



## Water Resources Management in the Middle East

Clive Lipchin, PhD

3 hour lecture once a week, 3 credits. Undergraduate

### Course Synopsis

This course will introduce the major issues hindering or allowing for efficient water management in the Middle East. As water scarcity is a reality in the region, it is critical to explore the ways and means for sustainable management of this resource in the face of growing demand and dwindling supply and the associated regional plans for water allocation among the countries of the region. The course will concentrate on the Jordan River and Dead Sea Basin and associated groundwater resources and how these waters are managed and shared. The course will focus on the water resources of Israel, the Palestinian Authority and Jordan. The goal of the course is to provide students with an overview of the challenges facing policy makers and water experts in effectively managing these shared resources and negotiating over their equitable allocation.

### Grading

Your performance in this class will be assessed through one in class quiz, an oral presentation and a final exam. It is imperative that students arrive promptly to class and attend all classes unless an acceptable excuse is provided.

Grading	
Participation, attendance, and punctuality	15%
Quizzes	15%
Oral presentation	35%
Final Exam	35%
Total	100%

### Readings

Readings will be assigned and required for the course assignments

***Additional readings for lectures and the presentations will be posted to the Google Docs site for the course.***

## **Topic One**

**Introduction to contemporary water issues: where water comes from, when it's available, how it's used and why this is all important**

## **Topic Two**

- Defining Water Scarcity: Definitions, Perceptions and Projections

## **Topic Three**

- Overview on Transboundary Water Interactions: Conflict and Cooperation
- International Environmental Law for Transboundary Water Management

## **Topic Four**

**– Guest lecturer: Fareed Mahameed**

- Wastewater epidemiology

## **Topic Five**

- Water Resources and Management in Israel
- Review of the water resource development history of Israel, and the internal political dynamics that can be seen to have shaped the country's water trends

## **Topic Six**

- Water Resources and Management in the Palestinian Authority
- Israel-Palestinian Oslo Accords
- Quiz One

## **Topic Seven**

- Water Resources and Management in Jordan
- Israel-Jordan Peace Treaty

## **Topic Eight**

- Mega-engineering projects for restoring the Dead Sea and resolving the region's water crisis

## **Topic Nine**

- Transboundary Wastewater policy, treatment and reuse

## **Topic Ten**

- Off grid technologies for water and wastewater management
- Site visit to off grid village – greywater use in irrigation

## **Topic Eleven**

- Oral presentations – session one

## Topic Twelve

- Oral presentations-session two

## Final Exam

### Course reading list (additional readings will be assigned for course assignments):

- Al-Sa'ed, R. (2010). A policy framework for transboundary wastewater issues along the Green Line, the Israeli–Palestinian border. *International Journal of Environmental Studies*, 67(6), 937–954.  
<http://doi.org/10.1080/00207233.2010.528887>
- Aliewi, A. (2009). Management and conflict aspects of waters between Palestine and Israel, 1(4), 88–97.
- Corps, M. (2014). *TAPPED OUT: Water Scarcity and Refugee Pressures in Jordan*.
- GTZ. (2008). *Water Resources in Jordan: National Water Master Plan*.
- Lipchin, C. (2014). Transboundary Management of the Hebron/Besor Watershed in Israel and the Palestinian Authority. In G. H.-W. and T. S. Francesca de Châtel (Ed.), *Water Scarcity, Security and democracy: a Mediterranean Mosaic*. Global Water Partnership Mediterranean, Cornell University and the Atkinson Center for a Sustainable Future.
- Meyhar, M., Bromberg, G., Khateeb, N. Al, Waxman, J., & Milner, M. (2014). *A Water and Energy Nexus as a Catalyst for Middle East Peace*.
- Niezna, M. (2017). *Hand on the Switch: Who's responsible for Gaza's infrastructure crisis?*
- Rabbo, A. A., & Tal, A. (2008). *WATER WISDOM*.
- Tal, A. (2006). Seeking Sustainability: Israel's Evolving Water Management Strategy. *Science*, 313(August), 1081–1084.
- Tenne, A. (2010). *Sea Water Desalination in Israel: Planning, coping with difficulties, and economic aspects of long-term risks* Author :
- UNICEF, UN-UNICEF, & UN. (2012). *Gaza in 2020 A liveable Place?: A report by the United Nations Country Team in the occupied Palestinian territory*. United Nations, Office of the United Nations Special Coordinator for the Middle East Peace Process (UNSCO) (Vol. United Nat).
- Waslekar, S. (2011). *The Blue Peace: Rethinking Middle East Water*.
- Waslekar, S., & Futehally, I. (2013). *Water cooperation for a Secure World: Focus on the Middle East*.