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A framework for improving lighting quality in the workplace in Thailand

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Introduction. Lighting quality has a direct impact on the workers' visual performance, satisfaction, health and well-being. The importance of lighting quality is now even greater as today's works have become more complex and demanding. In developed countries, much research on visual and biological effects of light has been done; design guidelines have been proposed and widely adopted. In Thailand, however, the dissemination of knowledge and the implementation of these guidelines have been very limited, often resulting in poor and unproductive lit-environment.

Objectives and methods. This paper reports on a study of three groups of factors that have an effect on the quality of lighting, both daylight and artificial light, in the workplace in Thailand. These are the government policies, the building design and management, and the building occupants. It aims to identify the barriers to lighting quality and to establish a framework for policy makers, researchers and building designers to move towards a more comfortable and productive workplace. It was studied through a focus group and semi-structured interviews of the stakeholders as well as the reviews of relevant public policies. The focused group of policy makers, building designers and engineers was organized and the card technique was used. The results from the focused group were used to design the questions for the interviews. Further discussions on the design of office interiors, occupants' activities and behaviour were mainly based on a separate intervention study in 3 office buildings in Bangkok by the author.

Results and discussion. In general, there appears to be a lack of understanding on lighting quality, which is reflected in most government policies and campaigns. The regulations directly involved with occupational health are often too subjective and not based on recognized standards or research. This may due to the lack of qualified lighting specialists as well as appropriate equipments. Moreover, the energy efficiency policies do not seem to address the possible impact on the lighting quality. Building owners and designers were also skeptical about certain lighting that, according to the study in the West, could optimize the energy use, lighting quality and productivity. At the same time, designers cannot learn from the current practice as post-occupancy evaluation is not common. For building occupants, they are generally concerned about the effects of light on their health and well-being. However, there are still misunderstandings and beliefs, particularly on light levels and colour temperature that may indirectly influence their satisfaction and productivity.

Conclusion. It is proposed that the government should increase their role to educate the public with correct information and to raise the awareness on the impact of lighting quality to individuals and building owners. An organization that deals with both energy efficiency and indoor environment quality should be established to develop objective goals and assessments. Supports for lighting research that is relevant to Thai climates and culture as well as demonstration projects that are energy efficient as well as of high quality to provide tangible examples and to motivate the building owners and designers are also needed.