of coastal and marine ecosystem resources management in Aqaba, Jordan; and to identify potential collaboration and coordinated delivery of training and capacity building. This is to be based on the different projects' specific objectives and identified training needs through stakeholders' consultation. The overarching goal of this initiative was to enhance the training package quality and quantity as delivered through multiple projects and foster its sustainability through nesting it at the Aqaba Special Economic Zone Authority and other competent management entities to continue as a common management practice.

Theory

MED4EBM Project includes a rich training and capacity building component that includes:

- Institutional capacity building for the Partners and other Competent Coastal and Marine Resources Management Bodies
- Capacity building for human resources of entities identified in the first Bullet



- Capacity building for the community / local beneficiaries on the various aspects of marine and coastal resources management

Training under the Project also consists of two types

- Specific training on the Decision Support System (EB-ICZM-DSS) and the EB-ICZM Implementation Protocol (EB-ICZM-IP).
- General training and capacity building on the various elements in coastal and marine resources management

While the first type of training is specific and needs to be delivered by the MED4EBM technical team established for this purpose, the second type of training can be in the common interest of numerous Projects and Initiatives concerned with the coastal and marine resources management. Synergy between such initiatives and coordinated delivery of the training and capacity building may result in more effective, higher diverse and further sustainable impact. To this effect the MED4EBM coordinated with the Aqaba Special Economic Zone Authority, which is the autonomous governing authority in Aqaba and invited as many initiatives as possible to participate in the Workshop (Annex I. Workshop Agenda). A short online session has been included to which the ENI CBC MED Joint Technical Secretariat (JTS) and all Focus B 4.4 projects have been invited.

With this set up of synergy and stakeholders' consultation the workshop achieved effective participation, interaction, and identification of a good number of training needs considered by the participants of high priority in coastal and marine resources management. Participants in the workshop spanned a wide spectrum of coastal and marine resources actors including government authorities, surveillance and security, scientific, industry, ports and shipping, tourism, NGOs and local occupations in fishing, diving and glass boats services.

Proceedings

The workshop was conducted over two days Wednesday and Thursday, July 7th – 8th 2021 and proceeded as follows:

Welcome & Opening Address

Welcome remarks have been made by Mr. Mohammad Tawaha Acting Executive Director - Marine Environment Program Manager at JREDS and Dr. Mohammad Badran MED4EBM Project Coordinator.

Opening Address has been given by H E Mr. Soleiman Al Njadat Environment and Natural Resources Commissioner at the Aqaba Special Economic Zone Authority, who also welcomed the participants and wished them a pleasant stay in Aqaba. The opening address stressed the importance of international collaboration to Jordan in general and to the Aqaba Special economic Zone Authority (ASEZA) in particular. ENI CBC MRD Regional Office is hosted by ASEZA and there is strong collaboration between



ASEZA and the Program. ASEZA welcomes the initiative of organising the present workshop as it joins a good number of projects that have activities in Aqaba or whose activities and outputs might very well link to marine and coastal marine resources management in Aqaba. It is essential that the different projects share information and complement each other rather than working in isolated islands. The Ecosystem based management tool introduced by MED4EBM Project is of significant interest to ASEZA and can effectively help in achieving and documenting the necessary networking between projects and management entities. The tool will be adopted by ASEZA and managed under its influence. Training and capacity building are instrumental in projects' adequate implantation and sustainable outputs. H E Mr. Al Njadat concluded his opening address by wishing the participants fruitful discussions and emphasizing the importance of synergy between projects, particularly in training which leads to enhanced training quantity, quality and sustainability.

ENI CBC MED Presentation

Workshop deliberations started with an introductory presentation on ENI CBC MED Program delivered by Mr. Mohammad Al Hammoury on behalf of the Regional Office Coordinator Dr. Ismat Karadsheh. The presenter discussed the historical development of the ENI CBC Med pointing out that it started in 2007 and continued with continuous monitoring and revision for regular enhancement towards achieving the Program's objectives. The program is currently based on four Thematic Objectives and eleven Priorities targeting the main socio-economic and environmental challenges of the Mediterranean region. The presenter discussed the geographic coverage of the Program which through the eligible regions and adjoining regions covers most of Europe in addition to the southern Mediterranean countries, Jordan included. ENI CBC Med gives special importance to training and capacity building as this is considered investment in the human resources that may lead the development. The presenter explained the Program's decision making process pointing out that there are two regional offices one covering the eastern Mediterranean countries hosted in Jordan and the other covering the western Mediterranean countries hosted in Italy. Projects selection for support is very competitive and only distinguished projects may find their way to get the support. The process is very transparent and very well communicated to potential applicants through a dedicated web site and social media. This transparency and effective communication policy also reflect on the supported projects themselves as the projects are required to apply high transparency and efficient communication standards.

Mediterranean Forum for Applied Ecosystem-Based Management (MED4EBM)

MED4EBM Project presentation was delivered by the Project Coordinator Dr. Mohammad Badran. The presenter started by highlighting the importance of the present event as one of the MED4EBM activities. The Project endeavors to introduce an effective management tool that can be used by all actors concerned with the coastal and marine resources in Aqaba. The Project has activities in four marine and coastal regions with some common challenges in management despite the different natural settings. While three out of the four regions are estuaries on the Mediterranean Sea witnessing river – sea interaction and encompassing wetlands, the fourth region is in Aqaba on the Red Sea, where no regular rivers exist and



even the rainfall is very low resulting in almost no seasonal rivers in the area. While the three regions on the Mediterranean enjoy typical sandy beach Mediterranean habitats the fourth region in Aqaba is mainly rocky and enjoys flourished highly diverse coral reef habitats.

As indicated above in the theory section of this report MED4EBM is about training and capacity building. Specialized training concerning the computerized management tool is designed by the Projects Technical Team and conducted through stakeholders' participatory workshops. The other type of training and capacity building, which is more general and may cover any issue in the coastal and marine resources management is identified through stakeholder's consultation. The present workshop is an example of this consultation process.

The Mediterranean as an Innovative, Integral and Unique Destination for Slow Tourism Initiatives (MEDPEARL)

The MEDPEARL Project presentation was delivered by the Project Manager Ms. Lamees Al Shakhshier. The presenter explained the concept of Slow Tourism, which is a kind of ecotourism and targets extending the stay of the tourist in its areas of activity by getting the tourist engaged in activities with the local community sharing the locals their daily life routine. The project's Objectives are to enhance sustainability through attracting tourism to areas less popular not known as major tourist attractions; overcome seasonality trough developing tourist attractions all the year around; Diversifying through advocating of slow tourism principles, getting new stakeholders involved and enhancing the natural and cultural heritage values; innovation through introduction of numerical technologies developed by SMEs; and local communities development through engaging SMEs and locals in direct development of slow tourism products. The project follows a highly interactive approach, where it will help in studying the markets and developing competitive products. The project has two target areas in Jordan, both are characterized as agricultural rural areas. Intensive training and capacity building will be providing in the two areas capitalizing on the cultural and natural heritage present. One of the two areas, Dir Alla, is known for its palm trees, which are also widely spread in Aqaba. Capacity building and support to SMEs in Dir Alla could be copied for the local community in Aqaba. Also, slow tourism principles in general could be beneficial in Aqaba, through collaboration with the traditional occupations in fishing, diving and glass boat services. Products of these occupations could be enhanced to include longer stay of tourists sharing practitioners of these occupations parts of their daily routines valuing the cultural dimension of their work.

Development and Promotion of Mediterranean Sustainable Adventure Tourism (MEDUSA)

The MEDUSA Project presentation was given by the Project Manager Ms. Lina Khaled. The Project, like MEDPEARL represents another type of ecotourism but focusses on a different angle. MEDUSA targets higher visibility of less-known destinations and enabling local communities to generate and improve adventure tourism products, resulting in new job opportunities, especially for women and youth. The project also targets more even distribution of tourist streams in terms of seasonality and geographic locations. The Project focusses on inclusion of local communities in the tourism business, and observing



the environmental footprint of tourism activities through safeguarding biodiversity, wildlife, natural resources, and rural communities. The Project activities in Jordan have been highly observed. The Project had an original plan of establishing local councils of adventure tourism at the level of governorates. This has been replaced by a National Council to secure broader coverage. Diving adventure tourism was not in the scope of the Project. Through discussions, the opportunity of including diving in the domain of SMEs eligible for support by the Project has been considered. Diving is not the only element of adventure tourism that might be identified in Aqaba, hiking might also be considered. Employing these features of the terrestrial and marine natural settings in Aqaba, several stakeholders proposed preparing a joint project application with MEDOSA and MEDPEARL Teams for the upcoming call of ENI CBC Med Program.

Cultural Routes for Sustainable Social and Economic Development in Mediterranean (CROSSDEV)

The CROSSDEV Project has two partners in Jordan the Jordan University of Science and Technology (JUST) and the Royal Marine Conservation Society of Jordan (JREDS). The two project partners had one presentation delivered by the Project Manager at JUST Dr. Ahmad Fraiwan. The general objective of the project is to contribute to the economic and social development in the Mediterranean, strengthening and enhancing sustainable tourism practices, emphasizing common heritages and resources. The specific objectives include increasing attractiveness of less known touristic destinations in Mediterranean areas in terms of economic, income generating and job opportunities as well as social inclusion; and diversifying the tourism offer with niche territorial assets through developing new sustainable tourism products. The Project approach builds on cross border experience sharing for developing and marketing the generated sustainable tourism products, thus widening to the maximum extent possible the economic benefits for the local communities. The Project has two areas of focus in Jordan: less popular cultural and historical sites close to Aqaba south of Jordan and the cultural site of Aum Qias in the north. The project will benefit micro and small businesses, local guides, farmers, food and handicraft manufacturers, tourism managers, tour operators, public authorities, civil society organizations and the local communities at the two locations, in addition of course to the benefits that will be gained by the visiting tourists.

Gamification for Memorable Tourist Experiences (MED GAIMS)

The MED GAIMS Project presentation was given by the Project Manager Dr. Ahmad Fraiwan. The Project focusses on job creation through self-employment and start-ups, for both high technological and low-skilled manual, organizational individuals. The project heavily relies on the local communities to conceptualize and implement games to create new employment / business opportunities. Young people, women and local SMEs are highly encouraged to get involved. Through this approach intimately connected with the local communities, MED GAIMS Project influences the improvement of tourism standards at its target destinations offering enhanced experiences tested at the cultural level, fostering the exploration of more sites, longer stays and repeated visits. The Project has good potential in Aqaba. Culturally rich and environmentally friendly games related to the coastal and marine ecosystem could be brought in. This can be based mainly on the traditional local occupations: fishing, diving and glass boat



services. This may span catch and return tournaments, underwater games, underwater drawing and photography both through diving and from glass bottom boats. The MED GAIMS Project presentation completed a set of four presentations focusing on different angles of ecotourism and opening a wide scope for networking and future collaboration in developing non extractive alternative livelihoods related to the coastal and marine natural resources for the local community in Aqaba.

Nexus-Driven Open Labs for Competitive and Inclusive Growth in the Mediterranean (NEX-LABS)

The NEX-LABS Project presentation was delivered by the Project Manager Dr. Mohammad Al Jafary. The presenter started by explaining the concept of WEF NEXUS which stems from the realization that water, energy and food (agriculture and natural ecosystems) exhibit strong interlinkages, and that under a traditional sectoral approach, attempting to achieve resource security independently often endangers sustainability. Under the Nexus approach, interlinkages, synergies and trade-offs are analysed, with the aim of identifying solutions, fostering water-food-energy security and efficiency, while at the same time minimising impacts on water-dependent ecosystems. The Projects approach is to create value from scientific research and development through commercialization and capitalization which create economic opportunities. Economic incentives provided by an active, valorizing ecosystem is a key factor in the process. A demonstrative example of this, is making gains by betting on innovation. National or multinational interventions stepping in to support ecosystem development or pay an active ecosystem part is also instrumental through direct funding and networking. A WEF Nexus approach seeks to exploit synergies and positive tradeoffs. In principle these are technical / technological consideration requiring a measure of research to explore new opportunities. Opportunities of gains naturally represent commercial opportunities through lower costs, increased yields and open markets. Harnessing an entrepreneurial, agile private sector can shorten the path between research outputs and societal gains. Focusing on entrepreneurship as a key driver may therefore represent a shortcut to achieving development goals while generating wealth. Facing the present challenges, SMEs are losing competitiveness, leading to a predominance of survivalist companies. NEX-LABS intends to change this trend and generate a mid-term impact through implementing integrated NEXUS technologies in the agri-food sector, complemented by products, services and programmes to boost linked businesses. Besides, the project will enhance a job bank repository oriented to younger audiences in Mediterranean Partner Countries to match offer and demand of employment related to the NEXUS technologies. Implementation of the WEF Nexus approach in Aqaba may go beyond freshwater challenges and target opportunities in the coastal and marine ecosystem natural resources.

Projects of the University of Jordan / Aqaba Branch and the Marine Science Station

The presentation of Projects of the University of Jordan Aqaba Branch and the Marine Science Station was given by Dr. Mohammad Wahsha. The five projects have been presented, three of them have been completed and are out of the scope of this report and two are ongoing, which will be highlighted below.



Best Rapid Environmental Assessment Decision System (Be-Ready)

The project endeavors to develop an Environmental Decision Support Tool (EDSS) in the case of an oil spill. The Project is supported by the European Commission. It is based on developing a risk assessment software for oil and NHS (Noxious and Hazardous Substances) early warning and a prediction model for the spread of oil and NHS in the case of a spill incident. Once developed the model could be commercialized globally. Inputs in the model are the physical and biogeochemical conditions in addition to the atmospheric conditions and the type of oil or the NHS in the spill. Be Ready has several characteristics common with MED4EBM. Both Projects are about developing a computerized Decision Support System and in the two Projects the software is developed by an Italian Partner. This represents a strong opportunity for integration and mutual benefits. The role of the Jordanian Partner in Be Ready is collecting environmental data, which is in the core interest of MED4EBM Project.

Desalination, Diplomacy and Water Reuse in the Gulf of Aqaba (DDWGA)

The project stems from the increasing scarcity of water resources and targets spreading awareness of the issue and improving the culture of water saving, water harvesting, water reuse and desalination as an ultimate long-term alternative. It is supported by the Institute for Water Education of DELFT University (UNESCO – IHE) Netherlands. The Marine Science Station receives technical assistance in terms of equipment and capacity building to perform specialized seawater quality tests targeting performance efficiency of reverse osmosis water desalination systems. Synergy with MED4EBM is very highly likely as desalination is a serious issue that will soon be in the core of coastal marine resources management. Safe and sustainable seawater desalination is essential for Jordan's water security.

Projects of the Jordanian Maritime Commission (JMC)

Presentation of the Jordan Maritime Commission was delivered on behalf of the General Manager Eng. Mohammad Salman by Eng. Qais Al Shaimat Head of the International Collaboration Division. The presenter discussed the role of the JMC in regulating the ports and shipping activities in Jordan highlighting their efforts in the maritime safety, security, efficiency, and environmental protection. JMC is Jordan's focal point in all IMO maritime international conventions. They are active in the European Mediterranean ports initiatives and enjoy good collaboration relationships in this domain. Currently running projects include:

- Glofouling, which is a Global project joining 12 countries around the world handling the issue of invasive species associated with shipping and maritime activities. The Project is GEF funded UNDP and IMO implemented. Worth mentioning that previous discussions have taken place between the Glofouling Project Manager and MED4EBM Project Coordinator. There has been consensus that synergy between the two projects might be established on the basis that Glofouling benefiting from the information collected by MED4EBM through the database and decision support system and MED4EBM benefiting through including the training material developed by Glofouling in the Training Package delivered in its Target Areas.



- Study on Ships Fuel Quality and cutting Green House Emissions in compliance with MARPOL Convention, Annex 6. The Project is carried out in collaboration with the European Maritime Safety Agency (EMSA).
- Updating the National Contingency Plan for Preparedness and Response to Oil and Noxious and Hazardous Substances Spills. This is also carried out in collaboration with EMSA.

In synergy and training priorities the presenter identified: enhance skills for early warning of oil spills and collaboration with CleanSeaNet, enhance the national capabilities for effective implementation of MARPOL Convention, particularly in maintaining adequate reception facilities, enhance collaboration between private ports management and competent authorities to adopt green ports management policies

IUCN West Asia Regional Office Focus on Marine and Coastal Ecosystem Conservation

IUCN Presentation was given by Director of the Regional Office IUCN ROWA Dr. Hani El Sha'er. The presenter discussed the IUCN ROWA Program, which consists of Protected Areas and Biodiversity; Water and Climate Change; Drylands, Livelihoods and Gender; and Marine and Coastal Zone Management. He presented a rich number of Projects. Only those directly related to the Workshop's Objective are highlighted herein.

The MENA Region Initiative as a Model of NEXUS Approach and Renewable Energy Technologies (MINARET)

MINARET is a four-year regional project working in the MENA region focusing on Jordan, Lebanon and Tunisia. The Project's aim is strengthening regional cooperation within the MENA region through implementing NEXUS approach integrated with renewable energy technologies at municipality's level to mitigate climate change impacts and combat poverty. The project is designed to address the unique sustainability challenges and opportunities of the MENA region by applying the "NEXUS" approach, which increases local and regional sustainability capacities using the synergies between renewable energy technology and efficiency, water management and food security.

Market policy and Legislative Development for Mainstreaming Sustainable Management of Marine and Coastal Ecosystems in Lebanon

This project aims at creating an enabling integrated framework for sustainable management and conservation of coastal and marine biodiversity and at mainstreaming the priorities of this biodiversity into national plans, and coastal zone management plans. Particular focus of the Project is on the impact of climate change on marine and coastal biodiversity. The Project provides an opportunity to coordinate with regional initiatives to address gaps in assessments and seek sustainable and economically viable policy and technological options for the protection of key marine and coastal biodiversity to be included in coastal zone management plans, marine protected area plans and integrated into national plans.

Enhancing Socio-ecological Climate Change Resilience of Marine and Coastal Ecosystems in Lebanon

This Project objectives are to: Reduce the vulnerability of selected coastal towns in Lebanon, which are facing crucial sustainability issues, and improve Marine Protected Areas as Ecosystem-based Mitigation and Adaptation; Apply a mix of tools and approaches to enable key conservation functions, sustainable management of ecosystems, adaptation to climate change; Increase capacity to manage natural resources communally are the core issues of biodiversity / marine conservation and policy change.

The presenter shared the Table below of potential synergy and planned training activities. Clear in the Table is the focus on Protected Areas. A number of training opportunities are provided virtually, which allows for large numbers of participants and distance participation. The presenter concluded with a Project under development for the Planning of the recently inaugurated Aqaba Marine Reserve.

Training	Date	Project	Location
Systematic Conservation planning	August, 2021	PAN Palestine	Jordan
Integrated management of protected areas	Jan, 2022	PAN Palestine	Jordan
Comprehensive GIS Training	TBD	Effective management of wadi El Rayyan and Lake Qarun	Egypt
Introductory Remote Sensing Training	TBD	Effective management of wadi El Rayyan and Lake Qarun	Egypt
Protected Area management Planning	TBD	Effective management of wadi El Rayyan and Lake Qarun	Jordan
Training on developing clearing house mechanism CHM using Bioland	On-going	Monitoring and Documentation of Biodiversity in Kuwait	Virtual
Introductory training on Nagoya Protocol for stakeholders	July, 2021	Monitoring and Documentation of Biodiversity in Kuwait	Virtual
Designing and Facilitating Species Conservation Planning Processes	On-going	Market Policy and legislative development for mainstreaming the sustainable management of marine and coastal ecosystems in Lebanon	Virtual

Towards Low Carbon Footprint from Ecotourism Activities and Management Effectiveness of Aqaba Marine Reserve in Jordan

The Project is still in a developing stage. It focuses on enhancing marine biodiversity conservation while implementing low-carbon tourism in Aqaba, Jordan. This will be achieved by targeting two elements: high management effectiveness score of Aqaba Marine Reserve by using an adapted METT tool and updating management plans; and monitoring, managing, and reducing impacts of tourism by implementing a carbon monitoring system and evaluating the ecosystem carrying capacity to enhance tourism planning and management. The resultant outcomes of these activities will be utilized to guide the implementation of on-site low carbon interventions and develop a good practice ecotourism toolkit for the Jordanian sector of the Gulf of Aqaba to be adopted by ASEZA. This setting of the recently inaugurated Aqaba Marine Reserve and the development of this Project represent an ideal synergy and networking opportunity with MED4EBM to be enacted by ASEZA



Environmental Monitoring Programs at the Aqaba Special Economic Zone

The presentation was not delivered. The planned presenter had other commitments that prevented her from joining the workshop.

Activities Associated with the Aqaba Marine Reserve

The presentation was planned to be delivered by Director of the Aqaba Marine Reserve Mr. Abd Allah Abu Awali. He could not join the workshop for other commitments, but delegated Mr. Mohammad Al Tawaha to deliver the presentation on his behalf. Aqaba Marine Reserve as a legal entity has been declared in December 2020. However, the practice of dealing with a special part of the Jordanian sector of the Gulf of Aqaba as a protected area has been there since late 1970s when the Marine Science Station was established. Seven kilometers out of the 27 kilometers Jordanian coast have received this special management. In 1997 the area was declared as the Aqaba Marine Park. This has developed further in 2020 giving the area the official legal status of the Aqaba Marine Reserve. The area hosts a distinguishably rich diversity of a coral reef ecosystem interspaced with some seagrass beds and sandy bottoms. These mainly constitute mouths of dry valleys that flash flood occasionally. The Aqaba Marine Reserve still applies the regulations of the Aqaba Marine Park, and its staff still practice their previous duties, which comprise mainly of regular training and practice on enforcing Aqaba Marine Park regulations; organizing public awareness programs targeting the local communities and Aqaba visitors; sustaining the Tourists Centre facilities and keeping the Centre in service for educational and outreach purposes.

As moving from the Aqaba Marine Park to Aqaba Marine Reserve management needs considerable training and as the Aqaba Marine Reserve will apply participatory ecosystem-based management a list of training needs targeting 15 stakeholder groups have been suggested. These are: ASEZA (all concerned Directorates); Royal Navy; Aqaba Development Corporation; Industrial and Container Ports; Rangers "Royal Department for Environmental Protection; Universities and Research Centers at Aqaba; Hotels and Mega Residential and Touristic Developments; Aqaba Diving Association and Diving Centers; Fishermen and Fishermen's Associations; Glass Boat Operators and their Association; JREDS; RSCN; Jordan Maritime Commission; Aqaba Port Management and Operation Company / Prince Hamzah Pollution Control Center; Aqaba Port Marine Services Company. Training needs have been classified in six categories: office and writing skills; daily operational skills; Marine Spatial Planning; Data Collection and Analysis; Protected Area Regulation and Management; and Education and Outreach.

Citizen Science Principles in Monitoring for Ecosystem Based Management

The second day started with a presentation by MED4EBM Project Coordinator Dr. Mohammad Badran. The main purpose of including this presentation in the program was to illustrate that data for ecosystem-based management is very highly diverse and may come from very highly diverse sources, contrary to the misconception that data can only be generated by scientists and can only be found at universities and research institutes.



The presenter indicated that effective environmental and socioeconomic monitoring is a process that consists of three stages: identification of a problem; finding a solution including information management; and applying the solution. Citizen Science Principles can be effectively used in this type of monitoring. Citizen science; also known as community science, crowd science, crowd-sourced science, civic science, or volunteer monitoring is scientific research conducted, in whole or in part, by amateur or nonprofessional scientists (https://en.wikipedia.org/wiki/Citizen_science). Monitoring could be achieved by getting the information from published sources, entities that own the data and information, interviewing relevant persons, preparing questionnaires targeting different stakeholders, and by doing actual field measurements. Collecting the information must be for a valid reason and the needed information must be identified during planning. Safety of the people involved in the monitoring and integrity of the ecosystem monitored are fundamental. Information management is a crucial step as unorganized information will be difficult to retrieve and can be of little use if any. The widespread of databases and cloud data and information storage have made this easy. The presenter also discussed the mechanism of decision making. Monitoring of the monitoring process and accountability of the persons responsible for monitoring and applying the solutions derived from monitoring are instrumental in effective citizen science monitoring. Citizen science monitoring in whole from planning to decisions taking and implemented must conform with the prevailing laws and regulations.

Role of the Royal Navy in Environmental Protection Through Monitoring and Surveillance of the Jordanian Maritime Jurisdictions

The presentation was given by L. Colonel Omer Ataiwy. Before starting with his presentation, the presenter emphasised some highly important elements concerning workshops and community work in general. These will constitute a significant part of the recommendations of the present workshop. They relate to take home message, outputs documentation and follow up, setting standards to be observed during monitoring, outreaching individuals, and monitoring their behaviour for improved ecosystem health and management, and maintaining the delicate balance between environmental protection and the socioeconomic needs.

The presenter L. Colonel Ataiwy highlighted the historical development of the Jordanian Royal Navy and the continuous modernising of the tools and equipment they use in performing their duties. The main duty of the Royal Jordanian Navy is to defend Jordanian maritime territories; maintaining sovereignty and enforcing national regulations and international conventions pertinent to the Jordanian maritime jurisdictions on the Gulf of Aqaba and the Dead Sea. In addition to the military duties the Royal Jordanian navy has a number of civil responsibilities in helping the public and protecting the marine environment. Amongst these are fire fighting in the Jordanian maritime jurisdictions, rescue and salvage, preventing smuggling and illegal border crossing, chemical security, monitoring and surveillance of fishing and pleasure boats including those that move in and out of touristic marinas, monitoring and surveillance of diving activities, participation in environmental protection efforts through prevention of environmental violations, supporting cleaning and restoration efforts, and participation in public outreach activities.



Online Session with ENI CBC MED Focus B 4.4. Projects Partners

The session has been planned as a seed for a larger event to be conducted in presence in Aqaba in early winter 2022. It aims at synergy and networking with Projects having activities in Aqaba Jordan, and with ENI CBC MED Focus B 4.4 Projects. Nine Projects have been invited to the online session. These are: MED4EBM, COMMON, Co-Evolbe4BG, Med Pearls, MEDUSA, NEX-LABS, CROSSDEV, MED GAIMS and Projects of the University of Jordan. The invited projects have been selected based on two criteria: first ENI CBC MED Focus B 4.4 projects and second Projects whose activities in Jordanian relate to the coastal and marine ecosystem in Aqaba. Nine Projects have been invited to the online session. These are: MED4EBM, COMMON, Co-Evolbe4BG, Med Pearls, MEDUSA, NEX-LABS, CROSSDEV, MED GAIMS and Projects of the University of Jordan. The JTS and the European Commission in Amman have also been invited. The invited projects have been selected based on two criteria: first ENI CBC MED Focus B 4.4 projects and second Projects whose activities in Jordanian relate to the coastal ecosystem in Aqaba. All invited Projects participated in the session despite of a multiple e-mail address confusion that resulted in COMMON Project Lead Beneficiary not seeing the invitation in time. This was covered by one of MED4EBM Partners who is also a Partner in COMMON.

The entire session took one hour divided in five minutes interventions. It started with a welcome address by ASEZA, which is the autonomous governing body of Aqaba, delivered by Dr. Aiman Soleiman on behalf of HE the Commissioner of Environment and Natural Resources Mr. Soleiman Al Njadat, followed by a welcome by the ENI CBC Med Regional Office Coordinator Dr. Ismat Karadsheh. Both welcome addresses expressed their high interest in the workshop and the idea of the short online session. Both emphasised the importance of synergy between Projects and the focus on the human dimension of Projects implementation demonstrated by quality training and capacity building. The invited Projects then had brief interventions not exceeding 5 minutes each. Speakers joining from overseas were given the priority to talk starting with Marco Falcetta speaking from Italy on behalf of MED4EBM, followed by Béchir Béjaoui speaking from Tunisia on behalf of Co-Evolbe4BG, then Nahed Msayleb from Lebanon speaking on synergy between COMMON and MED4EBM being a Partner in both projects. This was followed by interventions of Projects present in the workshop hall. The Projects interventions contained a short introduction of the respective Project pointing out its objectives and an outline of its domain in relation to the coastal and marine ecosystem natural resources / coastal and marine ecosystem goods and services. A closing address was given by the Environment and Climate Change Director at the European Commission in Amman Mr. Omer Abu Eid, who also expressed his welcome of the idea of the workshop and the inserted online session. He also emphasised the importance of synergy and training in the European initiatives that result in stronger and more sustainable impact of the Projects.

Industry and Industrial Ports Sector

The industry and industrial ports sector presentation was given by Mr. Abd El Wahhab Al Sheyab, Safety and Environmental Officer at Aqaba Containers Terminal (ACT). The presenter started with an introduction on ACT activities and moved directly to the Company's environmental policy. ACT is the



first Mediterranean Port outside Europe to get the Eco-port certification. This has not been achieved without effort. The company applies strict environmental protection standards concerning all possible types of pollution: oil, chemical and radiological contamination, solid waste with specific emphasis on electronic waste, biological contamination (invasive species in ballast water and ship hulls), air pollution and minimising the carbon print, special handling of hazardous wastes, regular cleaning of the seabed at their site and participation in cleaning campaigns along the entire Jordanian sector of the Gulf of Aqaba, and implementing a regular monitoring program of the seawater and seabed physical, chemical and biological indicators. Results of these monitoring activities are available, and arrangements could be made to have them shared with interested stakeholders. The company also organises regular environmental awareness campaigns to its employees and participates in broader environmental awareness campaigns with other coastal enterprises.

On the training needs the presenter indicated four priorities: specialized environmental awareness sessions on specific topics delivered to ACT employees by the Projects participating in the workshop; enhancing the environmental monitoring value of the beach cleanup and dive cleanup inside ACT with involvement of the local community; regular visits by ASEZA, other competent authorities and coastal enterprises high level officers to ACT to enable demonstrating ACT's efforts in support to the Coastal and Marine Ecosystem, which may help duplicating ACT's experience at other coastal enterprises; support and training of some environmentally active employees from ACT on the technical aspects of protection of the Coastal and Marine Ecosystem.

Touristic and Residential Mega Projects Sector

The presentation of the touristic and residential mega projects sector was given by Mr. Wael Abu Dawwas, Environmental Officer at Ayla Oasis (What Ayla), which is a mega touristic and residential project at the very northern part of the Gulf of Aqaba. What Ayla is constructed on an overall area of 4.20 km square, the development converted 235m of frontage on the Gulf of Aqaba to 17 km of seawater of seawater frontage, total area of the created lagoons is 0.75 km square. The actual capital of this huge development is the environmental quality. Without attractive healthy environment no sustainability is guaranteed. Therefore, What Ayla Management applies strict and careful environmental standards. This started right from the planning stage; Before construction What Ayla conducted a though and detailed Environmental Impact Assessment Study – EIA, on the Master Plan in accordance with the environmental procedures of the Aqaba Special Economic Zone Authority (ASEZA) and international standards of marine lagoons management; the EIA study concluded that predicted risks can be mitigated adequately and the overall impacts reduced to acceptable levels provided that careful design and operation are put in place; enormously significant effort including multiple modeling studies was made for developing design solutions that secure managing the environmental impacts on the water entrainment and entrained seawater, groundwater infiltration, and thriving marine life at the water entrainment interface and inside the lagoons; periodic and on-going monitoring requirements have been developed and outlined in a form of Environmental Management Plan (EMP); the recommended EMP has been carefully implemented and



monitored during design, construction and in the on-going operation of the oasis and regularly reported to ASEZA Environment Directorate, enabling them to conduct continuous evaluation impacts and requesting corrective measures if needed. Results of these monitoring activities are available, and arrangements could be made to have them shared with interested stakeholders. Cleaning of the seawater frontages and seabed of the lagoons is a part of the daily routine of What Ayla operations. In order to gain international credibility What Ayla as a core development has joined the Blue Flag scheme and so have hotels inside the development.

In context of the workshop and training needs, What Ayla would strongly benefit from enhancing citizen science monitoring capabilities of its employees as introduced by MED4EBM Project and tourism marketing training targeting elongating the tourist stay, diversifying the touristic product and spreading the tourism season over the entire year as demonstrated by MEDPEARL, MEDUSA, CROSSDEV, MED GAIMS Projects. The concept of NEX-LABS Project is also of interest to receive training on as a major development based on water and energy in Aqaba.

Local Coastal and Marine Ecosystem Occupations Sector

Presentations for this strongly local community related sector were given by Thaghr el Ordon Fishermen Society and Aqaba Glass Boats Touristic Society.

Aqaba Glass Boats Touristic Society presentation was given by its Chairman Mr. Ahmad Ebaid Yassein. The presenter discussed the important role glass botas play in touristic development in Aqaba. National tourism in particular find glass bottom boat tours as a low cost entertainment that gives the opportunity to the whole family to enjoy seeing the rich underwater life in Aqaba together in a unique learning experience. The glass boat tours occupation is traditional and represents a culture based on the strong connection between the glass boat operators and the coastal and marine environment. The group of glass bottom boats operators suffered significantly during the last two years due look downs related to Covid 19. Very little support, if any, has been received. Covid 19 experience has been an eye opener that this group of people need to diversify their livelihoods and income sources. Priority training needs to them is therefore creating alternative livelihoods to help this group of people sustain their families.

Thaghr el Ordon Fishermen Society presentation was given by its Chairman Mr. Badr Yassein. The presenter discussed the history of the Society and its objectives, which are mainly to improve the living conditions of the fishermen and their occupational conditions, and to support the coastal and marine environmental conservation efforts as the ultimate goal of these efforts supports sustainable fishing and maintaining productive fisheries. The presenter also outlined challenges that the fishermen face, which include the misconception that fishermen and fishing are the main factors behind declining fisheries and that there is no distinction between professional traditional fishermen who adhere to regulated fishing and care about the fisheries realising well that sustainable fisheries mean sustainable living resources to them,



and persons practicing unregulated fishing who may behave opportunistically with no clear vision on the impact of their practice on the fisheries resources.

Training needs suggested by the presenter include enhance management practices of the competent authorities officers and the fishermen societies to establish creative practical solutions for the continuously decreasing fishing grounds, enhance the technical capacity of professional traditional fishermen to participate in conducting citizen science monitoring of the coastal and marine environment and adopt their findings in developing integrated coastal zone management strategies, capacity building in enhancing professional traditional fishermen skills to be marketed as a traditional occupation, capacity building for professional traditional fishermen to practice alternative livelihoods as a solution to the unemployment difficulties faced by fishermen and to make living during the closed fishing season.

Outputs

The main output of the workshop was providing an ideal platform for mutual introduction of the invited Projects to each other and introduction of the Projects to the competent authorities and the broad stakeholders at the Aqaba Special Economic Zone.

Several specific outputs have been achieved by the workshop. Some of these are:

- Exchange knowledge and learning about the thematic concepts and technical background of the different projects
- Creating synergies and networking opportunities between the Projects, authorities and other stakeholders that form a strong basis for continued collaboration and joint delivery of project's services and training activities
- Identifying challenges facing various stakeholders in coastal and marine resources management
- Identifying priority training needs which might be covered through an individual project or in a collaborative effort between two or more projects
- Of significant interest of MED4EBM Project, stakeholders conducting monitoring programs indicated the opportunity of having suitable arrangements for data sharing
- Contributing to output objectives of the Participating Projects and to the ENI CBC MED objectives in general

Conclusions / Recommendations / Follow up

- Valuing the workshop initiative by the stakeholders encourages conducting similar initiatives and supports further synergy activities. A larger international event is proposed to be conducted in Aqaba in the early winter 2022.
- Synergy between projects stemming from different thematic objectives may create integrable opportunities and highly divers products beneficial to the target communities



MED4EBM

- As Covid restrictions are easing and more in presence events are in planning, the short online session in the present workshop represents a successful example of organising hybrid events that provide the opportunity for intercrossing events with larger audience
- Take home message from Projects' meetings and workshops, documentation and widespread of the Project's outputs, effective networking and data and information sharing constitute powerful means for sustaining the Project's impacts and optimising their value and financial returns
- Synergy and priority capacity building and training needs identified during the workshop build on the three integrated themes: sustainable ecosystem management, sustainable tourism management and sustainable research through commercialization. All three are heavily based on community participatory principles
- The main synergy and priority capacity building and training needs identified are centred around sustainable livelihoods, community engagement in scientific research and knowledge sharing, diversifying products of ecosystem goods and services, and maintaining a healthy naturally productive ecosystem
- Follow up discussions and bilateral / multilateral meetings are required for realization of identified synergies and networking opportunities

Annex I. Workshop Agenda

Mediterranean Forum for Applied Ecosystem-Based Management (MED4EBM)



National Workshop

ورشة عمل وطنية

شركات المشاريع والتشاور لتحديد أولويات التدريب في إدارة الموارد البحرية والساحلية في العقبة، الأردن

Synergy and Stakeholders Consultation for Identification of Priority Training Needs in the Coastal and Marine Ecosystem Resources Management in Aqaba, Jordan

الاربعاء & الخميس، تموز 07 - 2021 08 - 07 Wednesday & Thursday, July 07th - 08th 2021

العقبة، الأردن Aqaba, Jordan

National Workshop ورشة عمل وطنية
شراكات المشاريع والتشاور لتحديد أولويات التدريب في إدارة الموارد البحرية والساحلية في العقبة، الأردن
**Synergy and Stakeholders Consultation for Identification of Priority Training Needs in
the Coastal and Marine Ecosystem Resources Management**
العقبة، الأردن
الاربعاء – الخميس 7 و 8 يوليو 2021 12/7/8 & 7

Workshop Provisional Program
Day 1: Wednesday July 7th 2021

Time	Activity	Responsibility
09:00 – 09:30	Arrival and Registration	
09:30 – 10:00	Welcome & Opening Address	JREDS, UNDP ASEZA
10:00 – 10:20	ENI CBC MED Presentation	Dr. I. Karadsheh Regional Office Coordinator ENI CBC Med
10:20 – 10:40	Coffee Break	
10:40 – 11:00	Mediterranean Forum for Applied Ecosystem-Based Management (MED4EBM)	Dr. M Badran Project Coordinator
11:00 – 11:20	The Mediterranean as an Innovative, Integral and Unique Destination for Slow Tourism Initiatives (MEDPEARL)	Ms. L. Al Shakhshier Project Manager
11:20 – 11:40	Development and Promotion of Mediterranean Sustainable Adventure Tourism (MEDUSA)	Ms. L. Khaled Project Manager
11:40 – 12:00	Nexus-Driven Open Labs for Competitive and Inclusive Growth in the Mediterranean (NEX-LABS)	Dr. M. Al Jafary Project Manager
12:00 – 12:20	Cultural Routes for Sustainable Social and economic Development in Mediterranean (CROSSDEV)	Dr. A. Fraiwan & Mr. M. Tawaha Project Managers
12:20 – 12:40	Gamification for Memorable Tourist Experiences (MED GAIMS)	Dr. A. Fraiwan Project Manager
12:40 – 13:00	Projects of the University of Jordan / Aqaba Branch and the Marine Science Station	to be Identified
13:00 – 14:30	Prayer and Lunch Break	
14:30 – 14:50	Projects of the Jordanian Maritime Commission	Eng. M. Salman Director, Jordanian Maritime Com.
14:50 – 15:10	IUCN West Asia Regional Office Focus on Marine and Coastal Ecosystem Conservation	Dr. H. Al Sha'er Director, Regional office
15:10 – 15:30	Environmental Monitoring Programs at the Aqaba Special Economic Zone	Ms. T. Al Maaytah / ASEZA Director, Environment Directorate
15:30 – 15:50	Activities Associated with the Aqaba Marine Reserve	Mr. A. Abu Awali / ASERZA Director, Aqaba Marine Reserve
15:50 – 16:30	General Discussion/ End of day 1	

Workshop Provisional Program
Day 2: Thursday July 8th 2021

Time	Activity	Responsibility
09:00 – 09:30	Arrival and Registration	
09:30 – 09:45	Citizen Science Principles in Monitoring for Ecosystem Based Management	Dr. M Badran MED4EBM
09:45 – 10:00	Role of the Royal Navy in Monitoring and Surveillance of the Jordanian Maritime Jurisdictions	L. Colonel O. Ataiwy Royal Navy
10:00 – 10:15	Role of the Aqaba Development Corporation in Environmental Protection, Training and capacity Building	
10:15 – 10:45	Coffee Break and Preparation for an Online Session	
10:45 – 11:45	Online Session with ENI CBC MED Focus B 4.4. Projects and MED4EBM International Project Partners: Welcome by Dr. I. Karadsheh ENI CBC MED Regional Coordinator, followed by Open Discussion. Five Minutes Introductory Brief per Speaker	
11:45 – 12:15	Industry and Industrial Ports Sector	Southern Coast Industrial Complex Aqaba Industrial Ports Company
12:15 – 12:45	Touristic and Residential Mega Projects Sector	What Ayla Tala Bay
12:45 – 13:00	Prayer	
13:00 – 13:30	Local Coastal and Marine Ecosystem Occupations Sector	Fishing Diving Glass Boats
13:30 – 14:30	Concluding Discussion and Recommendations Regarding Priority Training Needs and Capacity Building as well as Potential Synergy and Collaboration Between Projects and Competent Management Entities Under Umbrella of the Aqaba Special Zone Authority. End of Day 2; Closing of the Workshop	

Annex II. List of Participants

Name	Organization	Email	Gender	Age
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Annex III. Workshop Photos and Media Visibility

Photos:





Media:

Online News Name	Link
Petra News	العقبة: ورشة عمل حول التدريب لإدارة الموارد البحرية والساحلية
Arabi Post	العقبة: ورشة عمل حول التدريب لإدارة الموارد البحرية والساحلية
Al Wakeel	العقبة: ورشة عمل حول التدريب لإدارة الموارد البحرية والساحلية
Nabd	العقبة: ورشة عمل حول التدريب لإدارة الموارد البحرية والساحلية
Watan News	العقبة: ورشة عمل تدريبية حول إدارة الموارد البحرية والساحلية أخبار الأردن