

# CONSTRUCTION INDUSTRY DEVELOPMENT COUNCIL

## Construction Industry Development Council

The Planning Commission, Government of India jointly with the Indian construction industry has set up Construction Industry Development Council in 1996 to take up multi-faceted activities for the development of the construction industry.

CIDC as a change agent has catapulted the process of self-reform enabling the industry to answer the challenges of future. In the series of various nationally relevant initiatives the present programme is an endeavour to combat disasters in the built environment.



Recognising the high vulnerability of Indian sub-continent to natural hazards like earthquakes, cyclones, landslides, floods, tsunamis and high vulnerability of the huge volume of existing building stock both residential and non-residential across the country to the impacts of natural hazards, the Government of India has brought out the Disaster Management Act 2005.

With the establishment of National Disaster Management Authority (NDMA) in the framework of DMA 2005 and the paradigm shift in the national policy, disaster risk mitigation has been placed on a firm footing.

It is in this context CIDC has taken the initiative for establishing a National Network of Retrofitting Clinics thereby providing institutional and technology transfer mechanisms for capacity building of related professionals at different levels enabling them to undertake health assessment of buildings and other structures and to deliver services to asset owners both in public and private sectors for repair, rehabilitation and retrofitting to improve safety levels against the impact of natural hazards.

Policy and decision makers at national, state and local levels and owners of built assets in disaster prone areas are eager to have access to appropriate and scientific evaluation of buildings and other structures for their safety, serviceability, damageability – vulnerability during the occurrence of natural hazards like earthquakes, wind storms, cyclones, floods, landslides, tsunamis.



“The building and infrastructural constructions have to take into account the natural factors such as earthquakes, cyclones, heavy downpours, floods and tsunamis with due analysis, research and experimental verification.”

*Hon'ble President of India during World Conference on IT in Design and Construction, New Delhi, 15 Nov.2006*

### National Vision

To build a safer and disaster resilient India by developing a holistic, pro-active, multi-disaster and technology -driven strategy for disaster management through collective efforts of all Government Agencies and Non-Governmental Organizations.

**National Disaster Management Authority (NDMA)**  
**Government of India**

**Planning Commission Working Group on Construction in 11th Five Year Plan**

“To combat natural disasters, CIDC should undertake programmes of vulnerability reduction, mitigation and preparedness within the framework of policies of National Disaster Management Authority”

### A Building Saved IS A Building Built

Advancements in Science and Technology now make it possible to have a reasonable level of health assessment of buildings for evaluating the expected performance where these are likely to be exposed to the forces generated during natural events mentioned earlier.

**Establishment of Retrofitting Clinics is being initiated in the framework of mitigation strategies to enhance preparedness in human settlements against the onslaught of natural hazards.**

#### Objectives and Functions:

✧ Provide diagnostic assessment services relating to health, safety of structural/ non-structural elements of buildings and other structures (flyovers, bridges, culverts, roads, etc.) for their expected performance during occurrences of natural disasters.

✧ Advise building owners about the risk and vulnerability levels through assessment procedures which may include Rapid Visual Screening, Quick Structural Evaluation and/ or Detailed Vulnerability Assessment of structural and non-structural elements.

✧ Provide information about “Levels of Retrofitting” required to prevent destruction during the next event. The retrofitting levels to be determined by the importance of buildings.

✧ Provide design of retrofitting, structural upgrading and rehabilitation measures (may be in consultation with structural engineering experts).

✧ Conduct training programmes for building professionals, contractors, builders, construction supervisors, artisans, private practitioners, teachers of technical institutions in disaster resistant construction

technologies, and techniques of retrofitting, repair and rehabilitation. The professionals will also be trained in Assessment procedures of the safety of existing buildings and implementation of retrofitting/ strengthening/ rehabilitation measures based on the designs provided by competent professionals.

✧ Organize workshops, seminars, exhibitions, short-term training to create awareness about need for retrofitting for improving preparedness at community levels.

✧ Sensitize general public, owners of important buildings, administrators, legislators, members of Parliament in the region about the risks the existing building stock face and the need to assess earthquake safety and age related performance and necessity for undertaking strengthening/ retrofitting to reduce the risks.

✧ Provide engineering advisory/ consultancy services for construction of safe buildings on disaster prone sites and testing and evaluation services for building materials components and systems.

✧ Develop and print ‘House Owners’ or ‘Building Managers’ Guides for self assessment of strength and performance of existing simple buildings and seek necessary help of the Clinics for reduction of vulnerability through design of strengthening measures for buildings of varying typologies.

✧ Compile a data base about new materials and technologies for repair/ rehabilitation/ retrofitting of existing buildings and the region wise list of certified materials suppliers/ manufacturers, trained contractors as well as list of experts who could help in evaluation and developing design for repair, rehabilitation and retrofitting.

✧ Leverage private sector partnership support, co-opt expertise, obtain inputs from R&D organizations, technical institutions / agencies and NGOs to achieve their objectives besides helping these clinics to graduate into financially self-supporting institutions.

✧ Sensitize local media to propagate message about the need of rehabilitation/renovation /retrofitting of buildings for saving the loss of life and property in future hazard events, so that each hazard does not turn into a disaster.

#### Who can set up CIDC Accredited Retrofitting Clinics (RFC)/ Regional Centers

- Academic Institutions – imparting education in engineering & architecture
- State Govt. organizations (PWD, Housing Boards Development Authorities, Irrigation Departments, Housing Corporations etc.)
- Local Bodies. (Municipal Corporations, Development Authorities)
- Construction Companies having a good track record
- Consultancy Organizations with widely accepted track record
- Corporate bodies engaged in construction activities
- Building Centers engaged in production of materials components and construction of buildings
- R & D and Technology transfer organizations
- NGOs engaged in disaster management activities



### A Building Saved IS A Building Built

#### Operational Modalities for Establishing Accredited RFC/ Regional Center

- CIDC will identify the desirous organization willing to set up a Retrofitting Clinic (RFC) or Regional Center of Retrofitting.
- If mutually agreed an MoU, can be signed between host organization and CIDC or formal exchange of letter of expression will suffice. MoU will be signed when a limited member of activities are to be taken up by host institution.
- Having signed the MoU or agreeing to set up RFC, CIDC will depute a Professional Team to inspect the testing and laboratory facilities/ infrastructure available with Institution, proposing to set up a RFC with a view to assess its suitability for functioning of RFC.
- Based on the report of the professional team, CIDC will inform the host institution/ agency the needs for upgrading laboratory infrastructure to enable RFC to perform its functions satisfactorily. Additional requirements would however not be immediate impediment to initiate the functioning of the RFC.
- The host Institution would intimate CIDC, the names of 3 - 4 faculty members out of whom one should be nominated as a Nodal person or Coordinator. CIDC in collaboration with centers of excellence and academic institutions will organize Training and Certification courses for capacity building of nominees of the host institutions.
- The Institution would be informed about proposed Training Programmes where the nominees of RFC will participate to be trained in the operational schemes and systems so that they should be in a position to offer the training programmes to the local professionals also.

7. Such Institutions who may not have civil engineering as a faculty may be permitted to obtain the consent of a local Senior Construction Professional (within or without active service) to act as the nodal person (s) e.g. Local Supdt. Engineer of PWD/ Irrigation Department/ Housing Boards etc.

8. CIDC having satisfied themselves and agreeing to establish a RFC will facilitate training of their nominees and issue Certificate of Accreditation which would be suitably displayed in their premises.

9. CIDC shall thereafter disseminate this information amongst various state governments, municipal corporations and other assets owning organizations about the establishment of the RFC and urge upon them to avail following services:

- Training of their officers in health assessment and retrofitting techniques.
- Getting the Structural audit and health assessment of their buildings including foundations for determining vulnerability/ risk levels.
- Getting the design of retrofitting Scheme for predetermined level of safety and performance during the events of natural hazards.
- Getting the names of empanelled building material suppliers/ manufactures and contractors for executing of retrofitting scheme

The above shall be on chargeable basis and necessary commercial detailing will be done by the Managing Committee of the RFC to generate the resources.

10. CIDC shall also write to various contracting organizations who would be desirous of taking retrofitting work and also to the material manufacturers/ local suppliers in the region who should get their companies registered with RFC.

11. The retrofitting Clinic will also maintain a list of structural designers/ architecture/ project management consultants in the region for the benefit of asset owners should they require their services complimentary to RFC's services.

12. All the services for testing vulnerability assessment and design of retrofitting scheme as well as training of local contractors will be delivered to desirous agencies against payment of predetermined fee structure to be decided in consultation with CIDC.

13. It is to be understood that the share of surplus made by RFC in the first year and, if required in the subsequent years also would be invested by the RFC to meet the additional requirements of equipment, tools, etc.

14. CIDC will make efforts through Central and State Govts./ Concerned organizations for strengthening the technical and financial base of RFCs.

15. Each RFC will have a panel of resource persons/experts who would be helping the owners of the building through RFC for designing of retrofitting measures to be implemented for individual buildings.

