

Good Practice Guidelines and Principles for the Development of Building Regulations in Low Income Countries



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Low-income countries or emerging economies face different building control challenges to high-income economies. Economic capacity restraints often limit their ability to adopt regulations characteristic of high income countries on account of a lack of:

- institutional capacity
- sufficient numbers of qualified design and construction actors
- the ability of citizens to afford to construct engineered solution buildings that are prevalent in higher-income contexts
- infrastructure (power, water, sewerage, telecommunications) necessary for effective operation and function over the life a building.

Even though emerging economies build a small percentage of buildings in accordance with engineered solution building standards, the majority of those buildings neither involve the inputs of qualified building professionals, nor are built in accordance with legally mandated building standards (that were specifically designed for engineered solution paradigms). In some low-income countries up to 80 per cent of buildings fall into the latter category. These buildings and their occupants tend not to have access to the benefits of the building safety and regulatory processes.

In rural settings buildings are predominantly constructed in the local and traditional vernacular, where local elements and materials are utilised and traditional construction techniques are applied by people whom in the main lack formal tertiary qualifications. A lack of formal qualification is not a derogation of their construction skills as some of the building techniques have been passed down by construction artisans familiar with building in the vernacular intergenerationally.

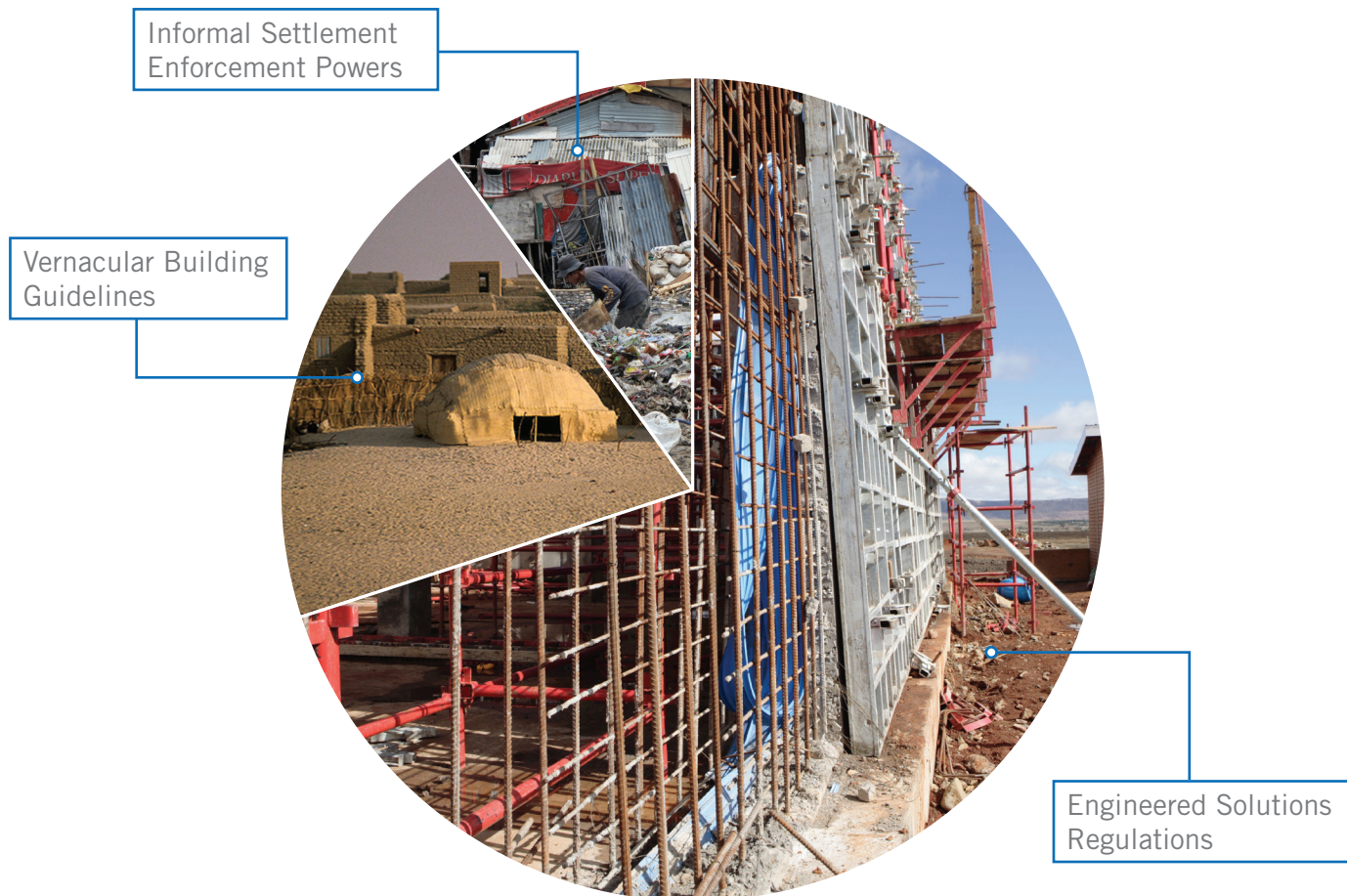
A bigger challenge is the prevalence of informal settlements within or bordering urban settlements. Some estimates indicate that further urbanisation in low- to middle-income countries is growing by 70 million people a year. Informal settlements are typically characterised by buildings that are constructed illegally where building components are added incrementally, when funding and materials become available; absent planning or urban approval, land title security, building permits or connection to essential services such as safe power and reticulated utilities. This leaves some cities and their citizens vulnerable to chronic and natural hazards, with a disproportionate impact being visited upon the poor and the disenfranchised.

It is submitted that building regulations developed for low-income jurisdictions can best achieve utilitarian application if they are sympathetic to the three distinct paradigms of:

- engineered,
- vernacular
- and informal construction

and are alive to the limitations of a 'one size fits all' approach to national regulation.

Building Act Component Parts (Proportion)



It is considered that a 'broad sweep' approach will not in reality culminate in widespread citizen uptake, nor is it likely to result in improved public health and safety. It follows that building regulations based upon high-income country regulatory templates will not readily 'migrate' to low-income settings in light of the above mentioned differences in existing built environment, institutional frameworks, human resource availability and affordability.

Nevertheless, there will be a number of key elements and regulatory ingredients that will improve the well-being of the citizen, regardless of the socio-economic inhibitors. These elements will be forthcoming in these guidelines.

1. A Centralised Building Control Regulator will assume paramount building control responsibility

Building legislation is most appropriately administered by a central government regulator (“CGR”) i.e. one lead agency in the sovereign jurisdiction with statutory responsibility for the oversight of a viable building control system.

2. There will be One Building Act

There will be a central and consolidated Building Act (‘Act’) that will provide the overarching administrative provisions for the regulation of building control in the sovereign jurisdiction. The Act will contain regulations which allow for the interaction with other government agencies that provide paramount inputs into the building regulatory ecology.

The statutory objectives will be to improve the health and safety of the built environment in a way that is sufficiently flexible so as to ensure that, that which is legally promulgated is achievable across the full diversity of construction paradigms to maximise the patronage and ‘buy in’ of the country’s administrators, construction actors, property owners and end users.

3. There will be One Building Code

There will be one uniform set of technical regulations - a building code called up by the Act - containing the uniform technical requirements and standards for the sovereign jurisdiction. The CGR will assume lead responsibility for the development of the Act and the Code.

The Code will include the classification of building types according to their risk profiles. The risk based building classification system will classify and categorise buildings according to their use, functionality, size and risk profile having regard to risk based building classification systems in good practice jurisdictions, and these will be adapted in a manner that is customised to the different socio-economic construction drivers that exist locally.

Building Code and Technical Guidelines Component Parts (Proportion)

Vernacular Technical
Building Guidelines



Engineered Solution
Building Code

4. There will be a consultative framework mechanism for Code and Act development

The CGR will develop a consultative framework mechanism within the legislation that allows community leaders, municipal authorities, key public, private and civil society stakeholder organisations to consult and cooperate in the development and the updating of the Act and the Code. This is in recognition of municipal authorities in particular performing a critical role in the building permit process.

Interaction with relevant regional or village local leaders will be encouraged by way of regulated interconnective mechanisms to participate in the facilitation of greater harmonisation of viable good practices. These mechanisms will be sensitive to that which is achievable within the local context.



The Act and the Code will be regularly updated by the CGR to ensure that both are suitably sympathetic to good practice building control developments and are capable of evolving with regulatory and institutional advances in the jurisdiction. Regard will be had to ensuring that legislative development is responsive to and complements regulatory evolution in the planning, environmental (including climate change impacts) and urban development regulatory surroundings.

5. There will be a practitioner licensing system

The Act will contain regulations that dictate that building practitioners comply with the provisions of the Act and Code.

The CGR will:

- establish and maintain a registration and licensing regime for building practitioners
- ensure that key and defined classes of building practitioners will be assessed and licenced on competency based criteria
- help promote the education of practitioners in the application of the Code and the regulations, including mandatory continuous professional development
- oversight the conduct of the licenced building practitioners
- promulgate sunseting provisions that allow key actors to accumulate approved qualifications and experience by sun-setting dates

6. The regulations will be tailored to regulate different construction paradigms.

As low-income jurisdictions often have three discrete construction paradigms i.e.:

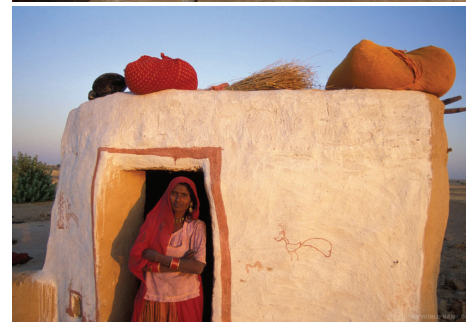
- engineered solution buildings
- informal settlement buildings
- vernacular buildings

the Act and the Code will promulgate provisions that give force of law to that which is sensitive to these different paradigms.

There will be three separate Parts in both the Act and the Code to ensure there are statutory regulations and technical requirements that are customised and sympathetic to the distinctive characteristics and contexts of each construction paradigm; having regard to the traditional, cultural, socio-economic and capacity contexts that are in play.

The aim of each Part will be to reduce risk to occupiers and public health and safety, having regard to the risk profile associated with each building classification and the construction paradigm within which they are to be built.

The regulations will provide that buildings cannot be built in disaster prone areas in light of the enhanced risk to the life and safety of vulnerable citizens in developing economies to disaster events. The sovereign jurisdiction will however define and designate that which constitutes disaster prone areas.



7. A Product approval agency will be established

The Act will ensure the jurisdiction's product approval agency is recognised as being the responsible agency for the oversight of and approval of locally made and imported commercial product. This authority will have the responsibility of ensuring that non-conforming product is not sold or traded in the jurisdiction. If no such agency exists there will be a sunset regulation that allows for the jurisdiction's establishment of such agency.

Particular regard will be had to ensuring that non-conforming imported product does not find its way into the sovereign jurisdiction's market to prevent unscrupulous vendors and manufacturers from leveraging off any perceived omissions or disconnects in product licencing institutional capacity.

Regulations will also be promulgated that enable said authority or the CGR to prosecute unscrupulous vendors or product suppliers for supplying product that is not fit for purpose and is capable of causing a threat to life or harm from serious injury.

In terms of the development of product safety and conformity regulations, regard will be had to the IBQC product safety guidelines once published and these guidelines will be amended to embrace the key tenets in the product safety guidelines.

8. Dispute resolution

Regulations will provide that there is an appeal mechanism for appellants whom wish to appeal compliance notices and orders or building approval rejections.

There will be an appeal panel and it will comprise peers of good repute that are appointed by the responsible minister to preside over such appeals. The qualification composition of the members will be sufficiently diverse to ensure that the members are in possession of skills that can be tailored to the particular appeal.

All members will adhere to strict probity protocols and will ensure at all times that they refrain from any dealings that could lead to a conflict of interest.

Each appeal hearing will have a qualified presiding lawyer to ensure that the regulations are interpreted soundly and regard is had to procedural fairness and sound natural justice.

The members will be part-time and will be permitted to avail themselves of full-time gainful employment in their chosen construction profession.

The decision of the appeals board will be final, subject to an appeal right existing to the highest appellate authority in that jurisdiction.

The regulations will prescribe the fee that will be visited upon the appellant to fund the costs of the appeal.

9. Regulations will be created that are bespoke to Engineered Solution Buildings

Regard will be had to the IBQC Good Practice Guidelines published in October 2020 as an aspirational set of good practice guidelines. Building permit issue and delivery will be administered by the municipalities or by the CGR where the municipalities have capacity constraints. Building practitioners and property owners will be required to comply with the provisions of the legislation that govern this paradigm.



9.1. There will be a robust statutory building permit delivery system

Municipalities (or CGR) will comprise a building permit department and will administer building regulations in their jurisdictions.

The regulations will provide that the municipal building permit department will be empowered to:

- issue the building permit
- ensure that a building permit cannot be issued unless the permit applicant has complied with the relevant building standards, regional zoning and the applicable law.
- ensure that the permit classifies the work in accordance with the building classification under the Code
- arrange for the carrying out of building inspections by approved CGR building inspectors
- ensure that the number of inspections is in accordance with the number of mandatory inspections required by the Act

upon completion of the building and when satisfied that the building has been constructed in accordance with the building permit, will issue an occupancy permit

9.2. Municipal enforcement inspectorate Powers

The regulations will provide that municipal building departments appoint building officials to carry out building inspections. The officials will be called building inspectors and the CGR will determine the licensing criteria for the building inspectors.

All actors carrying out engineered solution building works will be required to arrange inspections at legislated and mandated intervals. It will be illegal to carry out any engineered solution building work until a building permit is issued by the municipal building department

All building inspectors will be subject to an oath of statutory integrity that will be sworn in front of a local judge. (The swearing of such an oath is akin to a time honoured tradition and admission requirement in the legal profession where lawyers are required to swear an integrity oath before they are formally admitted to the practice of the law).

A requirement to swear the oath is designed to impress upon building inspector graduates the immense importance of paying heed, at all times, to the probity and ethical obligations that must guide the discharge of their statutory tasks for the duration of their careers.

The below draft oath is a modification of the oath that was sworn by building surveyors in Melbourne Building Act 1849 prior to the assumption of their office.

"I, being a building inspector, after having sworn this oath will be a licenced building inspector having satisfied the licencing requirements of the Building Act, on this # day of # now hereby solemnly swear and declare that I will:

- *At all times diligently, faithfully and impartially perform the duties of my office as a statutory building inspector*
- *by applying my utmost power, skill, ability and vigilance,*
- *without, fear, favour, affection or prejudice to any person whomsoever, cause the building regulations of this Act to be strictly observed,*

The oath encapsulates the perennial probity obligations of this very important statutory profession not the least of which being the virtues of impartiality, skill and vigilance.

9.3. The building inspectors will have the power to:

- approve or reject inspected works
- issue compliance notices and in the event of non-cooperation with such notices refer the matter of non-compliance to the CGR
- direct emergency rectification works, evacuation and in circumstances where there is non-cooperation, carry out such works and seek recovery from those who refuse to cooperate. These powers will not be limited to the jurisdiction of engineered solution buildings but can also be used by building inspectors for any dangerous or ruinous buildings in any construction paradigm, regardless of whether that paradigm is of engineered solution, vernacular building or informal settlement derivation.
- refer the conduct of those who refuse to cooperate to the CGR and initiate prosecution proceedings in a court of competent jurisdiction
- issue occupancy permits once the building work is completed to the required standard

10. Regulations will be created that are bespoke to Vernacular Buildings

The CGR will ensure that there are regulations in both the Act and the Code that deal exclusively with the vernacular building paradigm. In keeping with the ethos of these guidelines regard will be had to the reality that socio-economic, traditional and cultural drivers will dictate that the regulation of this paradigm will differ in many material respects to that of engineered solutions and informal settlements and will be more in the form of guidance of and education.



Notwithstanding that vernacular buildings will be built in accordance with non-engineered solution construction techniques, the regulated guidelines will provide that:

- buildings are built with materials and methodologies that are structurally sound and fit for purpose so as to ensure that there is no prejudice to life or harm from serious injury
- buildings will not be built in a disaster prone areas, or where the entire jurisdiction or region is a disaster prone area
- buildings are close to water supply facilities to ensure that citizens can avail themselves of fresh and clean water
- water provision, living, eating and communal facilities are sufficiently distant from toilets and laundries, polluted or contamination areas to prevent waterborne or airborne disease spread
- cooking areas are separated from living and sleeping areas so as to prevent the risk of fire spread

11. Administration

Regulations shall provide that community and local leaders are:

- afforded the formal recognition and opportunity to encourage the uptake of good practice construction guidelines for vernacular buildings
- the responsible regional representatives to liaise with the CGR and the local municipality on matters concerning building safety and the development, maintenance and adoption of good practice guidelines for vernacular construction
- able to nominate a citizen representative to be the key actor responsible for assisting with the promotion and implementation of good practice guidelines for vernacular construction

Regulations shall contain provisions that

- ensure that common amenity and utility buildings such as schools and hospitals are built in accordance with engineered solutions and that those buildings are built in accordance with the building classification that governs the construction of such building. This includes buildings with a post disaster function
- establish a national forum of regional heads to meet not less than every 18 months to discuss, promote and hone good practice guidelines for vernacular construction and administrative procedures to ensure that a cross jurisdictionally harmonised approach to the implementation of vernacular guidelines is encouraged

12. There will be specific emergency power regulations for Informal Settlements

Both the CGR and the local municipal authority will hold certain powers with respect to maintaining the safety of citizens housed in these areas where there is a building related threat to life or harm from serious injury.

The CGR or the local municipal authority will be empowered to:

- Inspect buildings where they harbour a reasonable suspicion that the building is dangerous or ruinous and poses an immediate threat to life or limb
- Inspect buildings where they harbour a reasonable suspicion that the building may be unhealthy or contain chemical or biological hazards
- Demand expedited evacuation, building closure and cordoning off of such buildings
- Demand demolition where the danger cannot be averted by remediation or renovation
- Demand remediation
- Refer affected citizens to agencies that can assist with relocation



Any citizen that is given a compliance directive by a building inspector will be required by law to comply with such directives.

13. Definitions

Part - means the chapter in the Act or the Code that contains administrative provisions or technical regulations for building control in that jurisdiction

Act - means the Building Act

Code - means the building code that is called by the Act

Municipality - means the local council or local government

Engineered solution – means Buildings that are constructed in accordance technical design and construction standards that are in accordance with scientific principles and are consistent with the international body of knowledge of best-practice building construction methods, techniques and materials.

Informal settlement – means Buildings constructed in settlements illegally, absent the availability of and interconnectivity with legally sanctioned and regulated utilities such as electricity, water and sewerage management and devoid of planning, building permits or property title registration, characterised by a preponderance of buildings that have been built organically rather than governmentally sanctioned urban design and planning. Regard will be had to the definition of informal settlements in the UN Habitat guidelines (at Brown 2015 b).

Urban leader - means village or communal leader, chief or principal or senior elder.

Vernacular buildings - mean buildings constructed in rural areas in accordance with traditional construction methods characteristic of that culture where mediums such as mud brick, mud and stick frames and facia, thatched roof, local habitat and vegetation is used to generate the construction materials. Such buildings will comprise buildings that are constructed by those not formally qualified in any building discipline, more in the nature of owner builders, local citizens, be they family or community members whom cooperate to construct buildings that are affordable and in keeping with the style of building that is characteristic of the community and its traditions.

Disaster prone area - is an area, as defined and designated by the sovereign jurisdiction, susceptible to extreme climate, geographical or seismic conditions such as; drought, flood, fire, tornado/cyclone/hurricane, earthquake/tsunami, landslip or avalanche.

Building practitioner means – a qualified building professional that has a building related qualification that is recognised and approved by the CGR or an agency accredited by the CGR to licence building practitioners.

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