

Fire control in State Buildings¹

By ; I s m o n o²

Abstract

One of the major causes of building accidents that have resulted in significant losses in Indonesia is fire initiated by human error and mechanical failure of some buildings system. On the other hand, however, there are buildings that are built without taking into account the valid design requirements for fire protection.

Considering such threatening fire hazard on buildings, any effort to control every stage of building process (design; construction; utilization and demolition) is significantly required.

Such control is intended to set and promote suitable technical requirement, appropriate regulations, adequate institutions, community participation, professional service providers in construction fields, continuous training and educational

This paper is expected to illustrate how the problems of fires in Indonesia have been managed particularly in terms of preparing and providing appropriate regulations

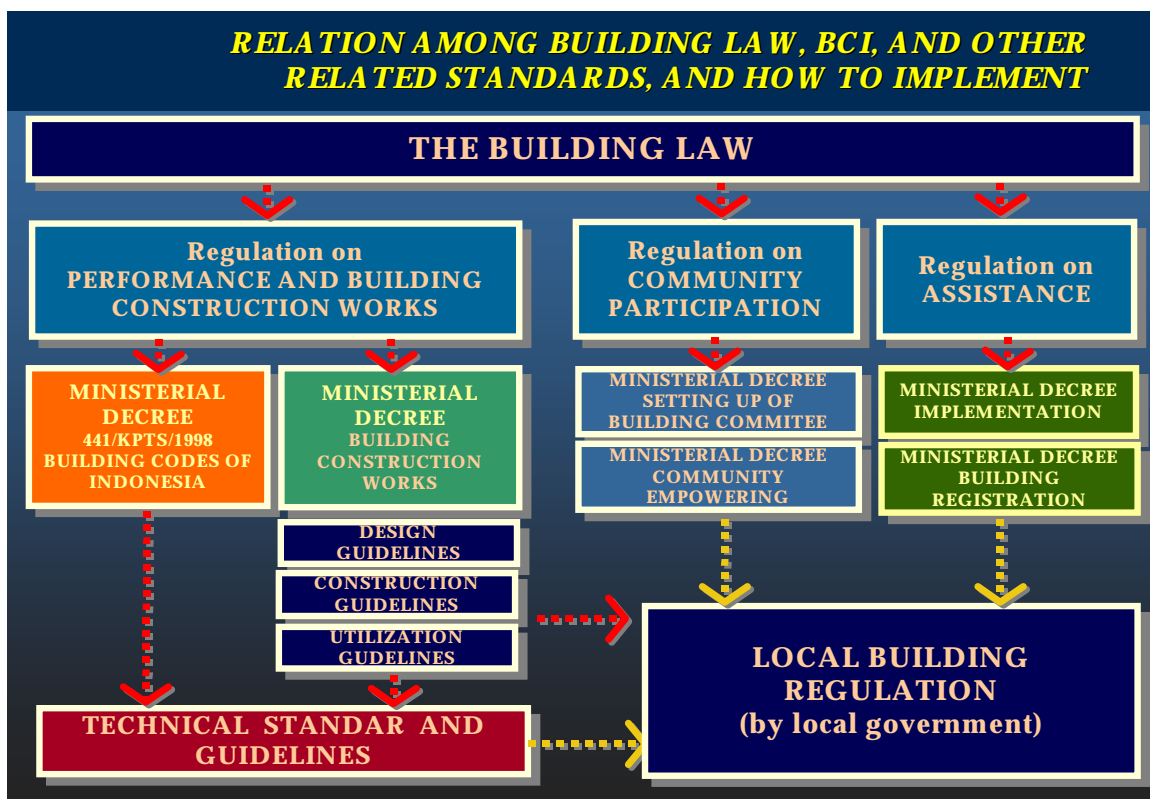
One of the major causes of buildings accidents that have resulted in significant losses in Indonesia is fire initiated by human error and mechanical failure of some buildings system. In the last five years statistics show a quite high figure of fire accidents on buildings in big cities in Indonesia. For instance, in year 1999 there were **700 accidents** in Jakarta, or equal to two accidents a day. On the other hand, there are buildings that are built without taking into account the valid design requirements for fire protection. Considering such threatening fire hazard, any effort is significantly required, namely to set and promote suitable technical requirement, to prepare and provide appropriate regulations, to set up adequate fire institutions, to encourage community participation, to enhance professionalism of the service providers in construction fields, to provide continuous training and educational to the relevant stakeholders.

Considering that regulation is the basic law to be complied in the carrying out of building constructions, including state buildings, this paper will emphasis on the **provision of regulation** tools on fire that refers to the family tree of the established building regulations. **Family tree** contains **System of Building Regulations**, which states that there is a need for national regulation on fire, i.e. **Building Law**, which will act as the umbrella for all regulations regarding

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buildings (including fire hazards) in Indonesia. This law needs to be complemented with implementation regulations such as *government regulations*, *ministerial regulations/decrees*, and *other technical regulations*, such as codes of practice, standard, and guideline in the form of ministerial decree and national standard. (The following family tree³ shows relationship between Building Law, Building Code of Indonesia, Local Building Regulation and other related technical standards).

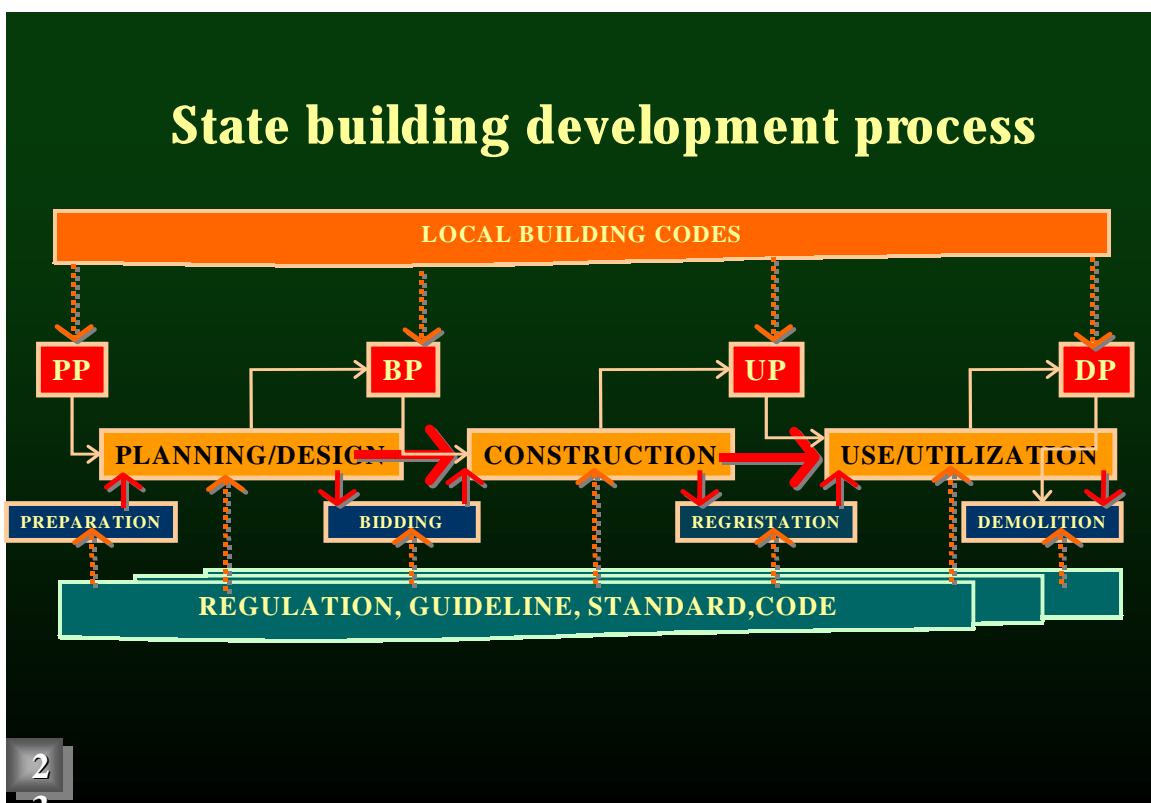


The presence of some basic regulations on fire has contributed to the adequacy of regulations requirement, namely; *Building Code of Indonesia*, which among others regulates Fire Precaution, *Technical Requirement for Fire Precaution in Building and Surrounding*, *Technical Requirement for Urban Fire Mitigation Management*, and other technical standards (list of standard and codes is attached). Most regulations are prepared based on international rules/standards, such as FNPA.

³ System of Building Regulations

However, in the context of decentralization, most of kabupaten/kota (local government), as the undertaker of building construction in local area, have not been able to fully respond to the need of fire regulations suitable to the local conditions. These **Local Building Regulations** will refer to the above regulations.

To what extent the regulations can be used as the controlling tool for each phase of building works implementation⁴ (design, building construction, the use of the building, and demolition phase) is illustrated in the following chart:



Considering experience on fire in Indonesia, a high figure of fire accidents indicate that reinforcement of valid regulations is as important as the provision of the regulation itself. Additionally, the existing regulations need to be reviewed and finalized and adjusted with local conditions.

⁴ State Buildings Development Process

In order to fully overcome fire on buildings and provide reliable buildings, other than the provision of regulation tools and its implementation, the following **sub-systems** are to be concerned:

1. Setting up adequate fire institutions in Kabupaten/Kota, accompanied with skillful staff, office and fire stations, equipment, **management system of fire** (responding time, fire management area, mutual aid and automatic aid with private fire brigade) supported by **urban fire infrastructure** (fire hydrant, fire well and other water resources for fire) and periodical inspection in the phase of buildings use
2. Encouraging community participation, either in offices/working places, by establishing **Voluntary Team for Fire**, conducting periodical checking and fire training, preparing **Fire Emergency Plan**, self-introducing and self-monitoring on buildings and surroundings and the community at large particularly in the residential area with **high hazard occupancies**.
3. Enhancing professionalism of the service providers in construction fields, as stipulated in **Law of Construction Services No. 18/1999**. Every project of building construction must employ professional service provider that consists of designers, supervisors and contractors. By enhancing such professionalism it is expected that the erected buildings will meet the quality requirement for fire hazard.
4. Providing continuous training and education to the **relevant stakeholders** conducted by government, private sectors (professional association) as well as community organization
5. Providing **National Information System** which is easy to access by community nationally
6. Providing **insurance** support.

Lastly, it is my obligation to share this in the forum that the handling of fire on buildings is extremely important. Yet, it is more important to focus on handling the fire on **squatter** and **slum areas** as cases occur in these areas have caused more losses (houses and infrastructure, material, and even fatality).

Fire control in *residential area* is rather *difficult* and *complicated* since the physical design generally *congested* and *unstructured* causing difficulties for fire trucks to access the fire locations and making the area fire prone, as the building *materials* of permanent and semi-permanent houses are mostly flammable. Further, other factors have contributed to this conditions, namely less supportive *attitude* from the inhabitants, who are mostly coming from the outside of such area/ rural area, toward fire prevention effort, *less attention* from government and *climate* conditions particularly during dry season (less water, strong wind, and high temperature).

Through this *Asian Building Forum*, in improving teamwork among Asian countries it is necessary to do the following:

1. To set up a *Building Information Center* and its networking as the vehicle for communication and information transfer
2. To promote solid *cooperation* among member countries in handling fire problems, such as in the provision of technical aids, physical aids and equipment aids.

Finally, I sincerely hope that this paper would provide a contextual framework within which fire control can be addressed and discussed in this two days conference, and the result of this conference would provide a positive and useful contribution to our effort in achieving *Buildings and Housing that are really fire safe*.

Jakarta, 11 February 2002

References;

1. Ministry of Public Works, The Building Codes of Indonesia. 1998
2. Directorate General of Human Settlements, State Building Development Process. 1997
3. Directorate of Technical Development, Guidelines for Fire Emergency Plan. 2001
4. National Standard Board, List of Indonesian National Standard. 2001