



Developing Design Guidelines for Hospitals & Health Centres

Improving the Multi-Hazard Resilience of Health Facilities in Iran (BEHTAB)

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Following the holistic approach of BEHTAB project, the guideline development process was carried out in three main steps including a) preparing the first draft of the guideline, b) Reviewing and finalising, and ultimately c) defining enforcement and promotion strategies. The main activities of each step to develop the present guidelines are as follows:

Step One: Preparing the first drafts of guidelines

Critical review of national and international documents

Despite the fact that the present guideline will be developed for Iranian healthcare facilities, learning from international experiences is an important part of BEHTAB guideline development process. To identify the gaps between Iran's existing codes and standards and international best practices, BEHTAB project has conducted an in-depth study and analysis of existing national and international documents on safe healthcare facilities. Such a comparative study is important to ensure that guidelines are free from bias, meet Iran's public healthcare needs and are consistent with up-to-date internationally accepted examples.

Stakeholders' involvement in guideline development process

Involving people affected by the guideline from the very early stages of its development process is taken into consideration by BEHTAB team. Stakeholders are influential organizations that will affect or be affected by the project and can contribute to the guideline development process through addressing concerns, considering risks, sharing information and providing feedback. Furthermore, the project will benefit from their involvement as it will receive their active support and commitment to the implementation of BEHTAB Guideline and influence the change process positively. Identified stakeholders of BEHTAB Project which are represented in the Project Technical Working Group (PTWG) are listed below:

- Ministry of Health & Medical Education (MoHME)
- Ministry of Roads & Urban Development (MoRUD)
- Construction Organization of Buildings and Installations (COBI)
- Road, Housing & Urban Development Research Centre (BHRC)
- Disaster & Emergency Health (DEH) Academia
- Planning and Budget Organization (PBO)
- Iranian Society of Consulting Engineers (ISCE)
- International Institute of Earthquake Engineering & Seismology (IIEES)
- Engineering Disciplinary Organization (EDO)
- Iranian Earthquake Engineering Association (IEEA)

In addition to PTWG, the stakeholders are also involved in the guideline development process by providing technical assistance to BEHTAB team. Accordingly, four different Technical Sub-Committees (TSC) including 1) Hazard analysis, 2) Rapid Visual Assessment and Preliminary Engineering Analysis, 3) Non-structural analysis, and 4) Institutional analysis were defined. Moreover, the head of each of TSC were invited to form a fifth committee to follow-up and contribute to the guideline development process. The members reviewed and commented on the provided content of the guideline in their respective area and in close cooperation with BEHTAB Team and the consultants finalised the draft of the guidelines.

Preparing the first drafts of BEHTAB guidelines

The first drafts of guidelines were produced based on the collected data.., BEHTAB guidelines are complementary documents to the existing national standards and codes, that will address the stakeholders' point of view. The prospective guidelines are produced in two volumes, including:

- Volume I: Guideline for Safe Hospital Design; and
- Volume II: Guideline for Retrofitting Existing Hospitals.

Volume I: Guideline for Safe New Hospital Design

BEHTAB Project employed two national consultants to prepare the draft of Guideline for Safe Hospital Design. The consultants in cooperation with BEHTAB Team prepared the first draft of guideline and took the responsibility for leading the peer-review process of the TWG and its relevant sub-committees, as well as synthesis of the project outputs and TWG deliberations. The guideline encompasses the methodology for design and construction of resilient hospitals in Islamic Republic of Iran and covers various topics including hazard analysis and performance objectives, safe site selection criteria, design and construction (structural and non-structural aspects) as well as project quality management procedures.

Volume II: Guideline for Assessment and Retrofitting of Existing Hospitals

BEHTAB team was in charge of preparing the Table of Contents and drafting Guidelines for Retrofitting Existing Hospitals. The guidelines on assessment and retrofitting of existing hospitals are based on best available evidence. This means the given recommendations are not based on the adaptation of available guidelines to the local conditions, but rather took advantage of technical evidence derived from extensive physical surveys and assessments of a number of hospitals and health centers in different cities of Iran. Available reports from damages of Iran's healthcare facilities in the past seismic and flood hazards and other disasters were also taken into consideration. Results of the assessment of case studies were also explained in further details in Volume II of the present guideline.

Following the same procedure, the ToC and the draft of guidelines were reviewed by TWG and its relevant sub-committees. The guideline encompasses the methodology for design and construction of resilient hospitals in the Islamic Republic of Iran and covers various topics including hazard analysis and performance objectives, rapid visual assessment (RVA) and prioritization, structural and non-structural assessment of health-care facilities, urban scale resilience analysis of healthcare facilities as well as investment plans.

Step Two: Reviewing and Finalizing

Reviewing and revising the drafts guidelines by international consultant

A senior project consultant contributed to guideline development process by serving as a technical specialist to review and revise the first drafts of each volume of the guideline. Together with BEHTAB team and the Project Technical Working Group (PWTG), the senior consultant identified the needs and profiles of Iranian national codes for incorporation in the guideline recommendations. Ultimately, the international consultant delivers a revised version of the guideline incorporating peer-review feedbacks.

Final review of guideline by technical sub-committees

The revised draft of the guideline was reviewed by TWG to ensure whether it needed further modifications.

Final approval of guideline by Project Technical Working Group

Once the drafts passed the final review by TSCs, it received final approval by PTWG.

Step Three: enforcement and promotion strategies

Enforcement Strategies and Promotion of the guideline

UN-Habitat in collaboration with its partner organizations in BEHTAB Project including MoHME, BHRC, INBC Committees and PBO shall promote the produced guideline. In this regard, some negotiations have been started with PBO, but according to tough times in the last months of the project, this important issue has not achieved yet. It is expected to be accomplished at the next phase.

Capacity development

To facilitate the applicability of guidelines, BEHTAB Project Team attempted to conduct a set of capacity building activities for improving the resilience of hospitals in Iran including Training of Trainers (ToT).

Providing training on BEHTAB Guideline for some engineers was a key component of guideline development process. The training which was held within the first conference on resilience of healthcare and critical facilities, included presenting and delivering the final draft of guidelines. It engaged participants in an inclusive learning process that enhances the level of knowledge and skills required to effectively train other practitioners involved in building and managing healthcare facilities.

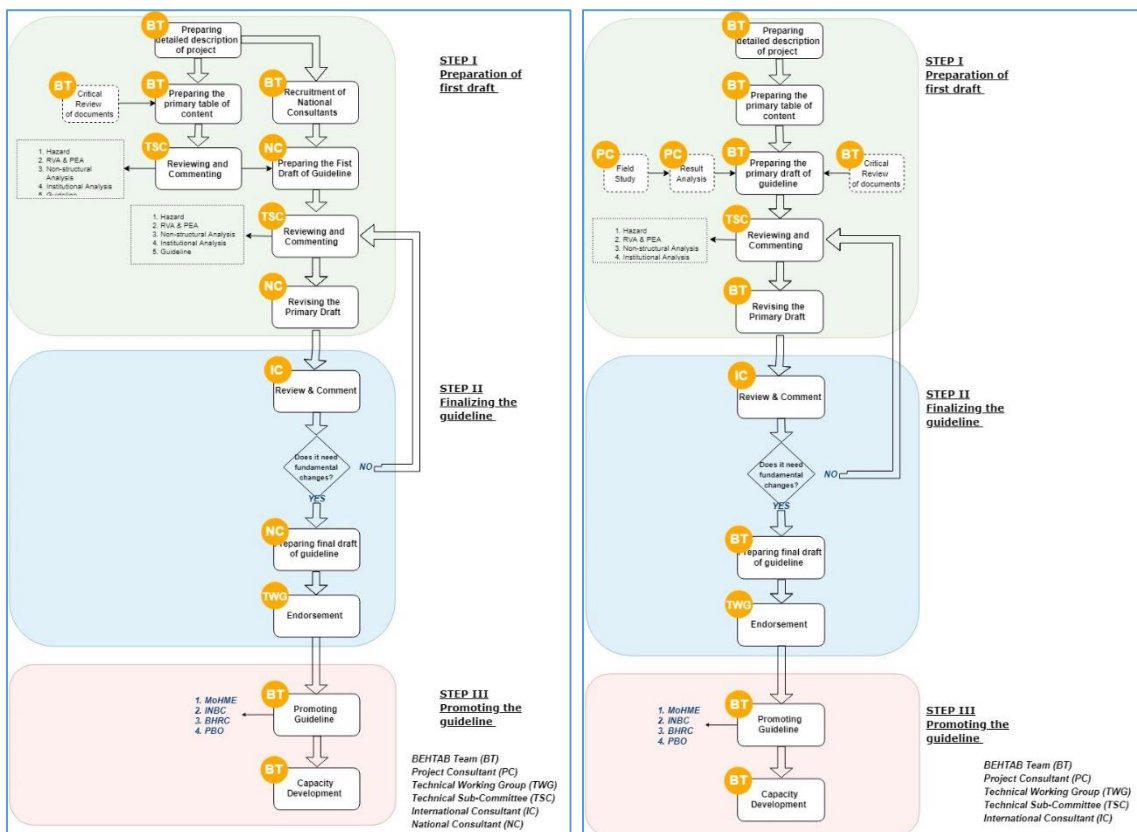


Figure 1 Guideline Development Process - Left: Volume I: Guideline for Safe Hospital Design, Right: Volume II: Guideline for Assessment and Retrofitting of Existing Hospitals