In Vietnam, the natural phenomena are severe and various: storms, floods, sweeping floods, landslides, drought... The damage every year which is considerable compared to the GDP. The construction industry has to deal with extreme conditions and create the most suitable architecture.

A solution to houses and homes for millions of people is the goal of this B&B (Blooming Bamboo) house.

1. In the highlands, the community is a strong root to prevent the phenomena like landslides and flood. The community center and home are made of local bamboo, coconut leaf, and高标准．

2. In the coastal area, the community of 1-4 homes are made of G+G+G+ bamboo and coconut leaf in order to create a local, vernacular architecture.

3. The B&B houses can be integrated with the community and can be expanded as necessary.

4. One of the most interesting is the use of bamboo as a lightweight material to create homes that can be easily transported and assembled.

5. The bamboo houses are designed to be flexible and adaptable to the changing needs of the community.

6. The concept of low cost, flexibility, and fast self-build is crucial in this context.

7. The flexible use of space allows for various functions and purposes.

8. The concept is not only for housing but also for community centers, schools, and clinics.

9. The scope of rebuilding the community is a priority.

10. The result is the 1st prototype completed.
Bamboo is a significant symbol of Vietnamese people – the “green steel” of the 21st century. The solid, straight and high bamboo trees represent the resilience, indomitable and bravery to counteract the natural disasters. The body of the tree is often treated as a valuable material to build houses because it is not only stronger than oak wood and lighter than concrete, steel, but also eco-friendly. The productivity of a bamboo cluster is 25 times faster than a normal forest. Bamboo grows constantly, after 3–5 years it can be exploited without replant. The traditional treatment method is soaking bamboo in mud and smoking it, then bamboo becomes as durable as timber with average life expectancy 10–20 years. Bamboo can be connected by the lashing ties and drawsticks.

1 living room
2 vertical garden
3 open roof detail
4 outdoor terrace
5-6-7 options for dividing the space
When we researched for the flooding area, we determined to satisfy three criteria: low cost + fast self build + flexibility to widespread the application. The practical result is:
- Total materials and equipment cost for a sample house is 55 million VND (~ $2,500). The product is a 44m² space (when closed) and 62m² (when open), convenience for a family (6 people) living with natural disasters.
- Construction quickly and easily within 25 days. People can build up by themselves because the every components are modularized. They can also proactively prepare materials in place and gradually improve the house during living time according to their abilities.
- Ability to apply widely in easy circumstances consistent with the diverse, flexible use of space, can be mass-produced goods due to their modular and easily removable corn as well as replacement components, variety of roofing materials.

Blooming Bamboo Home
H&P Architects

The plan of 4 modular houses entirely made from bamboo is fully functional necessity for a 6 members family: living room, kitchen, toilet facilities, laundry, classrooms, worship space and place for sleeping/ rest. Water filter, water treatment system are set under the floor to take advantage of rain water and reuse it- first of all we need a fresh water supply in the house to use as temporary resource to use in the flooding season. Verandah and roof can expand to 4 sides to get the natural light and ventilation for the house. The surface of the wall with the wind trap are covered by vegetable trays in order to contribute the meal in flooding time.
With bamboo pole (diameter 8-10 cm and 4-5 cm), each house is simply assembled with bolting, binding, hanging, placing ... The structure is anchored, braced, strong enough to withstand natural disasters, exceeding the flood level of 1.5 meters. People will improve the cover for the house depending on the climate and the natural materials available at the site (4-5 cm bamboo wattle, plaited bamboo, coconut leaves ...) to create local architecture. This solution not only meets the functional requirements but also the requirements of sustainable economic and aesthetics.

1. mezanine
2. outdoor terrace
3. closed house
4. open house
5. roof detail