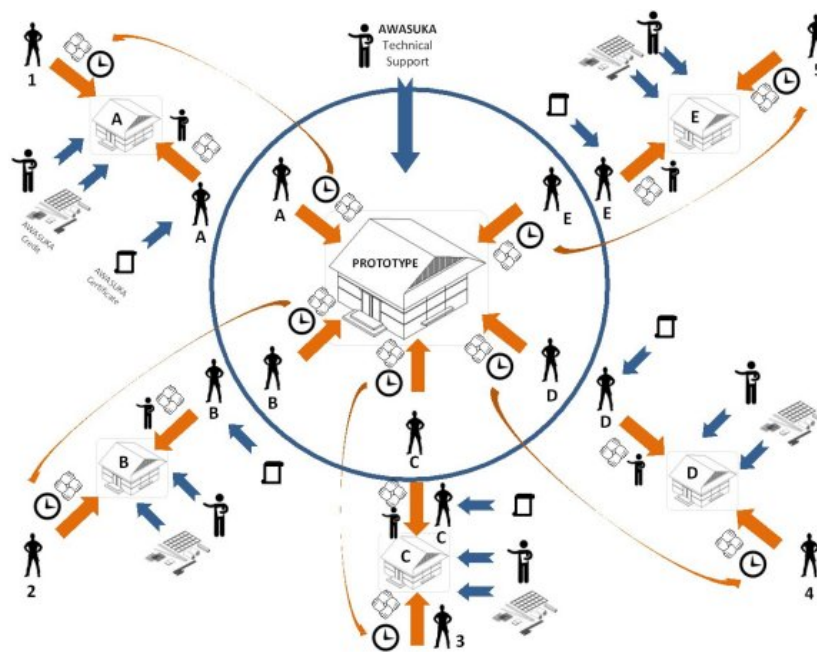


Bhimphedi AWASUKA, one year and a half

An earthquake is not a natural disaster, but the bad adaptation of man in front of a natural phenomenon. Pedro Lorenzo, Ph.D. Architect

The word Awasuka stands for the initials of the Nepalese words *Aawaas Sudhar Karyakram*, which mean *Habitat Improvement Program*. It is developed by three organizations: Amics del Nepal, Base-A and CCD (Centre for Cooperation and Development) at UPC University. In this joint venture that began back in July 2015, Amics del Nepal provides the knowledge on the country, Base-A architecture and cooperation experience and UPC logistical support of the displaced expats, as well as an expert's advice on cooperation.

The program's main objective is to strengthen the villagers and empower them with technical, social and economic expertise, so they can better respond to future earthquakes. During this first year and a half of the program running, **technical** expertise has been transmitted through prototypes construction, productive workshops organization and weekly theoretical trainings. Once the prototypes are completed, the villagers' houses will be rebuilt and Awasuka will provide technical support, one mason per home (work leader) and a credit for materials. This enables the program to be sustainable **economically**, since the villagers will return the cost of materials and this money will be the basis for the revolving credit fund, which will make this program accessible to more people. The **social** organization is enhanced through various actions: doing social workshops for families, fostering the "learning wheel" (beneficiaries who are apprentices in the first round of construction, can be teachers in the second round) and involving women to contribute in decision-making and knowledge transfer. For example, three women are currently working on the prototypes. One of them is progressing well and will soon be promoted to "Mistri", a job category that in Nepal is usually held by men only.



The Awasuka "learning wheel"

As secondary objectives, the program is developing activities to solve other problems related to the habitat: water treatment (workshops and awareness programs), improved latrines and chimney construction to achieve healthier kitchens. These activities are developed in specific workshops held by specialized local trainers.



Trainings and activities on water treatment and chimneys construction.

The program is carried out by a team of people working from Barcelona and Nepal. To understand in a better way what is being done from each side, the following summary explains what has happened during the program's first year and a half.

1. WHAT HAS BEEN DONE IN NEPAL?

Formalities with local partner

After identifying Awasuka's local counterpart (Agragaami Agricultural Cooperative), the paperwork started in order to legally operate with them. According to its bylaw, Agragaami works to foster the savings culture within the population (saving is not a common habit in Nepal), to grant credits to its members, to provide them with fertilizer at better prices and to improve the conditions of their environment. In September 2015, during its annual assembly, Agragaami members approved to host Awasuka program under their organization. Then the legal documents were collected and translated, in order to sign the appropriate agreements. Plus, regular meetings were established in order to develop the program.

Research activities

Certainly, an enormous amount of work, but with a very small visible impact. The site has been studied from various perspectives: technical bibliography existing in the country and the current regulations; investigation of available local materials, including prices and dimensions; used tools and techniques, the site's geology, in order to better understand which areas required most the urgent interventions; mandatory documents for cooperative loans; information about mutual aid cooperatives (taking Latin America as a reference and adapting it to Nepal), etc...

One curious note about these research activities in Nepal is that everything must be done in person. Phone orders and information requests are not accepted, they always ask you to go there and visit them. Once there they make you sit back, offer you some tea, and only then you may start to talk about whatever you are interested in. This is a characteristic of the Nepalese culture which makes things work differently. A waste of time? Maybe yes. But the human warmth you get is more intense and much higher than here.

Program Dissemination

There have been presentations of the program in different Bhimphedi communities to spread it amongst the villagers. An effort has been made to use graphic language, so that the concepts were more understandable for local people. And in the end, these presentations have also been very useful here, to explain the program to the funders.

Through Agragaami, the program has also been presented at Bhimphedi VDC (equivalent to the Town Hall) and at the Makawanpur DDC (district government), and the prototypes have been approved by the government engineer.

Outside the village environment, the program has also been presented in other official organisations such as the National Association of Engineers (NEA), the universities of Kathmandu (KU) and Tribhuvan (TU) and the Rotary Club Kantipur, which is also one of the program's collaborator. In the case of NEA, Awasuka presented one of its prototypes to the rural housing competition that NEA organized right after the earthquake.



Awasuka Office in Bhimphedi

Awasuka spaces in the village

Turning now to more visible work, it is worth to highlight the **office** set up, including the internet connection, a printer, the furniture design, the poster, the logo design, the graphic material and the establishment of the office schedule and work protocols. Awasuka shares Agragaami's office, located in a public building that hosts spaces for many organizations, and because of that no rent is paid. Apart from the office, there are two more Awasuka spaces in town: a **warehouse** for materials and a production **workshop**, for which a monthly rent is paid.



Awasuka workshop in Bhimphedi



Local Engineer

Since the beginning it was found advisable to hire a nepali engineer who would be trained to be able to give continuity to the program in the future. This figure was also important as a constant reference point in the village, since the volunteer teams change every four months. But in Nepal, the reality of engineers and other graduates (doctors, etc ...) is quite different: they have no interest in working in rural areas. However, we decided to try it, and we hired an engineer. But after six months, he decided to leave the program and go to work in the city. Seeing this result, the current program's will is to empower committed local people who are interested in learning and are willing to stay in the village.

Expat Cooperators

Last year MD and BD Architecture students stay in the field for 4 ½ months, usually in teams of 2-3 people. Each team overlaps for 15 days with the next team, in order to transfer relevant tasks and information. The general coordinator visits the team every three months and stays there for 1 month. Finally, there is also another expat for accountancy follow up, who supervises expenses bills once a week, along with the expat cooperators.

2. WHAT HAS BEEN DONE IN BARCELONA?

Teams Coordination

Teams of technical volunteers working in the program are selected every academic year, after the briefings done in the different Architecture Schools. Secondly they start joining the weekly meetings, twice a week during the academic year and once a week on vacation. But the two coordinators (general and technical) are always available for daily consultations from Nepal team.

Cooperation Advisor

He meets the team once a week. Provides overview of the program and describes the direction to follow. Sometimes in the form of insights, sometimes in technical drawings, sometimes in a model... but always giving light and meaning to what is being done.

Collaboration Protocols

The teams work online, using an information cloud which, in a year and a half, has already been saturated with data. That's why an effort has been done to sort it out properly and to create some working protocols so that everyone acts the same way, trying to simplify the job to the fullest. This section is also a major invisible work.

Coordinators and Volunteers Tasks

The coordinators do very different jobs besides the supervision of volunteers' work in Barcelona and Nepal: administration tasks, agreement drafting, funding projects, expenses justifications, Skype weekly meetings with field volunteers, coordination meetings, program presentations for the program funders (already done in: Caldes, Barcelona, Kathmandu, Sweden and Mallorca) and whatever is necessary...

Students focus on developing and updating the prototypes design, as they are in constant evolution: drawings, posters, prints, presentations, building manuals, 3D models, growth schemes, etc... They are also engaged in trainings and workshops preparation, requested from Nepal.

3. THE THREE PROTOTYPES: STONE, WOOD and BLOCK

The choice of the technologies to be used in the three new construction prototypes meet several criteria: initial analysis of traditional architecture, the possibility of improvements and the availability of local materials. Thus, rebuilding and retrofitting the earthquake affected houses, is always done according to a country appropriate technical criterion and to local possibilities.

The first prototype to be chosen was the **stone and mud** one, which is the most common technique used in the rural areas of Nepal. Local materials were available everywhere. By doing this prototype, it was intended to improve a number of structural issues that traditional architecture did not solve, despite having many antiseismical features already.



Stone and Mud Prototype, future building for changing rooms and other facilities for the sports court.

Next, it was decided to build a second prototype: an **emergency shelter**, because they are very precarious and because people often end up living in them during several years. This shelter was chosen to be built in timber used for formwork, so that the **wood** was as cheap as possible. It is a prototype based on detachable modules, which can be built very easily.



Cheap Wood Prototype, minimum house for Maia Didi, caretaker at Balmandir Children's Home.

The third prototype was decided to be a **concrete block** house, since this material exists in the village, but it is not used properly. In this case, it has been planned to use the "confined masonry" technique, a very cheap antiseismic technology used around the world, but which Nepal's government is not diffusing.



Concrete Block Prototype, minimum house for Santamaia Didi, caretaker at Balmandir Children's Home.

Parallel to the new construction prototypes, a **retrofitting** prototype was also done. In this case, technical support was given to a family who decided to repair and strengthen their stone and mud house. This type of intervention is not included in the government help program, so Awasuka has decided to fill this gap.



Retrofitting Prototype, stone and mud. Repaired and retrofitted house, Pradhan family.

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Awasuka teams of Nepal and Barcelona.



DEVELOPERS CONSORTIUM



Amics del Nepal. General Coordination, local infrastructure and accountancy



Base A. Technical and volunteer cooperators Coordination



CCD-UPC. Expert Advisor in Habitat Improvement Programs and Cooperatives
Program support on trip expenses for volunteer cooperators



Agragaami Krishak Krishi Sahakaari. Counterpart. Agricultural Cooperative: local organisation and social dissemination

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FUNDERS

