

# Consortium on Law and Values in Health, Environment & the Life Sciences

## 2010-11 Student Proposal Cover Page

### Applicant Information

Applicant Name: **Basil Mahayni** Email: [Mahay002@umn.edu](mailto:Mahay002@umn.edu)

Project Title: **Precarious Waters and Questionable Futures: Origins of Scarcity and State-Building in Syria**

Department: **Geography** College: **CLA**  
City & State: **Minneapolis, MN** Zip: **55404**

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Dept. Head's name: **Abdi Samatar** Dept. Head's email: [Samat001@umn.edu](mailto:Samat001@umn.edu)

Dean's name: **James Parente** Dean's email: [Paren001@umn.edu](mailto:Paren001@umn.edu)

How did you hear about this funding opportunity? Department Email

### Funding

Total amount of funding requested: **\$6875.00** Is funding available within your center or dept for this project? Part of my research will be funded by ICGC

Executive summary (maximum 200 words)

Declining water resources on the Barada and Awaj basin, which provide Damascus, Syria, with freshwater, has resulted in a cooperative agreement between the Syrian government and the German Technical Development Corporation to finance and refurbish water systems through market-based management. Freshwater springs on the Barada and Awaj basin have sustained Damascus for thousands of years. Historic religious texts, colonial diaries, and popular literature depict Damascus and its rural surroundings as water abundant and lush with groves, orchards, and productive agriculture (de Chatel 2007). Today, there are intense water shortages and rationing of freshwater. Policy literatures emphasize public consumption, agriculture, and climate change as the driving forces of water scarcity (GTZ 2009; SARPC 2006; Kaisu, Yasser, and Mahrouseh 2004; Rogers 1994). Critical scholars have examined water scarcity as socially constructed through the interrelationship of economic modernization, inadequate forecasting methods, and hydrological fluctuations that transect existing socio-economic inequalities (Mehta 2008; Kaika 2005; Bakker 2000). Yet both social scientists and policy makers inadequately attend to the ways *state*-oriented economic modernization change water usage and access, and create conditions for water scarcity. Thus, I ask: how do state-building efforts change forms of water governance and how might these changes explain current water crises?

## Approvals

Check all appropriate approvals required for your proposal. Approvals must be obtained prior to receipt of funding. If you have applied for approval but have not yet received it, indicate that below.

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IRB	Yes	No	X; Will	Application pending
apply spring 2011				

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IACUC	Yes	No		Application pending
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Other	Yes	No		Application pending
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## Checklist

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- X The proposal is 1000 words or less excluding budget, biographies, references and citations.

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  - X The proposal includes a work plan with a specific timeline using months or quarters to identify work to be done and completion dates.

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  - X The proposal includes a 1-2 paragraph biography of the applicant and all co-investigators.

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  - X The budget form is complete including the funds sought for this project, other pending applications for this project, and the amount/source of matching or other funds.

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  - X The applicant's faculty advisor is copied on the application email. Professional students w/o advisors check NA.

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  - X All necessary approvals are pending or received.
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## Statement of the Problem

Declining water on the Barada and Awaj basin, which provide the oldest, continuously inhabited city in the world with freshwater, has resulted in a technical and financial agreement between the Syrian government and the German Technical Development Corporation (GTZ) to finance and refurbish water systems in and around Damascus through market-based management. Water in Damascus has been historically abundant with freshwater springs and wells on the Barada and Awaj basin sustaining the city for thousands of years. Historic religious texts, colonial diaries, and popular literature depict Damascus and its rural surroundings as water abundant and lush with groves, orchards, and productive agriculture (de Chatel 2007). Today, there are intense water shortages and rationing of freshwater.

Policy literatures emphasize public consumption, agriculture, and climate change as the driving forces of water scarcity (GTZ 2009; SARPC 2006; Kaisi, Yasser, and Mahrouseh 2004; Rogers 1994). Critical scholars have examined water scarcity as socially constructed through the interrelationship of economic development, inadequate forecasting methods, and hydrological fluctuations that transect existing socio-economic inequalities (Mehta 2008; Kaika 2005; Bakker 2000). Yet both social scientists and policy makers inadequately attend to the ways *state*-oriented economic modernization has changed water usage and water access, and created the conditions for intensifying water scarcity. This begs the question: how do state-building efforts change forms of water governance and how might these changes explain current water crises? Through policy analysis, key-informant interviews, focus groups, and geographic information systems (GIS) modeling, I plan to uncover the ways state-building efforts and projects for economic modernization have changed water usage and created conditions for the current crisis.

## Background

In order to develop a comprehensive understanding of water scarcity, we must move past defining it only in terms of water shortages, and seriously consider how gender, socio-economic class, and geography mediate unequal access to and use of water

(Mehta 2008). Water scarcity is conditioned by political acts of mapping, planning, engineering, and the relationships between policy makers and citizens from different social classes (Bakker 2010; Barnes 2009; Kaika 2005; Swyngedouw 2004). Governments play a role in shaping water use and access because through development policy, among other concerns. Understanding water scarcity also requires an investigation into the effects state-building and development policy on multiple modes of use and access.

### **Goals and Objectives**

My research seeks to understand how state-building processes and reform efforts change and condition water access and use in Syria, where water has been instrumental to its modernization efforts. I seek to understand the relationship between the modernization of the Syrian state and changes in local water use and governance on the Barada and Awaj basin in order to situate current access and use within a broader history of state-building. I argue that water degradation and changing access to water may be explained through state-building processes that involved mapping, infrastructural development, and development policies that offered subsidies for crops and fuel.

In this dissertation, I ask:

- 1) What is the relationship between state-oriented development policy and water resources?
- 2) What are the trends in the rates of flow of freshwater springs on the Barada and Awaj basin over time? How has the ecology of the Barada and Awaj basin changed over time?
- 3) What is the relationship between changes in access to and use of water and the state-oriented development policies?

### **Methodology and Work Plan**

I will use key-informant interviews, focus groups, policy analysis, and GIS to answer these questions. My field sites include the Midan neighborhood and ten villages on the Barada and Awaj Basin. Half of the villages access water by wells and half from freshwater springs. The Midan neighborhood is an older part of Damascus, once known for agricultural production and grain markets. These sites are selected because of the different ways water is accessed and the usage problems they face in light of resource decline and pollution.

*Question 1* will allow me to understand how water use and access changed through state building and economic development on the Barada and Awaj basin. I will visit with public officials from government ministries involved with water governance and policy. I will also visit with development experts at the several development organizations involved in development policy and sustainable water governance in Syria. I will supplement the interviews with evaluation of publicly available policy documents. *Question 2* will allow me to understand hydrological trends in the Barada and Awaj basin through an analysis of flow-rate data available in yearly statistical abstracts. I will also model these in relation to population shifts in light of Syria's high population growth in the 1980s and 1990s and recent rural-to-urban migration. *Question 3* will allow me to understand how access and use has changed over time. I will conduct focus group interviews in ten villages and with residents in Damascus in order to understand how access and use has changed with policy shifts and climate change. This question historicizes the contemporary dimension of access and use of water, which is important for clarifying the pressing problems of contemporary water scarcity. Funding from the Consortium on Law and Values will be used to cover flight costs in addition to living and research expenses for the first sixteen weeks of my fieldwork.

## Timeline

2011					2012						
Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July
Re-Connect with Contacts	Field work in Midan Key-Informant Interviews with Policy and Development Experts; GIS Analysis and Policy Analysis						Fieldwork in ten villages on the Barada and Awaj Basin				

## Contribution

This project is an important contribution to both scholarly and policy literatures. Recent reports emphasize that water is increasingly precious in the Middle East (AFED 2010). This project will help inform reform policies that seek to mitigate water scarcity concerns and contributes to academic literatures on the implications of market-based management reforms and social construction of water scarcity by investigating the interrelationship between state development policies, hydrological fluctuations, and local access and use of water as a way of understanding contemporary scarcities.

## References

- Arab Forum for Environment and Development (AFED). 2010. *Water: Sustainable Management of a Scarce Resource*. Edited by Mohamed El-Ashry, Najib Saab, and Bashar Zeitoun. Beirut, Lebanon: Arab Forum for Environment and Development.
- Bakker, Karen. 2010. *Privatizing Water: Governance Failure and the World's Urban Water Crisis*. Ithaca: Cornell University Press.
- Barnes, Jessica. 2009. "Managing the Waters of Bath Country: The Politics of Water Scarcity in Syria." *Geopolitics*. 14: 510-530.
- de Chatel, Francesca. 2007. *Water Sheikhs and Dam Builders: Stories of People and Water in the Middle East*. New Brunswick: Transaction Publishers.
- German Technical Development Corporation (GTZ). 2009. "The Programme." *Modernisation Programme for the Syrian Water Sector*. <http://www.water.co.sy/index.php?m=179>
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- Kaisi, A., M. Yasser, and Y. Mahrouseh. 2004. *Syrian Arab Republic Country Report. Non Conventional Water Use Workshop*: Cairo, Egypt.
- Mehta, Lyla. 2008. "Contexts and Constructions of Scarcity." *Contested Grounds: Essays on Nature, Culture, and Power*. Edited by Amita Baviskar. New York: Oxford University Press.
- Rogers, Peter. 1994. "The Agenda for the Next Thirty Years." *Water in the Arab world: Perspectives and Progress*. Edited by Peter Rogers and Peter Lydon. Cambridge: Harvard University Press.
- Swyngedouw, Erik. 2004. *Social Power and the Urbanization of Water*. New York: Oxford University Press.
- Syrian Arab Republic State Planning Commission (SARPC). 2006. *The Five Year Plan 2006-2010*. Damascus, Syria. [http://www.planning.gov.sy/index.php?page\\_id=24](http://www.planning.gov.sy/index.php?page_id=24)

## Biography

I am an ICGC doctoral student at the University of Minnesota in the Department of Geography. I have longstanding research and professional interests in sustainable development and ecological concerns. I received a B.A. in Political Science in 2005, graduating with Honors and Distinction. My Honors Project investigated the social and cultural history of coca use in Bolivia and the failures of alternative development projects. In 2007, I completed my M.A. in Political Science and Graduate Certificate in Geographic Information Systems (GIS) from Iowa State University. My master's thesis

explored voter behavior in relation to socio-economic variables and identity in Bolivia's 2002 and 2005 presidential elections. My professional report for his Graduate Certificate in GIS explores water quality and quantity concerns regarding proposed biofuel refineries in Greene County, Iowa. This project was part of a collaborative research effort between graduate students and faculty, and was funded by the Greene County Development Corporation, Iowa Energy Center, and the Leopold Center for Sustainable Agriculture. Following my graduate work at Iowa State University, I worked with Guarani Indians in rural Bolivia on community organizing and networking around agricultural production and processing of agricultural commodities. Upon arriving to the University of Minnesota, I decided to shift my research to understand the underlying social, political, and economic factors underlying water scarcity in the Middle East. This interest derives from my personal connections to Damascus, the home of my parents. As a fluent speaker of Arabic and dual-citizen of the United States and Syria, I am confident that I can conduct this research with rigor.

Since arriving, to the University of Minnesota, I have conducted pre-dissertation research in 2009 and 2010 with the Abler Adams Palm Geography Field Research Fellowship and the Interdisciplinary Center for the Study of Global Change Pre-Dissertation Grant. I have also worked as a teaching assistant for Environment and Development in spring 2010 and spring 2011 where I have guest lectured on water scarcity and governance in the Third World. I am also a co-author of the paper titled "The Dialectics of Piracy in Somalia: the rich versus the poor" in *Third World Quarterly* with my advisor Dr. Abdi Samatar and Dr. Mark Lindberg. I anticipate achieving candidate status by the end of spring 2011 and plan to depart for my fieldwork in Damascus by next August 2011.

**Project Title: Precarious Waters and Questionable Futures: Origins of Scarcity and State-Building in Syria**

Instructions provided below.			Requested funding	Matching/other funding	
	Personnel costs	Description & justification Salary = ___hrs x ___ hrly wage	Amount	Amount	Source
1	Your salary (stipend)				
2	Other personnel				
3	Other personnel				
4	Other personnel				
5	<b>Personnel Subtotal</b>		\$0.00	\$0.00	\$0.00
6	Speaker Honoraria	Number of speakers and amount of honoraria			
7	Supplies & Services	Identify and explain use. Copy Expenses	\$1000		
8	Equipment	Identify and explain use. Digital voice recorder (\$50), External Hard Drive (\$65) for interviews and storage	\$115		
9	Travel	Flight Minneapolis to Damascus August 2011 to August 2012 \$1200; Transportation \$70/wk; Housing and Food \$215/wk for 16 weeks	\$5760		
10	<b>Subtotal research supplies, equipment, travel, other</b>		\$6,875.00	\$0.00	\$0.00
11	<b>TOTAL BUDGET</b>		<b>\$6,875.00</b>	<b>\$0.00</b>	<b>\$0.00</b>

1. Stipend justification. You must justify the amount of stipend you are requesting by identifying the number of hours you plan to work on the project and the hourly wage used for research assistants in your department. Include fringe benefits.

2-4. Identify all other personnel to be paid from this grant including interpreters, travel guides, etc. and justify their salary by identifying the number of hours they will work and the hourly wage. What is the hourly wage based on?

6. For colloquia, identify the number of speakers and the amount of honoraria you will provide.

7. Supplies and services. List out all supplies and their estimated costs. Explain in line 7 or in the body of your proposal what the supplies will be used for.

8. Equipment costs are allowable only if the justification clearly shows that the equipment is necessary for the project. Include explanation of what will happen to equipment at completion of project.

9. Travel costs must include a description of the purpose of the travel, start and stop dates of travel, transportation costs, housing costs, and allowable per diem (use University rates found at [http:// travel/umn.edu](http://travel/umn.edu)).