Meta(bio)lism
Exploring resilient ecosystems, Taichung, Taiwan

Main author
Tzu-Jung Huang, student, Feng Chia University, Taichung City, Taiwan

Project data
Project group: Landscape, urban design, transportation infrastructure and public utilities
Client: Local residents
Project background: Research project
Planned start: July 2016

Summary and appraisal of the project by the jury

Titled “Meta(bio)lism”, the project – more than the design of a building – is conceived as research platform exploring the relationship between human construction and natural ecosystems in the city of Taichung in Taiwan. Material stocks and flows are addressed at multiple scales, ranging from studies of local materials, such as clay, to the investigation of construction assemblies for roof structures at the building scale as well as examinations of urban patterns at the territorial scale. Of fundamental importance is the search for alternative proposals to current real estate development which, as stated by the author, “exploit nature instead of working with nature”.

Statements on the sustainability of the project by the author

Context
Located in the downstream of Gaoping River, Dashu town is an important mining source for kaolin soil, a high quality clay soil. In Taiwan, kaolin soil owes its formation largely to Gaoping River’s erosion of the weathered rocks at the upstream banks, which move downstream and eventually settled into the vicinity of Dashu town. This type of soil is particularly suitable for kiln industry, which has been Dashu’s primary industry but is currently in great decline. However, due to its great performance in dielectric properties, kaolin soil has recently found itself in a variety of cutting-edge applications in the manufacturing industry.

Inappropriate development
Unfortunately, the development of Dashu town through-out the history has been putting too much focus in exploiting nature instead of working with nature, which resulted in overdevelopment that encroaches into the flood plains, and consequently having to build embankments to protect these developments from flood plains, and consequently having to build embankments to protect these developments from flood disaster, but also because they obstruct the possibility for people from the township to mine the kaolin soil efficiently and develop a sustainable industry for the town.

Strategies and mechanisms
Meta(bio)lism proposes an energy and resource-reuse strategy as well as a masonry system which people can adapt under the effects of extreme weather, while creating new industrial opportunities for Dashu. The device of performative landscape in the proposal will not only redirect flood water, preventing flood disaster, but also allow mining of the Kaolin soil to be more efficient and sustainable. Through the intervention of Meta(bio)lism, the ecosystem will be restored to a sustainable balance over time, and people in Dashu will rediscover their relationship with nature: one that is both harmonious and prosperous.

Whereas the beauty and precision of the submitted drawings initially captured the attention of the jury, a closer look at the project revealed a deep sensitivity for social, technical, and environmental concerns – all combined and transformed into a stunning research for an architecture of the future in synthesis with natural metabolisms. The jury was impressed by the scheme’s exuberant deployment of architectural and technical means – both analogue and digital – to explore and broaden range of important themes relating to sustainable construction. This said, the jury argued that less might be more, recommending that the project could benefit from an economy of means, while maintaining its optimistic call for working with rather than against nature.