



Seminar on

COAL WASHING IN INDIA:

Organised by :

MILLENNIUM INSTITUTE OF ENERGY & ENVIRONMENT MANAGEMENT

In association with :

COAL ASH INSTITUTE OF INDIA



A BRIEF SYNOPSIS

- ✓ MOST POWER PLANTS, PROCESS INDUSTRIES IN THE LATE 90's THRIVED ON ENERGY /PROCESS STEAM FROM COAL BASED GENERATION
- ✓ MASSIVE QUANTITY OF ASH WAS GENERATED GIVEN THAT INDIAN COAL HAD MORE THAN 40% OF ASH.
- ✓ POLLUTION WAS A COMMON FEATURE BUT UNLUCKILY POLICY MAKERS WERE NOT PAYING AN ATTENTION TO THE SAME
- ✓ A PLATFORM WAS CONSIDERED BY LEADING PROFESSIONALS FROM THE POWER AND OTHER INDUSTRIES TO DEVELOP, PROPAGATE PROPER DISPOSAL AND USAGE OF ASH.
- ✓ HENCE IN 1994 SAW THE BIRTH OF COAL ASH INSTITUTE OF INDIA IN KOLKATA



PRIMARY OBJECTIVES

OF THE SOCIETY

To promote, demonstrate, develop scientific experiments or arrange technical discourses in the line of ash collection, segregation, utilization and disposal beneficial to or meant for different thermal power stations or the society at large.

To encourage through seminars, symposia, workshops, panel discussions, lectures, debates, excursions, quiz etc. or other awareness programmes and also to undertake study-based research projects on casual or regular basis for the promotion of ash collection, segregation, utilization and disposal without the motive of making profit.

To publish or cause to be published, priced or otherwise, useful literature, papers, magazines, books, monographs, models etc.

To educate people about the superior attributes of ash based building materials as well as create greater awareness about maintaining balance of the eco-system and preserving Planet Earth.

To help, if situation and funds permit, the needy students of all communities in the study of environment science and management.

To acquire, establish, start, aid, run, maintain or manage schools, colleges, libraries etc. for the benefit of the public and propagation of the institutional objectives.

THE FIRST FEW STEPS



- ✓ BOTH FLY ASH AND BOTTOM ASH WAS DISPOSED OFF BY MIXING WITH WATER INTO A POND IN 90's.
- ✓ REALISING THE DETRIMENTAL ASPECTS NOT ONLY TO THE AMBIENT AIR QUALITY BUT ALSO THE GROUND WATER, CAI SCOUTED AROUND FOR SOLUTIONS FOLLOWED WORLD WIDE.
- ✓ IN ASSOCAITION WITH FLY ASH MISSION OF GOVERNMENT OF INDIA, PROPAGATED THE CONCEPT OF DRY FLY ASH COLLECTION
- ✓ SUBSEQUENTLY WE ALSO WORKED ON UTILISATION OF FLY ASH WITH CEMENT, BUILDING INDUSTRIES.
- ✓ HENCE WE NOW HAVE PPC , ASH BRICKS AND CLC BEING A COMMON FEATURE IN CONSTRUCTION



OUR CONTRIBUTION_{IN} POLLUTION CONTROL

AS A PARTNER IN PROPAGATING POLLUTION ABETMENT SOLUTION WE HAVE ACHIEVED

- ✓ NEAR TOTAL UTILIZATION OF FLY ASH FROM POWER INDUSTRY
- ✓ POWER PROJECTS ARE NOW ENVISAGED WITH BOTH DRY FLY & BOTTOM ASH SYSTEM
- ✓ HELPED IN PROTECTING GROUND WATER
RECYCLING OF WATER IN PLANTS WHERE BA IS STILL IN WET MODE HAS CONSERVATION OF WATER
- ✓ POND ASH HAS BEEN NOW USED IN EMBANKMENTS, ROAD CONSTRUCTION, Etc
- ✓ MADE POLICY MAKERS AWARE OF THE DEVASTATION CAUSED TO THE ENVIRONMENT DUE TO POLLUTANTS LIKE ASH AND INCENTIVIZED UTILIZATION OF ASH

SOME STAND OUT WORK



- **CAI extended consultancy services to West Bengal Housing Infrastructure Development Corporation for the preparation of Technical Specification and Tender Documents for filling of land by coal ash for the development of New Town, Kolkata.**
- **CAI undertook optimization of Fly Ash Brick composition, trial/pilot scale production of Fly Ash bricks and promotion of Fly Ash bricks in construction industry in Kolkata and Greater Kolkata.**
- **CAI provided various professional advisory services to the Fly Ash brick manufacturing units in West Bengal.**
- **CAI extended professional consultancy services for preparation of a report on utilization of Coal Ash for Rio Tinto India Pvt. Ltd., New Delhi/Haryana**

SOME STAND OUT WORK



- STUDY ON EFFECT OF BIOTIC AND ABIOTIC MARINE LIFE DUE TO ASH CONTAMINATION FOR CESC
- ROAD CONSTRUCTION PROJECT WITH BED ASH AS A REPLACEMENT FOR SAND
- PROVIDE TECHNICAL SERVICES FOR UTILIZATION OF FLY ASH FOR CLC MANUFACTURE FOR IFB AGRO
- UTILIZATION OF COMPOSITE ASH FOR ROAD CONSTRUCTION FOR IFB AGRO
- CASE STUDY FOR CESC ON “ USE OF BOTTOM ASH OF PULVERIZED COAL AS PARTIAL REPLACEMENT OF SAND IN STRUCTURAL AND NON-STRUCTURAL CONCRETE”



SOME

**STAND OUT
WORK**

WE HAVE DONE

**EFFECT ON BIOTECH & ABIOTECH AQUATIC
LIFE DUE TO ASH CONTAMINATION FOR CESC**

**UTILIZATION OF COMPOSITE ASH FOR ROAD
CONSTRUCTION FOR IFB AGRO**

**CASE STUDY FOR CESC ON "USE OF BOTTOM
ASH OF PULVERIZED COAL AS PARTIAL
REPLACEMENT OF SAND IN STRUCTURAL
AND NON-STRUCTURAL CONCRETE"**



Manufacturing of CLC Blocks at Abujhati, Burdwan on 19.11.2019

যাদবপুর বিশ্ববিদ্যালয়

Faculty of Engineering & Technology
DEPT. OF CONSTRUCTION ENGINEERING



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Laboratory Test Report

Dated: 30.07.2019

1. Test done for : IFB Agro Industries Limited, Vill-Durgapur, P.O-Noorpur, P.S-Ramnagar, Dist -24 Parganas

2. Reference No : JU Testing/IFB Composite Ash Dated on 24.05.2019

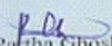
3. Name of Agency : Benimadhab Construction Private Limited

4. Type of test : Grain Size Analysis of Bottom Ash

Test Results:- (Sample No.S-1)

SL No.	Sieve Size (mm)	Sieve Retention (in gms)	% Finer
1	4.75	0.2	99.8
2	2.36	1.8	98.2
3	1.18	9.5	90.5
4	0.6	18.5	72
5	0.425	12.7	59.3
6	0.3	10.1	49.2
7	0.15	13.8	35.4
8	0.075	5.6	29.8
9	0.068	1.8	28
10	0.048	3.4	24.6
11	0.035	4.6	20
12	0.026	5.4	14.6
13	0.023	4	10.6
14	0.015	2.6	8
15	0.01	1.5	6.5
16	0.007	1	5.5
17	0.005	1	4.5
18	0.004	1	3.5
19	0.003	1	2.5
20	0.002	1	1.5
21	0.001	0.6	0.9
22	PAN	0.9	NA

*Test were conducted on sample marked and sent by the Client


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Dr. Partha Ghosh
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**TYPICAL LABORATORY TEST
CARRIED OUT ON BEHALF OF IFB
AGRO AS PER CAI RECOMMENDATION
AT JADAVPUR UNIVERSITY**



**ROAD BUILT WITH BED ASH AS PER
OUR RECOMMENDATION**



IN THE PRESENT TENSE

- **WORKING ON PROPAGATING TECHNOLOGIES FOR DRY BOTTOM ASH**
- **WORKING ON TECHNOLOGIES FOR UTILIZATION OF BOTTOM ASH AS A REPLACEMENT OF SAND**
- **WORKING ON IMPROVEMENT IN CLC TECHNOLOGIES**
- **WORKING WITH SIMILAR INSTITUTE OF THE WORLD IN UPDATING OUR TECHNOLOGIES AND KNOWLEDGE BASE**
- **HELPING INDUSTRY IN FINDING SOLUTION FOR CRITICAL PROBLEMS BASED ON OUR KNOWLEDGE BASE AVAILABLE**

FUTURE PLANNING

- **WORK IN OTHER FIELDS ASSOCIATED WITH POLLUTION ABETMENT**
- **RAISE AWARENESS AT THE GRASS ROOT LEVEL, LIKE INSTITUTIONS ABOUT POLLUTION**
- **WORK WITH SIMILAR MINDED GROUP TO ENHANCE OUR KNOWLEDGE DOMAIN REGARDING POLLUTION IN WATER, E-WASTE, AIR AND OFF COURSE LAND**
- **WE ENVISAGE TO EXPAND OUR KNOWLEDGE ON ENERGY GENERATION OF NON RESIDUAL POLLUTING SOURCE, LIKE HYDROGEN**

WHAT WE PROVIDE

- PROVIDE SERVICES FOR "CASE STUDY" FOR EFFECT OF ASH AS POLLUTANT
- PROVIDE TECHNOLOGICAL SERVICES FOR SETTING UP OF ASH BRICK & ASH BLOCK MANUFACTURING
- PROVIDE TECHNOLOGICAL SERVICES FOR SETTING UP OF CLC BLOCK MANUFACTURING
- PROVIDE TECHNOLOGICAL SERVICES FOR WORKING ON INDUSTRIAL POLLUTANTS AND ITS EFFECT





COALASH INSTITUTE OF INDIA

A SOCIETY INCORPORATED (Regd. No. S/78004)

Pledge to Go Paperless:
SAVE THE ENVIRONMENT

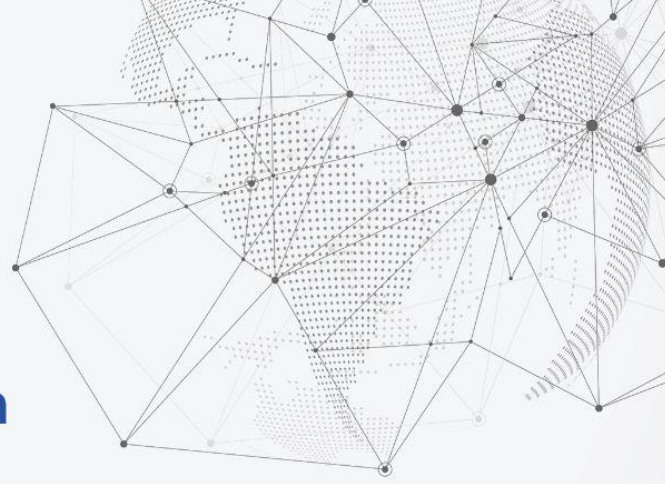
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- ✓ Garden Maintenance



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Garden Lovers' Museum