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Course Title and Number: Geography of the Middle East (GEO 1208)

Module Title: Water Scarcity, Food Security, and potential future conflicts in the Middle East: A Geographic Perspective

Educational Objectives

Upon the completion of this module students will:

1. have a much better understanding of how the fresh waters of the world is distributed.
2. be able to analyze maps to learn about the challenges and possible solutions of water in the Middle East.
3. be able to define the present and potential future challenges to food security.
4. be able to assess the specific potential conflicts over water allocations and rights.

Narrative Description of the Module:

This module will focus on the global geography of water in general and the Middle East/N. Africa region in particular for a semester course on the Geography of the Middle East. Through various resources students will explore the global water issues such as: water scarcity, food security, and water related political conflicts. The module will consist of three units. The first two units will each cover a week and the third unit will be spread throughout the semester.

Unit 1: Global Water Crisis. Through readings, videos, maps, and statistics, students will be learn about the global distribution of water from a geographic perspective. Students will watch the video “A World without Water” and will complete the worksheet related to the video prior to class. In class, students in small groups will discuss the contents of the video and the worksheet.

Video

A World without Water

<http://youtu.be/egtKx24dat8>

Worksheet for the video “A World without Water”

See Appendix

Students will analyze a series of maps, charts, and statistics related to various water issues

<http://www.unep.org/dewa/vitalwater/article77.html>

Unit 2: Middle East water challenges and food security. This unit will focus on one of the most deprived water regions in the world. Students will explore the challenges of water scarcity, food security, and political conflicts in the region. Students will read the following articles regarding the water issues in the Middle East prior to class.

Readings

Regional Initiative on Water Scarcity in the Near East <http://www.brookings.edu/research/opinions/2014/06/24-water-scarcity-growth-prospects-middle-east-north-africa-devlin>

Waternet on the Geopolitics of water scarcity in the Middle East

<http://www.waternet.be/>

Middle East's Water Scarcity Seen as Food Security Issue

<http://www.bloomberg.com/news/2014-02-20/middle-east-s-water-scarcity-seen-as-food-security-issue-1-.html>

Students will watch the following short video on the water supply and future problems. The instructor will lead the group discussion on the readings and the video after.

Video

World Water Supply and Future Problems

<http://youtu.be/hvnFqfm428Y>

Unit 3. Student Presentations/Evaluation. Either individually or in pairs, students will explore and assess the water crisis in a specific country in the region and will provide the results of their research in class presentations. The presentations will have the same grading weight as an exam.

Resources

- United Nations “Water for Life” Decade – In conjunction with the Millennium Development Goals, this website provides a brief overview of water scarcity and links to many articles related to the topic.
<http://www.un.org/waterforlifedecade/scarcity.shtml>
- The Water Project – A non-profit organization dedicated to educating the public about the global water crisis and creative solutions.
http://thewaterproject.org/water_scarcity
- Circle of Blue – Provides in-depth articles about the world's water and resource crisis.
<http://www.circleofblue.org/waternews/>
- An article about fossil aquifer depletion and its consequences.
<http://news.nationalgeographic.com/news/2014/08/140819-groundwater-california-drought-aquifers-hidden-crisis/>
- Global Water Forum – Discusses the various meanings of the term “water scarcity” and suggests how countries might manage it.
<http://www.globalwaterforum.org/2012/05/07/understanding-water-scarcity-definitions-and-measurements/>
- Vital Water Graphics – A series of maps explaining the water crisis' various aspects.
<http://www.unep.org/dewa/vitalwater/article77.html>
- FEWRResources.org – Extensive information on water scarcity in all aspects from human aquifer withdrawals to the hydrologic cycle.
<http://www.fewresources.org/water-scarcity-issues-were-running-out-of-water.html>
- Peak Water – An article by famed eco-author Lester Brown looking at the water scarcity crisis.
<http://www.theguardian.com/global-development/2013/jul/06/water-supplies-shrinking-threat-to-food>

- The link below focuses on finding a solution to water scarcity and food security in the Middle East/N. Africa.
<http://www.prb.org/Publications/Reports/2002/FindingtheBalancePopulationandWaterScarcityintheMiddleEastandNorthAfrica.aspx>
- This article focuses on food security in the Middle East.
<http://www.ecomena.org/tag/food-shortage-in-middle-east/>
- The link below is a look at the world projections going into 2025, and looks at the total population and water scarcity going forward. It creates a Water/Food Model and how the effects of poor water use is ruining agriculture.
http://www.sidnlps.org.pk/available_online/water2025-tanveer.pdf
- The website and the embedded links look at the global water demand for countries that don't have access to freshwater or proper sanitation.
<http://thewaterproject.org/water-in-crisis-middle-east>
- This is a closer look at the water problem around the River Jordan.
http://www.unc.edu/depts/diplomat/archives_roll/2001_07-09/dale_water/dale_water.html
- This article talks about ground water pumping, and the drying of the Dead Sea. NASA has also taken a look into what they can do.
<http://www.livescience.com/27057-middle-east-depleting-water-reserves.html>
- Related to the previous link, this is NASA direct look at the mass exodus of ground water in the region.
http://www.nasa.gov/mission_pages/Grace/news/grace20130212.html

This link focuses on the water resources and conflict in the Middle East

http://books.google.com/books?hl=en&lr=&id=IRGxvz1B8p8C&oi=fnd&pg=PP1&dq=water+crisis+in+the+middle+east&ots=kbsM_bRC_j&sig=8yn1vUMm-J9N_vdNwhFb02v1E3Q#v=onepage&q=water%20crisis%20in%20the%20middle%20east&f=false

- This is like the Jordan- Israel issue a couple links up, It looks more at the physical geography of the area and water basins.
<http://www.jewishvirtuallibrary.org/jsource/Peace/water2.html>
- A preliminary and regional review and gap analysis on the water scarcity and food security in the Middle East/N. Africa
http://www.fao.org/nr/water/docs/WSRE_Preliminary-Regional-Review-Gap-Analysis-Draft-Report.pdf
- A series of National Geographic videos related to the future of food.
<https://www.youtube.com/playlist?list=PLivjPDIt6ApQNHI4nT7ALc81jb6gpafKM>
- A series of students and teachers activities provided by the World Food Program
<http://www.wfp.org/students-and-teachers/classroom-activities>
- This article focuses on the water shortage as a food security for the Middle East/N. Africa region
<http://www.tehrantimes.com/oped/118094-water-shortage-a-food-security-issue-for-the-region>

Appendix

Movie Question Sheet: A World Without Water

Name _____

1. Why can't the family in Bolivia access the water that is so close to them?
2. What are the social affects for the children of not being able to access clean water?
3. When has the water crisis been created?
4. Why does Vandna Shiva think the "greed of privatization" will be worse for people than climate change in terms of access to water?
5. What has been the affect on local farmer from the Coke factory in Rajistan in India?
6. How much water is needed to make one liter of Coke?
7. What is the essential difference between what Coke is using water for and what the farmers and people in India would use the water for?
8. What is the World Bank plan for water in Tanzania?
9. What has been the result for people in Tanzania?

10. In one day how many people lost access to water in Detroit?
11. Why does privatizing water in the US look positive to some politicians? What is the “running down” strategy they use to then impose privatization?

12. What are the most common problems children face due to lack of clean water in Bolivia?

13. How did Britain’s move to privatize public resources affect the privatization worldwide?

14. Why did the UK need a pop song to sell the idea of privatization in water in Tanzania? Who benefited from the privatization?

15. What did the Price Waterhouse report say about the water privatization in Tanzania? What happened to City Water?

16. What does it mean that water has become the “blue gold” of this century?

17. What is the rationale of those who think that water should be a commodity?

18. What is the argument against the bulk sale of water?

19. How have things changed in Bolivia recently with the first Indigenous President and a shift in ministers?

20. What are people in Bolivia and in Detroit both doing to reconnect their water?

