

REFLECTION

Qianyi Wang

Faculty of Architecture & the Built Environment, Delft University of Technology
Julianalaan 134, 2628BL Delft

Aspect 1

My research paper looked into the possible application of rice straws in the field of residential architecture in Zhejiang province. It evaluated the three rice straw related building methods to provide a basic understanding of the advantages and disadvantages of the methods when applied in Zhejiang province according to five criteria: construction ease, maintenance ease, affordability, thermal performance, and aesthetic acceptance.

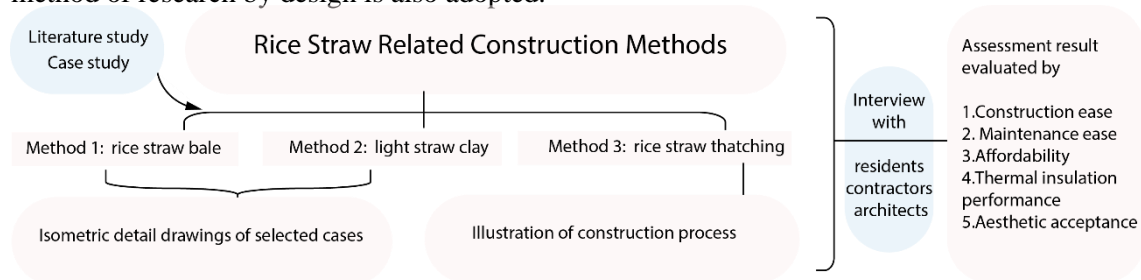
The result concluded from the research paper guided the village design in terms of the choice of rice straw related building methods, cladding design, and interior finishing design.

Aspect 2

My graduation project closely followed the harvest theme in the studio theme, exploring the application of agricultural waste in the architectural field. The ultimate goal of the research is to create a synergetic model for the villages through design. Villages eroded heavily by tourism often lose their attraction because of homogenization. In the synergic model, the original industry will not lose from the tourism development. Still, it will benefit from the sustainable development of tourism.

Aspect 3

The research methods taken in the paper are illustrated in the diagram below. Furthermore, the method of research by design is also adopted.



Aspect 4

According to the research result, rice straw is a material that has great potential in Zhejiang, China. The prevailing material in Zhejiang province for self-built houses is reinforced concrete structure with brick infill. Based on the interview with local contractors, the price of these materials is rising a lot this year due to high demand and government control.

For researchers interested in applying rice straws in the architectural field, the paper can be used as it named the building techniques adopting rice straws and chose several innovative cases to

study in detail. For practical experimental tests of the rice straw application in Zhejiang province, the evaluation of the three different building techniques can be a reference.

Rice is the staple food for Zhejiang and a staple food that feeds more than half of the world's population. Therefore, the methods discussed in the paper can be used as a reference for a wider world.

Aspect 5

First, although studies have shown that rice straw has better humidity control properties, wheat straw is much more widely used. Therefore, it brought some difficulties when looking for references.

Second, the Zhejiang site I chose did not perform well in terms of climate. The humidity is extremely high for five months of the year. At the same time, Zhejiang is cold in winter and hot in summer, and there is a need for heating and cooling at the same time. Therefore, a flexible strategy that can be adjusted seasonally must be considered in the design. When temperature and humidity are too high, only considering ventilation can result in indoor temperatures even higher than outdoor temperatures.

Third, the design result is a newly built village aiming at agritourism. The village provides newly designed housing types learning from the traditional vernacular architecture for local people, and providing job opportunities through the development of tourism. However, the target group (local villagers) have certain stereotypes about the bio-based materials I choose, some construction skills of rice straws remind them of the most difficult periods of their lives. If this project can be promoted in Zhejiang, obtaining the owner's support and consent may be critical.