

PRO-AQUIFER: PROTECTING TRANSBOUNDARY GROUNDWATER RESOURCES FROM POLLUTION

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:By

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**Friends of the Earth
Middle East**



PRO-AQUIFER: PROTECTING TRANSBOUNDARY GROUNDWATER RESOURCES FROM POLLUTION

-RESEARCH, TRAINING, AND GUIDELINES FOR
ISRAELI AND PALESTINIAN MUNICIPALITIES-

:Project Team

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Overall Goal

Alleviation of groundwater pollution sources from Israeli and Palestinian municipalities

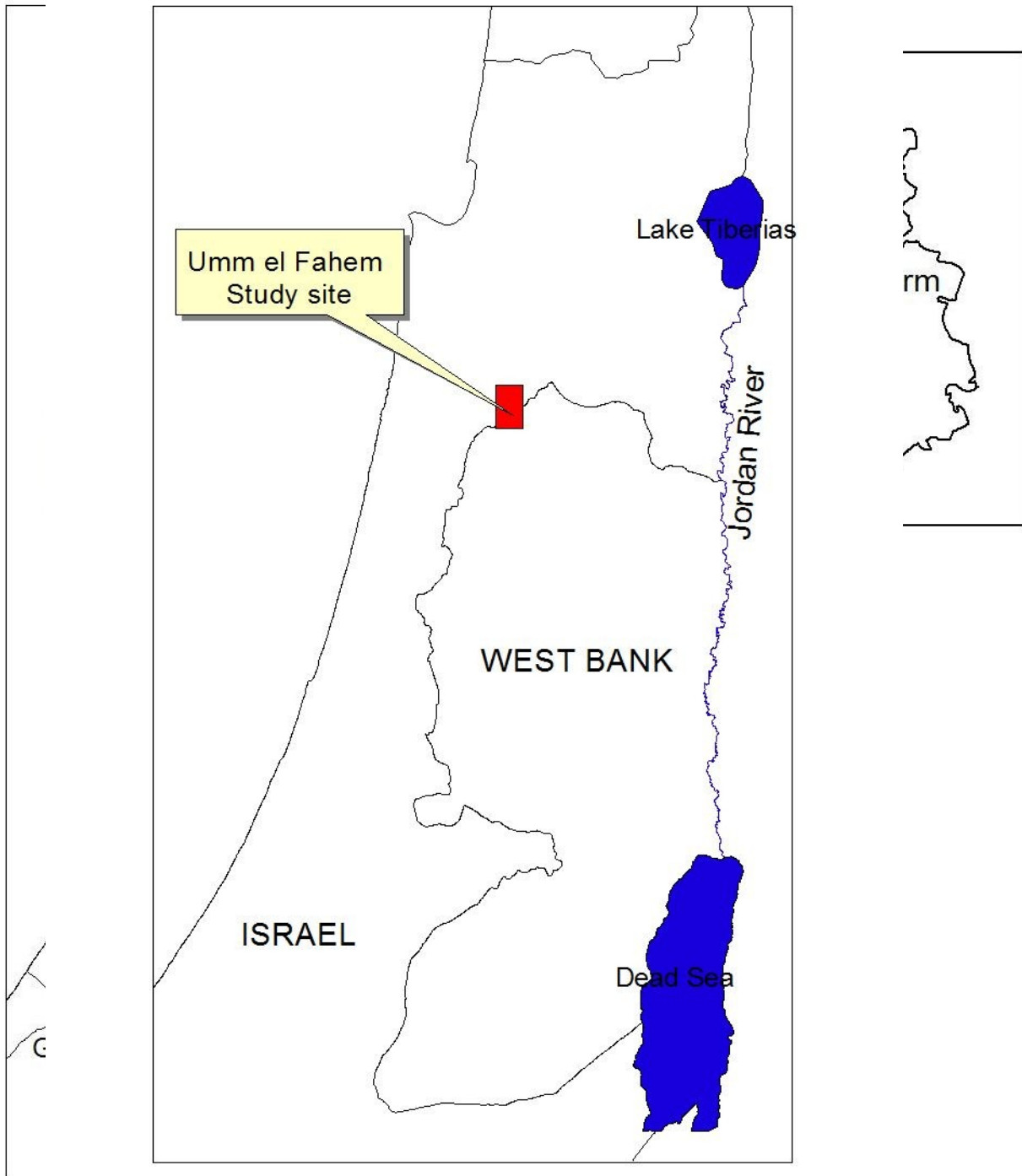
Project Objectives

- Conduct scientific and institutional research; apply Geographic Information Systems (GIS) tool
- Train municipal officials; build a network of practitioners
- Establish policy guidelines for municipalities to improve groundwater management
- Ensure replicability

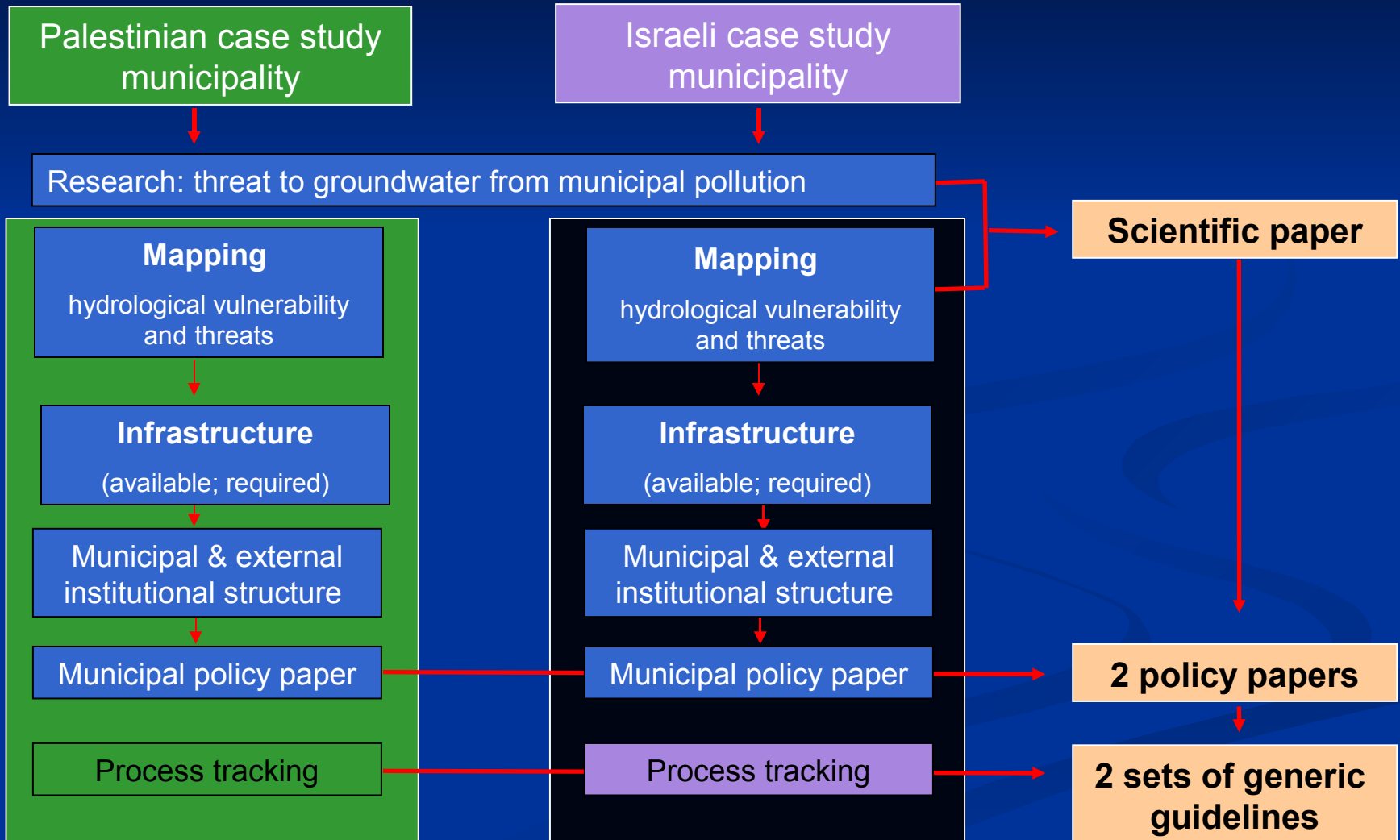


Selection Criteria for Study Areas

- Severity and range of pollution sources
- Hydrological sensitivity
- Location on a shared water resource
- Municipality's willingness to participate
- Data availability
- Applicability of findings elsewhere



From Research to Policy Guidelines

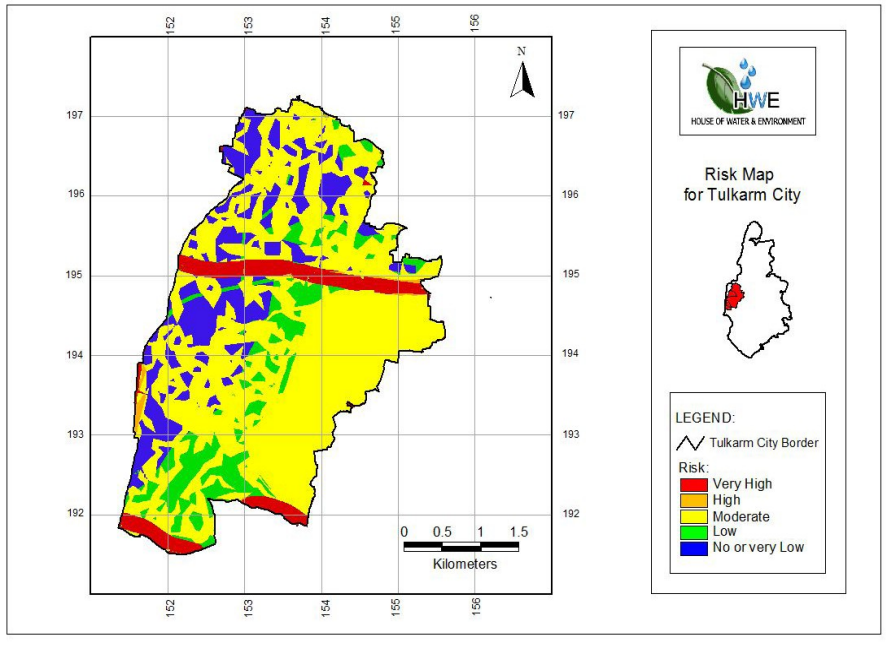


Research Findings: Contributing Factors to Groundwater Pollution in Case Study Municipalities

- Inadequate sewage and solid waste infrastructure
- Institutional problems (e.g., lack of leadership, political will, enforcement and financing issues)
- Lack of education and awareness



Research Results: Risk Maps



Tulkarm

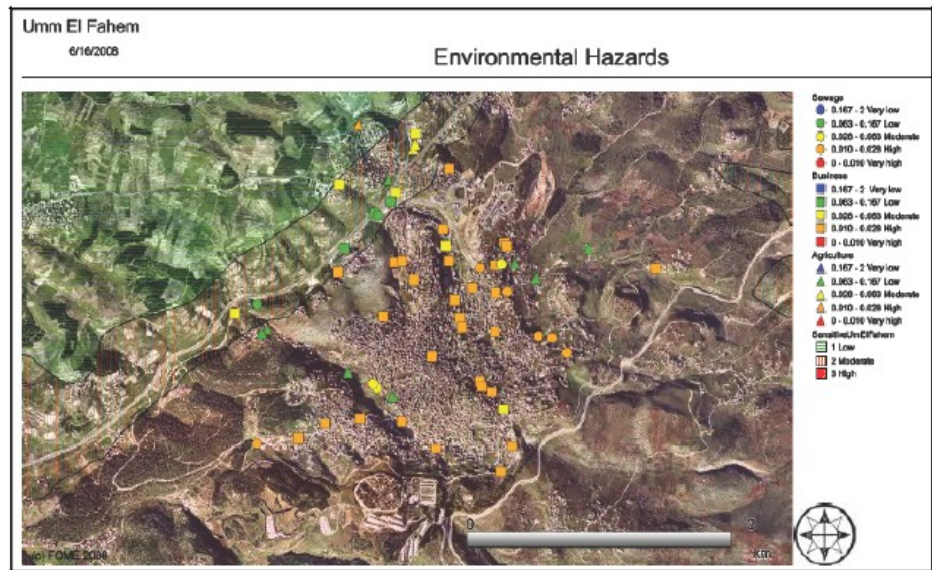


Figure 4.30 Combined environmental hazards map

Umm El Fahem

Tour #1



Shafdan Treatment Facility

Maabarot Reconstructed Wetlands



Tour #2

Yad Hana Treatment Plant



Ramat Hasharon Treatment Plant



Recommendations

- Use GIS as a tool for research of hazards and municipal structure
- Address greatest threats
- Develop strategic groundwater management plan
- Enhance infrastructure
- Conduct inspections, monitoring, and enforcement
- Secure sustainable financing
- Improve public awareness

Replicability

- Innovative methodology
- Package of research, GIS, training courses, and policy recommendations for municipalities
- Integrated, sustainable management of groundwater resources
- Community GIS



Thank you

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