

“The 4th LIXIL International University Architectural Competition”
Top Prize-Winning University of California, Berkeley’s NEST WE GROW Is Completed
~New next-generation sustainable housing is created on the site of Memu Meadows in
Taiki-cho, Hokkaido~

The LIXIL JS Foundation (located in Koto-ku, Tokyo; president: Yoichiro Ushioda), which facilitates surveys and research related to the housing and building materials industries as well as supporting the development of human resources, is pleased to announce today that “NEST WE GROW” designed by University of California, Berkeley of the United States has been completed on a site of Memu Meadows in Taiki-cho, Hokkaido, environmental technology research facilities managed by the foundation.

NEST WE GROW is the top prize winner in the 4th LIXIL International University Architectural Competition sponsored by the LIXIL JS Foundation, aimed to seek and review next-generation sustainable housing technology and communicating that technology to global society. The project was designed based on the theme: “Productive Garden – A Space for Enjoying Hokkaido with All Five Senses.”



University of California, Berkeley
NEST WE GROW

At NEST WE GROW the ground floor concrete wall is activated with deep and medium root vegetables like tomato, daikon, and pumpkin that grow in the soil blocks in the wall. Planters hung from the wood frame and placed on the elevated platform can grow shallow and medium root vegetables like cucumber, eggplant, and cabbage. The ground level holds a community kitchen where people can gather, prepare food, and dine.

The main structure of the Nest is comprised of nine composite columns made in Hokkaido. The Nest takes advantage of the transparent plastic corrugated sheets on the façade and roof, allowing light in for the plants, and heating the space during cooler months, which extends the growing season. Sliding panels in the façade and roof open to further facilitate air movement through the structure during the summer and warmer parts of the day. The funnel-shaped roof harvests rain water and snow melt. The collected water is delivered to tanks that are then used to irrigate the plants in the concrete wall.

With the completion of NEST WE GROW, Memu Meadows is currently a home to four houses designed by students, i.e., *Machi Matou Ie* designed by Waseda University completed in 2012 (the top prize winner in the 1st LIXIL International University Architectural Competition in 2011), BARN HOUSE designed by Keio University (the top prize winner in the 2nd competition) and HORIZON HOUSE designed by Harvard University completed last year (the top prize winner in the 3rd competition).

These houses will continue to be monitored after completion from a perspective of unique “next-generation sustainable housing” designed by the students themselves and its results will be verified. The LIXIL JS Foundation will extend support along with the local government (Taiki-cho, Hokkaido) continuously and communicate the results of demonstrations to society.

<Reference Information>

«Attached Document»

■ NEST WE GROW Design Team: College of Environmental Design, UC Berkeley

Designers :

- Dana Buntrock, Professor and Project Supervisor
- Baxter Smith
- Yan Xin Huang
- Fenzheng Dong
- Hsiu Wei Chang
- Hsin Yu Chen

Area : 99.8m²

Construction Cost: \$ 200,000

【Concept】

NEST WE GROW is the Nest spatially made up of food and programmatically designed for food. The wood frame structure mimics the vertical spatial experience of a Japanese larch forest where food grows and is hung to get dried. The concrete wall on the ground floor creates a micro topography on the relatively flat landscape, and this topographic wall grows our food. The program of the Nest is decided according to the life cycle of these local foods: growing, harvesting, storing, cooking/dining and composting, which restarts the cycle. All members of the community help to complete each stage, allowing the structure to become a platform for group learning activities in the Nest throughout the year.

【Features】

• Structure corresponding to the life cycle of local agriculture

During the spring and summer, the ground floor concrete wall is activated with deep and medium root vegetables like tomato, daikon, and pumpkin that grow in the soil blocks in the wall. Meanwhile, planters hung from the wood frame and placed on the elevated platform can grow shallow and medium root vegetables like cucumber, eggplant, and cabbage. In autumn the vegetables can be harvested from the walkways that wrap around the edge of the structure. These platforms and walkways also allow visitors to wander and become immersed in the vertical and horizontal multitudes of local agriculture. The ground level holds a community kitchen where people can gather, prepare food and dine. There are composting bays embedded in the concrete wall where community members can contribute unused food throughout the year, building the life cycle of foodstuffs.



• Response to Hokkaido's Climate

The wall at the base of the building, in addition to creating a micro topography, helps to block the prevailing northwest winter wind. The transparent plastic corrugated sheets on the façade and roof allow light in for the plants, and heating the space during cooler months, which extends the growing season. Sliding panels in the façade and roof open to further facilitate air movement through the structure during the summer and warmer parts of the day. The openness of the façade allows the building to incorporate the surrounding natural environment, with the interior climate tied directly to the exterior environment. The funnel-shaped roof harvests water and snow melt. The collected water is delivered to tanks, then used to irrigate the plants in the concrete wall.

■ Overview of Facility

Name: Memu Meadows

Location: 158-1 Memu, Taiki-cho, Hiro-gun, Hokkaido (on the former site of Taiki Farms)

Owner: LIXIL JS Foundation (2-1-1 Ojima, Koto-ku, Tokyo, 136-8535)

Site area: App. 184,000 m²

Main facilities: Experimental house “Même”, “BANGLADESH BANBOO PROJECT”, “A recipe to live”, “BARN HOUSE”, “HORIZON HOUSE”, multipurpose hall, laboratory, three housing units (accommodation for researchers), two log houses (accommodation for researchers), fitness center, restaurant, sauna, administrative building, etc.

URL: <http://www.lixil.co.jp/s/taiki-cho/about/>

■ Overview of the 4th LIXIL International University Architectural Competition

1. Participating universities: twelve universities in nine countries

(◎: Entrants that advanced to the open final screening on April 25)

◎The Oslo School of Architecture and Design (Norway)

Delft University of Technology (The Netherlands)

Politecnico of Milan (Italy)

Liebniz University Hannover (Germany)

◎University of California, Berkeley (USA)

The University of Utah (USA)

Tongji University (China)

National University of Singapore (Singapore)

Bandung Institute of Technology (Republic of Indonesia)

The University of Tokyo (Japan)

◎Tokyo University of Agriculture (Japan)

Hokkaido University (Japan)

2. Judging method

Twelve universities in nine countries were invited to submit proposals for a next-generation, sustainable house designed for a cold region. Three entrants were then selected in the first screening (based on documents submitted). The top prize winner was subsequently chosen in the Open Final Screening.

3. Jury:

Kengo Kuma (Architect / Professor, the University of Tokyo)

Tomonari Yashiro

(Professor, Institute of Industrial Science, the University of Tokyo / Vice President, the University of Tokyo)

Isoya Shinji

(Landscape Architect / Doctor of Architecture / Professor Emeritus, Tokyo University of Agriculture)

Kundo Koyama (Television, radio and script writer / Professor, Tohoku University of Art and Design)

4. Prizes

Top prize (one work): \$15,000 (USD; including design costs)

Award of Excellence (two works): \$3,000

*Top-prize work will be constructed on a site in Memu Meadows (Taiki-cho, Hokkaido).

Organizer: LIXIL JS Foundation

Cooperator: LIXIL Corporation Research Institute, Hokkaido Taiki Town

Supporter: Obihiro Development and Construction Dept. / Hokkaido Regional Development Bureau / Hokkaido Government Tokachi General Subprefectural Bureau / Architectural Institute of Japan / The Japan Institute of Architects (JIA) / Japan Federation of Architects & Building Engineers Associations / Shinken-chiku-sha Co., Ltd.

Official website: www.lixiljsfound.or.jp/category/1835715.html

Facebook page: www.facebook.com/LIXIL.IUAC

■ About LIXIL

LIXIL is a company operating on a global scale with the management vision: "Becoming a global leader in the housing and lifestyle industry." In 2009 it acquired American Standard Asia Pacific (based in China), which manufactures and sells sanitary ware. It also acquired Permasteelisa Group (based in Italy), which markets high-end curtain walls, in 2011 and American Standard Brands (based in the U.S.), well-known for its quality sanitary ware, in 2013. In 2014 LIXIL and Development Bank of Japan jointly acquired 87.5% of the outstanding shares in GROHE, thereby turning it into an equity method affiliate.

Contact Information

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