## Thesis Abstract

No. 1

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## Title of Thesis:

Local Techniques and Knowledge on Building and City, and Their Transformation since the 19th Century, in Mekelle and its Surrounds, Tigray Region, Ethiopia

## Summary of Thesis:

This dissertation tends to be a comprehensive study on the history of building and city in Mekelle and its surrounds, Tigray Region, Ethiopia. The topics are primarily discussed from the perspective of local techniques and knowledge. On the basis of understanding locally inherited techniques and knowledge on building and city, their transformation since the latter half of the 19th century is clarified. To gain a good understanding of them, both physical buildings, urban spaces and people who developed the local techniques and knowledge were analyzed. Therefore, the author carried out the following research activities in the field: measurement and observation of historically important buildings, observation of a course of construction process on masonry techniques, interview research with local builders, and interview and mapping research on the process of the current settlement's urbanization. The discussion is organized to illuminate not only visible buildings and spaces themselves, but also the relationship with less-visible environmental and social issues.

Through a series of surveys, it becomes clear that previous local techniques and knowledge of both building and city were connected with agricultural ones. Through the local people's continuous interactions with the local environment, they gradually achieved various environment-adapted techniques and knowledge on agricultural, building and urban issues. However, these have transformed since the latter half of 19th century, due to the introduction of building tools and materials from abroad, and the urbanization accompanied by population growth, urban sprawl and congestion, and newly introduced urban master plan. While local builders acquired the skills to apply and improved newly introduced tools and materials, the agri-building and agri-urban connection has weakened. New local techniques and knowledge consistent with the current environmental and social situation should be sought now.

## **Keywords:**

Tool and material, Builder, Urban formation, Urbanization, Mekelle, Tigray, Ethiopia