Learning from the earth

The story of Working with Anna Heringer in METTI projects

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It was while taking a Rural Architecture course in our fourth year at the Department of Architecture, BRAC University that I first realized that this was the area in our profession that most interested me. We were asked to go back to our own individual villages and study the socio-economics and architecture of the place. I discovered in my village, that illiteracy, poverty and many other social problems were becoming a hindrance to progress, taking the village and its people forward. It was the first time that the close link and interdependency between architecture and social norms and conditions was revealed to me. The men in my village were sitting at home, gambling or resigning to a life of laziness, crime and disease while the women left with no alternative were going out to work. We are taught that architecture is for everyone but it was only when I saw these conditions first hand that I realized the scope of our work went far beyond the mere arrangement of spaces and functions to give life and hope to people.

Some months later, Anna Heringer came to lecture at Chetana and Architect Ehsan Khan, who was my thesis instructor at the time and at whose office I interned the term before, called and asked me to attend. Inspired by her work and intrigued by the novelty of what she was trying to do, on an impulse I told Anna that I would like to work with her sometime. She said she would let me know if something came up. Only a few months after, student volunteers from BRAC University, under the guidance of Architect Hasibul Kabir, one of our faculty went to Rudrapur village in Dinajpur where Anna Heringer's school complex was being extended. I went as one of the group and began what would be one of the most defining experiences of my life.

The first weeks

Adjusting to living and working in Rudrapur those first weeks was very difficult. Familiarizing ourselves with the people working on the project, the environment and the work itself took some time. Firstly, the work was very demanding. During the day we had to work with the laborers, cutting the earth and preparing it for construction which was backbreaking work. In the evenings, instead of resting like the laborers, we had to work on the designs for the few houses we were designing in the village in groups. Coordinating the design process and the physical work was difficult to adjust to.

Five Austrian architecture student volunteers as well as others in several related disciplines from Germany came to work with us in Rudrapur which added another dimension to our communications. They came with their own concepts and ideas about what they wanted to do and they were not always consistent with what we wanted. It took us a while to get on the same wavelength before we could all coordinate our efforts.

Once everything was organized between ourselves there were problems in dealing with the clients, the villagers for whom we were designing and building the houses. They had fixed ideas about how houses should look and be built and it took some time to explain to them what would be ideal for us to do. Sometimes, when we designed a particular feature for one of the houses, for example, circular windows, and the client agreed with us, all the other clients wanted the same thing. They began to think that that was the best option for them as well whereas our aim was to try something different at every one of the sites. The laborers working on site also needed some guidance. Most of them had worked on the METI school site with Anna Herringer and since they had more experience in this kind of work than us, they thought it gave them an upper hand on things so dealing with them required a certain amount of negotiation. Finally, when all else was settled, our work was still heavily dependent on one other all encompassing factor- the weather. Sometimes, when we had everything ready to begin work on something for instance the foundations, etc. we would be delayed by rain or a storm. This was disappointing but gave us a feel of how construction work is actually executed in the villages and the circumstances and situations that the builders have to deal with.

Changing roles

It was a few weeks into the project when I was finally getting the hang of things when I fractured my arm on the field and could thus no longer work on the construction sites as hands- on laborer. As I was very keen to continue working on the project and see it through to the end of construction, Anna assigned me instead certain other duties besides construction work. We sat down and formulated a new scope of work for me and I began a new journey, this time as an on-site manager. The laborers needed constant attention because otherwise we would be risking their own interventions in the work. Among the laborers themselves, one Ramesh Da, tipped me off as to the patterns followed by the laborers during a whole day's work. The work is backbreaking and could get monotonous if the same person continued doing the same thing throughout the day. The trick is to keep switching jobs every now and then, moving the laborers from task to task and talking to them and motivating them. Also, towards the end of the day, they tend to get tired and eager to finish the work and get on home or to the bazaar to buy groceries, so I learnt to give them less demanding, lighter tasks during those last hours at work. Managing labor gave me an insight into public relations and also a renewed respect for the lower strata of workers in the design process without whom, no structure can be brought to completion.

As manager on-site, my duties included not just ensuring the quality of work of the laborers, but also the quality of materials. This enhanced my understanding as well as knowledge of indigenous materials, particularly bamboo. I learnt that bamboo selection for our site depended on three factors, the thickness of the bamboo, how straight the bamboo is (we only used evenly straight bamboo on our sites) and the maturity of the bamboo (a bamboo matures in 3-4 years).

The storage and movement of the materials also had to be overseen, as well as whether or not the labor showed up on time each morning. I could thus not engage in any activities late into the night, even designing, as I had to report with the laborers early each morning. In addition to other duties, I had to oversee the smooth running of all processes on site, sometimes acting as interpreter between Anna and the workers, sometimes, finding ways to cut down the running cost of the work through time and resource management. We tried to stick to using local materials,

sometimes even when they were not the best options in order to cut down on the carrying cost. For example, we opted for local bricks instead of good quality brick from Dinajpur town and local wood (Jam Kath) instead of Teak from the town. This saved a lot of time as well. At times, small problems like chemical leaks, etc delayed our work considerably and it again fell on me to come up with an inexpensive, quick solution to the problem. The experiences taught me to not just work with earth and bamboo using local technology, as I had hoped, but also to work with people in real situations where sometimes our textbooks and formal education cannot come up with any answers. We have to then rely on sheer instinct and imagination.

Learning the ropes

Organizing the laborers into evenly skilled groups was a challenge throughout the project. Initially, the laborers working on the METI school were trained by the NGO Deepshikha to work with these particular materials and technology and the new laborers brought into the new projects were grouped with the old workers to train them through working together. The idea was to spread the technology throughout the area through training more and more laborers in the techniques. Noble though the idea was, it came with its own set of drawbacks. The younger workers were meticulous and could work longer hours but had relatively low skill compared to the earlier trained workers. So they had to be closely guided by the highly skilled laborers and work in close association with them. Among the laborers there was also constant rivalry and competition. Initially some bamboo laborers showed interest in earth work and when given the opportunity showed considerable finesse in handling earth, thereby making the earth laborers jealous of them. Laborers were also found to form groups on their own based on their prior alliances, etc who competed in their work against one another. As manager, I decided to use this competition to our benefit, offering to give prizes such as tea and snacks to the group whose work was most complete and neat. It proved to be a good way to motivate the laborers and manage them while Anna was away from site on a short trip to Germany.

Learning from our mistakes

In the DESI site as well as the houses, all the small mistakes made during the METI school construction were consciously remedied. The METI school won the Aga Khan Award for Architecture and created an image that everyone was inclined to imitate. However, our objective was to learn from the first project and create different and even better solutions in the following projects. This was not always an easy motto to follow given the impression that the METI school had already made in the minds of all laborers, villagers and others concerned. In the METI school, nylon ropes were used to tie the bamboo joints. But it was found that the sun burns the nylon off the joints. So in the following project we used nylon along with coconut threads in the interiors as much as possible and used stainless steel wires for the exterior joints. The first project also used untreated bamboo which posed many problems eventually so the bamboo for the later projects was treated with various chemicals to make it more durable. Also, in our projects we were particularly conscious about each layer of the earth wall drying completely before another layer is built on top of it as wet layers attract termites. For the first time, Ferro cement was introduced in the foundations of the houses to keep rodents from destroying it. Also, this cuts

costs as it is cheaper than brick. The lime plaster used to line the borders of the openings had no pores in it which didn't allow room for changes in the earth during season change. As the earth expanded or contracted, the plaster was caused to crack in places. In the new buildings, we made pores in the plaster and also used fine jute fibers in the mix to make it a more flexible component of construction.One of the main drawbacks in the first project was that the toilet had to be kept separate from the main school building. But this time, since the toilets were incorporated in the same structure in the DESI project, we had to go into designing the plumbing as well as the water supply line. We also gave considerable thought to landscape design which was also new to Rudrapur. We involved the DESI and METI school students in the process to give them a sense of ownership.

Humility, teamwork, success

Through the project, we found the people of rural Bangladesh to be very simple minded, honest and receptive in nature. Most of them have no formal education and learnt their skills through working with others in the trade and they are always open to new ideas, sometimes more so than their educated, urban counterparts who are too aware of too many trends to take risks and explore a new one. If one can truly make these villagers understand the overall impact of the work on developing the villages or taking the place forward into the future, they are willing to put everything into their work to make it successful. My work brought me in close contact with people of many walks of life, expanding my horizon of experience and knowledge beyond anything I had hoped to gain initially. I learnt from the laborers, I learnt from garment workers, I learnt from those who will someday occupy the buildings we designed. But perhaps the means of communication and learning that were revealed to me are even more important than what I have gained from the project personally. Intermingling with the villagers, listening to their problems and learning from their experiences, without trying to impose our ideas on them made them comfortable to share with us their knowledge and skills and receive what we had to offer in design and thought. It is not a coincidence that Bangladeshi rural architecture has come to survive time, natural disasters and many other hurdles to come to a state of perfection, albeit a temporary one. The laborers, wood workers, earth cutters, potters and bamboo workers of Rudrapur and Dinajpur have been working with these materials for generations on end and have gained an expertise that we can only hope to achieve someday. Their ancestors have designed the terracotta tablets of the Kantajeer Mandir. They have so far only known to work in a particular traditional manner but given the right direction and training, their skills could be developed to produce incredible results for the future.

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