

A practical model for an application of research result

One Health Welfare Community

Proposal of future welfare using the wisdom of our ancestors from the land that sees Mt. Fuji. Learning from the spirit of "Yui - mutual aid" in thatching system, which connects every existence of people, local community, and nature, we provide healthy and warm environment for all of them.



Thatching involves a variety of works such as building a forest, harvesting thatch, making thatch bundles, rethatching, using old thatch as manure, and is a well matched with welfare for a sense of everyone can contribute something, regardless of whether they have a disability or not.



Design 5
Architecture that enhances autonomous and sustainable local cultural landscape with people and nature

Buildings, villages, cities, and communities had been sustained through daily activities of the people in the past. By modern economic system, these links have been disconnected each other. In this facility, users are not just consumers but are part of the society and the nature creating the new local environment through working and living with the building. The project provides a place for people, including users, operators, local people, visitors, to feel full of learnings and attachment to this community by various activities (e.g., thatch harvesting in the foot of Mt. Fuji, growing, and harvesting "Kariyasu" on the big common roof, processing architectural materials and products of thatch, assisting thatches' works, growing wasabi using spring water from Mt. Fuji, maintaining the biotope, growing vegetables in the surroundings farmland, cooking in the common space). It will be a place to discuss about coexistence with nature and future welfare, and a place to learn and pass on traditional local events and skills of daily life. The facility will function also as the research and development center and workshop that drive the good cycle of local production and consumption, resource recycling, improvement of the natural environment, mental and physical health and increasing income for disability people. This is a modern form of temples and shrines that used to be the place for learning and welfare for both humans and nature.



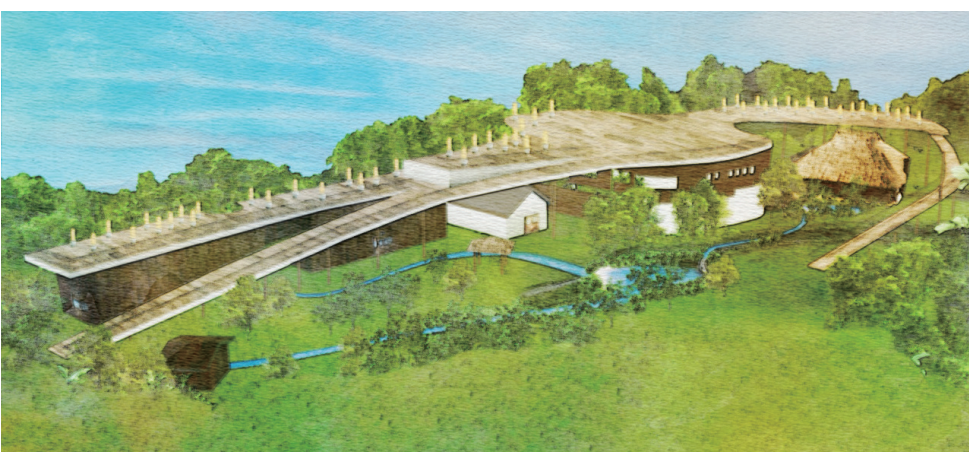
Plan outline
Planned site: Gotemba-city, Shizuoka, Japan
Site area: 4444 m²
Total floor area: 1202.1 m²
Building use: group home, disability employment services facility, workshops, shelter, storage for thatch materials
Landscape use: water canal, water mill, gardens, blueberry field

Design 1
To be a part of the local landscape

The site is near Mt. Fuji, one of the symbols of Japan, on the foot of the mountain and has the spectacular view. The site is surrounded by the forest, primary school, nursery school, local houses, and farms. In this project, I had resided in the area to study the history, culture, ecology of the area to design the facility that blend in the landscape and create a new sight in the area. I had also worked for consultation of the client's existing welfare facility to know the situations of welfare in Japan and develop relationship with the local people. The designed space (e.g., Disability employment services facility, workshops, thatched house shelter, thatch materials storage, gardens, blueberry field) is opened to the community and the designed group home is interconnected with one big common roof that blend well with the surrounding environment and the facility itself. This forms the philosophy of this project that builds bonding of diverse individuals. The big common roof blends with the garden where users and visitors can enjoy ever-changing landscapes and animals (e.g., donkeys, miniature horses, goats, birds) while walking around the facility to rest, be healed, talk, eat, and enjoy the view of Mt. Fuji. This facility will be the place for both people and nature like a community park where anybody is welcome.



- Hypersonic sound in the existing environment**
(1) Sound of stepping on chips in the blueberry farm: 40,000 – 140,000Hz
(2) Irrigation channel: 40,000 – 140,000Hz
- Hypersonic sound in the planned environment**
(1) Watermill: 40,000 – 100,000Hz
(2) Water channel: 40,000 – 140,000Hz
(3) Aquarian Harp (Traditional Japanese echoing system): 40,000 – 140,000Hz
(4) Sound of Kariyasu on roof shaken in wind on the roof: 40,000 – 180,000Hz
(5) Sound of Kariyasu mowing: 40,000 – 180,000Hz
*Measured by the hypersonic sound detector



Design 2
To provide a welcoming home that makes people feel the true nature of human beings

Humans have evolved over millions of years in forests and grasslands. That environment is the base and makes our genes, therefore, when we enter a forest or a thatched roof, we feel a sense of healing, security, and nostalgia, irrespective of disability. We eat rice cooked in our own thatched roofs and vegetables grown by ourselves under a big roof, protected by a warm house made of natural materials. We take care of animals that heal us ourselves. We realize we are a part of the nature which delicately sensing the sunlight, wind, smells, and seasonal changes of nature. As much as possible we bring back such lifestyle which was considered common in the past addressing the modern requirements. In case of a disaster, the facility is used as a refuge shelter utilizing the big roof, buildings, spring water in the site, and thatch being used in beddings and pillows for sleeping.



Design 3
World's first challenge in architecture and landscape design which leads to our physical and mental health, making use of the latest research

Many people who live in thatched-roof houses in Japan, which are composed of organic materials such as thatch, wood, and soil, are healthy even at an older age, and fewer people suffer from atopy or allergies. Research has confirmed that high-frequency sounds are produced when thatch is rubbed and from the work of handling thatch, such as thatch harvesting and rethatching, and that this boosts immunity, reduces stress, and influences mental illness (this effect is called "hypersonic sound effect"). It was found that thatched houses have a high level of immune-enhancing bacteria and reduce the growth of pathogenic fungi, and microbiological environment like nature is established in the house, making it a healthier place to live. Thatch also has high thermal insulation properties, has air purifying properties, and can be used for ceilings, walls, and floors. Thatch is also easy to process, and people with disabilities can make their own thatched panels for use as interior and exterior wall materials, which were devised for this project. The architecture and landscape were designed using the findings of these research. Gotemba is the largest produce area of thatch in Japan. Harvesting thatch and roofing techniques are registered as UNESCO's Intangible Cultural Heritage.



Sound of handling thatch is comfortable. It smells good, I can work on thatches for a long time unlike other activities. It is fun and relaxing, It makes me happy to learn that it is protecting the nature through thatching work. I want to live in a thatched house.

Design 4
Architecture that creates the cycle of nature

As much as possible we procure building materials by ourselves to enhance the environment. Thatch has breathability and humidity control properties and can create comfortable spaces that contributes to mental and physical health. By implementing the traditional architectural construction methods, buildings enable realization of a long lifespan, future relocation, renovation, and reuse. These designs updates tradition to modern age while meeting the challenges inherent in old houses, such as cold in winters, and the requirements and regulations necessary for the facility. Thatch fields recharge water sources, purify soil, retain water, absorb carbon dioxide, and fix carbon, which is higher than that of forests, and nurture a biodiversity. "Kariyasu", a kind of thatch, is particularly useful as a material, as it is three times more durable than Japanese pampas grass. For disability people, harvesting thatch precisely with exact quantity in the wild thatch field has difficulty and danger sometimes, therefore, I designed planters of "Kariyasu" on the big roof for users to grow it safely and harvest easily every autumn as materials for repairing and maintaining the facility and making products to be support of disability people. The cultivation of "Kariyasu" on the architecture roof helps global warming issues, making hypersonic sound effect and brings a new landscape to the area.

