

## **BIO DATA OF DR. K.K.BARUAH**

- 1. Name:** KUSHAL KUMAR BARUAH
- 2. Date of Birth:** 1<sup>st</sup> January, 1953
- 3. Designation:** Professor(Higher Academic Grade) Environmental Science, (Former Dean School of Energy, Environment and N R, former Dean I/C School of Sciences and former Head Dept of Environmental Science, Tezpur (Central) University, former Head Department of Plant Physiology, Assam Agricultural University, Jorhat)
- 4. Permanent address:** Barbheta, Jorhat 785004, Assam, India
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- 5. Present address:** Professor (HAG)  
Department of Environmental Science,  
Tezpur (Central) University, Tezpur-784028, Assam, India
- 6. Nationality:** Indian

**7. Educational qualifications:**

<b>Degree</b>	<b>University</b>	<b>Year of Passing</b>	<b>Class</b>	<b>Subject</b>
School Certificate	SE Board, Assam	1968	First Division	
B.Sc. (Hons)	Dibrugarh University, Assam	1972	First Class First	Botany
M.Sc.	Gauhati University, Assam	1974	First Class First Secured record mark 70.2%, Gold medalist	Botany

Ph.D. (Plant Physiology)	College of Basic Sciences and Humanities, Punjab Agri. University, Ludhiana	1979	Secured highest OGPA 4.00 out of 4.00	Plant Physiology
Post Doctoral (Environmental Plant Physiology)	K. A. Timiriazev Institute of Plant Physiology, Academy of Sciences, Moscow	March, 1986 - October, 1988		Environmental Plant Physiology
Visiting Fellow (INSA)	National Physical Laboratory, New Delhi	1995		Green House Gas Emission study
Visiting Scientist (CSIR)	National Physical Laboratory, New Delhi,	1996		- Do-
Visiting Scientist (CSIR)	National Physical Laboratory, New Delhi	1997		-Do-
Visiting Scientist (INSA/CAS)	Institute of Atmospheric Physics, Beijing (China), Chinese Academy of Sciences	2008		-Do-

#### **8. Scholarship & Fellowship:**

1. State Merit scholarship from 1969 to 1972 during under graduate study.
2. National Merit Scholarship from 1972 to 1974 for P.G. studies.
3. First Class First Secured record mark 70.2%, Gold medalist in M.Sc , Gauhati University ,Assam
4. IDA world bank fellowship from 1976 to 1979 for PhD work.

#### **9. Awards:**

1. NESAI Scientist of the Year Award 2016, by the National Environmental Science Academy.
2. J.C.Bose Gold medal for outstanding research contribution in Plant Physiology by Indian Society for Plant Physiology, 2015

**10. Academic /Administrative Experience:**

Sl. No.	Name of the Post	Organization	From - To	Nature of Duties
1.	Professor and Head Dept. of Crop Physiology	Assam Agricultural University, Jorhat, Assam	2 April 2000 – 25 March 2003	Teaching, Research, Extension & Administration
2.	Professor and Head, Dept. of Environmental Science	Tezpur University, Tezpur, Assam	26 March 2003 – 19 Sept 2008	Teaching, Research, & Administration
3.	I/C Librarian	Tezpur University, Tezpur, Assam	2 Nov.2005- 28 Oct. 2006	Library Administration
4.	Dean, School of Energy, Environment & NR	Tezpur University, Tezpur, Assam	20 Sept. 2008 – 31 May 2011	Teaching, Research, & Administration
5.	I/C Dean, School of Sciences	Tezpur University, Tezpur, Assam	11 Sept 2014- 22 Dec2014	Administration

**11. Field of specialization:** Environmental Plant Physiology

**12. Research Interest:** Environmental stress, Green house gas emission and mitigation from Agriculture Sector and Carbon Sequestration of terrestrial ecosystem.

**13. Practical Experience in Instrument handling:**

Atomic absorption Spectrophotometer, Gas chromatograph, Photosynthesis system, Leaf area Meter, Gel electrophoresis, Quantum photometer, Ultra Centrifugation, TOC analyzer, Automated soil CO<sub>2</sub> flux system.

**14. Teaching & Research Experience:**

- 37 years (As University Professor: 17 years)

Sl. No.	Name of the Post	Organization	From - To	Nature of Duties
1	Assistant Professor, Plant Physiology	Assam Agril. University, Jorhat, Assam	Oct.1979 - May 1984	Teaching, Research, Extension
2	Reader, Life Sciences	Dibrugarh University, Dibrugarh, Assam	June1984 - March 1989	Teaching, Research
3	Associate Professor, Plant Physiology	Assam Agril. University, Jorhat, Assam	April 1989 - Feb.1991	Teaching, Research, Extension

4	Physiologist (Rice)	Regional Agricultural Station, Titabor, Assam Agril. University	March 1991 - April 1995	Teaching, Research, Extension
5.	Associate Professor, Plant Physiology	Assam Agril. University, Jorhat, Assam	May 1995 - Sept.1999	Teaching, Research, Extension
6.	Professor, Crop Physiology	Assam Agricultural University, Jorhat, Assam	Oct.1999- April 2000	Teaching, Research, Extension
7.	Professor and Head Dept. of Crop Physiology	Assam Agricultural University, Jorhat, Assam	2 April 2000 – 25 March 2003	Teaching, Research, Extension &
8.	Professor and Head, Dept. of Environmental Science	Tezpur University, Tezpur, Assam	26 March 2003 – 19 Sept 2008	Teaching, Research, &
10	Dean, School of Energy, Environment & NR	Tezpur University, Tezpur, Assam	Sept. 2008 - May 2011	Teaching, Research, &
11	Professor, Dept of Environmental Science	Tezpur University, Tezpur, Assam	June 2011 - present	Teaching & Research

### 15. Research Publications :

Total Publication:		<b>147</b>
Papers published in Journals:		<b>80</b>
International Journals:	54	
National Journals:	26	
Book Chapters:		<b>10</b>
Conference papers:		<b>57</b>
Popular scientific articles in newspapers and magazines:		<b>20</b>
Book (in Assamese):		<b>01</b>

### 16. Research Guidance:

Guided M.Sc. (Agri.) students =	<b>14</b>
Guided Ph. D. Research Scholars =	<b>10</b>
Ph.D. Research Scholars working =	<b>05</b>
Guided M.Sc. (Env.Sc.) project students =	<b>25</b>

### ***17. Countries Visited:***

- 1. Russia** for Post Doctoral Study 1986
- 2. West Berlin** (Germany) for attending XIV International Botanical Congress. July, 1987
- Academic Visitor to **U.K., Poland** and **Holland** in 1988.
- 4. Tokyo** (Japan) for attending 13<sup>th</sup> International Plant Nutrition Colloquium. September, 1997.
- 5. Hannover (Germany)** for attending 14<sup>th</sup> International Plant Nutrition Colloquium August, 2001.
- 6. Maastricht (The Netherlands)** for attending International Symposium on Non- CO<sub>2</sub> Green House Gases, January, 2002.
- 7. Beijing (P R China)** as Visiting Scientist, Nov 2008, Institute of Atmospheric Physics, Chinese Academy of Sciences
- 8. Beijing (PR China)** for attending 12<sup>th</sup> IGAC Open Science Conference , Sept 17-21, **2012**
- 9. Bangkok (Thailand)** for attending 4<sup>th</sup> International Rice Congress, October 27 – 31, 2014

### ***18. Specialized training attended:***

#### ***Within Countries:***

1. Training on methodology in Stress Physiology, Water Technology Centre, Indian Agricultural Research Institute, New Delhi, 1983
2. Asian Workshop cum training on methane emission studies in paddy fields, National Physical Laboratory, New Delhi, 1993.
3. National Workshop on bio informatics and its application in Life Sciences, Assam Agricultural University, Jorhat, 1995.
4. Asian workshop and training course on measurement techniques and inventories of Green House Gases, National Physical Laboratory, New Delhi, 1995.
5. National Inventory workshop on Asian Least Cost Green House Gas Abatement Strategy, National Physical Laboratory, New Delhi. 1996.
6. Training and workshop on Green House Gases from Agricultural Sources, National Physical Laboratory, New Delhi. 1997.

***In Abroad:***

1. Post Doctoral in Environmental Plant Physiology, K. A. Timiriazev Institute of Plant Physiology, Academy of Sciences, Moscow, March 1986 to Oct 1988
2. Visiting Scientist (INSA/CAS), Institute of Atmospheric Physics, Beijing (China), Chinese Academy of Sciences, 2008

***19. Seminars & Conference / Workshops attended:***

**International:**

1. 14<sup>th</sup> International Botanical Congress, West Berlin, Germany. “*Characterization of plasma membrane ATPase of winter wheat seedlings isolated by aqueous two polymer phase system*”. 1987
2. International Congress Plant physiology, New Delhi. “*The involvement of a Mg<sup>2+</sup> ATPase from purified plasma membrane fraction in cold acclimation of winter wheat (Triticum aestivum L) seedlings*”. 15-20 February 1988
3. International Symposium on Rice Research, Hyderabad, “*Effect of petroleum pollution on field grown rice*”. 15-18 November, 1990
4. 13<sup>th</sup> International Plant Nutrition Colloquium at Tokyo, Japan, “*Ion uptake, metabolism and yield of rice (Oryza sativa L.) at excess in the growth medium*”. September 1997.
5. 14<sup>th</sup> International Plant Nutrition Colloquium at Hannover (Germany), “*Physiological and biochemical traits of rice (Oryza sativa L.) genotypes associated with tolerance of iron toxicity*” August 2001.
6. International Symposium on Organic recycling. November, Chiba, Japan 2001
7. 3<sup>rd</sup> International symposium on Non CO<sub>2</sub> greenhouse gases: Scientific understanding, control options and policy aspects, Maastricht, The Netherlands, “*Plant and soil factors associated with methane emission from irrigated rice ecosystem of Assam*”. 21-23 January 2002.
8. 2<sup>nd</sup> International Congress of Plant Physiology at New Delhi, “*Physiological parameters of rice (Oryza sativa L.) associated with emission of methane from different agro-ecosystem*”. 08-12 January 2003.
9. Herbal drug and environmental pollution: a satellite session of Third International Conference on Plants and Environmental Pollution. Hamdard University, New Delhi. “*Allelopathic effect of medicinal weeds on rice growing environment at upland rice agroecosystem*”. 04 December 2005

10. 2<sup>nd</sup> International Rice Congress at New Delhi, “*Greenhouse gas emission from agricultural sources- with reference to methane from different rice agro-ecosystem in alluvial soils of Northeast India*”. 09 - 13 October 2006.
11. Indo-US workshop on Indo-flux at Chennai, “Carbon balance in terrestrial ecosystems” 12-16 July, 2006.
12. SCAPES International workshop on studying the linkages between ecosystem services and poverty; Building net work in South Asia at Shillong, 08-09 September, 2009
13. International Workshop on Managing Biodiversity in the Changing Environment, at NEHU Shillong, “*An overview of mitigation option for greenhouse gas emissions from rice based agro-ecosystems in the north eastern region*” 21 - 23 December, 2010 **Invited lecture**
14. 12<sup>th</sup> International Global Atmospheric Chemistry Open Science Conference, Beijing, China, “*Management of plant genotypes and soil C-N ratio as biological mitigation option for nitrous oxide emission from wheat (Triticum aestivum) agriculture*”. 17-21 September, 2012
15. 4<sup>th</sup> International Rice Congress , Bangkok, Thailand, “*Effect of organic manures with varied C/N ratios on nitrous oxide emission from winter rice (Oryza sativa)*”. 28<sup>th</sup> October – 1<sup>st</sup> November 2014
16. 3<sup>rd</sup> International Congress of Plant Physiology, New Delhi. “*Relationship of flag leaf photosynthesis with stomatal density, dry matter partitioning and yield in wheat (Triticum aestivum L.)*”. 11-14 December, 2015

**National:**

1. 68<sup>th</sup> Indian Science Congress session at BHU, Varanasi. “*Varietal response of paddy for water logging tolerance*”. 03-07 January 1981.
2. 69<sup>th</sup> Indian Science Congress session at Mysore University. “*Effect of water logging on growth and yield of some rice cultivars in Assam soil*”. 03-07 January 1982
3. 70<sup>th</sup> Indian Science Congress session at Tirupati. “*Effect of iron chlorosis on growth and yield of rice in field condition*”. 03-07 January 1983
4. 72<sup>th</sup> Indian Science Congress session at Lucknow. “*Effect of some growth regulators on growth and yield of rainfed wheat (Triticum aestivum L.)*”. 03-07 January 1985
5. 73<sup>th</sup> Indian Science Congress session at New Delhi. “*Interaction of organic manure and moisture regime on iron chlorosis in rice seedlings*”. 03-07 January 1986

6. National Symposium on Research in Social Forestry, New Delhi. "*Energy plantation for rural development in North Eastern Region of India.*" 08-10 January 1986
7. 5<sup>th</sup> Agricultural Science Congress, Guwahati. "*Plant and soil factors associated with emission of methane from irrigated boro rice (Oryza sativa L.)*" 04-07 April 2001
8. National Seminar on role of plant physiology for sustainable quality of food production in relation to environment, at UAS, Dharwad. "*Methane emission from irrigated rice ecosystems of Assam: Differences due to cultivars and soil characteristics.*" 05-07 December. 2001
9. National Seminar on Water and Land management including CAD for socioeconomic upliftment of NE region. Tezpur, Assam. "*Iron toxicity induced physiological changes in rice (Oryza sativa L.)*." 22-23 November, 2001
10. National Symposium on Plant Biology and Biodiversity in Changing Environment, at Jamia Hamdard, New Delhi, "*Green house gas emissions from wet and dryland crop ecosystem of Assam*". 29-31 December 2003 **Invited lecture**
11. National Workshop on Science and Technology for Regional development; case for North East India at IIT Guwahati, 03-06 February. 2004
12. UGC sponsored seminar on "Education in Environmental studies" Kamargaon College, Golaghat, Assam 08 October 2004
13. Seminar on Peace and Development in the North East organized by Institute for Defense Studies and Analysis, New Delhi at Shillong, 25 - 26 September 2006.
14. UGC sponsored national seminar on "Globalization of higher Education". Kamargaon College, Golaghat, Assam 09 February 2006
15. 77<sup>th</sup> Annual session of The National Academy of Sciences, India at CFTRI Mysore, "*Nitrous oxide emission from upland rice ecosystem of NE India: Measurement and Mitigation*". 6 - 8 December 2007.
16. UGC sponsored National Seminar on "Mitigation of Green house gases". Nazira College, Nazira, Assam, 04 october 2008
17. 96<sup>th</sup> Indian Science Congress at NEHU, Shillong, "*Green house gas emission from monsoon rice- measurements and mitigation.*" 03-07 January, 2009
18. National seminar on climate change and sustainable development at Tezpur University. "*Fertilizer management as suitable mitigation option for nitrous oxide emission reduction from agricultural field.*" 17-19 December 2009

19. National conference on “Frontiers in Plant Physiology”, at AAU, Jorhat, Assam, 05 - 07 November, 2009.
20. UGC sponsored National Seminar on “Environmental degradation of NE & Biodiversity”. Sonari College, Sivasagar, Assam, 04 December 2009
21. 97<sup>th</sup> Indian Science Congress at Kerala University, Trivandrum, “*Emission of Nitrous Oxide a green house gas associated with climate change from rice-wheat cropping system of North East India.*” 03-07 January, 2010 **Invited lecture**
22. National Seminar on “Climate change and sustainable development” at Tezpur University, Tezpur, Assam, 01 – 03 April, 2010.
23. 98<sup>th</sup> Indian Science Congress at SRM University, Chennai, 03-07 January, 2011 **Invited lecture.**
24. National seminar on Sustainable development in NE region at Kaliabor College. “*Natural resource management with reference to Biodiversity*”. 02-03 December 2011 **Invited lecture**
25. 99<sup>th</sup> Indian Science Congress at KIIT University, Bhubaneswar, “*Plant mediated green house gas, nitrous oxide emission from wheat agriculture.*” 03-07 January, 2012 **Invited lecture**
26. UGC sponsored National Seminar on Climate Change in North East India : causes, impacts and remedies at Madhabdev College , Narayanpur, Lakhimpur, Assam on 12 May 2012
27. National Seminar on Physiological and Molecular approaches for development of climate resilient crops, at ANGR Agriculture University, Hyderabad, “*Cultivar differences in nitrous oxide emission from wheat and associated plant physiological and anatomical characteristics*”. 12-14 December, 2012 **Lead Lecture.**
28. National Seminar on Climate Change and Climate Resilient Agriculture , at B. N. College of Agriculture, Assam Agriculture University, Biswanath Chariali, Assam, “*Greenhouse gas emission from agricultural sources, mitigation with reference to climate change*”. 18 – 19 March, 2013 **Lead Lecture.**
29. Regional seminar on Eco-restoration for development in North East India, at Cotton College, Guwahati, Assam, 22 – 23 April, 2013 **Key Speaker.**
30. UGC sponsored national seminar on Environmental Issue and their solutions in NE India. Demow College, Demow, Assam. “*Impact of Climate Change on Agricultural with reference to N.E India*”. 20-21 September 2013 **Invited lecture**

31. National seminar on “Recent trends in bio-resources management & Biodiversity conservation”, at Rajiv Gandhi University, Itanagar, Arunachal Pradesh, India. “*Genetic Diversity and structure in the Rice species (Oryza sativa gramineae) associated with emission and mitigation of greenhouse gases*”. 17 – 19 October, 2013 **Plenary Lecture**.
32. National seminar on “Emerging bio-inputs in biotechnology for a greener environment”, Institute of Science and Technology, Guwahati University, Guwahati. “*Agricultural greenhouse gas emission and mitigation with reference to diversity in plant species*”. 28-29 November 2013 as **Invited lectures**.
33. National Conference on sustainable quality of Biological science education, Development of Botany, Nowgaun College, Assam. “*Changing scenario of education and research in biological sciences in India*”. 09-10 December 2013 **Invited lecture**
34. National conference on Plant Physiology-2013, Directorate of Groundnut Research, Junagadh, “*Physiological potential of rice genotypes for carbon sequestration-biological control of atmospheric carbon.*” 13-16 December, 2013 as **Lead Lecture**
35. 101<sup>st</sup> Indian Science Congress at university of Jammu, Jammu. “*Climate change and greenhouse gas emission from anthropogenic sources – emission estimation and mitigation strategies through plant and soil management.*” 03-07 February, 2014
36. National conference of Plant Physiology (NCP-14), Orissa University of Agriculture and Technology, Bhubaneswar, Odisha, “*Biotic carbon sequestration and photosynthesis: a physiological analysis*”. 23 – 25 November 2014. **Lead Lecture**
37. 102nd Indian Science Congress, Mumbai. “*Carbon Sequestration by rice (Oryza sativa) agro-ecosystem in relation to photosynthesis, partitioning and soil carbon stock.*” 03 - 07 Jan, 2015
38. IPCC 2015, Jawaharlal Nehru University, Delhi “*Hormonal regulation of physiological processes in rice and wheat in relation to greenhouse gas emissions*” 12 December, 2015
39. National Conference of Plant Physiology , at BHU, Varanasi . “*A comparison of growth, photosynthetic characteristics and anatomical configuration of few improved rice cultivars on greenhouse gas emission from rainfed agroecosystem*”. 03-05 march 2016. **Lead lecture**

40. National Conference of Plant Physiology ,University of Agricultural Sciences, Bengaluru. “*Hormonal regulation of plant-mediated greenhouse gas transport- a potential for emission reduction and mitigation of agricultural greenhouse gas*”. 08-10 Dec, 2016. **Lead lecture**

**20. Lectures delivered / Papers presented at various Organizations:**

1. Lecture delivered at Dept. of Life Sciences , Manipur University, Imphal , on Methane emission from rice paddies 10.01.2004
2. Paper presented at HP Borbora Girls College , Golaghat, Assam on “ Our climate and impact of climate change” in a seminar on Environmental Studies on 03.12.2004
3. Lecture delivered at Academic Staff College Gauhati University on 18.03.2005 on (a) GHG emission from agricultural sources and (b) Plant and soil factors associated with emission and mitigation of GHGs
4. Lecture delivered at Academic Staff College Gauhati University on 16.06.2005 on (a) Methane emission from plant sources (b) Physiology of flowering
5. Lecture on “Global warming” delivered at Darrang College, Tezpur 2006.
6. “Global Climate Change Causes and Consequences” as Guest of Honor in IOC (AOD) Digboi, on the Occasion of World Environmental day, 05.06.07
7. “Climate change and Agriculture” paper presented in a conference on “Climate Change Issues and Opportunities” organized by NECCI, Guwahati, 24.05.08
8. “GHG emission from the Anthropogenic sources Causes of Global warming” on the occasion of Engineers Day at Numaligarh Refinery, Numaligarh, 15.09.08
9. “Green house gas emission and Climate Change” in workshop for Principals of Colleges of Assam & the NE Region at Gauhati University, Guwahati, Assam 27.09.08
10. “Environmental Issues and our Concern” as Chief Guest on the Occasion of World Environmental day at IOC (AOD) Digboi, 06.06.11
11. Paper presented on “Impact of Climate Change on Agriculture” at Assam Agricultural University, Jorhat on 9.9.2011
12. Lead speaker at UGC sponsored National Seminar on Environmental issues and their Solutions in North East India at Demow College, Demow, Sivasagar, Assam on 21.09.13

13. Lecture delivered on “Environmental pollution from Climate change perspective” as resource person in NEQIP seminar on Environmental pollution, at POWIET, Jorhat, Assam on 13.02.15

**21. Membership of Academic Societies:**

1. Life member of Indian Society for Plant Physiology, 1984
2. Life member of Indian Science Congress, 1984
3. Life member of Assam Science Society, 1990
4. Life member of the Society for Science for Climate Change and Sustainable Environment, 2011
5. Life member of the National Academy of Environmental Sciences, India
6. Fellow of Indian Society for Plant Physiology (**FISPP**)
7. Member of National Academy of Sciences, India (**MNASc**), 2008
8. Member Botanical Society of Japan, 2011

**22. Committee Member of other Universities / Organizations:**

1. Member of Board of PG/UG studies Department of Botany Rajiv Gandhi University Itanagar, 2005.
2. Member of School Board, School of Human and Environmental Studies. North Eastern Hill University, Shillong, 2006 -2008
3. Member of Executive Council, Rajiv Gandhi University, Itanagar, Arunachal Pradesh 2006-2007
4. Member Board of PG Studies , Department of Environmental Science, North Eastern Hill University, Shillong 2010-2012
5. Member of Editorial Board, Indian Journal of Plant Physiology, New Delhi 2010-2012
6. Member of Post graduate Board of Studies in Environmental Science Mizoram University, Aizwal, 2011 onward.
7. Member of the Executive committee of the Society for Science for Climate Change and Sustainable Environment 2011
8. Member of Expert committee of UGC for inspection of Global Open University of Nagaland 2010
9. Member of Expert committee of UGC for evaluation of major and minor projects on Environmental Science 2012

**23. Member of different Committees of Tezpur University:**

1. Member of Academic Council 2008-2015
2. Member of Research Committee (till 2014)
3. Member of Planning Committee
4. Member of Examination Committee
5. Member of Disciplinary Action Committee
6. Member of Screening Committee of faculty CAS
7. Chairman/Member of Selection Committee Faculty/ Non teaching (total 8)
8. Member of the Committee to Review draft ordinance/ Statute TU
9. Member of ordinance revision committee student's council
10. Member of IQAC
11. Member of Teachers performance Assessment Committee
12. Member of National Organizing Committee for national workshop
13. Chairman Republic day, Independence Day Celebration Committee 2010
14. Students Discipline Maintenance Committee
15. Member of Distance Education Core Committee
16. Space allocation committee/past Chairman
17. Member of Examination Committee
18. Land Compensation Committee
19. Member of Canteen Committee/past chairman
20. Member of Re designation of Reader and Lecturer examination Committee
21. Chairman of Provisional Store allotment Committee
22. Chairman of Tender Selection Committee
23. Member of Screening Committee for Group A, B and C Employee
24. Member of Organizing Committee of National seminar of the Dept. of MBBT
25. Member of Anti Ragging Committee for the session 2010-11
26. Chairman of Performance Assessment Committee of Dr. R. R. Hoque
27. Chairman of Project Fellow selection committee
28. Member of Laboratory Safety Committee
29. Member of the Committee to decide and propose the procurement of the Academic Gowns for the 10<sup>th</sup> Convocation held on 03.09.10
30. Member of Distance Education Committee to suggest the feasibility of offering course under DE mode
31. Chairman of Question paper moderation committee, Dept. of Env. Sc.

32. Member of Academic Building renovation Committee
33. Chairman of Committee to frame the Comprehensive medical rule for the Employee
34. Guest house Management Committee
35. VCs representative at ASTEC, Assam in Reconstituted Executive Sub Committee 4.8.2007.

***24. R & D project completed / in hand as Principal Investigator:***

**Projects completed:**

1. DST, Govt. of India sponsored project on “Methane emission from rice fields of different agro-climatic zones of Assam.”. Amount: 26,63,400.00/- . 1999- 2003
2. ICAR, Govt. of India ad-hoc project on “Screening of Chrysanthemum cultivars and standardization of technique for off-season flowering in plastic green house cum rain shelter” as Co PI. Amount: 26,57,000.00/- . in the year 2002
3. National campaign for the measurement of N<sub>2</sub>O and CH<sub>4</sub> from rice/wheat cropping system – Network project Ministry of Environment & Forest Govt. of India, 2002.
4. Studies on biomass burning and related aerosol and trace gas emissions using ground based measurement and satellite data – ISRO sponsored (in collaboration with NPL, New Delhi), 2002.
5. DST, Govt. of India sponsored project on “N<sub>2</sub>O emission from major field crops of Assam”. Amount: 25,77,000.00/- 2005-09.
6. Ministry of Environment and Forest, Govt. of India, sponsored project on “Impact of natural gas flare on growth and yield development of rice.” Amount: 7,89,000.00/- from 2007-2011.
7. DST sponsored Project on “Evaluation of Carbon Sequestration and enhancing carbon sinks in rice based agro – ecosystems of Assam” Amount: 62,42,751.00/- 2012 - 2016, **as PI**
8. University Grants Commission (UGC, New Delhi) Sponsored Project on “Impact of climate change with reference to low rainfall on sustainable productivity of pulse crops in Assam” Amount: 8,94,300.00/- 2011-15, **as Co PI**

### **Projects in hand:**

1. Ministry of Earth Sciences, Govt. of India, sponsored project on “Soil – Plant atmosphere study in relation to net CO<sub>2</sub> flux from terrestrial ecosystem of Assam”  
Amount: 54,89,880.00/- from 2013, **as PI**

### ***25. Seminar/workshop organized:***

1. Organizing secretary National Seminar “Climate change and sustainable development” at Tezpur University April 1-3, 2010
2. Organizing secretary National workshop on Climate change at Tezpur University 03.03.2011.

### ***26. Contribution to Social Life:***

#### ***Participation in Subject related events:***

1. World Environment Day programme at Darrang College, Tezpur
2. Campaign against Plastic at Napaam ME school, Napaam, Tezpur
3. World Environment Day programme at Pachmile HS School, Napaam, Tezpur
4. Tree Planting programme at Pachmile Junior College, Napaam, Tezpur
5. World Environment Day programme, at Rangapara College, Tezpur
6. Tree planting programme at Forest office at Dolabari, Tezpur.

### ***27. Contribution to academic activity of other organizations:***

#### **Ph.D. thesis examiner of:**

- *Manipur University, Imphal*
- *NEHU, Shillong*
- *Gauhati University*
- *Delhi University*
- *Bundelkhand University, Jhansi*
- *Pune University, Maharashtra*
- *Mizoram Central University*