

**The Johns Hopkins University
Krieger School of Arts and Sciences**

Environmental Science and Policy Program

Fall Term 2016

Syllabus

Instructor: Mr. Amir Poudel, M.Sc

420.665.81 - Climate Change on the Front Lines: The Study of Adaptation in Developing Countries

Poor and developing countries are facing the effects of climate change. Agriculture, forests, water and rangeland which form the basic building blocks of rural livelihoods are impacted by erratic rainfall and increased temperature apart from other alterations in the weather and climatic pattern. Natural hazards such as floods, landslides, drought, forest fire, health epidemics have increased like never before and these vital resources are directly impacted impacting not just people but the entire ecosystems, their products and services.



In this course we will see how such resources are being impacted in developing countries. We will also see how to go about in identifying the different vulnerabilities and impacts to communities and ecosystems. We will also do detailed examination of the different tools and methods in place to undertake such vulnerability and impact assessments. We will also see how developing countries like Nepal are investing on research activities and how these nations are integrating climate change concerns in their policies and institutional development. At the end of the course, we will see the planning process of building climate change into regular conservation and development work. We will hear the voice of communities from across the world and see how they are responding to the impacts of climate change.

Course Learning Goals and Objectives

- Students will identify how climate change has been impacting poor and developing countries. Students will document the different adaptation options being practiced and assess whether these are sustainable in the long run
- Students will be able to point out the different national and international efforts being conducted in developing countries in order to address the issues of climate change
- Students will go through the key tools and methods of undertaking climate change assessment including vulnerability assessment for both livelihoods and ecosystems
- Student will review and identify the different source of data and information
- Students will differentiate how different nations are integrating the component of climate change in their regular development planning and how much priority it has been receiving over other issues
- Most importantly the students can use the learning from this course to build on their career to work in developing countries

Assessments and Grading Policy

Grading System: Grades of the students will depend upon (a) class participation via discussion threads and (b) Research papers; and (c) assignment. There will be a total of 4 research papers. First paper should be submitted individually whereas the rest of the three papers will involve group work. Students

who want to work individually on the group paper should inform the instructor in advance during initial preparatory period. Broadly these papers will cover science, impact, adaptation and policy issues. Second paper will deal with the impacts of climate change on the sectors like agriculture, forests, biodiversity, water resources, public health. Students will pick few developing countries and analyze the impacts. Similarly third paper will be on adaptation where students will have to find the adaptation practices being done by the communities to respond to such changes. Final paper will be about framing final recommendations for concerned authorities to tackle the issues of climate change for such developing nations. Class participation is also the basis for grading students where they will be involved in interactive dialogue based learning. There will be one assignment to write an essay about carbon financing in Nepal.

- **Research Papers:** 4 papers (each worth 100pts) * (17.5%) = 70% of final grade. Detailed rubrics have been incorporated in the Blackboard site.
- **Discussions:** 14 discussion boards * (1.43%) = 20 % of final grade
- **Assignment:** 1 assignment (worth 100pts) * 10 % = 10% final grade

Class participation: Students should participate in the discussion forum every week, and review and comment on the posting of fellow students; put forward question on confusing issues if any. For each of the week’s modules, each student should post one initial comment and provide at least one follow-up comment on another student's posting. There are however no restrictions in the number of posting and comments but they have to be precise and non-repetitive. Discussion Participation rubric will be followed to grade students’ participation.

Criteria	Poor	Adequate	Good	Excellent
Responding to Assigned Questions Weight 50.00%	0 % - 25% Not responding to discussion questions; Student misses the main idea.	26 % - 50% Student participates but lacks major concept and idea.	51 % - 75% Student participates by discussing the main ideas; provides relevant options and ideas.	76% - 100 % Student participates by discussing the main ideas; provides relevant options and ideas; Provides relevant additional questions for enhancing the discussion quality.
Responding to Other Students Weight 50.00%	0 % - 25% Student misses to post or leaves the main idea while discussing.	26 % - 50% Student responds but provides views that are not very relevant to the discussion questions.	51 % - 75% Student responds to two other fellow students and assists to generate new and innovative ideas.	76% - 100 % Student responds to many students posts and assists to generate new and innovative ideas and helps to build on other ideas.

Each of the week’s discussion board is worth 10 points and there are 14 such discussion boards in this course making the total score of 140. This total will be converted into 20 percent while calculating your total grade. Each student will have about 2 days to read and comment on their fellow students' posting.

Papers: There will be a total of four papers to be prepared by the students. The first is on the science of climate change in a developing country. The second paper deals with the impacts of while the third part assesses the adaptation practice. The last paper will deals with the policy and institutional aspect of climate change in developing countries. Through the last paper, students will generate recommendations to the pertinent authorities of developing countries. Citation techniques, word limits, formatting standards have been provided in the weekly lesson plans.

How to submit your work

Students have to submit their paper using MS office package mainly Microsoft word and Excel. Students are strictly prohibited from using others’ work without citation. Please specify the assignment name in the discussion thread and/or the document title.

When creating files, save the file in the following format: “Research Paper1_David_Mullin.docx” (or .xlsx); “Research Paper2_Agriculture Group.docx” (or .xlsx); Assignment1_David_mullin.docx and so on.

Late submission policy

You are expected to contact your instructor in advance if you think you cannot meet an assignment deadline. However, if an assignment is late and prior arrangements have not been made with the instructor, the assignment score may be affected. Two points will be deducted every day for each late submission.

Course Structure

Developing countries have very poor economic base making them highly vulnerable to the impacts of climate change. Increasing trend of temperature, erratic precipitation patterns, increased incidence of climate induced disasters among others have greatly impacted the life and livelihood of the people in the country. The main purpose of choosing this course is to understand the current impacts of climate change in developing countries and listen to people who are actually facing these types of impacts. By analyzing key livelihood sectors such as agriculture, water resources, forests etc the course will identify the impacts and what people are doing to cope up with it. This course is particularly useful for individuals who want to understand the life and living conditions of developing countries and who want to work in the field of international development and policies. The course will teach the different tools and methods being adapted internationally to assess climate change impacts and adaptation measures. Evaluations and assignments in the course have been designed such that students, after the completion of each week's lecture can independently think and start researching on similar issues and prospects. As the topic is vast and important, paper based evaluation is very effective as students in their paper can have a broad view of the topic and can provide wide scope recommendations. Most importantly, climate change issues and concerns are one of the highly emerging fields in developing countries and courses like this could be a guide for students who want to look into issues from an interdisciplinary perspective and work in similar topics in developing countries. For this particular reason doing assignments via paper will help them be open-minded and explore new potential working areas in developing countries. Students are also requested to follow up on news and publications in related topics. Through their assignments and discussion with others, fellow students can share their knowledge, interests and findings and get feedback and comments on the paper. Understanding the big picture view of the issues, contexts and opportunities of climate change is the ultimate goal of the course.

Course Materials

Textbook/s

There is no text book for the course. PowerPoint slides, journal paper, articles, video will be the materials for the course.

Specific Technology Requirements for this Course

This course requires the use of a computer with basic programs such as the Windows Office Suite (Word, Excel, PowerPoint); Adobe Acrobat; basic audio and video applications (Audacity, Windows Media Player); Access to broad band internet using browsing applications such as Firefox Mozilla, Google chrome and Internet Explorer) is essential.

Course Topics, Activities & Schedule

Tentative Course Schedule

Important Note: Refer to the course calendar for specific meeting dates and times. Activity and assignment details will be explained in detail within each week's corresponding learning module. If you have any questions, please contact your instructor.

Week/Date	Topics	Activities	Assessments & Due Dates
Week 1 09/3 – 09/9	Knowing Ourselves and the Syllabus	<ul style="list-style-type: none">• Listen: Mr. Poudel's narrated audio• Watch: Mr. Poudel's slides 'Nepal at a Glance'• Read: <i>Climate Change and Himalayas</i>• Watch: The Guardian's Video: From Glacier to Sea	<ul style="list-style-type: none">• Post the self introduction by responding to the Discussion Board (DB) thread on "Personal Introduction" by 09/04 (Thurs); Comment on students' introduction by 09/06 (Sat).

Week/Date	Topics	Activities	Assessments & Due Dates
			<ul style="list-style-type: none"> Other DB post by 07 (Sunday) and Post Comments by 09 (Tuesday)
Week 2 09/10-09/16	Understanding of the basic Concepts	<ul style="list-style-type: none"> Read: (Page3-11) From Section A to D <i>International Monetary Fund (IMF) Working paper</i> Read: <i>Major Characteristics of Developing Countries</i> Read: (Page 1-5) <i>Guidance Note on Recovery Livelihood</i> Read: (Page 1-5) <i>Social-Ecological-System (SES): An Impossibility?</i> Watch: Mr. Poudel's narrated slides 	<ul style="list-style-type: none"> Respond to prompts on Week 2 DB: Prior Knowledge Survey by 09/11 (Thur) Other DB post by 09/14 (Sunday) and Post Comments by 09/16 (Tuesday)
Week 3 09/17-09/23	Science behind Climate Change	<ul style="list-style-type: none"> Read: (Section 2.6) <i>Climate Change and the Himalaya</i> Read: <i>Orographic Rainfall</i> Watch Video: Climate Change in Nepal and Bangladesh Watch: Mr. Poudel's narrated slides 	<ul style="list-style-type: none"> Send names of 2 countries and paper title by 09/19 (Fri). Post response on the DB of Week 3 by 09/21 and Post Comment by 09/23 Pick a group theme to select a research group - Reply to the DB thread by 09/23
Week 4 09/24-09/30	Vulnerability Assessment (Livelihoods and Ecosystems)	<ul style="list-style-type: none"> Read: (Read Page 1-5 in detail and take a short glimpse of the whole document) <i>National Report Vulnerability Mapping</i> Read Final Chapter: <i>Ecosystem Vulnerability Assessment</i> Read: (Page 47-60) <i>Climate Change Vulnerability of Mountain Ecosystem</i> Watch: NASA/Develop Video Watch: Mr. Poudel's narrated slides 	<ul style="list-style-type: none"> Respond to DB questions by Sunday 09/28 and post comments by Tuesday (09/30) Submit First Research Paper by 10/03 (Friday). Submit your Group Operating Standard details by 10/3.
Week 5 10/1-10/7	Impact (Agriculture, Forest and Biodiversity)	<ul style="list-style-type: none"> Read: Paper/Report 1(Chapter 1) -<i>Climate Change and Developing Country Agriculture: An Overview of Expected Impacts, Adaptation and Mitigation Challenges, and Funding Requirements</i> Read: Paper/Report 2 (Sections 4.2 and 4.5) - <i>Impacts of Climate Change: Voices of the People</i> Read Book Chapter: <i>Read Measuring the Effect of Climate Change on Developing Country Agriculture</i> Read: Paper/Report 3 (Chapter 3 and 5) - <i>Impact of Climate Change on Forests and Livelihoods: Issues and Options for Nepal</i> Read: Paper 4 (Pages 1388-1391) - <i>Effects of climate change on biodiversity: a review and identification of key research issues</i> Read: Paper 5 (Pages 16-29)- <i>Impacts of Climate Change on Biodiversity and Community Livelihoods in the Katavi Ecosystem</i> Watch Climate Change Video (Nepal, Bangladesh and India) Read" Read Case Study (3 pages)- <i>Arid areas are becoming drier still</i> Watch: Mr. Poudel's narrated slides 	<ul style="list-style-type: none"> Respond to the prompts on the DB by 10/05 (Sunday) and post comments by 10/07 (Tue). Submit/share your googledoc with Top 5 Resources by next week 10/4 (Sat)
Week 6 10/8-10/14	Impacts (Water Resources, Human Health and Livelihoods)	<ul style="list-style-type: none"> Watch: Firsthand Experience Video Read: Paper/Report 1(Page 6-8 is compulsory; reading the whole document is advised) - <i>The Changing Himalayas: Impact of Climate Change on Water Resources and Livelihoods in the Greater Himalayas.</i> Read: Paper/report 2(Whole 27 pages document)- <i>Linkage between Tourism and Climate Change: A Study of the Perceptions of Stakeholders along the Annapurna Trekking Trail</i> Read: IPCC Report (Chapter 5) - <i>Analyzing</i> 	<ul style="list-style-type: none"> Discussion post due by 10/12 (Sun) and comment due by 10/14 (Tue) Paper title send by 10/13 (Mon) Submit Top 5 resources for your group paper by 10/14 (Tue)

Week/Date	Topics	Activities	Assessments & Due Dates
		<p><i>Regional Aspects of Climate Change and Water Resources</i></p> <ul style="list-style-type: none"> • Read: Paper/Thesis (12 pages) - <i>Impact of Climate Change on Tourism in Africa</i> • Watch: Greenpeace Video • Read: Journal Paper (5 pages) - <i>Public Health Impacts of Climate Change in Nepal</i> • Watch: Mr. Poudel's narrative slides 	
<p>Week 7 10/15-10/21</p>	<p>Adaptation Responses (Comparative Analysis)</p>	<ul style="list-style-type: none"> • Read: Research Presentation (All the slides) - <i>Determinants of Adaptation to Climate Change in Ethiopia and Africa</i> • Read: Scientific paper (page 47-55) - <i>Climate Change Adaptation in Nepal: Exploring Ways to Overcome the Barriers</i> • Read: Report by Oxfam (Chapter 4) - <i>Review of climate change adaptation practices in South Asia</i> • Read: Brochure (All) - <i>Ecosystem-based Adaptation: A natural response to climate change</i> • Read: Project Document (EbA) – Component 3 (Page 26-28) and Global Output No. 3 (Page 34-35) - <i>Ecosystem Based Adaptation in Mountain Ecosystem in Nepal</i> • Watch: Regional Videos on Adaptation (South Asia, South East Asia, Africa and Latin America) • Watch: Mr. Poudel's audio presentation and Slides (In DB Thread number 3) 	<ul style="list-style-type: none"> • Discussion post Due by 10/19 (Sun) and comment due 10/21 (Tue). • Submit Research Paper No. 2 by 10/21(Tue)
<p>Week 8 10/22-10/28</p>	<p>Institutions, Policy environment and current efforts to deal with climate change impacts and adaptation</p>	<ul style="list-style-type: none"> • Read: Report 1 (Chapter 5) - <i>Climate Change Adaptation Strategies: Water Resources Management Options for Smallholder Farming Systems in Sub-Saharan Africa</i> • Read Report 2 (Pages 213-217) - <i>Climate Institutional Changes in Asia in Response to Climate Change</i> • Read: Policy 1 China (Pages 5 to 12) - <i>China's Climate - Change Policy 1988-2011: From Zero to Hero?</i> • Read: Policy 2 UK (Pages 30-34) - " <i>UK Climate Policy: "Climate Change Policy in the United Kingdom"</i> • Read: Local Institutions (Page 23-33) - <i>The Role of Local Institutions in Adaptation to Climate Change</i> • Read: <i>Climate Change Performance Index (All)</i> • Read: Policy 3 Denmark (Section 2.2) - <i>Denmark Climate Change Policy: Denmark's Climate Policy Objectives and Achievements</i> • Start planning for research paper no. 3 on adaptation; • Watch: Dr. Batu K. Upretry's (Guest Lecturer) narrated slides 	<ul style="list-style-type: none"> • Respond to the prompt in the Discussion Board by 10/26 (Sun) and comment by 10/28 (Tue) • Submit your paper title for Research Paper No. 2 on Adaptation by 10/27 (Mon)
<p>Week 9 10/29-11/4</p>	<p>Research and Extension</p>	<ul style="list-style-type: none"> • Read: <i>Climate Change in Nepal/ Himalaya: A Bibliography</i> • Read: Paper –(pages 43-53) <i>Climate Adaptation in Asia: Knowledge Gaps and Research Issues in South East Asia</i> • Watch: Mr. Poudel's narrated slides. 	<ul style="list-style-type: none"> • Respond to DB prompts by 11/02 (Sun) and comment due by 11/04 (Tue); • Submit research paper No. 3 by 11/4 (Tue).
<p>Week 10 11/5-11/11</p>	<p>Tools and Techniques for assessing climate change impacts and data sources</p>	<ul style="list-style-type: none"> • Read: (Pages 21-24) <i>Assessment tools</i> • Read: (All) <i>Participatory Tools and Techniques for assessing climate change impacts and exploring adaption Options: A community based tool kit for practitioners</i> • Read: <i>Background and Use of Community Based Vulnerability Tools</i> 	<p>Respond to DB prompt by 11/09 (Sun) and post comment by 11/11 (Tue);</p>

Week/Date	Topics	Activities	Assessments & Due Dates
Week 11 11/12-11/18	Carbon Financing, adaptation funds and other innovative financing mechanisms	<ul style="list-style-type: none"> • Read: "Can Nepal benefit from Carbon Financing?" • Read: Journal Article: "Cultivating REDD in Nepal's Community Forestry: Discourse for Capitalizing Potential?" • Read Article: Governance of climate change adaptation finance in Nepal • Watch Video: Plan Vivo, Evo-trade and REDD+ • Read: (Page 17-23) <i>Adaptation Fund Report</i> 	<ul style="list-style-type: none"> • Respond to the Discussion prompt by 11/16 (Sun) and comment due by 11/18 (Tue) • Submit assignment No. 1 by 11/18 (Tue).
Week 12 11/19-11/25	Data Source for climate change assessments	<ul style="list-style-type: none"> • Browse: Data portal of World Bank, WMO, NOAA and IPCC • Browse: Nepal's effort (Website of DHM and ICIMOD) • Read: <i>Social and Ecosystem related vulnerability Indicators</i> • Read: <i>Quantitative and Qualitative questionnaire for impact and adaptation assessment</i> • Read: <i>Field Plan for TAL VA</i> • Listen: Audio narration by Mr. Poudel 	<ul style="list-style-type: none"> • Respond to the Discussion prompt by 11/23 (Sun) and comment due by 11/25 (Tue); • Start planning on research paper No. 4 on institutions and policies; Divide into groups of 2-3 members each for research papers.
Week 13 11/26-12/2	Integrating Climate Change Issues into Planning	<ul style="list-style-type: none"> • Read: <i>Koshi River Basin Management Strategic Plan (KRBM)</i> (Log-frame) • Read: <i>Sacred Himalayan Landscape Interim Implementation Plan-SHL-IIP</i> (Read log-frame on climate change) • Read: (Section 2.3, 3 and 6) <i>Mainstreaming Climate Change Adaptation into Development Planning</i> • Read: (sub-section 6.1, 6.2, 7, 8 and 9) - <i>Climate Change Budget Code: Criteria and Method</i> • Read: (Page 40-43): <i>Future of Financing: The Future of Climate Financing in Nepal.</i> • Read: <i>Ideas to Action: Log-frame of Project Document</i> (Page 6) 	<ul style="list-style-type: none"> • No submission for this week.
Week 14 12/3-12/09	Group Paper Submission	<ul style="list-style-type: none"> • Complete the tasks assigned in week 13 and Finish Final Recommendation Paper No. 4 	<ul style="list-style-type: none"> • Post response to the discussion questions of week 13 by 12/07 (Sun) • Submit Final Paper No. 4 by 12/08 (Mon) • Submit log-frame by 12/09 (Tue)

Course Communication Policy

Contacting the Instructor

Instructor is based in Nepal so he won't be able to meet with you in person. Students are requested to use Blackboard Discussions forum for general type of discussion which will help other students to participate and learn. The instructor will get back to your queries in the Bb thread itself. Students can however meet via Adobe Connect by making a request with the instructor two days in advance. Please log on to <http://connect.johnshopkins.edu/apoudel1>.

Instructor: Amir Poudel

Email Address: apoudel1@jhu.edu

Office hour: Online

Students are requested to constantly remain in touch with the instructor. Under emergency kindly let the instructor know very briefly the nature of the problem and the instructor will assist the students in best possible ways. Please note that all email messages will be sent to you via your JHU email account, so you should be in the habit of checking that account every day or you should ensure that your JHU email account forwards messages to another account of your choice.

Students should frequently check new announcements posted in the Announcements when entering Bb, which contain information about current course activities that you are working on and any changes to the course.

Students should communicate often with classmates and the instructor. The majority of communication will take place within the Discussion forums. When you have a question about an assignment or a question about the course, please contact me, or post your question in the course's "Syllabus & Assignment Question" forum.

It is highly recommended to include a statement about course etiquette or "netiquette" as this is referred to in the online environment. This includes how email communication should occur ("use the course number in your subject line;" "include your full name as a signature"). Be sure to model this behavior in return. Do not forget that a professional school is about teaching and learning substantive material as well as professionalizing our students.

- Include the title of the course in the subject field (e.g., JHU Insert Name of Course).
- Keep messages concise, and check spelling and grammar.
- Send longer messages as attachments.
- Sign your full name (the sender's email is not always obvious).

Policies

One late submission for a paper is acceptable. However this will be permitted only upon prior informing the instructor with convincing reasons. Failing to either inform or delay submission of papers and assignment will directly impact the grades. For group work students are requested to participate equally. Failing to do so will so impact the grades.

University Policies

General

This course adheres to all University policies described in the academic catalog. A few to pay close attention to are noted below.

Students with Disabilities

Johns Hopkins University is committed to providing reasonable and appropriate accommodations to students with disabilities. Students with documented disabilities should contact the coordinator listed on the [Disability Accommodations](#) page. Further information and a link to the Student Request for Accommodation form can also be found on the [Disability Accommodations](#) page.

Ethics & Plagiarism

JHU Ethics Statement: The strength of the university depends on academic and personal integrity. In this course, you must be honest and truthful. Ethical violations include cheating on exams, plagiarism, reuse of assignments, improper use of the Internet and electronic devices, unauthorized collaboration, alteration of graded assignments, forgery and falsification, lying, facilitating academic dishonesty, and unfair competition. Report any violations you witness to the instructor. Read and adhere to JHU's [Notice on Plagiarism](#).

Dropping the Course

You are responsible for understanding the university's policies and procedures regarding withdrawing from courses found in the current catalog. You should be aware of the current deadlines according to the [Academic Calendar](#).

Getting Help

You have a variety of methods to get help on Blackboard. Please consult the help listed in the "Blackboard Help" link for important information. **If you encounter technical difficulty in completing or submitting any online assessment, please immediately contact the designated help desk listed on the [AAP online support page](#).** Also, contact your instructor at the email address listed atop this syllabus.