

## Paper Lists with Paper Code

| Code      | Paper Title   |    |
|-----------|---|----|
| <b>CC</b> |   |    |
| CC01      | Mega Dams in the Himalayas: An Assessment of Environmental Degradation and Global Warming   | 13 |
| CC02      | Students' Willingness to Pay for Offsetting Carbon Emissions on IUB Campus: A Contingent Valuation Approach   | 17 |
| CC03      | Determinants of CO2 equivalent offset price: A case study of the voluntary carbon offset market in Australia  | 21 |
| CC04      | The Impacts of Climate Change on the Coastal Belt of Bangladesh: An Investigation of Risks & Adaptations on Agricultural Sector.                              | 26 |
| CC05      | Community Based Risk Assessment and Adaptation to Climate Change in the Coastal Wetlands of Bangladesh: A Case Study from Chenchuri Beel, Narail , Bangladesh | 29 |
| CC06      | Water Logging in Keshabpur: A Focus to the Coping Strategies of the People  | 33 |
| CC07      | Climate Change Impacts on Flood Vulnerability for Dhaka City  | 37 |
| <b>EE</b> |   |    |
| EE01      | Analyzing of Trade and Environment towards Sustainable Development  | 41 |
| EE02      | Eco-tourism and Environmental Education: An opportunity for Bangladesh  | 43 |
| EE03      | Public Management for Street Vendor Problems in Dhaka City, Bangladesh  | 45 |
| EE04      | Effect of holding time and the amount of fiber content on the flexural properties of Bagasse /bamboo fiber reinforced biodegradable composites                | 51 |
| <b>FB</b> |   |    |
| FB01      | Monotypic taxa, their taxonomic implications and conservation needs in Bangladesh   | 55 |
| FB02      | Shrimp farming, mangrove depletion and environmental governance: A case study on the coastal region of Bangladesh   | 58 |
| FB03      | The Environmental Impact of Alien Invasive Plant Species in Bangladesh  | 62 |
| FB04      | Comparative growth performance of <i>Leucaena leucocephala</i> seedlings raised in nursery bed, polybag and root trainers                                     | 65 |
| FB05      | Lac production and its economic return to rural economy in Rajshahi Division, Bangladesh  | 69 |
| FB06      | Tiger conservation and its feasibility analysis in Nepal  | 73 |
| FB07      | Protected area co-management in Bangladesh – can enhance the adaptation of the forest communities?  | 79 |
| FB08      | Coastal and marine biodiversity of Bangladesh (Bay of Bengal)   | 83 |
| <b>FM</b> |   |    |
| FM01      | Phenology and litterfall production of mangrove <i>Rhizophora styloa</i> Griff. In a subtropical region, Okinawa Island, Japan                                | 87 |
| FM02      | Carbon acquisition of mangrove <i>Kandelia obovata</i> trees  | 91 |
| FM03      | Climate change and its impact on fisheries resources in Bangladesh  | 95 |
| FM04      | Suitable site selection of shrimp farming in the coastal areas of Bangladesh using remote sensing techniques (4 S Model)                                      | 99 |

**GE**

|      |  |     |
|------|--|-----|
| GE01 | Impact of Utilization of Solar PV Technology among Marginalized Poor People in Rural Area of Bangladesh          | 103 |
| GE02 | Supplementing energy demand of rural households in Bangladesh through application of effective biogas technology | 106 |
| GE03 | PV water pumping for irrigation harvesting rain water  | 110 |
| GE04 | Solar Energy to meet the Energy Crisis in Bangladesh   | 113 |
| GE05 | Study on the Efficiency of the GaInP2/GaAs/Ge Multijunction Solar Cell   | 116 |
| GE06 | Prospect of Mustard and Coconut Oil as Environment Friendly Lubricant for Bangladesh                             | 120 |
| GE07 | Bio-Electricity Generation by Using Organic Waste in Bangladesh  | 122 |

**PA**

|      |  |     |
|------|--|-----|
| PA01 | Status of Particulate Matter and Its Impact on Roadside Population of Dhaka City, Bangladesh: A Review Study | 125 |
| PA02 | Air Pollution Aspects of Dhaka City  | 129 |
| PA03 | Observation of atmospheric pollutants in Dhaka, Bangladesh   | 132 |
| PA04 | Air Pollutants Source Tracking - Tracking of possible sources of Dhaka city air                              | 136 |
| PA05 | Perforated Tube as a Muffler in Jet Noise Reduction  | 138 |

**PH**

|      |   |     |
|------|---|-----|
| PH01 | Environmental situation of drop in centers for high risk population on HIV/AIDS prevention in Dhaka, Bangladesh | 141 |
| PH02 | Satellite Remote Sensing In Water and Health Surveillance System  | 144 |
| PH03 | GIS based Risk Analysis for Arsenic Contamination: A Case Study of Chapai Nawabganj District in Bangladesh      | 146 |
| PH04 | Access to Water and Sanitation in Refugee Settings: Success and Setbacks in Bangladesh                          | 149 |
| PH05 | Print media and climate change in Bangladesh: the missing health issue  | 152 |

**RW**

|      |  |     |
|------|--|-----|
| RW01 | Phenol biodegradation by Pseudomonas putida CP1 and A(a)   | 155 |
| RW02 | Flow characteristics and environmental flow requirements for the Teesta River, Bangladesh  | 159 |
| RW03 | Persistent Organic Pollutants and Pesticide Residues in Seasonal Waters of Rural Bangladesh  | 163 |
| RW04 | Status of Arsenic Test and Exposure to Arsenic-contaminated Tubewell Water   | 157 |
| RW05 | River embankment and bank failure in Bangladesh: A Study on Geotechnical characteristics and stability analysis                        | 171 |
| RW06 | Water Quality Aspects in and around Dhaka City   | 175 |
| RW07 | Integrated Water Resources Management Options for Dhaka City   | 179 |
| RW08 | Deterioration of water quality of Surma river influenced by Natural Canals Passing through Sylhet City of Bangladesh                   | 182 |
| RW09 | Surface water quality assessment of the Surma River using factor analysis  | 186 |
| RW10 | Relationship of Carbon-Arsenic-Nitrogen in Sediment with Respect to Arsenic Release in Groundwater in Bangladesh - A Preliminary Study | 189 |
| RW11 | Environmental Change Detection of the Padma river in the North-Western part of Bangladesh using Multi-date Landsat Data                | 193 |
| RW12 | Pollution of marine environment in Bangladesh by shipping and the preventive methods   | 196 |

|      |  |     |
|------|--|-----|
| RW13 | Assessment of Manganese Removal from Groundwater Using Adsorptive Filtration Media                         | 200 |
| RW14 | Rapid removal of arsenate and phosphate from water by highly selective weak-base anion exchange adsorbents | 204 |

### **WM**

|      |  |     |
|------|--|-----|
| WM01 | E-waste management through silver recovery from scrap of plasma TV monitors                                | 207 |
| WM02 | For environmentally harmonious society in South Asia   | 210 |
| WM03 | Migration of Cs <sup>+</sup> through MX 80 bentonite under different ionic concentration                   | 213 |
| WM04 | Minimizing the stone dust through a sustainable way: a case study of stone crushing industry of Sylhet     | 215 |
| WM05 | Solid Waste Management Through Bartering - a case study in Sylhet  | 219 |
| WM06 | Waste Management at Local level: A Study on Pak Phli District, Thailand                                    | 223 |
| WM07 | E-Waste and its Management – A Global Perspective  | 227 |
| WM08 | Study of Solid Waste Management and its Impact on Climate Change: A Case Study of Dhaka City in Bangladesh | 229 |
| WM09 | Industry and Environment in Bangladesh: Lesson from Japanese experience of 3Rs                             | 232 |
| WM10 | Drastic expansion of ship breaking yard in Bangladesh: a cancerous tumor to the coastal environment        | 234 |

# Local Information

## Tourism information:

Fukuoka: <http://fukuoka-tourism.net/e/index.html>

Kitakyushu: <http://fukuoka-tourism.net/e/kitakyushu.html>

Hiroshima: <http://www.kankou.pref.hiroshima.jp/foreign/english/index.html>

## Venue:

University of Kitakyushu

Address: 4-2-1 Kitagata, Kitakyushu, Fukuoka, 802-8577, Japan

<http://www.binbd.com/benjp/ICEAB/travel.html>

## Access:

From Fukuoka International Airport:

*By train:*

1. Take the FukuokaCity Airport Line subway and get off at 'Hakata' station.
2. Transfer to JR Kagoshima Line bound for Mojiko and get off at 'Kokura'.
3. Transfer to Kitakyushu Urban Monorail and get off at 'Keibajomae' station.

*By high-way bus:*

Take the high-way bus for 'Kokura'. It will take around 90minutes from the Fukuoka Domestic Airport to Kokura station [Kokura eki mae station]. Those who will stop at Fukuoka International Airport – take the shuttle bus [free] from Int. terminal to Domestic terminal → then take bus or train to be in Kokura.

From Kitakyushu Domestic Airport:

1. Take the bus bound for 'Kokura Ekimae' and get off at 'Kokura Ekimae' bus stop.
2. Walk to 'Kokura' station and take Kitakyushu Urban Monorail.
3. Get off at 'Keibajomae' station.

For other route search, please use this English site: <http://www.hyperdia.com/en/>

**Tel:** +81-90-2850-3338 (from outside Japan); 090-2850-3338 (within Japan)

## Electricity:

The electrical power supply is 100 volt in Japan, and the frequency is 60 Hertz in Western Japan, including Fukuoka. The Japanese electrical plugs have two flat pins.

## Welcome Message from General Chair, ICEAB10

*“Calcutta (Present Kolkata) has Mukherjee, Banerjee and Chatterjee, but no energy.”*

25 years ago, I had been staying at Calcutta alone, facing much trouble which included just stated load-shedding problem. Above three names such as Mukherjee are famous names of Bengal Brahmins. Whenever I told this sentence to Calcutta citizens, they used to suddenly start to laugh. While I looked at the real situation of Calcutta with many urban problems, I started to get interest in urban environment and decide to change my research topic to waste management of Calcutta from a perspective of social geography. At present, my focus of research turned to Bangladesh, especially, urban areas. Along with research work, I try to contribute to solve waste management problem as a member of JICA’s supporting committee. Apart from it, I take students to Bangladesh as study tour in order to make them look at real situation and get more inspired. In this way, my target has been shifted to Bangladesh.

Meanwhile, I have met and chatted with many Bangladeshi friends. Now, needless to say, Bangladesh faces big environmental problems including arsenic one which has not appeared in other developing countries. Due to rapid globalization, Bangladeshi people get chances to go abroad for higher study and for job. Typical example is shown as this *International Conference on Environmental Aspects of Bangladesh 2010 (ICEAB10)* held in Kitakyushu, Japan. More than 130 papers have been submitted initially by Bangladeshi and other researchers who stay in other countries as well as Japan. All of Bangladeshi researchers understand well how important it is to solve above-mentioned environmental problems with collective and cooperative power.

On the other hand, although most of Japanese are much interested in environmental issues and try to take many measures to battle against them, Japanese researchers are getting less interest in environmental issues of South Asia. It is very regrettable. I hope a fruitful result or success of this ICEAB10 will bring Japanese interest into Environmental Issues of South Asia.

In the last, I appreciate Md. Atiqur Rahman Ahad and Mr. Kenji Kurokawa to organize this conference with much success even under shortage of money. I never forget their eagerness and the participation of many Bangladeshi and other researchers in this conference and submitting their valuable articles.

Sincerely yours,



三宅博之

**Hiroyuki MIYAKE**

*General Chair*, International Conference on Environmental Aspects of Bangladesh.  
Professor, Dept. of Policy Studies, University of Kitakyushu, Japan

## Message from Conference Secretary, ICEAB10

It is a great pleasure and honor to welcome you to the ICEAB10, held on September 4, 2010 at the University of Kitakyushu, Japan. *Bangladesh Environment Network Japan* chapter (BENJapan) is organizing the *International Conference on Environmental Aspects of Bangladesh 2010* (ICEAB10). In this line, earlier BENJapan organized the *International Symposium on Environmental Aspects of Bangladesh & Japan* (ISEABJ09) in September 2, 2009 in Kitakyushu International Association, Fukuoka, Japan. The ICEAB10 provides vibrant opportunities for researchers, industry practitioners, volunteers, students and fellow citizens to share their research experiences, research results, ideas, review of various aspects and practical development experiences on environmental aspects of Bangladesh (specifically), Japan and other regions.

This time, in the organizational process, total 132 papers were submitted from Bangladesh, Germany, India, Japan, Korea, Malaysia, Nepal, Thailand, UK, USA, etc. These were reviewed by our expert committee members. Finally 64 papers are included in this proceeding. Some authors may not be able to attend the conference due to financial constraints. We hope that in future all can participate. A keynote speech will be presented by Prof. H. Miyake during the conference.

Members of the organizing committee have given their efforts for this conference. We are really grateful to them. However, we would like to thank especially to Prof. Hiroyuki Miyake and Mr. Kenji Kurokawa for their excellent supports and contributions to make this happen. We would like to mention few names too who have given plenty of hours and showed extra commitments for this conference: Mr. Mohin Mahtab, Mr. Parimal Talukder, Dr. Enamul Kabir, Mrs. Shahera Hossain, Dr. MAS Kamal, Dr. Riazul Islam, Mr. Zahid Parvez Sukhan, Dr. Abdullah al-Mahin and Mr. Shin Moriyama. Special thanks to Mr. Muhammad Nurul Amin for his cover design (free of cost). We are thankful to Mr. Sazzad S. Imran and Mr. Qutub Uddin for their efforts for accessories. Thanks to Microsoft Research for allowing us to use their Conference Management system for ICEAB10. We are thankful to the University of Kitakyushu for hosting the conference.

We hope that all BENJapan & BEN members and conference participants will be delighted to make this conference a successful one and will exchange ideas, make collaboration, so that everyone may benefit from this conference, and make this a regular process for future too. Looking forward to see you in future!

Lets work for a better world, a better environment-friendly world – so that all human beings and the living entities can survive here in peace and mutual respect.

With the best regards,

**Md. Atiqur Rahman Ahad**

*Conference Secretary, ICEAB10.*

*Founding Coordinator, Bangladesh Environment Network Japan chapter (BENJapan).*

*Asst. Prof., Department of Applied Physics, Electronics & Communication Engineering,  
University of Dhaka, Bangladesh.*

E-mail: atiqahad@yahoo.com



BANGLADESH ENVIRONMENT NETWORK (BEN)

বাংলাদেশ পরিবেশ নেটওয়ার্ক

*A global network to assist Bangladesh in protecting her environment*

[www.BEN-Center.org](http://www.BEN-Center.org)

<http://listserv.cc.emory.edu/archives/ben.html>

## Message from Global Coordinator, BEN

*Dear participants of ICEAB, 2010!*

I am very happy that efforts by BENJapan for many months now to organize a scientific conference on Bangladesh environment is coming to fruition, and a large number of Bangladeshi, Japanese, and other scholars are gathering at Kitakyushu University for ICEAB, 2010.

I am very impressed by the large response to the call for papers and the very rich selection of more than sixty papers (from about 130 papers submitted for consideration) that will be presented at this conference. I am further impressed by the fact that a pre-conference printed volume containing the papers has been brought out. This speaks of the superb organizational capacity and hard work of BENJapan leaders. I hope that this volume will be an important addition to the stock of knowledge on Bangladesh environment that BEN and BAPA have been building up over the years, and that it will serve as an importance reference for all those interested in Bangladesh environment.

I am further pleased to know about plans by BENJapan to hold such conferences on an annual basis, rotating the venue among different cities of Japan. Such a process will provide a sustained forum for Bangladeshi scholars in Japan and their Japanese and international colleagues to discuss and contribute to the understanding and solving Bangladesh's environmental problems. I hope that this process will help BENJapan reach to all Bangladeshis in Japan.

Bangladesh has much to learn from Japan. Kitakyushu itself is well-known for its success in rapidly reducing industrial pollution. Bangladesh can also learn a lot from the Japanese experience of compact urbanization based on public transportation and biking. As you are aware, urbanization in Bangladesh has now reached a crisis, manifested most starkly in the horrendous traffic situation of the capital, Dhaka city. BEN and BAPA, together with universities and other pro-environment organizations of Bangladesh, are therefore organizing a special conference on "Urbanization, Traffic Jam, and Environment," on January 8, 2011 in Dhaka. It will be excellent if Bangladeshi scholars from Japan and their Japanese and other international colleagues join this conference and help Bangladeshi policy makers and people know more about and learn from the successful Japanese model of urbanization.

I wish BENJapan's ICEAB, 2010 all-round success!

**Dr. Nazrul Islam**

*Global Coordinator, BEN*

## Acknowledgement for Donations

*The following persons have donated that covered a partial cost of the conference.*

- Mrs. Albelee Haque  
*Researcher & BEN member, USA*
- Dr. Ashir Ahmed  
*Assoc. Prof., Kyushu University, Japan*
- Dr. Azizul Moqsud  
*Assoc. Prof., Saga University, Japan*
- Dr. Bidyut Baran Saha  
*Prof., Kyushu University, Japan*
- Dr. Enamul Kabir  
*Yaskawa Denki, Japan*
- Dr. Hiroyuki Miyake  
*Prof., University of Kitakyushu, Japan*
- Mr. Kenji Kurokawa  
*Engineer (retd.), Japan*
- Dr. Mahbubul Alam Chowdhury  
*Prof., Aichi Gakuin University, Japan*
- Dr. Nazrul Islam  
*Global Coordinator, BEN, USA*
- Dr. Riazul Islam  
*Postdoctoral Researcher, Kyushu University, Japan*
- Dr. Vishwajit Sur Chowdhury  
*Assoc. Prof., Kyushu University, Japan*