

TECHNOLOGICAL SOLUTIONS AND THEIR DETERMINING FACTORS IN SEALING WOODEN GRANARY IN SOUTH CHINA

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INTRODUCTION

Being one of the most easily accessible natural material, wood was generally used by farmers for building their granaries in the pre-industrial society. However, the wood shrinkage was an inevitable problem which carpenters needed to deal with in the granary construction. It would lead to that gaps occurs in walls and floor of the wooden granary, thus causes loss of cereals.

Investigations carried on the building crafts of wooden granaries in several different ethnic areas of South China shows that carpenters from different cultural backgrounds developed a diversity of special technological solutions in sealing local granaries, aiming at ensuring the sealing performance of a granary. The further study tries to reveal various determining factors in shaping a building technology.

RESEARCH

Granaries are essential building types in the Chinese society that were based on agriculture up to the middle of the 20th century. Due to the unique requirements of storing grain, the craft of granary construction has been developed into a type of specialized building technologies in many cultural regions in the pre-industrialized period. So it is with China. However, the traditional building technology of Chinese granaries is long-ignored in the academic field.

This article would focus on an inconspicuous but essential technical detail of the wooden granary: the sealing treatment. The sealing treatment is directly related to the wooden shrinkage problem, thus many carpenters began to consider it since logging. Meanwhile, a variety of special joints had been created for solving this problem in different regions.

The following examples are selected for a further examination in the article. Based on a series of first-hand measurements and oral interviews with local carpenters, this section aims to provide information about the different sealing treatments under different building traditions in these ethnic groups' areas of South China.

- 1) A Tibetan granary in Sha'er Zhong, Sichuan. It is a log construction granary embedded in a tower dwellings. For ensuring the sealing of this granary, locals made the granary as a load-bearing structure.
- 2) A Wa granary in Wending, Yunan. Limited by their primitive tools, the wooden components produced by locals were mostly small and irregular. Thus local carpenters invented a special paneling method to enclose their granaries.

3) A Dong granary in Dengcen, Guizhou. Local carpenters carefully designed a series of construction procedure to ensure the sealing of the granary.

4) A Hmong granary in Dongmen, Guizhou. A special movable joint was invented for meeting the sealing requirement of the granary.

CONCLUSION

This study aims to reveal these unique building technologies of wooden granaries through refined measurements, utilization records and precise studies of details typical and unique to the respective building type. Based on the study of the local environmental and societal factors and interviews with local carpenters, the study further indicates that determining factors in shaping the wooden building technology of sealing are not only carpentry tools and tree species, but local society background and climate as well.

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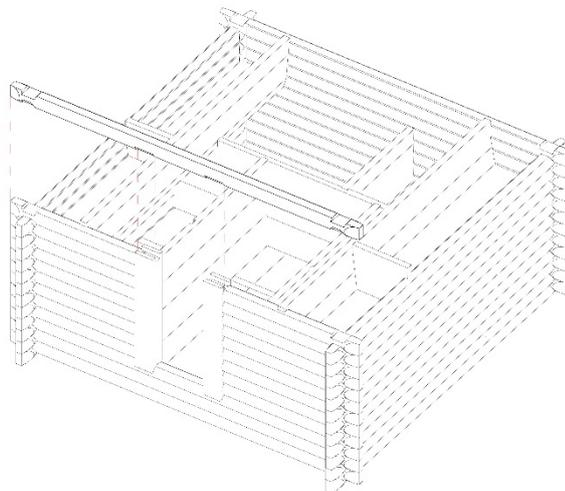


Image of the Tibetan log granary