SEIS Country Visit Summary Report

Palestine Success Stories- towards better data and information on the Environment

Version: 2
Date: 14.12.2018
EEA activity: InCountry Support

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UNEP   MAP

European Environment Agency

Contents

Abbreviations

Application Programming Interface	API
Applied Research Institute Jerusalem	ARIJ
Databank Department	DBD
Environment Quality Authority	EQA
Geospatial Information Framework	IGIF
German International Cooperation	GIZ
Global Geospatial Information Management	UN-GGIM
Metrological Department	MD
Ministry of Local Government	MoLG
Palestinian Central Bureau of Statistics	PCBS
Palestinian Water Authority	PWA
Prime Minister Office	PMO
Small Scale Funding Agreement	SSFA
Sustainable Development Goals	SDG
Water Information System	WIS
Water Quality Department	WQD
Water Resources department	WRD

Introduction

The key environmental challenges in Palestine are related to water scarcity and water quality, waste disposal, pollution and challenges related to climate change. The Palestinian water sector suffers institutional fragmentation and supply constraints, including limited access to own/shared water resources due to the political situation. The population growth also led to an increase of volume of solid waste going to landfills, only two sanitary landfills (Zahrat Al Finjan & Menya) and one controlled landfill (Jericho) are available in the West Bank.

To better manage the resources and plan the needed infrastructure, good quality and timely reliable data and information is necessary. Palestinian authorities have undertaken tremendous efforts in data collection processing and sharing of data with different stakeholders. Building an information system has been on the Palestinian Central Bureau of Statistics (PCBS) agenda since 2008 by the establishment of a national team which was activated in 2011 within the SEIS project. The challenges since then, as regards the data for both the Environment Quality Authority (EQA) and the PCBS have been:

1) to determine what data and information is needed;
2) to find out if this already exists and where;
3) how to access it if it exists, and how to collect it if it does not;
4) how to store this information in easily accessible and referenced form;
5) how to interpret the data, resolve questions of quality, contradictions and incompleteness and inconsistencies;
6) how to determine who needs the information, when and in what form;
7) how to disseminate it as required.

This report aims at sharing the success stories by giving an overview of the information systems built in recent years to ensure data availability and accessibility. More specifically: "The Population, Housing and Establishments Census 2017" and "Modernization of the SDG indicators" conducted by PCBS; Inventory and Mapping of industrial pollution sources in the west bank "Industrial Pollution Inventory Information System" developed by EQA; Water Information System developed by Palestinian Water Authority (with financial support from UNICEF); and the GeoMolg developed by the Ministry of Local Government.

The visit to Palestine on 2-3 September 2018 was organized under the ENI-SEIS support mechanism project. Cécile Roddier Quefelec and Michael Assouline from the European Environment Agency, Erol Cavus from UNEP/MAP, Joana Mira Veiga from ETC/ICM-Deltares and Sabah Nait from the Austrian Environment Agency participated in the mission. In order to optimize this two-day visit, the discussions took place in the form of a workshop on the first day; attended by representatives from the Palestinian Central Bureau of Statistics, different departments of the Environmental Quality Authority, Palestinian Water Authority, Ministry of Transport-Meteorological Department, Ministry of local government, Ministry of Agriculture and Ministry of Health. The second day was dedicated to bilateral meetings. A series of detailed presentations concerning the monitoring, data collection, statistical surveys and information systems in the areas of water, waste and industrial emissions were presented.

The purpose of the visit was:

- to take stock of the progress and achievements since the last country visit in 2011;
- to identify country-specific gaps and needs in content, infrastructure and institutional cooperation; where specific support could be provided;
- use the opportunity of the visit to officially kick-off the SEIS activities funded through the bilateral agreement with UNeMAP Small Scale Funding Agreement (SSFA).

Success stories:

1 The Population, Housing and Establishments Census 2017, Palestinian Central Bureau of Statistics (PCBS)

The Population, Housing and Establishments Census carried out by the Palestinian Central Bureau of Statistics is a key national project with support and contribution from all ministries, private and civil society organisations. It is a legal, developmental and statistical requirement under the General Statistics Law of 2000. The 2017 exercise is the third census carried out by the State of Palestine; the first was carried out in 1997 and a second in 2007. The 2017 census aimed to provide a comprehensive and modern statistical database that creates a digital profile of the Palestinian society in all areas. Additionally, it fulfills the national needs and is in accordance with international recommendations and UN recommendations on the contents of the Census. Consequently, the Census serves as the backbone of planning and developmental policies and strategies formulation.

Many countries implement population censuses once every ten years, as per UN recommendations. The PCBS had to develop a clear comprehensive plan to overcome the challenges faced, taking into account the particularities of the Palestinian context and field difficulties.

The current Census was innovative in its use of modern data collection technology. All phases were implemented using tablets and GIS. Furthermore, special applications were designed for every phase, including map updating, pilot census, delineation, listing and actual population count through to the post enumeration survey. This helped save time and effort in addition to enhancing the quality and harmony of data. Consequently, it became easier to analyze data and reinforce administration and monitoring of the fieldwork.

Different crews implemented the census, including managers, assistants, supervisors, crew leaders, enumerators and logistical support teams, generating 11,000 temporary jobs for young graduates in the different phases. They worked for different periods ranging from one to eight months, and received intensive quality training to acquire the necessary skills. This round of census was marked by its fully automated operations including the automation of assessment of workers and trainees, comprising of daily tests and final exams. Training halls were equipped with the necessary infrastructure, which saved time and effort needed to select work teams without any human intervention, in compliance with good governance requirements.

The Census was a national project. From the outset of preparation and implementation, PCBS initiated ongoing dialogue and consultation with different ministries and official and private organizations, as well as civil society organizations. It organized bilateral meetings, symposia and workshops to reach national consensus on the contents of the census. All energies and efforts were employed for its success, together with a broad publicity campaign, in coordination with local governmental and non-governmental media outlets. The campaign aimed to raise citizens' awareness of the importance of the census and motivate them to cooperate with its crews. The message of the census aimed to reach every house, family and citizen. Palestinian society consolidated efforts and used its human and material resources, including premises, offices, training halls, equipment and other resources. The society was also very instrumental in facilitating the work of field teams and solving the obstacles they faced, including non-response.

2   Palestine & Sustainable Development Goals

In Palestine the implementation and review process of the Sustainable Development Goals (SDGs) is led by the Prime Minister Office (PMO). The process is supported by a Steering Committee of senior level officials and a National SDGs Team, which includes representatives from 24 governmental, non-governmental and private sectors organisations with the aim to coordinate on implementation of the actions plan for Sustainable development. As part of the process a PMO decree reiterated the mandate of the Palestinian Central Bureau of Statistics (PCBS)[1] to lead the efforts of modernization of the SDG indicators, in cooperation with all stakeholders, for the purpose of monitoring and evaluation. Hence, PCBS as the leading agency in the Palestinian National Statistical System, is working with the national political authorities to identify the national SDG priorities and organise the collection, compilation, quality control and dissemination of the data.

To this aim, in cooperation with all key stockholders PCBS formed a team of experts (statisticians, fieldworkers, International relation, methodology and sampling, and IT) and dedicated technical committees to coordinate the efforts to nationalize the SDG, modernize the process of SDGs indicators, provide data and contribute to the regular review of SDGs in Palestine with the preparation of the SDGs report for Palestine (Palestinian national voluntary review on the implementation of the 2030 agenda[2]).

3   Pollution Inventory Information system

The Inventory and Mapping of industrial pollution Sources in the West Bank was implemented by Applied Research Institute Jerusalem (ARIJ) and consultants from the ARCADIS group, and in cooperation with The Palestinian Environment Quality Authority (EQA), and supported by the World Bank through the 'Governance and Knowledge generation' Project, which is implemented by Plan Bleu. The outcomes and Survey Results were compiled into a database and a Web Interface.

Overall Objective:

To strengthen the national knowledge base about pollution emissions from industries in order to foster the integration of adequate pollution abatement policies and practices within the industrial sector and make information on industrial pollution more publicly available and transparent.

Specific Objectives:

- conduct a field survey of industrial establishments in all the Governorates of West Bank;
- develop a database of industrial polluters;
- perform an industrial pollution hotspot assessment;
- develop an operational internet mapping portal about industrial pollution emissions and hotspots;

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[1] http://sdg-pcbs.opendata.arcgis.com/

[2] ttps://sustainabledevelopment.un.org/content/documents/20024VNR2018PalestineNEWYORK.pdf

- support knowledge enhancement and awareness-raising about industrial pollution for decision makers on the national level.

One of the biggest limitations is the absence of legislation for Pollutant Release and Transfer Register (PRTR) in Palestine. UNEP MAP has prepared a draft for PRTR that could be adopted and integrated into legislation. Palestine stressed that PRTR means an infrastructure, good contacts with facilities, continuous monitoring and the right to make inspections. The legislation is only a part of it and capacity is equally important. UNEP MAP proposed to organise trainings to have estimations of pollution loads (also for predictions) by using emissions factors as in many cases real measurements are limited.
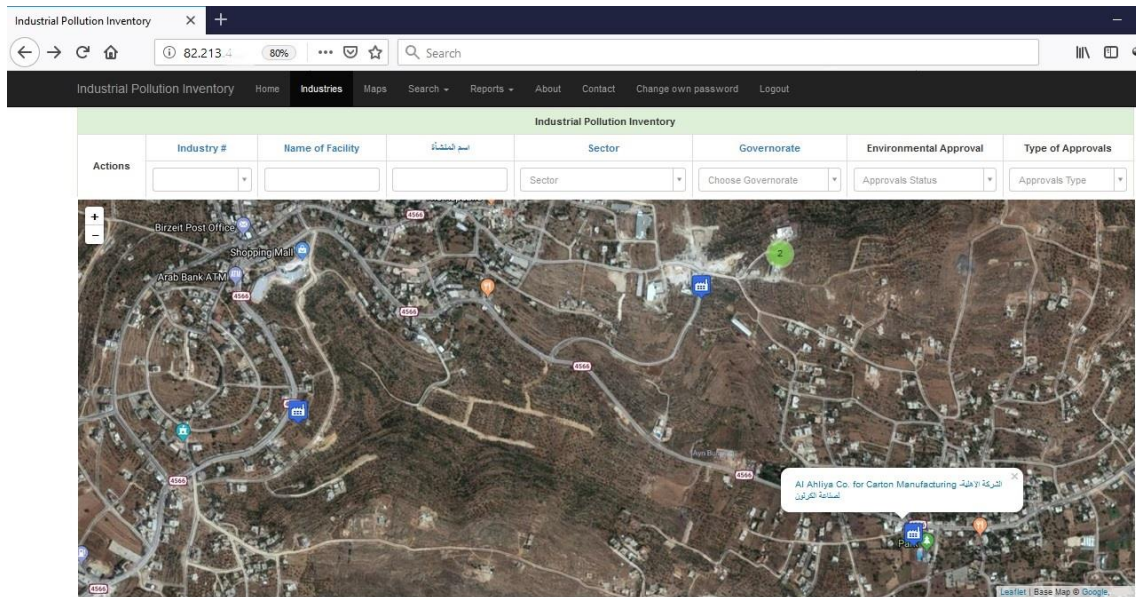
.Fig: Inventory and mapping of Industrial pollution sources

4   Water Information system

The Databank Department (DBD) of the Palestinian Water Authority (PWA) is responsible for developing and improving the PWA Water Information System (WIS). The PWA-DBD has received financial support from UNICEF and has worked on the WIS since 2011. While a considerable amount of work has been achieved, the end-users of the WIS have indicated that the water information system is not fully completed due to lack of financial support. Time series are missing for instance. In order to meet all users' requirements and enable machine to machine communication with different stakeholders a further development of the system is crucial.

The water information system enables the combination of different data from different sources to have a full picture of the water resources and enables different stakeholders, with user names, to access the data and information stored in the system. The long term aim of the PWA is to make the WIS accessible to all. This common platform increases the efficiency of the work and planning and provides reliable data for decision making. In the long term, the system will allow communication with the EQA information system. For the time being there is machine to machine communication with the Metrological Department.

The water information system is comprised of different components as follows:

- PWA Water Data Repository (WIS): The PWA WIS consisting of the current WIS – managed by the DBD - and a GIS database – managed by the GIS Dept. The WIS and the GIS (MAWAREED data based) are directly connected. WIS provides direct access for PWA users and to Metrological department (MD).

- Water Resources Data Processing System: The WRD and WQD have specific requirements that relates to more specialist data processing and presentation. Data and parameters collected in the database are mainly data on water resources (water quality and water supply and waste water whenever relevant for water resources).

- Project data base: The PWA-WIS gives/stores information on ongoing projects, e.g. environmental and infrastructure projects such as for example waste water treatment plant.
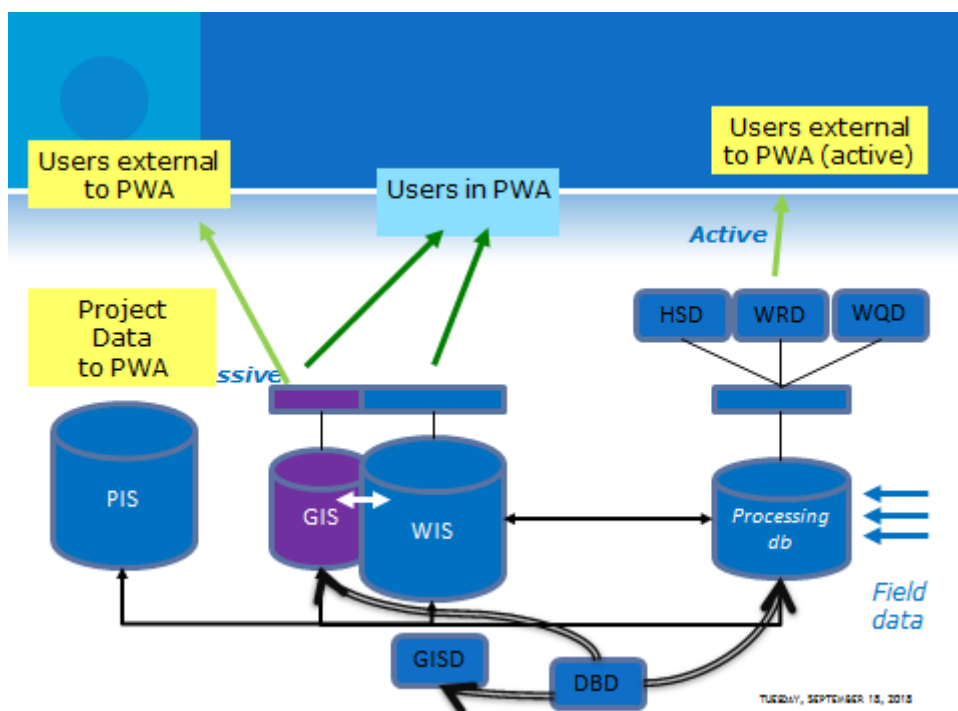

Fig: Water Information System architecture

PWA plan is to extend the functionalities of the system to include waste water quality, but the main limitation is to access some areas located in Area C.

5   Ministry of Local government Information system GeoMolg

The Ministry of local government is the body responsible for regulating spatial planning at the local level and issuing construction permits. To fully fulfill its mandate spatial information is needed. Geomolg is a geospatial web mapping application that provides a wide variety of data in terms of maps associated information. Geomolg is owned by the Palestine Ministry of Local Government (MOLG) and has been developed in-house with a qualified team of specialized engineers in cooperation with, and support from, the German International Cooperation

Agency (GIZ). Geomolg is being enhanced on a regular basis by both increasing the level of accuracy of the data as well as by adding new tools and services that respond to business need and requirements. Through Geomolg it is possible to find a series of approved data as Orhtophotos acquired from Israel (no right to flight on the Palestinian territory), location of dumpsites, protected areas, etc. The metadata catalogue was presented with the possibility to use an Application Programming Interface (API) to connect and automatize data collection.

The long term benefits of the system are providing the stakeholders with spatial data whenever needed and reduces field visits by providing good visual interpretation of the reality. Spatial data is in digital format instead of hard copies, as it used to be, and hence accessible. One key application is in the area of waste management, in support to the national waste management strategy, allowing to present all data generated.
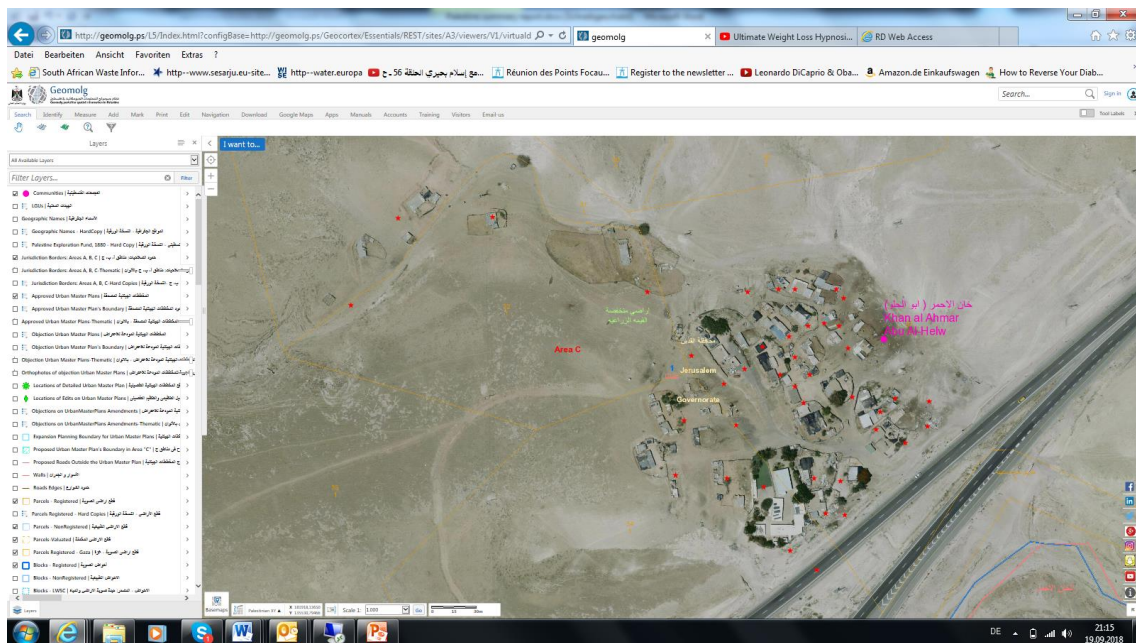

Fig: Geomolg interface

6   Spatial Data Infrastructure

The Palestinian cabinet resolved on 27 December 2016 to establish a National Spatial Data Infrastructure (SDI). Geomolg was mandated to initiate and guide the SDI effort through Council of Ministers decree No. 09/132/17. In October 2017, the Council formed an SDI National Committee to execute the initiative in all its elements. With consultation from the World Bank and the United Nations, the team elaborated a comprehensive Action Plan for the SDI that aligns with the Integrated Geospatial Information Framework (IGIF) initiated and approved by the UN Committee of Experts on Global Geospatial Information Management (UN-GGIM). On 22 April 2018, the National Committee convened Working Groups to address and implement specific components of the Action Plan.

Five working groups are currently formed:
- Working Group on Spatial Data Standardization.
- Working Group on Legal Framework.
- Working Group on Systems Architecture.
- Working Group on Geodesy.
- Working Group on Needs Identification.

7 Next steps to be covered under ENI SEIS II South

- EQA to access the UNEMAP proposal for legislation on PRTR and have a training of EQA experts organised on the use of emission factors.
- SEIS National Focal Points presented the Small Scale Funding Agreement (SSFA) signed with UNEPMAP to support SEIS development in Palestine and pointed out the opportunity offered by the Projects ENI SEIS I & II for collaborating with UNEP. Since the first phase of the SEIS project huge progress has been made on data sharing in Palestine. One of the main objectives now is to work on exchange protocols in order to get an operational information system.
- Activities to be conducted under SSFA:
  - o Development and selection of environmental indicators and preparation for the state of environment report in coherence with SDGs, regional and international indicators (including H2020 SEIS).
  - o Development and establishing of Environmental Information System.
  - o Data Exchange protocols development.

After the first phase of ENI SEIS, Palestine developed a prototype of information system, "PALINFO", involving different institutions, such as PCBS, EQA, PWA, ministry of health, economy and agriculture, NGOs and universities. However, the system is not user friendly, being old and not updated. The intention is to further develop and modernise this prototype into a new Environment Information System that will be relocated to EQA in order to ensure high security level, in particular for sensitive data and information. . Cloud solutions would be preferred.