

# MICROCLIMATE CONSIDERATION FOR STREET PATTERN TOWARD SUSTAINABLE URBAN FORM

Case Study : Pecinan Semarang (nature) and Sompok Semarang, (designed)

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## **A B S T R A C T**

The configuration, shape or form of the street has not received the detailed consideration given to the design of the public square. Certainly many streets have been designed and built, many others have been admired, described, but little work on the analysis of form has resulted. The ratio of width of street to height of enclosing buildings is critical for good street design. Aesthetic factors such as scale and proportion are not the only consideration in street design, one such practical consideration conditioning street form is climate.

This paper discuss the microclimatic factors include temperature, solar exposure and wind movement. Solar access and shadowing are important considerations in design, particularly caused its radiation and daylighting. And wind movement influencing street comfort conditions in outdoor open space.

Pecinan Semarang, known has specific characteristic urban area in Semarang. This settlement built as political will Dutch Government (VOC) to concentrate Chinese community in Semarang since their rebellion against Mataram around 1628. This area was encircled by the Semarang river as its northern, eastern, and southern border and an open field as its western boundary. The urban segment shown plainly through the regularity of the grid pattern underlying the structure of its tissue. On the general north-south and east-west orthogonal grid system has its differentiations in values, meaning and functions. (Widodo, J. *Chinese Settlement in a Changing City*)

Meanwhile, Sompok is the area, which is designed by Thomas Karsten. This settlement was built in Dutch Colonial period at around 1919. This settlement was built to anticipating the urban growth of Semarang native resident, which is more paying attention in sanitation and environmental health. This design is trying to answer the native settlement which spread in disorderly and has bad sanitation.

From this two cases, the pattern or the block layout will be analyzed to know the microclimatic factors which influencing forms of street which can be taken as recommendation design.

**Key word** : *street pattern, solar envelope, wind movement, urban form.*