Growing Grassroots

Organic agriculture in Parung, West Java, Indonesia

Main authors
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Project data
Project group: Architecture, building and civil engineering
Client: Urban Poor Consortium
Project background: Private commission
Planned start: October 2016

Summary and appraisal of the project by the jury
The story of this project started a few decades ago. The Indonesia-based non-profit, non-governmental organization Urban Poor Consortium (UPC) acquired a piece of land at the edge of an existing village to protect local farmers from imminent eviction. Plans were recently made, with the support of local stakeholders, to transform the existing farmland into a training center for young farmers interested in promoting organic agriculture. Part of the initiative is to harvest local materials – such as bamboo – that is abundantly available in the area – in order to erect a number of farming and training facilities on site. Three aspects of the project were foregrounded during the jury deliberation process. First, the jury greatly appreciated the idea to use property – in this case, the purchase of a piece of land – as a form of counter-prise to uncontrolled real estate development that often compromises agricultural land in favor of urban growth. Second, the jury valued the initiative’s objective to promote organic agriculture, including measures to control water management on site and enhance soil fertility using sustainable methods of farming as a vehicle to encourage agriculture as a profession for young members of the community. Third, the jury valued that the above-mentioned concepts left their mark on the domain of sustainable construction, namely, the idea to use local materials, including bamboo, for the erection of new structures. All in all, the project demonstrates that sustainability can be brought to bear on a broad range of contemporary challenges, whether pertaining to agriculture, land rights, water management, community building, or construction.

Statements on the sustainability of the project by the author
Harvesting local materials as the main driver of architecture
We begin the design with the understanding of what material is abundantly available in the area. All bamboo was harvested from sites that were planted nearly 20 years ago. Its type, dendrocalamus asper, stretches 15 m long with a diameter of 15 cm, is native to Southeast Asia and suitable to be used as both structural members and finishing. The roof material "tule" (lined leaves of sugar palm trees) is also locally sourced, bought from local craftsmen. This material familiarity and appropriate technology allow for genuine involvement in construction and design by the members of the community.

Using roof to take advantage of high precipitation rate and budget constraints
High precipitation rate and budget constraints compelled us to focus on using roof as the primary architectural move, as it intends to do the following:
- Cover as large an area as possible to catch rainwater for harvest. The site is on a sloping hill, thus allowing for natural water movement from rainwater storage (at the community hall), to irrigate the farm, and to allow for cleaning and washing in the training center.
- In responding to the limited budget, construction strategy of building roofs earlier is to allow for flexibility in constructing the walls and floors later.
- Roof also keeps area shaded not just for people, but for animal herds.

Generating involvement with local members of villages, university and small organizations
Buildings alone will not be sufficient for the programs to work. The choice of using bamboo and starting an organic farm are ideas that were developed to allow for inclusivity and accessibility by local members of the villages, university and relevant organizations. We worked with Universitas Parahyangan in developing the prototype for the hyperbolic bamboo structure for the community hall, which will be open for use by the community. We also worked with a small farming start up, and will be together with members of the community, in developing an organic farming approach that is open to the community. That not only produces food for local consumption, but also products to be sold of which the income will be used to maintain the center.

Further author
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