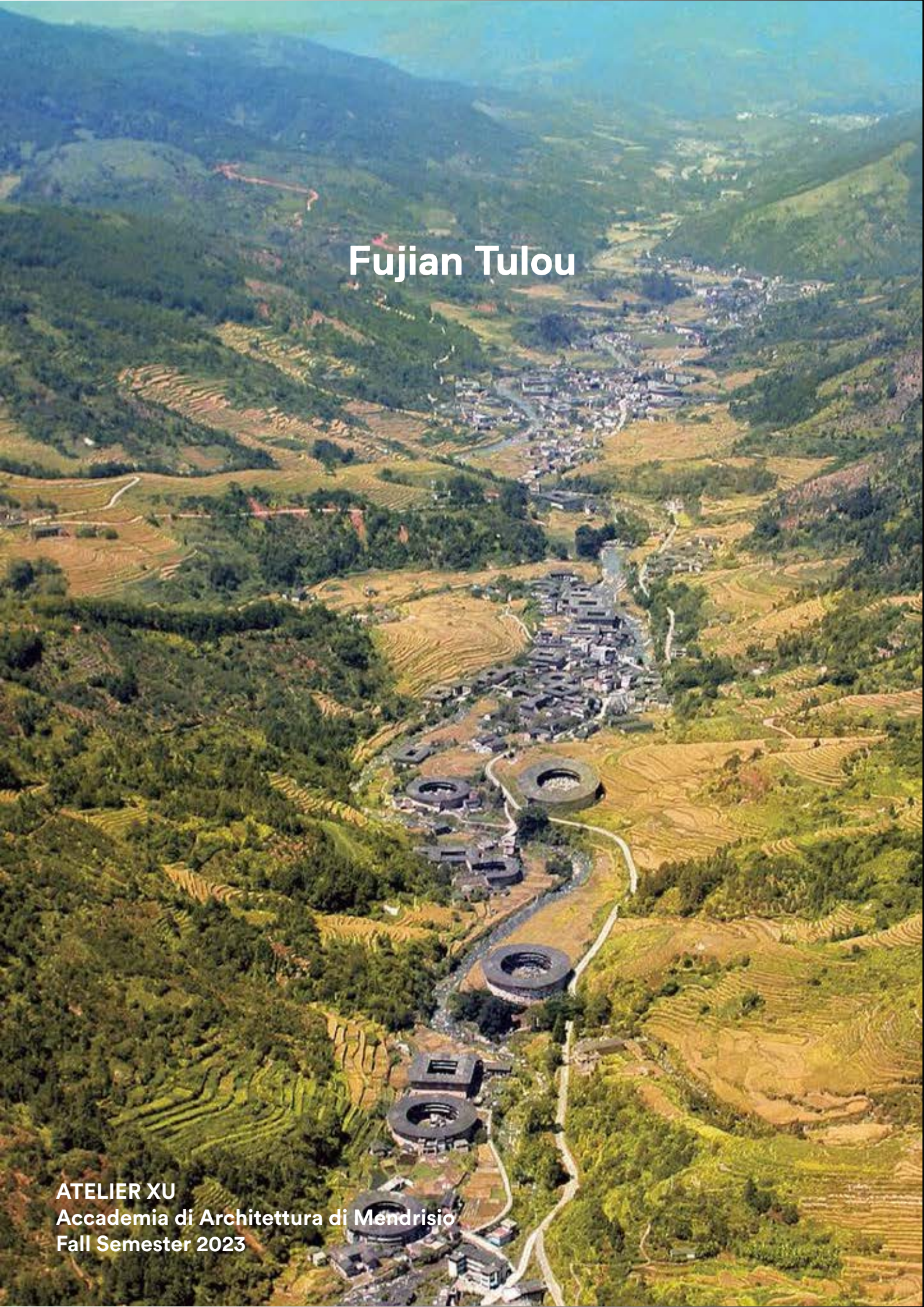
Fujian Tulou



ATELIER XU
Accademia di Architettura di Mendrisio
Fall Semester 2023

Fujian Tulou

Atelier Xu FS2023

Professor: Xu Tiantian

Assistants: Junjun Dai, Davide Contran

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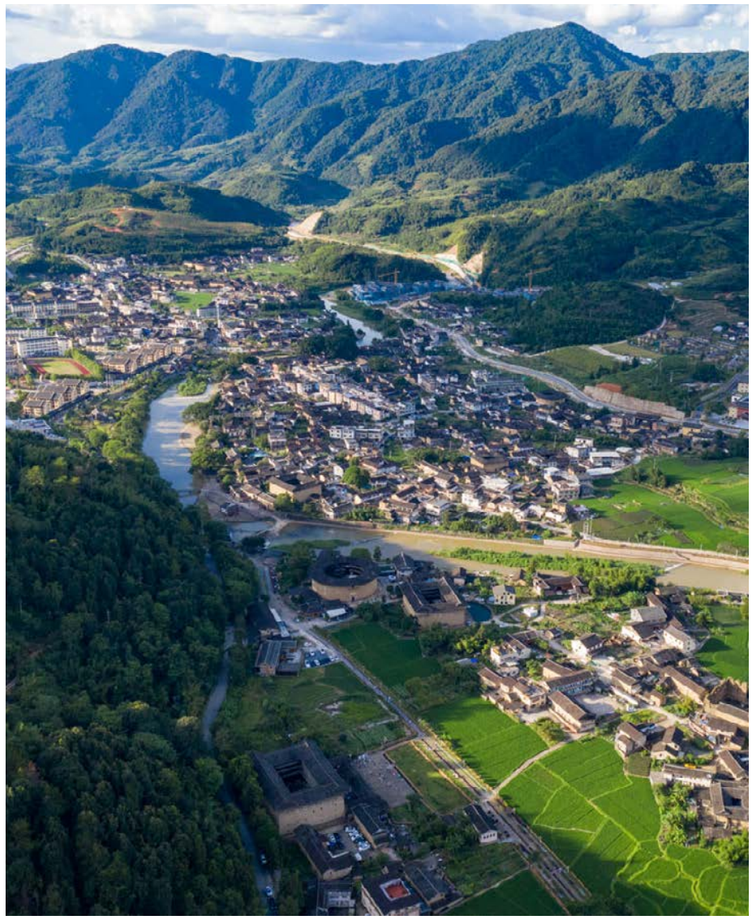


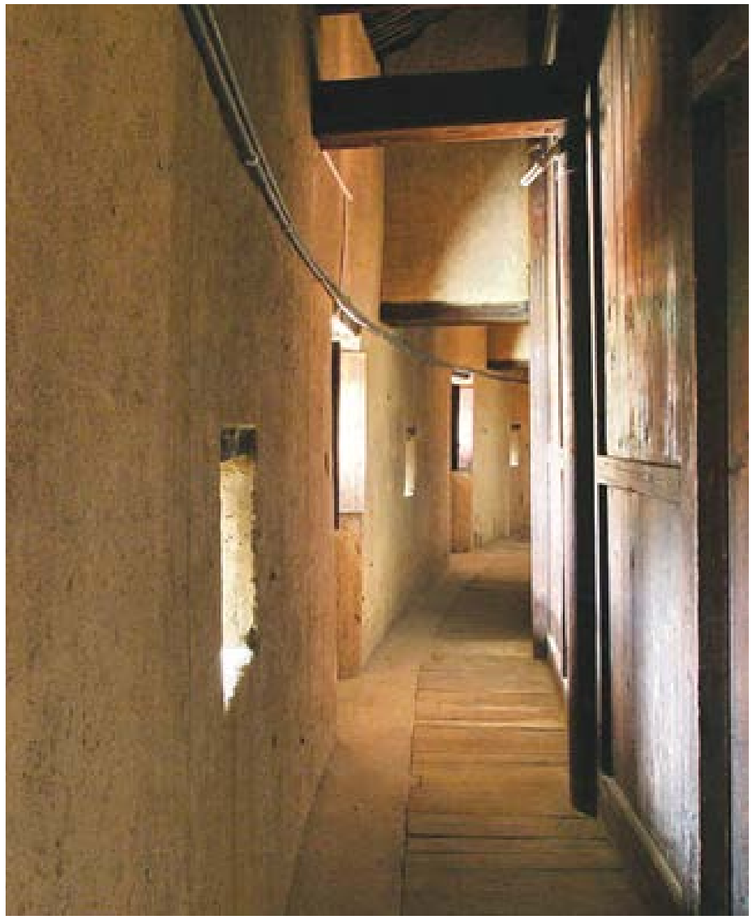
Introduction - Pushan Village

Pushan Village is located in the southeast of Meilin Town, Nanjing County, Zhangzhou City, Fujian Province, at 117 degrees east longitude and 24 degrees north latitude.

It is an ancient village with a long history, known for its ancient paths, earthen building structures called Tu Lou, and picturesque landscapes with mountains and rivers. These characteristics are also representative of Fujian Province, which is predominantly mountainous and hilly, accounting for approximately 90% of the total land area in the province.

Unlike other regions in China, Fujian's coastal areas have a maritime civilization, while the inland Hakka regions have an agriculturalcivilization. The Hakkas who settled in the mountainous region of southwestern Fujian province developed a unique form of architecture known as the Tulou. With rammed-earth walls and assembly timber structure,Tulou buildings are considered the most ecological architecture on earth.

Pushan Village is famous for its Tulou and natural landscape. One good example is the UNESCO-listed Hegui Tulou, which is situated in Pushan.



The Fujian Tulou

The Fujian Tulou is a typical traditional building typology in Fujian Province, the south-east region of China.
Built between the 15th and 20th centuries, it is technically sophisticated and self-sustainable defensive building for communal living, in the highly sensitive setting in mountain valleys. Several stories high, tulou buildings are along an inward-looking, circular or square floor plan as housing for up to 800 people each. They were built for defense purposes around a central open courtyard with only one entrance and windows to the outside only above the first floor. Housing a whole clan, the houses functioned as village units.

In year 2008, 46 Fujian Tulou buildings were listed as the World Culture Heritage by UNESCO.

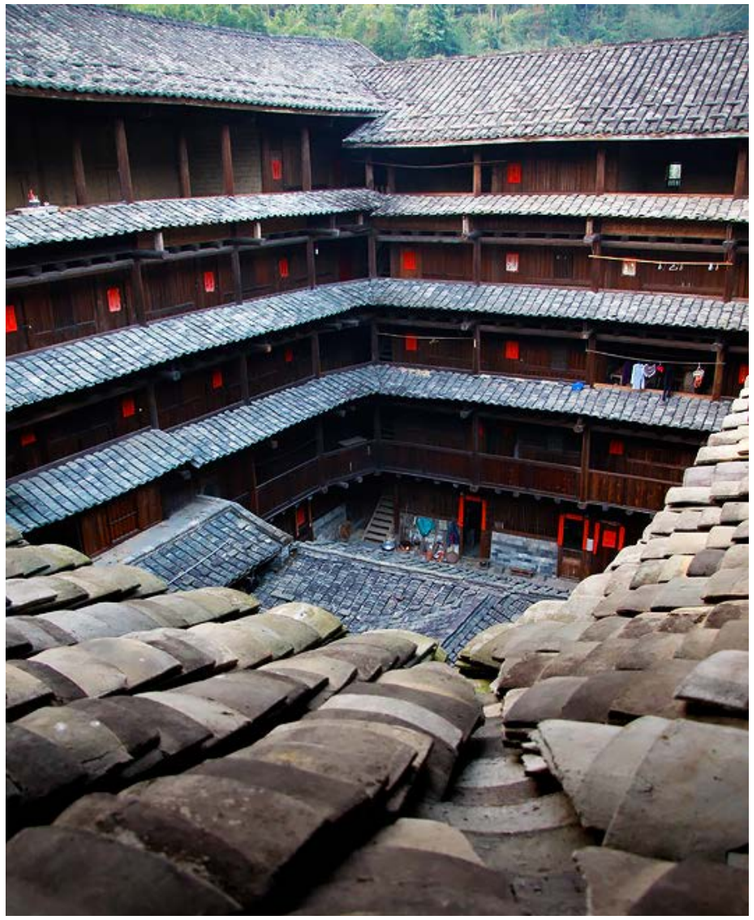
The Fujian Tulou has become well-known since. In fact, besides the 46 UNESCO world culture heritage tulou buildings, there are still thousands of Tulou in the region that are not included by the World Culture Heritage. Many of these tulou buildings are left unattended, vacant, or abandoned. The design proposal is to work with a number of non-world heritage tulou buildings with various conditions, to revitalize these ancient traditional buildings, at the same time functioning as model examples for the rest thousands of tulou buildings.
With those still occupied by original inhabitants, the design works to improve and upgrade the living conditions for the original inhabitants, the indegenous hakka or minnan peoples.
The vacant and abandoned tulou buildings could be converted into modern public facilities and community centers with adaptive reuse.

Pushan Village
24.661348892064602, 117.08941490732789

The Relic Tulou
Huoshao Tulou

The Inhabited Tulou
Jinshi Tulou & Cuimei Tulou

UNESCO Tulou
Hegui Tulou



The UNESCO Tulou

Hegui Tulou

Hegui Tulou is located in Pushan Village and has three main characteristic that differ itself from all the other Tulous.

Hegui Tulou has an impressive height of five stories, measuring 21.5 meters, representing a world record. It is the tallest known earthen building among all the Fujian Tulou.

Hegui Lou has 28 rooms on each floor, totaling 140 rooms. Constructed during the Qing Dynasty in 1732, it was initially built on a swampy site. After the first floor sank into the ground, the builders reinforced the sinking walls with several thousand pine logs for its foundation, resulting in a stable foundation. The building has stood strong for over two centuries without tilting or sinking, defying the challenges of time and weather. Thanks to the unique properties of pine wood, He Gui Lou has withstood multiple earthquakes without collapsing.This showcases the structural resilience of Hegui Tulou .

The two water wells within Hegui Tulou exhibit a fascinating contrast. Positioned 18 meters apart, both wells have water levels that exceed theground surface. The well on the left contains clear and sparkling waterof excellent quality. In contrast, the well on the right harbors murky, yellowish water that is heavily polluted. This intriguing phenomenon arises from the disparate construction materials employed in the two wells. To ensure the availability of clean water, both wells were excavated into the underground water layer.

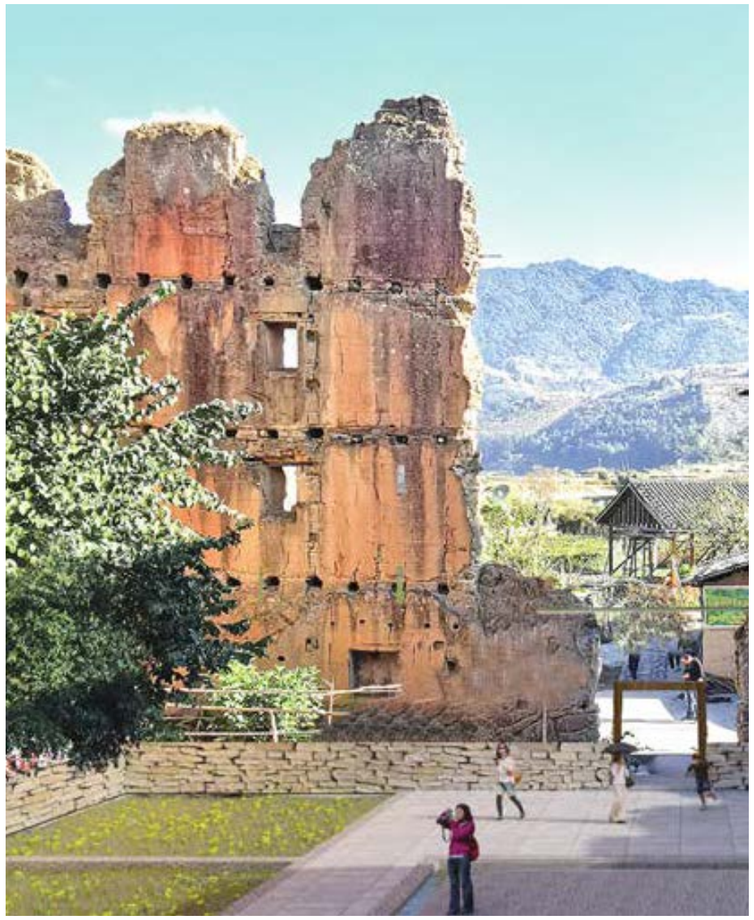
However, the well with clear water was constructed using cement, resulting in minimal gaps in its walls. Conversely, the murky well was built with stacked small pebbles, resulting in larger gaps. Consequently, as the wells intersected the marshy water layer, a substantial amount of swamp water infiltrated the murky well, rendering its water unsuitable for consumption.

The Inhabited Tulou

Jinshi Tulou & Cuimei Tulou

The Square Tulou Jinshi Tulou & The Circular Tulou Cuimei Tulou NanJing County Both the Jinshi Tulou and the Cuimei Tulou are still partially occupied by their original inhabitants who are the local Hakka indigenous people in Nanjing County. The system of Hakka Tulou is similar to a cluster of enclosed row houses, either square or circular, with only one entrance to the compound for protection and defense. Each row house consists of a room on each floor, stacking up with shared corridors and stairs. With the villagers/inhabitants eventually built new houses and moved out of Tulou, like many other tulou buildings in the region, both Cuimei and Jinshi Tulou consists a portion of unoccupied vacant spaces.

The intervention to both these two tulou buildings is to preserve their current inhabitants by upgrading the existing
living conditions and converting the vacant spaces into new social and economic programs. The family kitchens
on ground level are also enlarged into food kiosk stations for new revenues. In this way, the Tulou as the original
communal living building is transformed into a new mixed-use complexity, to improve the living conditions and provide
new opportunities for the original inhabitants.

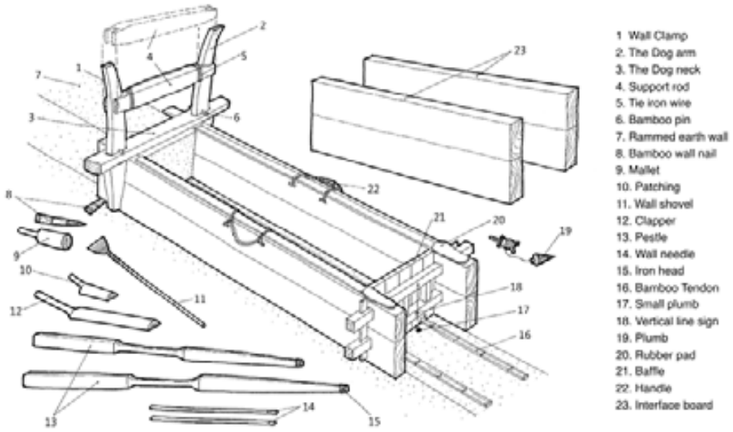


The Relic Tulou

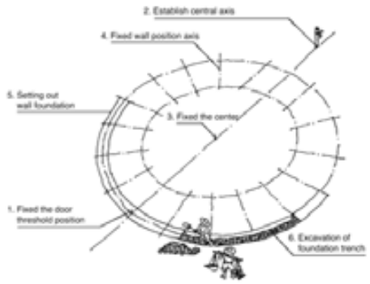
Huoshao Tulou

The Huoshao Tulou is the relic of an original square tulou building in Nanjing County. The rammed-earth walls have stand like a monument in its unique form after fire about 150 years ago is a Hakka Tulou, the remaining portion of wooden structure was able to function as a consistent structure after removing all partition wooden panels.

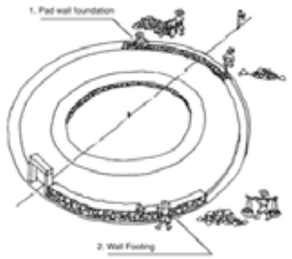
The flexibility of a Hakka Tulou layout and the traditional tenon and mortis wooden structure allow this tulou building to convert into a new Rammed-earth Workshop with cultural and educational programs.
Each floor opens to accommodate different functions with views towards the fire-burnt rammed-earth walls which are spectacular monument displaying structure and material components of Hakka Tulou. In other words, the walls are exhibition of local Tulou rammed-earth for this new public cultural workshop.



Wooden Formwork and Ramming Tools for *Tulou's* Rammed Earth Wall



Marking-Out



Stone Footing

Design Task

The design task for this semester will be an architectural intervention, to connect various Tulou in three specific sites of Pushan Village.

Collectively the interventions will build-up a new circulation to revive the village; a new view corridor integrated with the typology of the Tulou as assets and identity, and influenced by the landscape.
Each site will be explored with a 400-600 sqm building size.

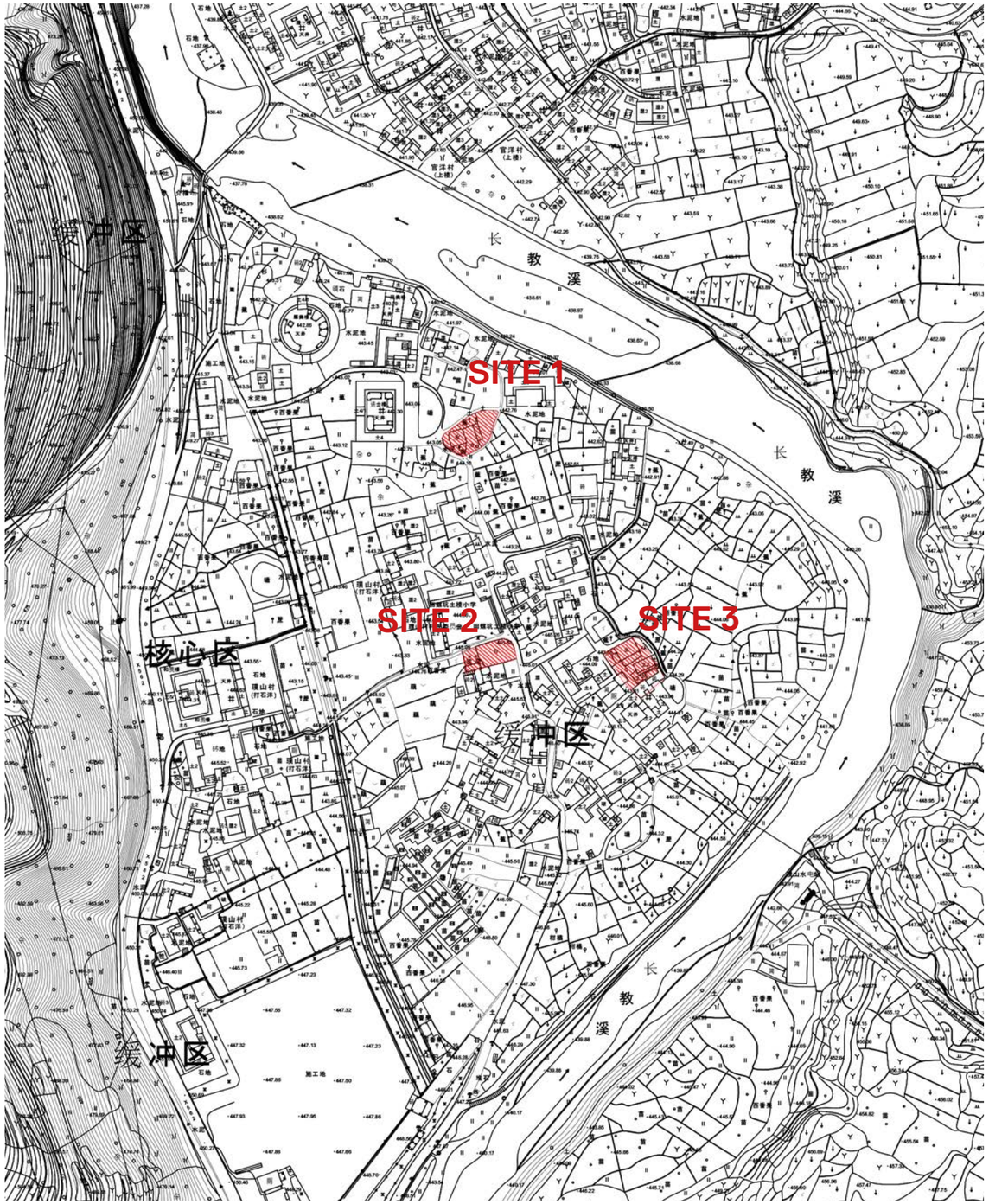
The study trip will take place in China in the region of Fujian and Nanjing, from the 10th to the 17 of September.

In the first two weeks of the semester in Mendrisio, we will build a context model and collectively study the context and economics of the village in order to propose a program fore each architectural project.

The Mid-review will take place on November 2nd.
The Final review will take place on December 21st.

The atelier project will be developed in pairs.

Scale 1:3000 at A4



SEMESTER CALENDAR

SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
sun 10 Flight	**thu 5 Atelier**	**thu 2 Mid Review**	fri 1 Atelier
mon 11 China	**fri 6 Atelier**	**fri 3 Atelier**	-
tue 12 China	-	-	**thu 7 Atelier**
wed 13 China	thu 12 Atelier	**thu 9 Atelier**	**fri 8 Atelier**
thu 14 China	fri 13 Atelier	**fri 10 Atelier**	-
fri 15 China	-	-	thu 14
sat 16 China	thu 19 Atelier	**thu 16 Atelier**	fri 15
sun 17 Flight	fri 20 Atelier	**fri 17 Atelier**	-
-	-	-	**thu 21 Final Review**
thu 21 Atelier	thu 26 Mid	thu 23 Atelier	**fri 22 Atelier**
fri 22 Atelier	fri 27 Mid	fri 24 Atelier	
-		-	
thu 28 Atelier		thu 30 Atelier	
fri 29 Atelier			

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