



Ministry of Environment



# NAP in Jordan

Marseille

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# Outline.....

- Introduction
- NAP development process
- Midterm Baseline Assessment
- Identification of gaps
- Formulation of the Operational Targets
- Development of Programme of Measures
- Economic Analysis
- Prioritization of Measures
- Monitoring Plan for NAP implementation



# Introduction

- The first NAP was not prepared as Jordan is not part of UNEP/MAP in 2005-6 but a state of environment report was developed.
- The NAP for Jordan develops a prioritized programme of measures, prioritized list of investment needs, capacity building plan identifying needs and related activities as well as follow-up and monitoring plan will be developed.
- The Jordan NAP was prepared in consultation with the key stakeholders and adopted by the national steering committee.



# NAP development process -1

- Jordan NAP development process was structured and managed in a participatory manner.
- Three working groups from the Ministry of Environment (MoEnv) were formed and contributed to compile and synthesize the basic information in terms of policies, hot spots, and waste management.
- Also, a steering committee was headed by the MoEnv. and was formed from senior members of the key ministries (agriculture, water, health, planning and Greater Amman Municipality), NGOs and research institutions.
- Thematic groups on waste management, biodiversity and agriculture were formed from related entities.



# NAP development process -2

Specifically, the following is a summary of the process of NAP development:

- Review of the legal requirements (regional plans/decisions and SAP-MED provisions)
- Establishing midterm baseline
- Determination of the gaps
- Setting operational targets
- Defining Program of Measures
- Aggregation of measures
- Pre-selection of measures for economic analysis
- Final list of measures for consideration in the NAPs

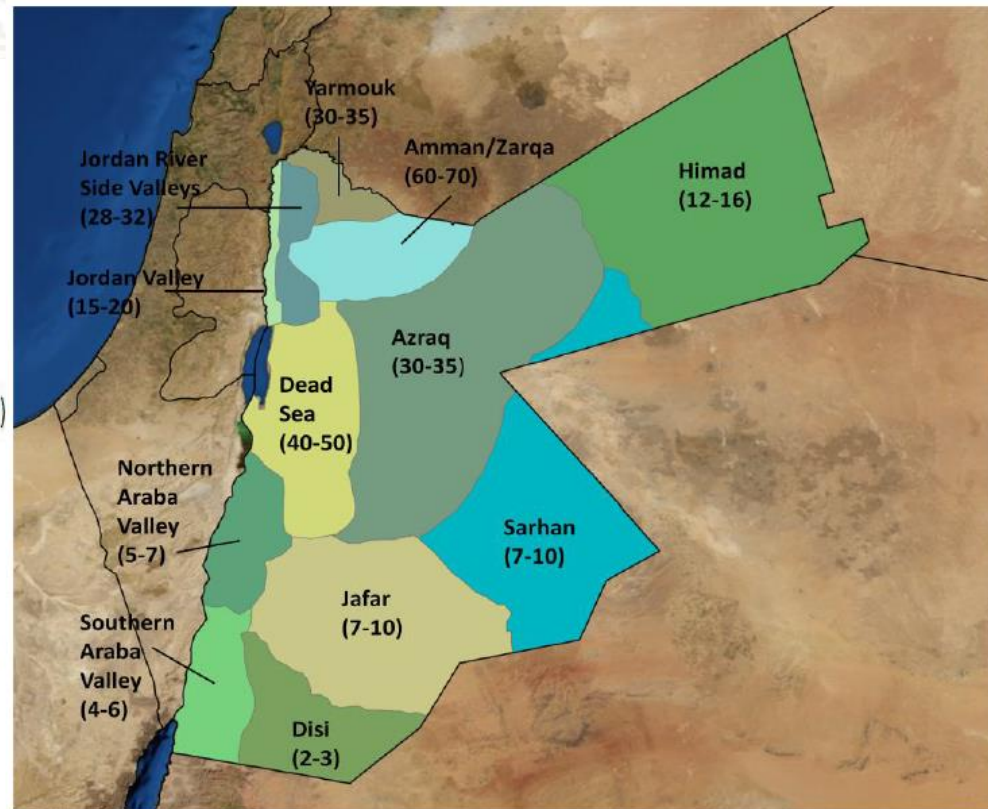
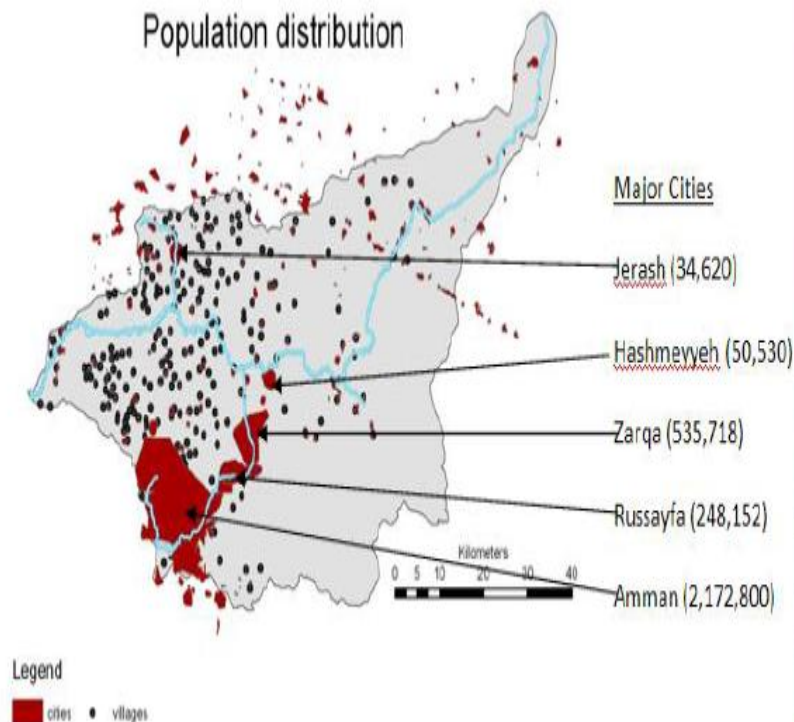




# Land-Based Sources -1

## Selecting the target area for NAP development

- The **Amman-Zarqa River basin** is the most densely populated area (about 3 millions)



The key considerations for assessing the midterm baseline on the level of river basin are:

- related to population density,
- concentration of agricultural and industrial activity,
- location of several waste water treatment plants and
- identification of two areas within Zarqa Basin as hot spots.

## Gaps identification based on SAP MED and Regional Plans for Jordan

Ecological objective number		RP Mandatory Obligations & SAP-MED Commitments (SAP MED shaded in red, RP unshaded)	Gaps Identified
EO5		Promotion of separate collection of rain waters and municipal wastewaters [deadline not specified]	There is limited enforcement of rainwater and municipal separation. About 20% of urban centres are not connected to municipal WWTP. This is attributed to lack of both human organizational capacity and budget constraints and funding for infrastructure projects.
EO5		Promotion of reuse of treated effluents for the conservation of water resources [deadline not specified]	About 60% of population is connected to WWTPs in AZB. 40% of small peri-urban areas with population less than 2000 use cess pools.
EO5		Coastal cities and urban agglomerations of more than 100,000 inhabitants are connected to a sewer system [deadline passed]	N/A



## Gaps and operational targets for NAP

Ecological objective number	Gaps	Operational target
EO5	About 60% of population is connected to WWTPs in AZB. 40% of small peri-urban areas with population less than 2000 use cess pools	Reduce BOD5 concentrations for municipal waste by 2020 to be within allowable limits
EO5	About 30% of small and medium industries (food, chemical and construction) have no treatment plants.	Reduce BOD5 for industrial waste by 2025 to be within allowable limits.
	El-Ekieder landfill reached its carrying capacity; Industrial and commercial waste is mixed with municipal waste.	
EO5	34% of fungicides and 12 % of pesticides are contained in the agricultural inputs which was 1500 ton in 2014.  Limited monitoring and enforcement of nutrients inputs from agriculture.	By 2020, reduce loads of nutrients inputs from agriculture into Zarqa River and King Talal Dam to be within allowable limits;

# Operational targets, priority measures, and time table for Investment Measures

Operational Targets	Program of measures	Budget (million of Euros)	Timefram e
Reduce BOD5 concentrations for industrial waste to be within allowable limits.	Rehabilitation of El-Ekieder landfill to treat, dispose and manage liquid industrial waste.	3	2016-17
	Rehabilitate industrial WWTP in Sahab Industrial City.	12	2016-18
	Construct an industrial WWTP in Zarqa area.	32	20016-20
	Rehabilitate industrial WWTP in Al-Hasan Industrial Zone – Irbid.	5	2017-18



## Cost effectiveness analysis for priority measures

No.	Project/measure	Cost Effectiveness
1	Environmentally sound Management of used oil.	High
2	Rehabilitation of El-Ekieder landfill to treat, dispose and manage liquid industrial waste.	High
3	Rehabilitate industrial WWTP in Sahab Industrial City.	High
4	Construct an industrial WWTP in Zarqa area.	Moderate
5	Develop waste management plan in Halabat., Khaldeyeh, Duliel, and Mafraq area.	High
6	Environmentally sound Management of used batteries.	High



# Prioritization of Measures -1

Priority measures for NAP for Jordan classified as investment measures:

No.	Project/Measure	Prioritization of project implementation Total Score
1	Rehabilitation of El-Ekieder landfill to treat, dispose and manage liquid industrial waste.	22
2	Rehabilitate industrial WWTP in Sahab Industrial City.	21
3	Construct an industrial WWTP in Zarqa area.	21
4	Develop waste management plan in Halabat., Khaldeyeh, Duliel, and Mafraq area.	21
5	Rehabilitate industrial WWTP in AL Hasan Industrial Zone – Irbid.	21



# Prioritization of Measures -2

- The Tables below show the priority measures for NAP for Jordan classified as technical assistance projects:

No.	Project/Measure	Prioritization of project implementation Total Score
1	Environmentally sound management of used oil.	23
2	Environmentally sound Management of used batteries.	21
3	Develop electronic waste management system according to BEP &BAT.	20
4	Apply BEP and BAT regarding POPs	20
5	Develop a monitoring program and EMS/ GIS for industry.	19
6	Pilot project to promote waste minimization at the source.	18
7	Develop cleaner production and recycling system for industries.	18
8	Develop a monitoring program for inputs of nutrients from agriculture.	17
9	Establish remote tracking system for inspection and monitoring of liquid waste.	16
10	Develop a plan for integrated medical waste.	16

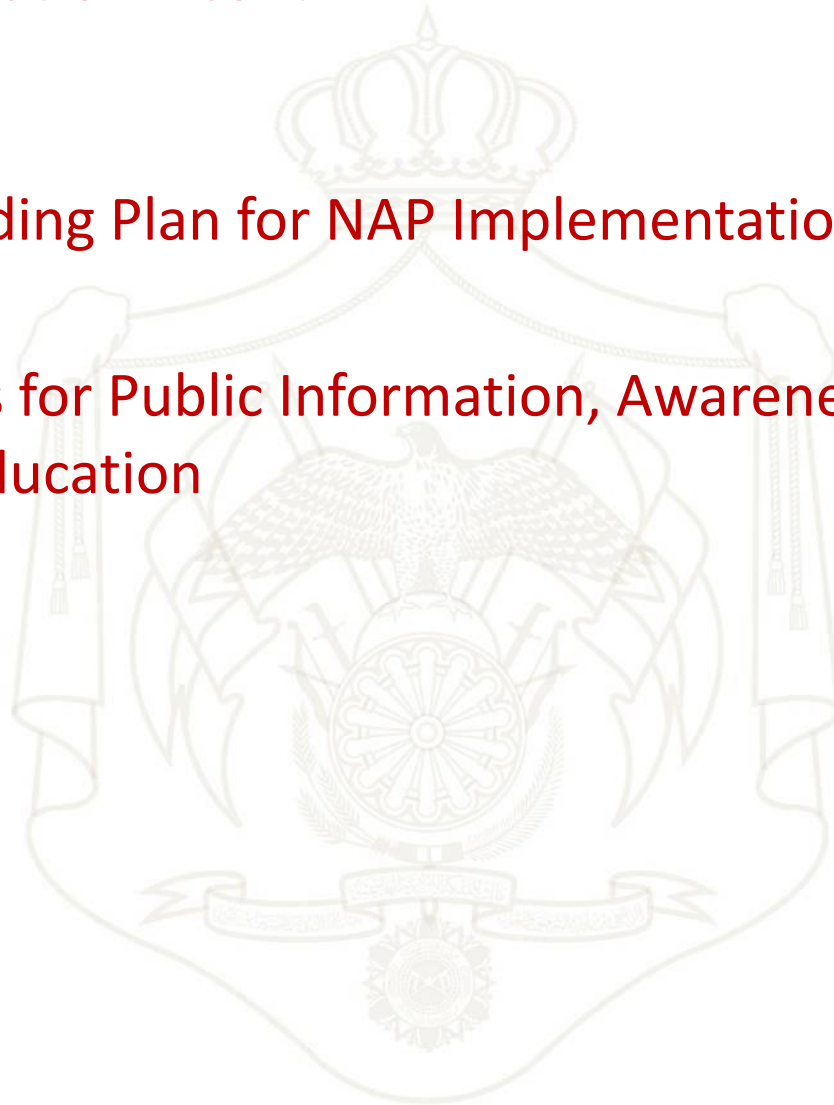
## Monitoring Plan for NAP

Priority Measure	Indicator
Environmentally sound management of used oil.	<ul style="list-style-type: none"><li>▪ Pollutants covered by national standards (ELV) for point source discharges into water or air are monitored and controlled.</li></ul>
Rehabilitation of El-Ekieder landfill to treat, dispose and manage liquid industrial waste.	<ul style="list-style-type: none"><li>▪ Actual levels of contaminants which have exceeded maximum regulatory levels are monitored and controlled including PAH, VOC, PCDD/PCDF, Hexachlorobenzene, Cadmium, Chromium, Lead and Mercury which are directly or indirectly discharged to the Mediterranean Sea;</li><li>▪ Number of permits for industrial waste is controlled.</li></ul>
Rehabilitate industrial WWTP in Sahab Industrial City.	<ul style="list-style-type: none"><li>▪ 50% of companies within Annex I of the LBS Protocol apply cleaner production, BAT and/or BEP.</li><li>▪ Number of permits for industrial waste is controlled.</li></ul>



## **NAP Implementation....*cont.***

- Capacity Building Plan for NAP Implementation
- Arrangements for Public Information, Awareness Raising and Education



# Summary

- Amman-Zarqa River basin was selected for NAP development since it hosts 65% of population and 85% of industrial activities.
- This NAP development is intended to achieve good environmental status through the implementation of the LBS Protocol and Regional Plans.
- It addresses the institutional, legal, technical, reporting, investment needs, capacity building and public participation.
- Currently, the implementation phase already commenced through the rehabilitation of Al-Ekhader dump site, and also conducting necessary studies for Zarqa Wastewater Treatment Plant.

## Priority investment projects for NAP for Jordan



No.	Project
1	Rehabilitation of El-Ekieder landfill to treat, dispose and manage liquid industrial waste.
2	Rehabilitation of the industrial WWTP in Sahab Industrial City.
3	Construction of an industrial WWTP in Zarqa area.
4	Develop waste management plan in Halabat, Khaldeyeh, Duliel, and Mafraq area.
5	Rehabilitate industrial WWTP in AL Hasan Industrial Zone – Irbid.



**Thank you**

