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ENVIRONMENTAL ISSUES IN IRAQI KURDISTAN BUILDING REGULATORY SYSTEM

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Abstract

The goals of building regulatory system differ based on the country or territory, city or area, and its authorities. Generally, it includes making performance criteria and possibly changes for the benefit of the building design and construction of the community to protect the safety, public health, and general welfare of the people. However, environmental concerns in the building regulatory system are not inexhaustible, such as energy efficiency, eco-friendly materials, waste, water use, intensity use of buildings and indoor comfort, etc. How are the environment issues in Iraqi Kurdistan building regulatory system? Unfortunately, in Iraqi Kurdistan, despite the fact that the region has witnessed steady growth in construction and buildings sector since 2006, building operational performance based on environmental issues is not passively done. For example, this can be seen in the case of building regulations and enforcement methods. Environmental issues seem not to have received serious attention by policy-makers and building practitioners in the region. This study discusses the Iraqi Kurdistan building regulatory system that organizes their building construction activities. Nevertheless, the study focuses on environmental issues and summarizes the conclusion of the discussion.

Keywords: Environmental issues, Building construction industry, Building regulations, Iraqi Kurdistan, Building regulatory system

Introduction

Shui (2015) mentioned the enhancement of environmental performance of building, namely: an artificial indoor climate by using heating and cooling systems, natural ventilation, surface insulation, design optimisation, and controlling user behaviour. Environmental issues of buildings is an important part of building control framework for the government and the supply industry that lead to significant saving in energy consumption. In addition, it reduces pollutants from buildings that affect our health and ecosystems.

The environmental performance of building is a means of ecological balance - representation that involves sustainability, smartness, and efficiency. The environmental performance is also meaningful which informs the life cycle and design thinking (Owen, 2000). In summary, the supply industry and the policy of government could not describe itself without determining the environmental performance of buildings (Scholten, 2013). Everyday, the behaviours of building occupants absolutely can affect the building performance goals and the conservation of resources (energy, water, and materials) (Wolfe, Malone & Heerwagen, 2014).

All parameters occur around a building. Thus, the correlating and the environmental performance of buildings are technical, environmental, and economic and it makes the building to be better described as a process (Tsimplokoukou, 2014). These parameters should not only be addressed by quantification or design approaches, but should also involve culture and building control that focuses on improving the environmental performance of buildings. While improving, it is also drawing attention to give the message of environmental, social, and economic contexts of their use.

Although there have not been a comprehensive building control framework for Iraqi Kurdistan region, as a deliberate and planned exercise, the Iraqi Kurdistan Law Number 8 of the Year 2008 for Environmental Protection and Improvement has functions as to: Protect the environment of the region from the different forms of pollution, and to insure the living of organisms in clean and intact

environment. It inserts principles of environmental protection to humanity, economic, and social developing plans.

Also, it encourages the sustainable development of vital resources in a form that keeps the right of the immediate and next generation, keeping the biodiversity, healthy nature, natural region resources, and its economic resources. In addition, it protects it from any impairment which may result from industrial, agricultural, reconstruction activities or others. It publishes the environmental awareness and culture. Thus, this law has been legislated. Indeed, law enforcement as an organized and systematic mechanism of solutions to environmental problems has remained largely ineffective to the mainstream of Iraqi Kurdistan building regulatory system.

The goals of building regulatory system differs based on the country or territory, city or area, and its authorities. Generally, it includes making performance criteria and possibly changes for the benefit of the building design and construction of the community to protect the safety, public health, and general welfare of the people. However, environmental concerns in the building regulatory system are not inexhaustible, such as energy efficiency, eco-friendly materials, waste, water use, intensity use of buildings and indoor comfort, etc. How are the environments issues in Iraqi Kurdistan building regulatory system? Unfortunately, in Iraqi Kurdistan, despite the fact that the region has witnessed steady growth in construction and buildings sector since 2006, building operational performance based on environmental issues is not passively done. For example, this is seen in the case of building regulations and enforcement methods. Environmental issues seem not to have received attention seriously by policy-makers and building practitioners in the region. This study discusses the Iraqi Kurdistan building regulatory system that organizes their building construction activities. Nevertheless, the study focuses on environmental issues and summarizes the conclusion of the discussion.

Building Regulatory System and Building Regulations

Actually the term building regulatory system often collides with building regulations. Therefore, what are the differences among them? Building regulations relates with quality confirmation that ensure that buildings are safe, healthy, energy-efficient and accessible to everyone who lives and works in and around them (Pedro, Meijer & Visscher, 2010). In line with The Authorised Version of Building Regulation (2018), it identified building regulations as rules used by the authority for construction of buildings, both private and commercial, based on functional requirements. Billington, Keith Bright and Waters (2017) defined the building regulations as a set of requirements of the design and construction of new buildings, extensions and material alterations to certain changes of the use of existing buildings.

Moreover,

Visscher (2008) defined the term building regulation as one of the ‘most’ official instruments that has been agreed and decided by the legislators in order to be implemented by the building practitioners to an adequate quality of the European built environment. Additionally, building regulation is illustrated as an instrument used by the government to change the use and the status of particular buildings. In addition to its purposes, building regulation is defined as legal requirements which function as a means of possible society's minimum expectations from the built environment (CIB TG37, 2001). On the other hand, the term building regulations is the process of regulating the integrity of structure and focus on its implementation (Thiruppugazh, 2008).

Consequently, the building regulatory system is a deliberate effort to influence the function, structure, or the context of the built environment or architectural variety within a physical planning. It is often associated with government directives, but is also used by a variety of non-governmental organizations and construction practitioners in different fields of construction professions.

The goals of building regulatory system differ from one country to another depending on stakeholder needs, cultural differences, political environments, and other factors. Generally, it includes making and planning decisions and possibly changes for the benefit of construction and built environment in terms of minimum requirements of public health, safety, and general welfare (CIB TG37, 2001). Meacham (2009) defined building regulatory system as effort to regulate and guarantee the application of the requirements of building regulations in a scale line to focus on planning demands, issue building permits, conduct final inspections, grant completion certificates, and supervise the system. Therefore, from the definitions, it can be summarised that building regulations and building regulatory system are positively associated with each other, as the successful building regulatory system is definitely supported by the building regulations. There would be no means of building

regulatory system if the jurisdiction did not adopt the regulations and codes as law (primary authorities of references). Thus, building regulation is on formulation or supra-macro level to organize and regulate building regulatory system.

1. The Implication of Building Regulatory System in Iraqi Kurdistan

1.1 Context

Prior to the semi independence of Iraqi Kurdistan region in 1991, the law of buildings and municipal administrative has been initiated by the Iraqi government. It was in 1935 that the Iraqi government conducted law of roads and buildings No. 24 of 1935, as adjusted in 1954 in Iraq and Municipal Administrative Law No. 165 of 1954. Thus, it became a legal framework to start construction of building projects. Consequently, after the semi independence of Kurdistan region of Iraq 1991, the Iraqi construction practices are intended as a general rule for most circumstances and provides direction to the Design Professionals. It consists of the implementation of requirements for design and construction. This set of the Iraqi construction practices generally consists of documents such as: the implementation of engineering standards and practices that are taught in schools, and Housing Technical Standards and "Codes of Practice" prepared by the Polish company, Polservice, for Iraq in 1983.

However, this is a collection of construction standards and planning guidance related only to housing, Iraqi specifications for the quality of materials and construction works by National Center for Construction Labs (2000), Resident Engineers' Guide for Project Construction (First Edition 2010), or alternatively, the use of unproven advanced codes of other countries like ACI, British, and European (EC). However, the current building criteria for the current system in the region is insufficient to protect the safety, public health, and general welfare of the people. This is because there is no article in Iraqi Municipality Law, or any other law in the region which enforces regulatory examination or certification systems for buildings based on compulsory unified building regulations. Moreover, there is no support from government, neither politically nor financially, on building regulations development. In addition, there is no guarantee to have excellent quality of buildings.

Likewise, in terms of professional associations, the Kurdistan Syndicate of engineers started in 1993 and was legally defined by law No.18 of the year 1993. This was a reflection of the bylaw and organizational framework of Iraqi Engineers Union of 1938 and the last revision of the organization and its bylaw was implemented in the year 1979. However, it is known as the Legislation of Iraqi Union of Engineers number 51 issued by the former Iraqi Government which is still operative in Iraq. The basic aims for which the Iraqi Engineers Union was established are to bring together professionals in the areas of Engineering and Technology, and control them politically rather than sharing technical knowledge and regulating professional practice.

With regard to the quality of building materials in the region, law No. 113 in 1988 for the national center of laboratories construction, law no. 17 of 2001 for the internal system of the national center for construction lab, and research defining and providing guidance on the implementation of contents of the National Center for Construction Laboratory - branched from the General Department of Construction and Building Materials at the Ministry of Construction and Housing in the Kurdistan Regional Government. The lab is specialized in the testing of building and construction materials. Building and construction materials laboratory conducts tests on materials in accordance with certified Iraqi Technical Standards and specifications in this field.

Alternatively, the international codes like ACI, British, and European (EC) are used in the absence of specific national requirements. Although Laboratories have a crucial role to maintain guidelines and organize the testing, rating, and labeling system for building materials, the National Center for Construction Laboratory in the Iraqi Kurdistan region is equipped with elementary machines for testing construction materials but has not trained technicians on the operation and maintenance. Moreover, there is no certification body (government certification of test labs; or independent, not-for-profit organizations) to certify that the labs have the appropriate equipment and skills to properly test the materials. In addition to the poor labeling, the lab is not supported by the specialists, experts, and instruments to conduct the necessary researches in this field.

As part of the building regulatory system in Iraqi Kurdistan region, the health and safety approaches at construction sites are not widely effective. In particular, when the legal and the organizational frameworks, related to labor in general, is authorized by the Iraqi labor law (Act No. 71 of 1987, dated July 27th, 1987), enforcement methods were perceived as being unable to deal with the prosperous construction boom over the past 10 years that the region has witnessed. There has not been

awareness of the need to consider health and safety systems as socio-technical systems. Furthermore, the majority of Iraqi Kurdistan people fail to fully comprehend the importance of considering the instructions and enforcement methods followed by so-called safety inspections authorities.

Regarding to fire safety in Iraqi Kurdistan region, the government - Directorate of Civil Defense has produced "Guidelines for Inspections in 2015" which is Locally adopted by each governorate to provide guidance on the fire safety instructions in new buildings and major renovation of existing ones. However, the current instructions are insufficient—as for example, according to site visit on 1 October 2018, majority of houses were inspected and it was found that all of them have no fire-smoke alarms or fire distinguishers. However, this is because the available guideline specified no requirements for any smoke detectors or fire distinguishers for residential houses. Thus, the current fire documents need to be upgraded to fire safety legislation and placed under the building regulatory reform system to meet the legal requirements at the time.

This is how the building regulatory system is enforced by the Iraqi Kurdistan government in order to enhance the development of buildings and real estate industry through the fragmentation of the regulatory regime. CIB TG37 (2001) mentioned the function of building regulations as part of the building regulatory system. Each country have different building regulatory system that can use all the parameters such as local government structure, public policy, education, technology, etc. to recognize the potential benefits of regulations. In Kurdistan Region-Iraq, a unified building regulation does not exist, due to lack of unified building regulatory system. This type of imbalance in the unified building regulatory system can lead to gaps in providing guidance concerning safety, health, energy efficiency, and environmental sustainability. In fact, there is an issue of lack of unified system to regulate the process of enforcement of the guidelines in the current framework of building regulatory system in Iraqi Kurdistan region.

1.2 Environmental Concerns in the Framework of Iraqi Kurdistan Building Regulations and Regulatory System

Environmental concerns refer to a set of local and global environmental problems (i.e., 'air pollution' and 'water pollution') and environmental commitment's sub-dimensions (e.g., willingness to pay for environmental problems and 'environmental behavior') (Alibeli, 2011). With regard to environmental concerns in construction industry, it is a foundational process in the sense that it bridges the energy, economic, and environmental benefits (Bartlett, 2003). Broad definitions of environmental concerns in the building regulations and regulatory system include ethics, commitment to the environment, and sustainable development. Environmental regulations does not only change building's values and its effects on human health and environment, but it also affects building design of the economy, durability,

serviceability, and comfort which is crucial in achieving an environmentally sound building. Building regulations related to environmental protection has many different dimensions which include the law, standards for the use of technologies, and/or standards for the environmental quality. Also, licences or permits to allow industrial facilities to operate, monitoring of compliance with the law and the licence, enforcement of the law and the conditions included in the licence. Environmental law and regulations establish a context of environmental management systems and affective behaviour for Energy Efficiency ,Water Efficiency ,Material Sustainability, Solid Waste Management, Site Sustainability, and Indoor Environmental Quality (P.D. (1096) 2015). It influences building estimation and attitudes, and can also have an effect on environmental aspects of the buildings' life cycle such as efficient use of resources.

Environmental awareness is a matter of culture, and culture becomes norms and regulations that give rise to environmental awareness. However, with regards to the environmental issues in Iraqi Kurdistan, the absence of environmental awareness and participation by community in environmental protection process is specifically clear. In spite of the fact that there are considerable absences of regular, administrative, technical, and enforcement framework that are applicable for environmental concerns in the framework of Iraqi Kurdistan building regulations and regulatory system, the Law of Environmental Protection of the Kurdistan Region of Iraq (Law No.27 of 2009) is an advanced legislation in line with the most recent international legislations in this field.

The problem in Iraqi Kurdistan is that there is no interpretation of the Law of Environmental Protection to regulation and enforcement mechanism that can be enforced by environmental official to establish the minimum requirements to safeguard the public health, safety, and general welfare through environmental strength. The administration and enforcement of environmental issues is

completely addressed in this law, however, there is insufficient enforcement of the law. This is because the environmental board do not perform their responsibilities properly in the control and implementation of the law which have a high occurrence and impact on environmental protection and sustainable development. The environment board and relevant authorities in Kurdistan regional government has no clear strategies and action plans for the protection of environment and to achieve sustainable development.

Conclusion

The problem of Iraqi Kurdistan building construction industry is that there is no solid building regulatory system and enforcement mechanism that can be enforced by building official to prevent violations. Clearly, there is an urgent need to address building regulatory system associated with unified building regulations and also strengthen the environmental aspects across the region. At the same time, Iraqi Kurdistan also lacks appropriately trained adequate number of building officials for current governmental enforcement programs. The unified regulations in the building regulatory system are the first step forward with the aim of stimulating the building industry to invest seriously in sustainable thinking. Much time is needed to attain a situation comparable to the energy conservation requirements regarding acceptability by the consumer as well as solutions in practice. This leads to the conclusion that the current construction practices is yet to recognize and respond to the construction needs to protect the public health, safety, and general welfare. Similar to popular belief, it must be fully recognized by policymakers and planners that the insufficient building instructions constitute a serious threat to the safety of people and buildings. Lastly, Iraqi Kurdistan urgently needs a 'building act' that can serve the interests of the construction industry most efficiently and effectively upholding the principles that should frame the formulation of building regulations and building regulatory system.

References

Alibeli, M.A. & White, N.R. (2011). The Structure of Environmental Concern. International Journal of Business and Social Science, 2(4):1–8. ISSN (Online) 2219-6021.

Ball, A., Owen, D. L. & Gray, R. H. (2000). External Transparency or Internal Capture?: The Role of Third Party Statements In Adding Value To Corporate Environmental Reports. Business Strategy and the Environment 9 (1), 1-23.

Bartlett, R., Halverson, M.A. & Shankle, D.L. (2003). Understanding Building Energy Codes and Standards. Pacific Northwest National Laboratory.

Building Regulations (2018). Authorised Version of Building Regulation. PROVISIONS Authorised by the Chief Parliamentary Counsel. Australian Government.

CIB TG37. (2001). Performance-based building regulatory system. Information. 2001. Nr. 2/01.CIB W86 Building Pathology.

Li, J. & Shui, B. (2015). A comprehensive analysis of building energy efficiency policies in China: status quo and development perspective. J. Clean. Prod. 90, 326- 344.

Billington, M. J., Keith Bright & Waters, J. R. (2017). The Building Regulations: Explained and Illustrated. Wiley-Blackwell.

Meacham Brian, J. (2009). Performance-Based Building Regulatory Systems Principles and Experiences. A Report of the Inter-jurisdictional Regulatory Collaboration Committee.

Meijer, F. & Visscher, H. (2008). Building regulations from an European perspective. The construction and building research conference of the Royal Institution of Chartered Surveyors (COBRA 2008), Dublin Institute of Technology, 12 Great George Street London SW1P 3AD, United Kingdom.

Municipal Administrative Law No. 165 of (1954) article:43,3 in Iraq.

Pedro João, Meijer Frits & Visscher Henk (2010). Comparison of tasks and responsibilities in the building control systems of European Union countries. International Journal of Law in the Built Environment. 2. 10.1108/17561451011036513.

Scholten, N.P.M. (2013). Environmental performance regulations in the Netherlands. The international conference civil engineering`13 proceedings part i building and renovation.

The law of roads and buildings, No. 24 of (1935) as adjusted (1964) in Iraq and 1993 in KR-I.

The Law No. 8 of (2008). Environmental Protection and Improvement in Iraqi Kurdistan Region.

The Law No. 6 of (1993). Administrative Law for Municipalities in the Kurdistan Region of 1993 article 41-29-3.

The Law No. 12 of (2010). The Ministry of Municipalities and Tourism in the Kurdistan Region-Iraq.
The Philippine green building code (2015). A referral code of the national building code of the Philippines (p.d. 1096).
Thiruppugazh, V. (2008). Urban Vulnerability Reduction: Regulations and Beyond,Department of Social and Political Change, Research School of Pacific and Asian Studies, Australian National University- Canberra.
Tsimplokoukou, K., Lamperti, M. & Negro, P. (2014). Building Design for Safety and Sustainability; Number EUR 27116 EN in Scientific and Technical Research Series; Publications Office of the European Union: Luxembourg.
Wolfe Amy, K., Malone Elizabeth, L., Heerwagen Judith, H. & Dion Jerome, P. (2014). Behavioral Change and Building Performance: Strategies for Significant, Persistent, and Measurable Institutional Change. United States.