



Aga Khan Award for Architecture

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W I N N I N G P R O J E C T S

Arcadia Education Project

South Kanarchor, Bangladesh

Architect: Saif Ul Haque Sthapati, Dhaka, Bangladesh

Client: Maleka Welfare Trust, Dhaka, Bangladesh

Project description

After four decades of teaching in United Kingdom, Razia Alam returned to her home country of Bangladesh where she established a school for underprivileged children, using her pension funds.

When the lease on the existing premises of this school expired, its founder sought out a site on which to build. The budget restricted her choice to areas not well suited for development. Wanting the school to be near water, she purchased a riverside plot which, it turned out, is submerged in up to 3m of monsoon water for a third of the year.

Rather than disrupting the ecosystem to create a stabilised mound for building on, or erecting a structure on stilts that would have been too high in the dry season, her chosen architect – a lifelong acquaintance – devised the solution of an amphibious structure, anchored to the site, that could sit on the ground or float on the water, depending on the seasonal conditions.

The building footprint was levelled using retaining walls of sandbags with sand, earth and local brick infill, and used tyres fixed atop for cushioning. Bamboo posts sunk 2m into the ground serve as anchoring points for the school's various independent but interconnected rectangular structures: three multipurpose spaces used mainly as classrooms; office; open-topped platform; toilet/bathroom structure; septic tank and water tank structures; and a single corridor offering access to all spaces. Built of three types of bamboo, they are kept afloat by substructures of used 30-gallon steel drums within bamboo frames.

Chosen for its lightness and durability, the bamboo was purchased in neighbouring villages and drifted along the river to the site. That used for the substructure, anchoring posts and roof was chemically treated to remove any material that could rot. All other elements were waterproofed by applying liquid made from boiled local *gaab* fruit – a traditional Bangladeshi method. Most of the joints use a rope-tie technique rather than steel wire which would corrode. The classrooms' bow-arched bamboo roofs, allowing the spaces to remain column-free, required some prototyping to perfect. Aside from a few battery-powered drills, only



hand tools were used for the construction.

The carpenter who oversaw the construction and procurement had worked for the client over four decades. Now living nearby, he can attend quickly to any maintenance issues.

Jury Citation

At a time of rising sea levels, this modest bamboo school illustrates how to build an affordable and viable solution with locally available materials.

The approach to building the three-classroom preschool was to design a structure that rises with the river's water level and adapts to the surroundings – without altering the natural condition of the site and allowing for uninterrupted, year-long use of the building. Here the paradigm of the architect using his professional knowledge – yet thinking outside the box by adapting traditional methods – is remarkable, especially as the construction is modest and direct, without fetishizing craft.

Site-specific in its technological approach yet global in its solution, this low-cost, low-impact project was the outcome of teamwork between architect, client and builder, each of whom displayed resilience and innovation as they approached the social responsibility of building the school.

The modesty of the programme, the use of materials and the construction method are all successful parts of building this amphibious school through experimental and collaborative teamwork. Though simple and compact, the project resolves complex issues – of buoyancy, anchoring against the river current and waste management.

The Project strives to elevate people's lives, contributes to social and economic development, and provides a pathway to solutions for the global issues of rising water levels and access to education in rural communities.

Project Data

Client

Maleka Welfare Trust, Dhaka, Bangladesh:

Razia Alam, chairperson



Architect

Saif UI Haque Sthapati, Dhaka, Bangladesh:

Saif UI Haque, *principal*

Salma Parvin Khan, *associate*

Azka Eshita, Fahmida Akter Lira, Shayer Shafiq Rahman, Flora Roseline Nelson, Naheen Nurrudin, Rifat E. Khoda, Istiaque Ahmed, *study and design team working at different stages*

Mahadi Hasan, *construction supervision*

Arijita Areen Chowdhury, Mohammed Inteza Shariar, Mohammed Ashikul Islam, Monisha Momtaz, Nasheen Jahan, Muntakim Haque, Atkia Sadia Rahman, Abhijit Mazumdar, *as-built drawings, project documentation and maintenance team at different times*

Construction

Pran Bollov Biswas, *head of construction team*

Engineer

Sadat Hossain

Project Data

Site area: 486 m²

Ground floor area: 274 m²

Cost: 50,800 USD

Commission: November 2011

Design: December 2012 – December 2014

Construction: December 2014 – February 2016

Occupancy: March 2016

Saif UI Haque Sthapati

Saif UI Haque Sthapati (SHS) is an architecture practice based in Dhaka, directed by its principal Saif UI Haque and his associate Salma Parvin Khan.

Saif UI Haque was a partner of Dhaka-based architectural practice Diagram Architects from 1983 to 1996. In the latter year he started his own practice, Saif UI Haque Sthapati. Besides practice, he is involved in teaching and research. He is one of the founders of Chetana Architecture Society, Mongolbarer Shabha Lecture Forum and currently the director of the research and design programme at the Bengal Institute.



Salma Parvin Khan started her career at Diagram Architects and later became an associate at Saif Ul Haque Sthapati. She is also involved in teaching and research.

Saif Ul Haque's built works at Diagram Architects include Jalalabad Gas Company Housing, BRAC TARC Faridpur, the Banchte Shekha Training Centre, a camp-house for the French Archaeological Mission and Govinda Gunalanker Hostel. Salma Parvin Khan was involved in the camp-house and hostel projects. Since the founding of Saif Ul Haque Sthapati, both have been collaborating in the work undertaken by the practice, endeavouring to create buildings that connect site, tradition and modernity for consideration as cultural artefacts. Their completed projects include Govinda Gunalanker Hostel Extension, BAGHA Club, Nari Maitree Education Centre and Arcadia Education Project, and ongoing ones include a product design and development centre and workers' hostel , a multi-family apartment building, a folk art museum and a clothing factory, all in Bangladesh.