



Creating a toolkit to advance building safety



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Building regulatory capacity-building essential ingredients

1. Legislation

In most countries, a law or act is required to implement a set of building regulations and set forth the framework for their enforcement. Ideally, the legislation will identify singular departments or entities that have discrete responsibilities to avoid conflicts or inconsistencies. If the legislation can be implemented uniformly across all local jurisdictions with oversight and/or enforcement powers, efficiencies can be realized and consistency can be achieved.

- **DELIVERABLE:** A resource document on development of effective legislation including key principles and considerations with model legislation that jurisdictions can modify and adopt as required.

2. Building Code

The building code used in a jurisdiction should be right sized and enforceable. Once adopted, it will also require ongoing maintenance and updating. While performance-based codes enable flexibility for integrating innovative solutions, they are more difficult to enforce than prescriptive codes, which are easier for enforcement officials to cross check, and which can also be designed to enable innovation when needed. If a significant portion of building in a jurisdiction is completed using non-engineered construction (for instance, traditional or vernacular construction such as adobe huts or ksours and kasbahs), the code and its application should address these structures differently than engineered buildings. Model codes are available for adaptation and adoption so that a jurisdiction does not need to begin from scratch. Additionally, codes should be regularly updated on a consistent cycle so that they remain contemporary, reflecting the latest advancements in building safety and construction methods.

- **DELIVERABLE:** A guideline for adapting a model building code for jurisdictions to use when considering which model code to use and how to approach its modification to create a right-sized, enforceable building code.

2a. Standards

As a corollary to the building code, which specifies WHAT the requirements are, technical standards should be identified that provide guidance on HOW to achieve the requirements set forth in the code. The types of building standards include material, design, testing and installation standards. Often jurisdictions have many disparate standards in place that are used in construction, and if they are drawn from different sources, they may create internal conflicts and confusion. If the construction standards used in a jurisdiction are familiar, functional and enforceable, effort should be made to preserve their use and align them with the building code.

- **DELIVERABLE:** A checklist to guide jurisdictions through the process of initiating an inventory and assessment of construction standards currently utilized and any potential gaps, to ensure that they can continue to be used – or replaced/upgraded as needed – and aligned with the building code.

3. Building Department Administration

Establishing local or regional offices that coordinate enforcement efforts is an essential component in capacity building. The local building department should have broad powers that enable it to fully oversee the enforcement of building regulations, including powers to review plans, conduct inspections, stop work, and issue occupancy permits. The administrative arm of the department should enable budgetary functions (preferably with some self-funding mechanism), oversight of personnel, contractors and practitioners (including credentialing and licensing if implemented), record-keeping, receiving and processing complaints, and provision of “soft skills” training/mentoring. It should also have a stated and enforceable dispute resolution mechanism that aligns with the judicial system as appropriate in that jurisdiction.

- **DELIVERABLE:** A guideline containing the essential components and functions of an effective building department administration network, including checklists and recommended training resources.

4. Licensing/Competency

Jurisdictions must determine what types of competency will be required for the various types of practitioners and construction professionals operating under their authority. They will need to implement a system for measuring and monitoring the competency levels, which may rely on licensing and credentialing obtained by third party professional organizations.

- *DELIVERABLE: A guideline or list of considerations for jurisdictions to use in determining which types of practitioners should be assessed or credentialed and through what means, based on the availability of both internal and external resources within that jurisdiction.*

5. Plan Review/Permitting

A process for reviewing building designs and approving building sites for compliance with mandated building codes and standards is necessary to ensure building safety. The process should be clearly defined and delineated with specific approvals identified and required, and it should be undertaken by trained and credentialed professionals under the purview of the authority having jurisdiction.

- *DELIVERABLE: A guideline for establishing and maintaining an effective plan review and permitting system within a jurisdiction, including resources about qualifications, training, and credentialing.*

6. Inspections

In order to ensure that buildings are actually being constructed in accordance with the mandated building codes and standards, it is necessary for competent inspectors, adhering to high ethical standards, to conduct on-site inspections at multiple stages throughout the construction process. The inspectors must be granted enforcement powers to address non-compliance.

- *DELIVERABLE: A guideline for establishing and maintaining an effective building inspection system within a jurisdiction, including resources about qualifications, training, and credentialing.*

6a. Special Inspections

Some types of construction and construction processes, such as soil testing, structural steel, precast concrete, spray-applied firestopping, etc. require expertise that is beyond the scope of the traditional training provided to general building inspectors. In order to ensure that these aspects of construction are performed properly, jurisdictions often employ the services of specially-trained inspectors, commonly referred to as "special inspectors." A different level of competency, which should be defined in the regulations, is required of the companies and individuals performing this work.

- *DELIVERABLE: A checklist of the categories of construction and construction processes normally considered to require specialized inspection services to assist jurisdictions to determine whether special inspection agencies and special inspectors in any category should be separately credentialed AND guidelines to determine the credentialing requirements for the companies and individuals responsible for special inspections.*

7. Product Compliance

Based on the mandated codes and standards, the jurisdictional authority will require a system to ensure that products specified in a building's design are compliant. This is normally done through product certifications issued by an ISO/IEC 17065 accredited conformity assessment body. In order to fully ensure compliance, the jurisdiction will also need to have a system in place to check that the products installed are actually those that were specified, and that the installation is done correctly. A jurisdiction may not require certification of all building products, but there should be an established procedure to identify which products will be regulated and a publicly-available source of those categories and the approved products.

- *DELIVERABLE: A library of international resources to assist jurisdictions to determine which products should be regulated and best practices from jurisdictions around the world demonstrating various approaches to ensuring compliance.*

8. Testing, Inspection, and Certification (TIC) Services

If construction products will be regulated for safety, proper specification, and proper use/installation, then it will be necessary to have a system in place to certify those regulated products for compliance with the regulations. This involves product testing, inspection (at the factory) and certification processes (typically referred to collectively as TIC). Laboratories that perform testing should be accredited to ISO/IEC 17025 standards by an internationally-recognized accreditation agency, inspection agencies should prove compliance with ISO/IEC 17020, and product certification bodies to ISO/IEC 17065. Consideration should be given to the proper use and installation of products, which can be achieved through the conformity assessment process but also requires coordination with or tools for plan reviewers and building inspectors. Services can be provided by government directly, or by private sector entities with government oversight and demonstrated competence.

- *DELIVERABLE: A guideline for establishing and maintaining competency of a robust system for the testing, inspection and certification system for construction products and systems. The guideline will include reference to the internationally-accepted ISO CASCO (conformity assessment) Toolbox.*

9. Accreditation

Many countries have a government entity that performs accreditation to ISO standards of entities (usually certification bodies) that are responsible for certain functions related to building safety. Most often this applies to testing laboratories for factories, quality systems, inspection bodies, and proficiency testing providers. If a government entity does not provide this function, third party accreditation agencies may be used to provide independent confirmation to the government and society that the service providers are competent and operating according to the prescribed procedures. While accreditation may not be compulsory, it is an essential tool to ensure competence.

- *DELIVERABLE: A guideline to help governments to determine accreditation requirements and assess the best method for establishing a system of accreditation.*