

**Dr. Anamika Barua**

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Dr. Anamika Barua is an associate professor at the Dept of Humanities and Social Sciences, IIT Guwahati, Assam. She has a masters in Economics and she received her PhD in Ecological Economics from School of Earth and Environment, University of Leeds, United Kingdom, in 2009. The title of her thesis is ‘*An empirical analysis of interstate disparity in water pollution in India*’

Trained in Ecological Economics, her research interest lies in understanding how political, social and economic factors shapes environmental decisions and change, particularly related to water. For the last ten years she has been involved in academic and consultancy project related to water issues in South Asia. Her research interests includes – socio economic vulnerability to climate change, water and livelihood security in the context of climate change, ecological accounting (ecological footprints, virtual water flow through trade) and water governance including transboundary water governance.

She is at present facilitating a dialogue project called **Brahmaputra Dialogue**, under the South Asian Water Initiative (SAWI) program of the World Bank, which aims to create a platform for the Brahmaputra riparian countries to find avenues for co management of the River.

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**Cirruculam Vitae**

**Employment:**

1. **July 2016 – till date** : Associate Professor (Ecological Economics), Department of Humanities and Social Sciences, IIT Guwahati, India
2. **July 2014–June 2016**: Executive Director, South Asian Consortium for Interdisciplinary Water Studies, Hyderabad, India , (*On academic leave from IITG*)  
*Website : <http://www.saciwaters.org/index.html>*
3. **February 2014 – June 2014** : Associate Professor (Ecological Economics), Department of Humanities and Social Sciences, IIT Guwahati, India
4. **January 2010 – January 2014**: Assistant Professor (Ecological Economics), Department of Humanities and Social Sciences, IIT Guwahati, India
5. **February 2008 – December 2009**: Research Associate, The Energy and Resources Institute (TERI), New Delhi, India

**Areas of Expertise/ Interest:**

- Experience of working on projects related to water resource conservation, planning, management, and regulation at south Asian level in mountain, delta, and semi-arid ecosystems.

- Research interest includes water governance (including transboundary water governance), WASH, environmental accounting, rural – urban linkages, resilience and social vulnerability to climate change.
- Expertise to deal and work with a wide range of range of stakeholders including academics, policy makers, civil society, donors and development partners.
- Theoretical understanding of the economy, society and environment interactions using theoretical frameworks such as Sen’s capability approach, and political ecology approach.
- Developed courses such as Economics of climate change, understanding sustainable development, and ecological economics at Indian Institute Technology, Guwahati for Bachelors, Masters, and PhD students.
- Proficient in using tools such as multi-dimensional poverty assessment tool (MPAT), sustainable livelihood Index, Water Poverty Index, Panel data analysis.
- Coordinating and administrating multiple partner research projects at IIT, Guwahati and SasiWATERS.

## **Research Projects:**

### *Ongoing Projects:*

<b>Year</b>	<b>Title</b>	<b>Project and role</b>	<b>Funder</b>
<b>2017-20</b>	Water resources vulnerability and security assessment of Yarlung Tsangpo - Brahmaputra transboundary river basin.	The project has two main objectives - (1) to identify the temporal - spatial variability of transboundary water resources and associated risks (2) to develop adaptive management modes and security regulation strategies for transboundary waters shared by multi - countries under climate change – <b>Project Lead ( for the second objective)</b>	National Natural Science Foundation of China (NSFC) and the International Centre for Integrated Mountain Development (ICIMOD)
<b>2013-17</b>	Transnational policy dialogue for improved water governance of the Brahmaputra Basin	Facilitate a multilateral and multi-stakeholder dialogue process between Brahmaputra river riparian countries for co management of the Brahmaputra Basin – <b>Project Lead</b>	The World Bank (SAWI) / The Asia Foundation (TAF)

Completed Projects:

<b>Year</b>	<b>Title</b>	<b>Project and role</b>	<b>Funder</b>
<b>2014-16</b>	International WaTERS Network	Module Development (Urban –rural connect & periurban) – <b>Project lead</b>	Social Sciences and Humanities Research Council (SSHRC) IDRC, Canada
<b>2012 - 16</b>	SAWA Fellowship	Building capacity of young water professional by using multi-disciplinary approaches that are gender sensitive - <b>Principle Investigator</b>	
<b>2014-16</b>	Conflict and cooperation in periurban south Asia: towards resilient and water secure communities	A comparative study between India, Bangladesh and Nepal on Peri Urban water security – <b>Post Doctoral Researcher</b>	Netherland Organization for Scientific Research (NWO)
<b>2012-14</b>	Water and livelihood – assessing climate vulnerability and potential adaptive strategies for eastern himalayan region of India	Climate change impact on water and livelihood and potential adaptive strategies for Eastern Himalayan region of India <b>Co-Principal Investigator</b>	Swedish International Development Agency (SIDA)
<b>2011-13</b>	Ecosystems for Life – adaptation for climate change in Brahmaputra river basin	Assessing vulnerability to climate change and potential adaptive strategies in the Brahmaputra River Basin – a comparative study between India and Bangladesh - <b>Consultant</b>	International Union for Conservation of Nature (IUCN)
<b>2011-12</b>	Pre-campaign survey to assess the level of awareness among the local community in the fringe areas of Manas National Park	Understanding park people relationship and identifying need for awareness building – <b>Consultant</b>	Wildlife Trust of India (WTI)
<b>2010-11</b>	Developing a measure for assessing inequitable access to water in urban India	Urban water challenge with special focus on developing a measure for inequitable household access to water in urban India. <b>Principal Investigator</b>	ICSSR, India and ESRC, Europe.

## **Publications**

### *Papers under review (Journals)*

1. **Anamika Barua**, Safa Farnain and Sumit Vij (2017), “Moving towards cooperation in Brahmaputra river basin management: a multi-lateral & multi-stakeholder dialogue approach”, *Water International* (Ref.: Ms. No. RWIN-2017-0108)
2. Bhupen Milli and **Anamika Barua** (2017), “ Climate Change Vulnerability Assessment through the lens of Capability Approach : A conceptual framework” , *Journal of Human Development and Capabilities*, (ID C JHD 2017-0076)

### *Refereed Publications (Journals)*

1. Suparna Katyaini and **Anamika Barua** (*accepted for publication*), “Assessment of Inter-State Virtual Water Flows Embedded in Agriculture to Mitigate Water Scarcity in India (1996-2014)”, *Water Resources Research* (Ref 2016WRO20247R)
2. **Anamika Barua** and Sumit Vij, (*accepted for publication*) “Powering or sharing water in Brahmaputra River Basin” *International Journal of Water Resources Development*
3. Suparna Katyaini and **Anamika Barua**, (2016) "Water Policy at science-policy interface – challenges and opportunities in India" *Journal of Water Policy*, 18 (2) 288-303; DOI: 10.2166/wp.2015.086
4. **Anamika Barua** and Bandana Khatanair (2015) "Strong or weak sustainability: a study of the Asia-Pacific region", *Asia Pacific Development Journal*, Vol 22, No.1 , pp. 1- 32
5. **Anamika Barua**, Suparana Katyaini, Bhupen Mili and Pernille Gooch (2013), “Climate Change and Poverty-building resilience of rural mountain communities in South Sikkim, Eastern Himalaya, India,” *International Journal of Regional Environmental Change*, DOI 10.1007/s10113-013-0471-1
6. **Anamika Barua**, Suparana Katyaini and Bhupen Mili. (2012) , “Understanding the multifaceted attributes to rural poverty while assessing the water –poverty-climate change linkage in the Indian Eastern Himalaya”, *International Journal of Green Economics*, Vol. 6, No. 1, pp. 73-94
7. Bandana Khatanair, **Anamika Barua** and Ruma Talukdar (2012), “ Dwindling forests in Assam, India: Causes and Remedies” *The Clarion: International Multidisciplinary Journal*, Vol. 1, No. 2, pp. 154-167
8. Suparana Katyaini, **Anamika Barua**, and Bhupen Mili. (2012) " Assessment of adaptation to floods through bottom up approach: A case study of three agro-climatic zones of Assam " *International Multidisciplinary Journal - The Clarion*, Vol.1, No.1, pp.157-164.
9. **Anamika Barua** and Klaus Hubacek (2009) “An empirical analysis of Environmental Kuznets curve for water pollution in India” *International Journal of Global Environmental Issues.*, Vol. 9, Nos. 1/2

10. **Anamika Barua** and Klaus Hubacek (2008), Water pollution and economic growth in India: An Environmental Kuznets Curve Analysis on the watershed and state level, International Journal of Ecological Economics & Statistics (IJEES), Vol 10, No. Wo8.
11. Klaus Hubacek, Dabo Guan and **Anamika Barua** (2007) “Changing lifestyles and consumption patterns in developing countries: A scenario analysis for China and India”, Future, Vol 39, Issue 9, Pg 1084-1096

### Newsletters

**Guest Editor** for ENVIS Newsletter on Himalaya Ecology, “Himalayan Water Resources-Transboundary Challenges and Opportunities” , Vol. 13 (3) , 2016 ,published by G.B. Pant National Institute of Himalayan Environment and Sustainable Development (GBPNIHESD)

### Forthcoming Edited Books

1. Climate Change and Water Governance to be published by CRC Press

**About the book :** Climate change has created new challenges for natural resource governance – especially of land and water . It also places new demands on governance structures. Cases in this book uncover the processes and dynamics governing interactions between Climate change and different processes like migration, urbanization, globalization, marketization - to alter control and power relations around land and water.

### Book Chapters

1. Kitriphar Tongper and **Anamika Barua** (2013), Water Conflict, Law and Governance, 2013, In Water Resources: An Integrated Approach, Ed Joseph Holden, Routledge ; ISBN: 9780415602822 <http://www.routledge.com/books/details/9780415602822/>
2. **Anamika Barua**, Suparana Katyaini, and Bhupen Mili, (2012), ‘Reducing the Vulnerability of the Poor by Building Resilience: A Case Study from South Sikkim’ in Climate change in Sikkim-Patterns, Impacts and Initiatives, edited by Arrawatia, M.L. and Tambe, S., Information and Public Relations Department, Government of Sikkim, Pg 291- 332
3. **Anamika Barua** and Ashok Jaitly, (2010) Urban Water Sustainability in Asian cities – Is 24/7 water supply a possible solution?, A Planet for Life 2010: Sustainable Cities, Pierre Jacquet, Rajendra Pachauri and Laurence Tubiana (eds.), AFD, IDDRI and TERI
4. Nitish Jha, **Anamika Barua**, Rekha Krishnan and Anshuman (2009) Enabling Efficient Use and Equitable Access in India’s Water Sector. In: Green India 2047: Looking Back to Change Track (1997-2007). Ravi K. Batra and Divya Datt, eds. New Delhi: TERI Press
5. **Anamika Barua** and Sakshi C. Dasgupta (2009) ; Sustainable water management in Urban India, In : An Exploration of Sustainability in the Provision of Basic Urban Services in Indian, S. Sundar (eds), New Delhi, TERI Press

6. **Anamika Barua** and Klaus Hubacek (2008) "Is there a turning point for India? An empirical analysis from states of India" Environment and Development, A global perspective, edited by Dr. Gunjan Malhotra, Sterling publishers, New Delhi
7. Klaus Hubacek, Dabo Guan and **Anamika Barua** (2007) "90 years lifestyle changes and CO<sub>2</sub> emission in China and India" Scenarios and Indicators for Sustainable Development, edited by ISEE and INSEE, Oxford University Press

*Research Papers in non-refereed journals / conferences*

1. Suaparna Katyaini and **Anamika Barua** (2013) Virtual Water Trade Flows for Sustainable Use of Freshwater in India: A Methodological Framework for Sub-National and Policy Relevant Assessment, 21st International Input-Output Conference, University of Kitakyushu, Japan, 9-12 July
2. Bhupen Mili and **Anamika Barua** (2012), "Building Resilience of Rural Communities to Climate Change through Capability Approach", The Human Development and Capability Association (HDCA) 2012 International Conference, Jakarta, Indonesia, 5-7 September, 2012.
3. Rachna Yadav and **Anamika Barua** (2012), "A Study on (Un)sustainable City from Entropy Perspective- A case from India", ISEE Conference and Rio+20: Challenges and Contributions for a Green Economy, Rio de Janeiro, Brazil, June 16-19, 2012
4. **Anamika Barua** (2011), " Climate Change, Water and Livelihood: A case study from Sikkim, India " USEE 2011 Conference : Building a Green Economy, Michigan State University, US, June 26-29, 2011
5. **Anamika Barua**, Dabo Guan and Kitriphar Tongper (2010), " Assessing inter-regional virtual water trade inIndia " Advancing sustainability in the time of crises, Ecological Economics Conference University of Bremen and Oldenburg, Germany, August 22-25, 2010
6. Sakshi C. Dasgupta and **Anamika Barua** (2008) "Access to Sanitation in South Asia: Uphill mission International Conference on Water Resources Policy in South Asia, Colombo, December 18-20, 2008.
7. Kitriphar Tongper and **Anamika Barua** (2008) "Impact of climate change on tourism The Impact of Climate Change on Tourism – A Case Study from the north eastern state of India, Meghalaya, Proceedings of International conference on issues in public policy and sustainable development, New Delhi, March 26-28, 2008
8. **Anamika Barua** and Klaus Hubacek (2006) "Economic growth and water pollution in India; An interstate comparison" Published in conference proceeding of the International ecological economics conference, New Delhi, 15th -18th Dec 2006
9. **Anamika Barua** and Klaus Hubacek (2005) "Water pollution in India: an interstate comparison." Proceedings of the International Sustainable Development Conference ERP Environment, Helsinki, Finland, June 05.
10. Guan Dabo, **Anamika Barua** and Klaus Hubacek (2005) "Changing lifestyle and consumption patterns in developing countries: A comparative study of India and China" Proceeding of Sustainable Consumption: the Contribution of Research Workshop, 10-12 February, 2005, Oslo, Norway

### Blogs/Newspaper articles

- IPP Review, Singapore, (September 22, 2016) “Dialogue and Water Cooperation in the Brahmaputra River Basin”  
<http://www.ippreview.com/index.php/Home/Blog/single/id/243.html>
- The Hindu ( October 27, 2015) “We need to talk about Brahmaputra”  
<http://www.thehindu.com/opinion/columns/world-view-column-we-need-to-talk-about-the-brahmaputra/article7806587.ece>
- Climate Himalaya (August 6, 2011), “Building Resilience In Mountains”,  
<http://chimalaya.org/2011/08/06/building-resilience-in-mountains/>
- Climate Himalaya (September 2, 2011), “Himalaya Specific Climate Data-Where Do We Stand?” <http://chimalaya.org/2011/09/02/himalaya-specific-climate-data-where-do-we-stand/>
- Climate Himalaya (October 17, 2011), “The Cascade Of Uncertainties Around Climate Change” <http://chimalaya.org/2011/10/17/the-cascade-of-uncertainties-around-climate-change/>
- The Assam Tribune [ December 14, 2010 ], “ Climate Change : How vulnerable is the North East”
- The Sentinel [ June 05, 2010 ] “ Let Water Too have a Price ”

### Invited speaker / presentation

1. Key note speaker in the session on “South Asia : Water Diplomacy, Security and Justice, in the Planetary Security Conference held in the Hague, The Netherlands, 5th – 6th December 2016
2. Invited panelist in the International River Symposium on panels organised by the World Bank, IWMI and The Asia Foundation respectively on “Tranboundary Water Cooperation in Brahmaputra River Basin” held in New Delhi from 12<sup>th</sup> to 14<sup>th</sup> September 2016.
3. Invited speaker in the International Workshop on “Mainstreaming ecosystem services into country's sectoral and macroeconomic policies and programmes” held in Geneva from 23 to 24 February 2016, organized by UNEP.
4. Invited speaker in a Workshop on Integrated Urban Flood Management in Hyderabad: Technology Driven Solution, October 31, 2015, organized by Bits Pillani, Hyderabad.
5. Invited panelist in a special session on “Addressing the Major Challenges of Actionable Adaptation to Climate Change in Coastal Zones in the Middle East and South Asia” at the 5th International Conference on Water and Flood Management, Dhaka, Bangladesh, 6-8 March 2015 organised by IDRC.
6. Invited panelists in the session on Climate change and disaster management: with special reference to floods and landslides in northeast India, organised by School of Human Ecology (SHE) at Ambedkar University Delhi (AUD), from 27th Feb - 1st March 2015.
7. Invited speaker at the Assam Water Conference - “Experience sharing in different facets of water resources management”, February 6th and 7th, 2015.
8. Invited speaker International Conference on Eastern Himalayas II – Gender, Poverty and

Livelihood, Jamila University, New Delhi, February 2014.

9. Plenary , Assessing community's capacity to manage change through resilience approach: A case from South Sikkim, India Conference on Water Quality 2012 Hangzhou, China, September 19-21, 2012
10. Invited speaker, Conference on Resource and Environmental Economics: A Review of Theory and Practice Centre for Advanced Studies, Department of Economics, Jadavpur University Kolkata, India, March 2-3, 2011
11. Resource Person for Capacity Development Workshop on Climate Change and Mountain Ecosystems for Bhutanese professionals, Paro, Bhutan, 9-11 February 2011
12. Invited stakeholder in 4th Stakeholder Consultation for Ecosystems for Life: A Bangladesh-India Initiative in New Delhi, January 21, 2011
13. National Seminar on Understanding Conservation: Perspectives from Manas and Kaziranga National Parks, Assam, IIT Guwahati, 4th & 5th September 2010 – Session Chair (Alternative Livelihoods for conservation)
14. Regional consultation on 'Combating Climate Change: The North-eastern and Lower Himalayan Regions of India' at Guwahati on the 5th and 6th of July 2010
15. Foundation Day Seminar on Mountain Regions and Climate Change: Impact, Adaptations and Policies, Chintan Bhawan, Gangtok on 7th August, 2010

### Achievements

- Conference Convener: International Conference on Climate Change and Water: Assessing vulnerability, impact and adaptation in the Eastern Himalayan Region : 3-5th January 2011, IIT Guwahati (Sponsor: OIL India limited, North East Council, ICSSR) <http://www.iitg.ac.in/hss/documents/a1.html>
- Recipient of Linneus-Palme Grant for developing MoU with Lund University, Sweden and IIT Guwahati – exchange of students and teachers for seven years.
- Reviewing/ Referees services – Have acted as referee for Water Policy, Journal of Environmental Management, Regional Environmental Change, Journal of Current Science, Journal of Environment and Development.
- Reviewer of research grant proposals for Netherland Water Organisation and UNESCO, IHE, The Netherlands.

### **Supervision of Students**

#### Supervision (PhD)

##### PhD awarded

- Suparana Katyaini (July 2011 Thesis title ' An Inter regional Virtual water flow in India) – Awarded PhD
- Bandana Khatanair (July 2011 Thesis title 'Weak vs. Strong Substitutability – where does India stand?') – Awarded PhD



### PhD ongoing

- Rachna Yadav (July 2010, Thesis title “ Entropy and Development process – linking them to develop sustainable development indicators) – Thesis writing phase
- Bhupen Mili (December 2011 Thesis title “Developing a climate resilience framework through Sen’s capability approach’) – Data analysis phase
- Mirza Zuljiquir Rahman (July 2012 Thesis title “ Transboundary water conflicts between India and Bangladesh and the role of community’s participation”) – Thesis writing phase

### Master Degree Students

- Pronoy Rai (January – May 2011 Thesis title : “Access to drinking water in urban India: A case study of Guwahati city, India”)
- Bhupen Milli ( January – may 2011, Thesis title “Climate change and Livelihood – a case study of agriculture community in Majuli, Jorhat, India”)
- Manzil Gogoi (January – May 2011, Thesis title: “Trend analysis of climate change in the North East India”)
- Nilutpal Kashyap (January – May 2012, Thesis title: “A study on Park People Relationship of Manas Natioanl park in Assam, India”)

### **Professional memberships**

- Life member of Indian Society of Ecological Economic; served as a Executive member from 2013 -2014
- Member of International Society of Ecological Society
- Member of Inetrnational Input Output Association