



Programmes and Activities of

Bangladesh Council of Scientific and Industrial Research (BCSIR) since the 15th Meeting of COMSATS Coordinating Council

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#### A View of



#### **BCSIR Main Campus** (Location: DHAKA - the capital of Bangladesh)







## A brief introduction of BCSIR

- Established in 1955 as the "East Regional Laboratories" of PCSIR.
- After the liberation of Bangladesh, BCSIR came into being on 16 November 1973 on the basis of a Cabinet Resolution.
- In 1978, BCSIR was re-constructed.
- At present BCSIR is functioning under the Ministry of Science and Technology (MoST), Govt. of the People's Republic of Bangladesh.



Bangladesh Secretariat (MoST)



- Full Fledged Multi Disciplinary Regional Laboratories: 03
- Mono Disciplinary Institutes: **05**
- Centre for Pilot Plant Studies: **01**



## Location of BCSIR Units







BCSIR Labs. Dhaka BCSIR Labs. Chittagong BCSIR Labs. Rajshahi

• All of these units are Multi-disciplinary





Mono disciplinary Units



IFST

IFRD















#### • The Centre of BCSIR



PP & PDC





# Management of BCSIR

Chairman is the Chief Executive of the Council

The functions of BCSIR are being conducted under the overall control and supervision of the **Chairman** along with **four full time members** who are to assist the Chairman providing general guides to, and overseeing the activities of the Council

The Council is governed by the **BCSIR Board** and is comprised of **4 full time** & 4 part time members. The policy formulation is made at the **Advisory Council** 

The Research Units are Headed by the Directors



Being the largest public research institute (PRI), the main strategy of BCSIR is to accomplish & promote *"Applied Research & Development (R&D)"* and thus serve the nation providing services to:

- The society
- Industries
- Entrepreneurs, SME's





The Key issues considered for R&D Projects

- (i) National demand and need;
- (ii) Feasibility and market acceptability;
- (iii) Importance in the applied field;
- (iv) Suitability for the establishment of SME's; and
- (v) Competitive sustainability.



## Thrust ReLD Areas

- Analytical chemistry
- Biological science
- Biogas technology
- Bio-ceramics
- Building materials
- Chemical technology
- Chemical metrology
- Fibre and polymer
- Food science & technology
  Renewable energy
- Glass & ceramics

- Herbal medicine & natural products
- Industrial physics
- Leather technology
- Microbiology
- Mining, mineralogy & metallurgy
- Nanotechnology
- Pharmacy
- Pulp and paper
- - Soil & environmental science

Ongoing R&D projects: 154 (including 20 priority projects)



## Development and Achievement since the 15th Meeting of COMSATS Coordinating Council







## Human Resource Development

- **New Recruitment :** 
  - (i)
  - (ii) Under Project 15 Scientific Officers
- Under Revenue 60 Scientific Officers

- 2. **Training**:
  - (i) In house training - 75
  - (ii) Home - 51 (iii) - 15 Abroad
- 3. Ph.D / MS /MPhil:
  - (i) Abroad - 10
- **BCSIR Fellowship**: - 21 4.





### Total Manpower working at Present (including the revenue recruitment)

Category	Approved Post	Working	
Class I	450	349	
Class II	244	77	
Class III	559	365	
Class IV	246	143	
Total	1501	934	

Scientists		Engineers				
Category	Appr.	(Working)	Category	Appr.	(Working)	
CSO	13	(80)	Sr. P. Engg	2	( <mark>0</mark> )	
PSO	47	(44)	P. Engg	3	(2)	
SSO	104	(87)	Sr. Engg	11	(4)	
SO	174	(128)	Engg	13	(2)	
Total	338	<b>(267)</b>	Total	29	(8)	



**Capacity Building** 



Inauguration of Designated Reference Institute for Chemical Measurements (DRICM)



The Hon'ble Prime Minister of Bangladesh *Sheikh Hasina* inaugurated "DRICM" on 10 June 2012



Hon'ble Prime Minister's visit after the inauguration of DRICM



Hon'ble Prime Minister's visit after the inauguration of DRICM



#### A view of DRICM





### **DRICM** facilitates

- i. Proficiency Testing (PT).
- ii. Inter-Lab Comparison (ILC).
- iii. Design Qualification, Installation Qualification, Operation Qualification and Performance Qualification (DQ/IQ/OQ/PQ) of equipment.
- iv. Characterization / qualification certification of 'Active Pharmaceuticals Ingredients (API)'.

DRICM (BCSIR) is proud to become the member of BIPM





#### Capacity building of BCSIR Labs. Rajshahi

ADP project "Strengthening of Microbial and Analytical Laboratories, Chittagong and Rajshahi, BCSIR "





Laboratories of BCSIR Labs. Rajshahi





#### Capacity building of BCSIR Labs. Chittagong

ADP project "Strengthening of Microbial and Analytical Laboratories, Chittagong and Rajshahi, BCSIR "





Inauguration of Microbiological Laboratory of BCSIR Labs., Chittagong





#### Capacity building of PP&PDC

#### ADP project "Development of Materials for Tools and Bio-Metallic Implant."





XRD

Thermo-Mechanical Analyzer





### Establishment of the Institute of National Analytical Research and Service (INARS)

ADP project

#### "Establishment of National Analytical Research and Service "



View of INARS







#### i. Achievement

#### 1. **Process**:

- (i) Accepted 13
- (ii) Leased out 22
- (iii) No. of Lessee 18
- 2. Patent :
  - (i) Accepted 6
- 3. Paper Published :
  - (i) Both National & International 92





ii. Development

- 1. Diabetic shoe developed
- 2. Chrome free tanning process developed
- 3. Facilities for bio-equivalence testing developed
- 4. Analytical Research Lab Accredited (26 parameters)
- 5. Extraction of Ilmenite from the sand deposit (with the assistance of CSIRO, Australia) – going on
- 6. Pharmaceutical Research Laboratory established to carry out R&D on API, bio-equivalence test etc.





## ADP and other Projects i. On-going ADP projects

- 1. Establishment of Institute of National Analytical Service.
- 2. Strengthening of the Institute of Mining, Mineralogy and Metallurgy.
- 3. Strengthening of Analytical and Microbial Laboratory at BCSIR in Rajshahi and Chittagong.
- 4. Development of Technology for the production of Low Cost Solar Power.
- 5. Establishment of Designated Reference Institute for Chemical Measurements.
- 6. Infrastructure Development of Fibre & Polymer Laboratory of BCSIR to support Export Oriented RMG.
- 7. Modernization of Animal Laboratory for Biomedical and Toxicological Research.



Support to BCSIR instrumentation and calibration service laboratory (ICSL) for chemical metrology under Better Quality Infrastructure (BEST) Programme.





ADP and other Projects iii. Development Projects

- 1. Formation of database and automation of information technology for BCSIR as a part of Digital Bangladesh.
- 2. Mitigation of carbon emission and extension of alternative energy usage through dissemination of biogas plant and improved cook stove.





Bio gas plant set-up under the "Mitigation of carbon emission and extension of alternative energy usage through dissemination of biogas plant and improved cook stove" - project





Achievement of Mitigation of carbon emission and extension of alternative energy usage through dissemination of plant and improved cook stove

- Plant set-up target :
  - (i) Bio gas plant - 2800 - 2800
  - (ii) Improved cook stove
- 2. Plant set-up so far :
  - (i) Bio gas plant - 2600
  - (ii) Improved cook stove - 2500
- 3. Human resource development:
  - (i) No. of Training facilitated - 28
  - (ii) No. of personnel trained up- 356





Benefits of Mitigation of carbon emission and extension of alternative energy usage through dissemination of plant and improved cook stove

#### 1. Through 2800 bio gas plant :

- (i) Reduce CO<sub>2</sub> emission/year 42550 Tons
- (ii) Savings of biomass 5015.81 Tons
- (iii) Production of organic fertilizer 49526.85 Tons

So the country will earn : 4.5 million USD

#### 2. Through 2800 improved cook stove:

- (i) Reduce CO<sub>2</sub> emission/year 35040 Tons
- (ii) Savings of biomass 21900 Tons







### ADP and other Projects iv. Special Allocation Projects

- 1. Enhancement of laboratory facilities and capacity build-up for animal DNA bar-coding research in zoology section of BCSIR Laboratories, Dhaka.
- 2. Development of highly nutritive supplementary food for pregnant and lactating mother.
- 3. Antibiotic resistance in campy lobacter jejuni isolated from poultry and cattle in Bangladesh.
- 4. Search for antimicrobial and anticancer metabolites from medicinal plants of Bangladesh and their associated endophytic fungi.
- 5. Studies on the development of ready to eat foods from cereals, pulses and soybean as major ingredients.



(i)



## Public, private partnership

During the last one year BCSIR has expand its MoU signing venture to:

Create a symbiosis of R&D activities; and

Promote the service activities (particularly focusing the food security of Bangladesh)





#### i. MoU with Universities/ Research Organizations

- 1. International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B)
- 2. Daffodil International University
- 3. Jessore University of Science and Technology (JUST)
- 4. Indiana-Purdue University, USA



Indiana-Purdue Univ. USA



Daffodil International Univ. Snap shots of MoU



Jessore Univ. of Sci. & Tech. 37





#### ii. MoU with Companies

- 1. Rahim Afroz
- 2. ACI Logistics Ltd.
- 3. GEMCON Group

- : Agora Super store
- : Shopno Super store
- : Meena Bazar Super store





Snap shots of Mou with Meena Bazar Super store



## Activities of BCSIR in Others Areas

#### 1. Providing Analytical service No. of samples analyzed: 3630

#### 2. Organizing Seminar, workshop

 Scientific and Technical Cooperation between European Union (EU) and Bangladesh



- (ii) 22<sup>nd</sup> Bangladesh Science Conference
- (iii) Bangladesh Chemical Congress 2012
- (iv) Science Fair
- 3. Science and Technology Policy 2011, Core Committee Meeting



#### That's all about the development and achievement of



#### since the 15th Meeting of COMSATS Cordinating Council





Proposed areas: • Nanotechnology • Renewable Energy

- Materials Science
  Food Science and Technology
  - Chemical Metrology etc.





Mangrove ForestBotanical GardenTea GardenHanging BridgeSnap shots of some famous places in Bangladesh