

11.382 WATER DIPLOMACY

Spring 2020
Tuesday, 3:30 – 5:30 pm
Room 9-255

INSTRUCTOR:

Prof. Lawrence Susskind

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Office hours: By appointment

This class focuses on ways of resolving conflicts over the allocation of water resources, particularly transboundary waters. Graduate students and advanced undergraduates) from MIT, Harvard and other Boston-area universities are welcome. There are no prerequisites. The class is taught comparatively, that is, with constant reference to cases from around the world.

The course is organized as follows:

I. COMPLEXITIES OF WATER SECURITY: COOPERATION AND CONFLICT

- Complexities of Water Resource Allocation
- Transboundary Water Conflicts and Cooperation
- Water Security; Water Diplomacy

II. THE WATER DIPLOMACY FRAMEWORK (WDF)

- Introduction to the framework
- Stakeholder engagement
- Benefit-sharing and mutual gains

III. KEY CONSIDERATIONS

- The evolution of water management
- Integrated Water Resource Management (IWRM)
- The Water-Energy Food (WEF) Nexus
- Sustainable Development Goals and IWRM

IV. REGIONAL CASE STUDIES (GUEST PRESENTERS)

- The US-Mexico Water Case (Dr. Bruno Verdini, MIT)
- The Nile River Case (Dr. Yasmin Zaerpoor, Boston College)

- The Brahmaputra Case (Dr. Animesh Gain, MIT)
- The Indus/Jordan River Case (Prof. Shafiqul Islam, Tufts University)

V. STUDENT PRESENTATIONS

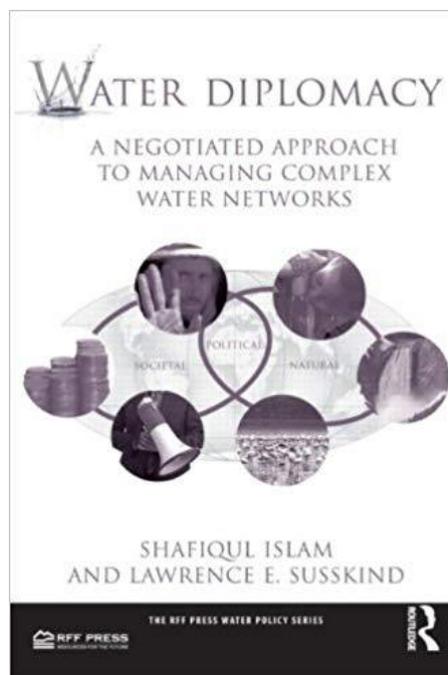
COURSE REQUIREMENT:

Class Meetings: The class meets for two hours every Tuesday from February 4 through May 12 except for March 24 (during mid-term vacation). Students are required to attend all scheduled classes. Students will also be required to participate in a required role-play simulation (day/time TBD) as was as a session explaining how to develop an Aquapedia case.

Section Meetings: There are sections that meet late Tuesday afternoon once the regularly scheduled class sessions are over. Sections meet for one hour on the following dates: 3/17 and 3/31. Section meetings are optional but highly recommended.

Reading assignments (except the required text) are available on Stellar. *Please make a habit of checking the Stellar site*, as new readings may be posted during the semester.

Required Texts: The required text is Shafiqul Islam and Lawrence Susskind, **Water Diplomacy: A Negotiated Approach to Managing Complex Water Networks**, Resources for the Future, 2012. It can be purchased from the COOP (or book purveyor of your choice). You may also make use of the copies on reserve in Rotch Library (Building 7, second floor).



Participation in the role-play simulation is required. The role-play game offers an opportunity for students to apply the ideas and techniques discussed throughout the semester. The “game” deals with the political and scientific disputes that arise in the context of negotiations over water quality, water allocation, water security, rights to water and the

deployment of relevant technologies. **A one-page reflection will be due after completing the simulation.**

COURSE MATERIAL:

We will add additional course content based on the interests of the class; therefore, **reading assignments and assigned memo questions are subject to change.** We will upload a 'Weekly Class Preparation' document to help students grapple with the following week's reading.

ASSIGNMENTS AND GRADING:

1. **5 Short Memos.** Along with the assigned readings, you will be given debate questions designed to serve as the basis for class discussion. All students are required to submit at least five memos during the first three sections of the course. Memos should be no longer than 500 words. In each memo, you should defend your position on the debate question by applying concepts presented in the assigned reading. You will receive written feedback on your memos during the course of the semester. They are **due by 10 pm on the Tuesday before the class in which the assigned reading will be discussed.** They will be graded "check plus (3 points)," "check (2 points)," or "check minus (1 points)." **The 5 memo responses will count for 10% of the final grade.**
2. **Participation in, and reflection on, the in-session role-play simulation called The Indopotamia Game are required.** The Indopotamia Game offers an opportunity for students to apply the ideas and techniques discussed throughout the semester. The game deals with the political and scientific disputes that arise in the context of negotiations over water quality, water allocation, water security, rights to water and the deployment of relevant technologies. A one-page reflection will be due after each of the segments. Participation and reflections will count for **10% of the final grade.**
3. **A final 12 – 15 page (single-spaced) case study of a water conflict should be uploaded to Stellar by May 19.** The draft of the case study is due on **April 28.** The draft will not be graded, but will be reviewed in the hope that the final version of the case study (that will be published in the Aquapedia) can be as strong as possible. **The final case study will count for 35% of the final grade.** Late submissions will not be accepted. Paper topics are due by 3/14 (via email attachment by 3 pm that day, with a hard copy handed in during class).
4. **Oral presentation:** Each student must make a 20-minute oral presentation of their case study on either April 28, May 05 or May 12. **The presentation will count for 25% of the final grade.**
5. **Two written commentaries:** Each student is required to serve as a commentator on two of the cases (prepared by other students) in the class. Everyone in the class is required to indicate to the co-instructors by **March 30** (via Stellar) the two cases they wish to comment on. Commentaries should point out the strengths of the case presentation and suggest possible improvements. **The two commentaries will count for 5% of the final grade.**

6. **Class participation in all classes.** You are required to attend all scheduled class meetings unless you have requested an exception (one per semester) or have a medical emergency. **Participation will count for 15% of the final grade.**

Grading will be based on the 5 short memos (15% of the grade), 2 commentaries (5% of the grade), the draft and final version of the case study (35%), one oral presentation (25%), regular attendance (10%), and participation in the role-play simulation with reflections (10%).

Final grades are based on a weighted average for the term. Grade cutoff points are as follows: A+ = 97 – 100; A = 94-96%; A- = 90-93%; B+ = 87-89%; B = 83-86%; B- = 80-82%; C+ = 77-79%; C = 73-76%; C- = 70-72%; F = < 60%

Due Dates for Assignments

- **March 3, 10 and 24:** 1 page reflections on Indopotamia parts I, II and III
- **March 14, 2020:** Identify water conflict case study (your final assignment).
- **March 30, 2020:** Identify the two cases you will comment on.
- **Apr 28, 2020:** First draft of final assignment due (hardcopy and uploaded to Stellar).
- **May 19, 2020:** Final assignment due.

Disabilities: If you have a documented disability or any other problem you think may affect your ability to perform in class, please see Dr. Animesh Gain early in the semester so that arrangements may be made to accommodate you.

Academic Honesty: Plagiarism and cheating are both academic crimes. Never (1) turn in an assignment that you did not write yourself, (2) turn in an assignment for this class that you previously turned in for another class, or (3) cheat on an exam. If you do, it may result in a failing grade for the class, and possibly even suspension from MIT. Please see Dr. Gain if you have any questions about what constitutes plagiarism.

COURSE SCHEDULE		
Part	Date	Topic and Reading
	2/4	<p>Introduction: Review of the objectives of 11.382. Student responsibilities, class structure and grading policy.</p> <p>Complexities of Water Resource Allocation: Why are transboundary water allocation problems complex? What do we know about addressing complex problems in the public realm?</p> <p>Transboundary Water Conflicts and Cooperation: What factors lead to cooperation in the management of common</p>

<p style="text-align: center;">PART I:</p> <p>COMPLEXITIES OF WATER SECURITY: COOPERATION AND CONFLICT</p>		<p>pool resources (CPR)? What questions must be addressed to ensure effective transboundary water management?</p> <p>Assigned Reading: Islam S., Susskind L., 2018. "Using complexity science and negotiation theory to resolve boundary-crossing water issues". Journal of Hydrology 562, 589-598.</p> <p>Huntjens, Patrick, and Rens de Man. 2017. "Water Diplomacy: Making Water Cooperation Work." Policy Brief. Planetary Security Initiative and The Hague Institute for Global Justice. Pgs. 1-12.</p> <p>Susskind, Lawrence, and Shafiqul Islam. "Water diplomacy: Creating value and building trust in transboundary water negotiations." Science & Diplomacy 1, no. 3 (2012): 1-7.</p> <p>Keohane, Robert O, and Elinor Ostrom, eds. 1995. "Introduction." pgs. 1–26.</p>
	2/11	<p>Transboundary Water Conflicts and Cooperation: What advantages and disadvantages are there to referring to a water management effort as a 'conflict' or an example of 'cooperation'? Can we avoid conflicts over water? If so, how?</p> <p>Water Security: What is security? How can water be secured? How can water diplomacy be useful in securing water resources?</p> <p>Assigned Reading: Gleick, Peter H. "Water and conflict: Fresh water resources and international security." International security 18.1 (1993): 79-112.</p> <p>Wolf, Aaron T. "Conflict and cooperation along international waterways." Water policy 1.2 (1998): 251-265.</p> <p>Cascão, Ana Elisa, and Mark Zeitoun. 2010. "Power, Hegemony and Critical Hydropolitics." In Transboundary Water Management Principles and Practice, edited by Anton; Earle, Anders; Jagerskog, and Joakim Ojendal, 27–42.</p> <p>Cook, C. and Bakker, K., 2012. "Water security: debating an emerging paradigm". Global Environmental Change 22, 94–102.</p> <p>Grey, D., Sadoff, C.W., 2007. "Sink or swim? Water security for growth and development". Water Policy 9, 545–71.</p>

		<p>Gain, A.K., Giupponi, C., Wada, Y., 2016. “Measuring global water security towards sustainable development goals”. Environmental Research Letters 11, Art 12.</p> <p>Recommended Skim: Spector, Bertram I. 2000. “Motivating Water Diplomacy: Finding the Situational Incentives to Negotiate.” International Negotiation 5 (2): 223–36.</p>
<p>PART II:</p> <p>WATER DIPLOMACY FRAMEWORK</p>	2/18	<p>Water Diplomacy Framework (WDF): Introduction; Stakeholder engagement</p> <p><u>Assigned Reading:</u> Islam and Lawrence Susskind, Water Diplomacy: A Negotiated Approach to Managing Complex Water Networks, Resources for the Future, 2012. Chapter 1-3</p>
	2/25	<p>Water Diplomacy Framework (WDF): Negotiation; Benefit sharing; Mutual Gain</p> <p><u>Assigned Reading:</u> Islam and Lawrence Susskind, Water Diplomacy: A Negotiated Approach to Managing Complex Water Networks, Resources for the Future, 2012. Chapter 4-8</p>
<p>PART III:</p> <p>KEY CONSIDERATIONS</p>	3/3	<p>The evolution of Water Management: How has the practice of water resource management evolved over time?</p> <p>Integrated Water Resources Management: What is adaptive management and how is different than IWRM?</p> <p><u>Assigned Reading:</u></p> <p>GWP and INBO. 2009. “A Handbook for Integrated Water Resources Management in Basins.” Section TBD.</p> <p>Pahl-Wostl, Claudia. 2007. “Transitions towards Adaptive Management of Water Facing Climate and Global Change.” Water Resources Management 21 (1): 49–62.</p> <p>Benson, D., Gain, A.K., Rouillard, J.J., 2015. Water governance in a comparative perspective: From IWRM to a'nexus' approach? Water Alternatives 8(1): 756-773</p> <p>Asit Biswas, “IWRM: A Reassessment,” in Water International, Volume 29, No. 2, pp. 248-256, June 2004.</p>
	3/10	<p>The Water-Energy Food (WEF) Nexus: What is new in the WEF Nexus? Why it is important in water diplomacy?</p>

		<p>Sustainable Development Goals and IWRM: How are transboundary cooperation and conflict reflected in SDG targets? How should IWRM be implemented to increase the chances of achieving SDGs?</p> <p><u>Assigned Reading:</u></p> <p>Jianguo Liu et al., 2018. Nexus approaches to global sustainable development. <i>Nature Sustainability</i> 1: 466-476.</p> <p>J. Liu et al., 2017. Challenges in operationalizing the water–energy–food nexus. <i>Hydrological Sciences Journal</i> 62(11): 1714-1720.</p> <p>Benson, D., Gain A.K., Giupponi, C., 2019. Moving beyond water centrality? Conceptualizing integrated water resources management for implementing sustainable development goals. <i>Sustainability Science</i>. doi: 10.1007/s11625-019-00733-5</p> <p>McCracken M, Meyer C (2018) Monitoring of transboundary water cooperation: review of sustainable development goal indicator 6.5.2 methodology. <i>Journal of Hydrology</i> 563:1–12.</p>
<p>PART IV: REGIONAL CASE STUDIES</p>	<p>3/17</p>	<p>Guest Lecture: Dr. Yasmin Zaerpoor Nile River Case</p> <p><u>Assigned Reading:</u></p> <p>Preparation: Watch the BBC new virtual reality episodes on the Nile (youtube: “Damming the Nile” episodes 1 and 2 – each is 12 minutes).</p> <p>Read (and bring to class) the 1959 Agreement on the Full Utilization of the Nile River.</p>
	<p>3/24</p>	<p>No Class: Mid-Term break</p>
	<p>3/31</p>	<p>Guest Lecture: Dr. Bruno Verdini The US-Mexico Water Case</p> <p><u>Assigned Reading:</u></p> <p>Verdini, B., 2017. <i>Winning Together: The Natural Resource Negotiation Playbook</i>. MIT Press.</p>

	4/7	<p>Dr. Animesh Gain The Brahmaputra River Case</p> <p>Assigned Reading: Barua, A., Vij, S., 2018. Treaties can be a non-starter: a multi-track and multilateral dialogues approach for Brahmaputra Basin. <i>Water Policy</i> 20: 2018.</p> <p>Rahaman, M.M., & Varis, O., 2009. Integrated water management of the Brahmaputra Basin: perspective and hope for regional development. <i>Natural Resources Forum</i> 33(1): 60-75.</p>
	4/14	<p>Dr. Animesh Gain Ganges or Indus river basin case</p> <p>To be assigned</p>
	4/21	<p>Guest Lecture: Prof. Shafiqul Islam Indus and Jordan River Case</p> <p>To be assigned</p>
PART V: STUDENT PRESENTATION	4/28	Student Case Presentations
	5/5	Student Case Presentations
	5/12	Student Case Presentations; The Water Diplomacy Framework Revisited
	5/19	<i>Final Case Study Assignment Due on May 19</i>