

Terms of Reference (TOR)

Equipment Consultancy Services

Establishment of Bangamata National Cellular and Molecular Research Centre

Room no: 309, BMRC Bhaban, Mohakhali, Dhaka-1212.



Terms of Reference (TOR)
Equipment Consultancy Services

Establishment of Bangamata National Cellular and Molecular Research Centre (BNCMRC)
Room no: 309, BMRC Bhaban, Mohakhali, Dhaka-1212.

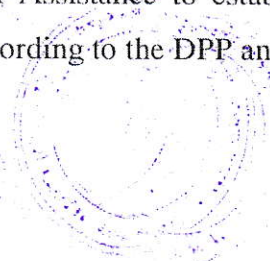
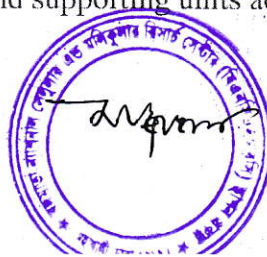
1. Introduction

Medical research is very essential to guide improvements in health systems and to develop new initiatives. Bangladesh has achieved remarkable progress in health gains but still confronted with a huge disease burden. Medical research is particularly important to consider evidence-based care practices and health care service provisions as well as ensuring quality medical care. Investment has significantly increased in infrastructure for health system but there exist gaps in evidence to guide reduction of important endemic and emerging new health problems. In this context, the progressive government under the very able leadership of honorable Prime minister Sheikh Hasina has planned to establish an international standard research centre to promote cellular and Molecular technology in the country. This Centre, **Bangamata National Cellular and Molecular Research Centre (BNCMRC)** will be managed and run by the Bangladesh Medical Research Council (BMRC) to ensure effective and qualitative health services for all people of the country. With the target to establish this Centre by June, 2023, work has already been started and the project is in the process of selecting a Equipment Consultant.

The equipment consultancy services

The equipment consultancy company is to support the Project Director and his/her technical team for the smooth and standard establishment of BNCMRC. This technical assistance (TA) will not only contribute to the immediate TA needs of the project and BNCMRC but will also inform the design of a longer-term institutional strengthening program. Besides, the firm will execute the following works through the respective suppliers:

- i). Laboratory Equipment consultancy service packages with overall technical assistances including conducting procurement process, ensuring quality assurance (QA), proper installation and post-installation overall services.
- ii). The recruited firm should inform the design of a longer-term institutional strengthening program.
- iii). Will contract the suppliers to provide Technical Assistance to establish the functionality and strengthen all the departments and supporting units according to the DPP and PPR rules.



2. Context

Medical research is very essential to guide improvements in health systems and develop new initiatives. Although during the recent years Bangladesh has achieved remarkable progress in achieving most of the health MDGs including reduced child and maternal mortalities, increase in life expectancy due to the reduction in communicable disease incidence etc., there still exists huge disease burden. In this context medical research is particularly important to consider evidence-based care practices and health care service provisions as well as ensuring quality medical care for the population. Although investment has significantly increased in infrastructure for health system, gaps remain in evidence to guide reduction of important endemic and emerging new health problems.

Perspectives of Cellular and Molecular levels of most communicable and non-communicable diseases largely depend upon region based genetic pattern thus development of personalized drug therapy is arranged through analysis of genetic pattern of each disease in order to ensure highest level of treatment. In this regard Bangladesh still is lagging far behind in the region based genetic pattern analysis and personalized drug therapy.

In the above context the progressive government under the very able leadership of honorable Prime minister Sheikh Hasina has planned to establish a full-fledged research Centre of international standard to promote cellular and Molecular technology in the country. This Centre, **Bangamata National Cellular and Molecular Research Centre (BNCMRC)** will be managed and run by the Bangladesh Medical Research Centre (BMRC) to ensure effective qualitative health services for all people of the country. It will help reaching the advancement in health services at the door step of people through training, creating research scopes and applying the impact derived from the research.

Bangladesh Medical Research Council (BMRC)

Established in 1972 the Bangladesh Medical Research Council (BMRC) is the focal point for health research in the country. It is an autonomous body under the Ministry of Health and Family Welfare (MOH&FW) which aims to create effective and quality health care facilities for the whole population of the country by promoting health research through strengthening of research facilities, training and dissemination of research results. The main activities of the council include organization and promotion of scientific research in various fields of Health Science, training of manpower in the field of health research and dissemination of research results for proper utilization,



Bangamata National Cellular and Molecular Research Centre (BNCMRC):

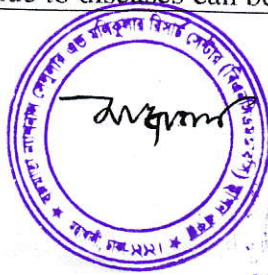
The “Bangamata National Cellular and Molecular Research Centre –BNCMRC” under the Ministry of Health and Family Welfare (MOHFW) has a five-year establishment plan; Nov, 2018 to June, 2023. The BNCMRC will be setup besides the BMRC main campus in Mohakhali, Dhaka.

With the general objective to contribute for the Development of the national health systems by introducing International standard modern biotechnology to facilitate national health services and medical research, the BNCMRC has the following specific objectives.

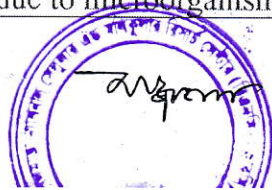
- Establishment of a common platform (network) for national and international researchers and scientists to create new researchers and arrangement of trainings for them.
- Development of National Medical Research that will reach to international level in diagnosis of diseases and which will contribute in national health strategy as well as help to reduce the national health services cost effectively and accurately.
- Determining of communicable and non- communicable disease pattern and related research.
- Laboratory services to the people of the country to identify disease as well as record keeping and preservation of patient’s information, sample, data, and research work.
- Facilitate to use modern biotechnology for the development of pharmaceuticals and food industries.
- Establishment of an international standard research laboratory with all modern facilities along with all other supportive units, facilities as well as whenever anything necessary.

BNCMRC will have the following different Departments and Units:

Divisions name	Description
Medical Biotechnology	This department will conduct research to develop human resource by utilizing modern technology. The main objective of this dept. is to conduct research to discover easy way of both infectious and non-infectious diseases diagnosis, prevention and treatment. Also, morphological changes that occur in cell due to different diseases and its possible preventive measures.
Cell Biology	This department will conduct research at the molecular level of cause and treatment of different cancer diseases, possible changes of cell function, pattern, growth and cell death, cell signalling and designing of new drug for therapy.
Molecular Biology and Genetics	This department will conduct research on the molecular and genetic profile behind disease progression and development of therapeutic option for the cure and prevention of different types of molecular and genetic disorders.
Biochemistry	Will conduct research in physiology, pathology, diseases due to mal nutrition, and endocrinology. Possible biochemical changes at the cell level of human body due to diseases can be another research objective.



Immunology	Will conduct research in human body defence mechanism. The main research objective is to strength human defence mechanism by discovering vaccine of different infectious and non- infectious diseases.
Virology	Will conduct research in rapid viral diagnosis testing based on Immunological and nucleic acid identification system.
Microbiology	Will conduct research on pattern and pathogenesis prevention of infectious diseases due to microorganism like bacteria, virus and other parasites.
Pathology	Will conduct diagnostic test of blood, urine, stool and various organic chemicals at a reasonable cost. To discover new diagnostic tools and techniques specially cancer and hematological disorder.
Nutrition, Food science and technology	Will conduct research in food quality, nutritional facts in food, food production and processing, identification of microorganism present in food, purity of food and level of vitamin and mineral present in the food. Try to discover easy way to ensure purity of food products. In addition, this dept will discover a new balance food mix for the poor people of Bangladesh at a very reasonable cost.
Pharmacology and Pharmacogenomics	Combining Pharmacological and Genomics research to find how the drug response influences human genome. Therapeutic effects and side effects of various drugs will be evaluated.
Public Health and Epidemiology	Will conduct research on ethnic variation of disease pattern, causes of disease and health problems due to disease. Epidemiological research includes Etiology, Transmission, forensic epidemiology, biomonitoring, influence of clinical treatment. This dept. will utilize information technology to ascertain disease pattern and maintain different diseases data base.
Radiology	Will conduct research in different diseases related information, advancement of treatment and types of treatment. Major functional responsibilities of this dept. are Nuclear cardiology, Radiopharmaceutical discovery, breast imaging, MRI etc. This dept. can play vital role in diagnosis and prevention of diseases for the people of Bangladesh through clinical trial.
Medical Biotechnology	This department will conduct research to develop human resource by utilizing modern technology. The main objective of this dept. is to conduct research to discover easy way of both infectious and non-infectious diseases diagnosis, prevention and treatment. Also, morphological changes that occur in cell due to different diseases and its possible preventive measures.
Cell Biology	This department will conduct research at the molecular level of cause and treatment of different cancer diseases, possible changes of cell function, pattern, growth and cell death, cell signalling and designing of new drug for therapy.
Molecular Biology and Genetics	This department will conduct research on the molecular and genetic profile behind disease progression and development of therapeutic option for the cure and prevention of different types of molecular and genetic disorders.
Biochemistry	Will conduct research in physiology, pathology, diseases due to mal nutrition, and endocrinology. Possible biochemical changes at the cell level of human body due to diseases can be another research objective.
Immunology	Will conduct research in human body defence mechanism. The main research objective is to strength human defence mechanism by discovering vaccine of different infectious and non- infectious diseases.
Virology	Will conduct research in rapid viral diagnosis testing based on Immunological and nucleic acid identification system.
Microbiology	Will conduct research on pattern and pathogenesis prevention of infectious diseases due to microorganism like bacteria, virus and other parasites.



Pathology	Will conduct diagnostic test of blood, urine, stool and various organic chemicals at a reasonable cost. To discover new diagnostic tools and techniques specially cancer and hematological disorder.
Nutrition, Food science and technology	Will conduct research in food quality, nutritional facts in food, food production and processing, identification of microorganism present in food, purity of food and level of vitamin and mineral present in the food. Try to discover easy way to ensure purity of food products. In addition, this dept will discover a new balance food mix for the poor people of Bangladesh at a very reasonable cost.
Pharmacology and Pharmacogenomics	Combining Pharmacological and Genomics research to find how the drug response influences human genome. Therapeutic effects and side effects of various drugs will be evaluated.
Public Health and Epidemiology	Will conduct research on ethnic variation of disease pattern, causes of disease and health problems due to disease. Epidemiological research includes Etiology, Transmission, forensic epidemiology, biomonitoring, influence of clinical treatment. This dept. will utilize information technology to ascertain disease pattern and maintain different diseases data base.
Radiology	Will conduct research in different diseases related information, advancement of treatment and types of treatment. Major functional responsibilities of this dept. are Nuclear cardiology, Radiopharmaceutical discovery, breast imaging, MRI etc. This dept. can play vital role in diagnosis and prevention of diseases for the people of Bangladesh through clinical trial.

Besides the 12 departments there are some other supporting units as described below:

Research Units:

Name of the Units	Description
Core facility Unit	This Unit will function as core unit by providing all the modern facility that will need to carry out research work.
Cell and Tissue culture unit	This unit mainly work for various types of cells collection and preservation. This unit will maintain biosafety level 2 and 3 to carry out cell biology, microbiology, virology, pharmacology research. This department will perform cell culture to research on cell-cell communication in diseased condition and also on cell's reaction when a newly invented drug applied into it. Drug quality can be tested through this department by injecting it on growing cells or preparing cell lines.
Clinical trial Unit	For Clinical trial of newly invented drug's bioavailability, sensitivity and side-effect.
Animal Resource Unit	An animal resource unit will establish to research on various types of animals. In addition, this unit will provide all the facility and required condition that will need to nourish these animals for research purpose.
Tissue Banking and Sample preservation Unit	Now a days modern world collecting and preserving biological samples or stem cells to use them for treatment of complex diseases. This unit will use to collect and preserve this biological samples and stem cells. Here stem cell will be collected from interested donor and preserved for further necessary treatment.
Proteomics, genomics, and bioinformatics Unit	This Unit will help to analysis research result. In addition, it will also help to develop database and hypothesis.



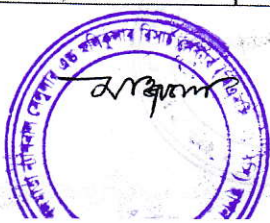
Histopathology and Hematology Unit	This unit will involve with cancer diagnosis and also with other blood disease diagnosis. In addition this unit will carry out research work by involving with pathology or other department.
Translational or regenerative Unit	This is a developing technology of modern treatment which can improve diseased condition by using cell consume technology.

Special unit:

Diagnostic Laboratory services	This unit mainly use to diagnosis complex diseases by using modern diagnostic technology. General People of our country can use the facility of modern diagnostic technology at minimum cost.
--------------------------------	---

General Units:

Name of the Unit	Description
Central Data Banking and Archives	This unit will archive all the research data and information of the researchers and every types of biological sample of the country in database which will significantly help in research, prognosis and treatment of diseases. Apart from this, results from patient's specimen and every research finding will be archived here. This unit will be considered as a very important unit and it will ensure maximum security on data banking and archiving.
Nitrogen Plant	Nitrogen is required for storage of tissue and cellular specimen. Nitrogen plant will ensure the availability of nitrogen supply for different laboratory.
Civil, Mechanical and Electrical (CME) Unit	This unit will be responsible for implementation, alteration, augmentation of the whole laboratory design and related every control, planning and flaw amendment. To maintain maximum efficiency of the equipment related to research activities, this unit will manage 24x7 uninterrupted power supply. Quality of laboratory environment and materials will be maintained through central ventilation and air conditioning system. To avoid accidental fire, this unit will ensure fire safety and fire defense through identification and placement of flammable materials.
Biomedical Engineering Unit	This unit will be responsible for maintenance of equipment and materials used in different department and research units.
Central Supply and Store	Raw materials and related items will be stored as a warehouse in this unit and will be supplied from here depending on the necessity of different departments at different time.
Water Treatment Plant	Used water in laboratory and other sectors will be purified, sterilized and will be ready to reuse in drinking and research activities under this unit.
Waste Management	Waste materials from laboratory will be sterilized and dispatch will be managed from this department.
Knowledge Management Unit (Library)	A modern library with every up-to-date-facility will be setup in BMRC. National and international different books, referral books and different journals will be available here. At the same time an e-library will also be established here.
Management Unit	<p>A) Human Resource This department will play role in fulfilling the intention of BMRC by recruiting qualified manpower and training up related employees.</p> <p>B) Finance and Budget Unit This unit will maintain every financial audit, activities related to purchase, account keeping and financial administration.</p>



	<p>C) Security This unit will ensure every type of security of the whole institute including laboratory.</p> <p>D) Convention Center Overall take care and maintenance of multipurpose auditorium related to laboratories will be under this unit. Also, multimedia presentation and related matters will also be controlled from this unit.</p> <p>E) Biosafety and Biosecurity Unit Observation of every research activity according to biosafety guideline and necessary advice will be given from this unit.</p>
--	--

Other Units:

Name of the Unit	Description
Communication and Promotional Unit	Publicity and marketing of this center and communication and relation buildup with different national and international researchers and research organization will be maintained from this unit.
Modern Firefighting System	All components of modern fire-protection systems need to work together to effectively detect, contain, control, and/or extinguish a fire in its early stages - and to survive during the fire. To achieve the most beneficial symbiosis between these components, It will involve an experienced system designer, such as a fire-protection engineer, in the early stages of the planning and design process.
Modern Parking System	Modern parking system will allow accommodation for all vehicles in an organized way. Parking area will be set at the basement of research building and convention center and other place according to the plan
Dormitory facilities	Four star standard dormitory facilities will be built at the convention center and dormitory building with accommodation facilities for international scientist equipped with seminar rooms, swimming pool etc.
Kitchen Building	An standard kitchen facilities will be built in a separate 2 storied foundation

3. Scope of Work

The support through the equipment consultancy services will ensure that BNCMRC has the required technical support which it needs to implement the Project in a timely manner. The consultancy company will contract high quality technical professionals with national and international reputation to support the Project Director and the project technical team for carrying out their tasks in most efficient manners. This will be a largely demand-led process, with the requestors being the Project Director and his technical team. The specific tasks will be based on that demand which is expected to including the followings:

- a) Review the Department-wise list of items as mentioned in the approved DPP and prepare Technical Specification of the Goods as and when required
- b) Collect product details (data) from primary and secondary sources, and process, analyze and interpret data and prepare draft report



- c) Guide the Construction Consultant so that the civil, mechanical, electrical, plumbing and other related works are properly interfaced with the EME component and the implementation/procurement of the two groups of items are properly synchronized
- d) Review lessons learned from similar type of project and conduct lesson-based workshops at the central level
- e) Prepare inception report, interim report and final report as per Work Plan and maintain the relevant project records
- f) Undertake on site monitoring visit periodically (Monthly / Quarterly)
- g) Prepare draft specification of related items to be procured (standardization of specification)
- h) Prepare Tender/ Bid Document (Tender Schedule) as per PPR 2008 & updated version
- i) Assist in improving the Tender Procedures and implementation policies
- j) Prepare Detail Procurement Plan of Action
- k) Prepare Contract Agreements for Suppliers as per PPR 2008 & PPA 2006 & updated version
- l) Assist in preparing the Comparative Statements for Bidding Process (Procurement)
- m) Assist in preparing the RDPPs as and when required (Electromedical Equipment Component)
- n) Assist in completion of the Project Completion Report (PCR)- Electro medical Equipments and Instruments
- o) Liaison with international organizations for the accreditation of the Centre
- p) Develop a detailed HR Development Plan for the Project, as related to the EME component, through appropriate training, academic programs and exposures
- q) Organizational, regional and international trainings/workshops/other relevant activities, as and when required, based on the approved plan and budget
- r) Assist construction consultant to accommodate equipment related electrical, plumbing and architectural rearrangement if required
- s) Assist the Project Director to prepare quarterly progress report
- t) Assist Project Director to submit financial requirement (fund disbursement) as and when required
- u) Ensuring quality assurance (QA) of the equipment, proper installation and post-installation overall services
- v) Formation of SOP's whatever necessary
- w) Assist in completing audit yearly and at the end of the project or whenever necessary
- x) Assist and co-ordinate construction consultancy services whenever necessary
- y) Duration of the contract would be until completion of the project + defect liability period



- z) Training of the staff, officials with relevant equipment and whenever necessary

The additional particular scope of services are enlisted in herewith the TOR. The Consulting firm will function as the Technical body and will be required to report to the Project Director. The Consultant will administer the electromedical equipment related services and ensure that the project works are constructed in accordance with the provision of the contracts. The Consultant will be required to engage a team of appropriate professional who will be a full-time resident in the project area.

4. Outputs

While the final outputs will be determined by requests from the PD, it is expected that the selected consultancy company will provide TA in the following priority areas in the following stages:

Expected outcomes in Design Development Stage:

The Consultants will prepare equipment layout plan according to the approved design of the research Center, design and drawing of electrical and plumbing related to Installation of equipment and Instruments, prepare specification and BOQ and taking prior approval from the Client and make such change (s) as may be required by the Client.

Expected outcomes in Working Stage:

The Consultants will provide TA to achieve the following outcomes.

- a. bidding document schedule of items and specifications setting forth in detail and prescribing the supply of goods to be done and related services, bidding information and general condition and general conditions of the contract, particular condition of contract etc.
- b. three (3) sets of complete bidding documents including schedule of requirements will be submitted to the client for review and approval. The bidding documents shall be prepared following the Public Procurement Rules (PPR) 2008.

Expected outcomes in Equipment Installation Management (prerequisite, during installation & testing/commissioning), monitoring and Supervision:

The Consultants will provide TA to achieve the following outcomes.

- a. QA and overall control including day to day supervision during equipment installation.
- b. Monthly progress reports in prescribed format and submitted to client in three copies approved by the client. These reports will be submitted by the 10th day of the following month and the services will include the following:
 - (i) Pre-qualification of suppliers, invitation of tender and evaluation accordingly.
 - (ii) Assisting the Client for pre-bid meetings and Contract Negotiations.
 - (iii) Supervision of the project and quality control during equipment installation and commissioning.
 - (iv) Prepare different types of progress reports from time to time as required by IMED prescribed format.
 - (v) Priorities top supervision during the defect liability period.
 - (vi) Advice and support During the Selection process of Bidder.
- c. The consultant carries out its work under the guidance of the Client.



List of Works: for which services to be provided are:

Preparation of layout plan, Bill of quantities, Tender Schedule with detail specification against the item of Goods including all other related services etc. of following outcomes are expected:

(1)	Layout & Installation Plan of Furniture as per requirement
(2)	Layout & Installation Plan of HVAC as per requirement
(3)	Layout & Installation Plan of Electro-medical Equipment & Instruments
(4)	Layout, Installation Plan & BOQ for Lift
(5)	Layout Plan, Installation Plan & SOP for Waste Disposal Plant
(6)	Electrical Drawings of Related Equipment and Instruments
(7)	Installation plan of Bio-Safety Laboratory 1, 2 & 3
(8)	Layout & Installation plan of modern Fire Fighting System
(9)	Layout & Installation plan of Water Treatment Plant
(10)	Layout & Installation plan of Waste management
(11)	Planning (Arrangement) of Department wise equipment placement as per requirement
(12)	Any other Requirements related to the assignment if arises
(13)	Detail Technical Specification of the Goods
(14)	Prepare Tender Schedule as per Procurement Plan and Method
(15)	e-GP Tender Circular, uploading of advertisement & assist for evaluation
(16)	Assist for Design and Development of the project Master Drawing
(17)	Layout & Installation plan of IT Equipments, Research Centre Furniture, Computers and Electronics
(18)	Formation of all SOP's and whenever necessary
(19)	Assist and co-ordinate construction consultancy services whenever necessary to stablish Green building concept
(20)	Assist to complete yearly audit and at the end of the project or whenever necessary

Pre- qualifications for selection:

The pre-qualifications for selection as a prospective bidder are specified below:

- a) Registered as private limited company with minimum 6 years maturity
- b) More than 5 years of experience with similar electro medical equipment consultancy
- c) Have contract valued over 3 crores in a single contract for the above (b)
- d) Have at least the following categories professionals with minimum 5 years of experiences in expert pool
 - I. Laboratory Infrastructure Design Specialist
 - II. Equipment Consultant experienced in laboratory setup
 - III. Procurement Consultant
 - IV. Project management consultant with EME consultancy
 - V. MEP (HVAC, Firefighting, laboratory waste management, Water treatment, Electrical) with relevant experiences
 - VI. Medical Biotechnology
 - VII. Microbiology
 - VIII. Cell Biology, Immunology, and Molecular Biology
 - IX. Virology and Pharmacogenomics



- e) Will be able to hire other technical experts (national and international) as per requirement and whenever necessary

Duration of the assignment:

Duration of the contract would be as per details of project profile. Last but not least is the undertaking of the Consultants (standard) on obligatory responses to any related technical query arising from time to time.

Submission of Expression of Interests (EOI):

The EOI must contain the following documents:

- ✓ Organization profile with example of similar TA project management
- ✓ Proof of the pre qualifications (a, b, c, d, e)
- ✓ CVs and related documents of key technical experts (signed by the organization) (d)
- ✓ Relevant Project Data Sheets (PDS)
- ✓ Copy of certificate of incorporation and trade license
- ✓ Copy of TIN
- ✓ Copy of VAT registration certificate
- ✓ Update copy of income tax return

For detailed Terms of Reference (TOR) please visit the website: www.bmrcbd.org or it can be collected from BNCMRC Project Office. It is encouraged to submit the TOR with the EOI.

EOI should be submitted in a sealed envelope with one original + one copy mentioned on the top of the envelope on or before 09/06/2019 12:30 PM (Bangladesh Local Time). Please enclose the proposal in an envelope, do seal and mark it with "**EOI for the Equipment Consultancy Services for Bangamata National Cellular and Molecular Research Center**" and send to: Project Director, Establishment of Bangamata National Cellular and Molecular Research Center, Room #309, 3rd Floor, BMRC Bhaban, Mohakhali, Dhaka – 1212. Hard Copy with proper Seal and signature are encouraged

