



### BHIMPHEDI AWASUKA, TWO YEARS AND A HALF

*"The practice of architecture is the most delightful of all pursuits. Also, next to agriculture, it is the most necessary to man. One must eat, one must have shelter"* Phillip Johnson

This is how Phillip Johnson began his acceptance speech for the Pritzker Prize in its first edition, in 1979. This sentence, pronounced almost forty years ago, has a lot to do with our program. Nepal is a country with very strong agricultural grounds where these two human activities, which Phillip Johnson considered so necessary, are closely related. Farmers are the main beneficiaries of the Awasuka program. For this reason, anti-seismic houses are also designed to maximize their functional features for the practice of agriculture.

Since the beginning of the program, two and a half years ago, Awasuka habitat improvement program has been carrying on its work within its technical, economic and social objectives. And last year, besides continuing our construction works in Bhimpheedi, we have also achieved certain milestones with the Government, which initially seemed impossible to obtain.

#### WOOD PURCHASE TO THE GOVERNMENT

The process to obtain the authorisation to purchase wood from the government sawmills was started in December 2016. In these sawmills, Sal Wood (the best and hardest one) is much cheaper than in private sawmills. For the stone and mud prototype, a lot of wood was needed, so we decided to start this application process without knowing that it would last until April 2017. But even though the works got delayed due to this process, in the end we were able to finish the building with considerable savings. The contribution of Rotary Club Kantipur and Hetauda were crucial in this adventure.



Construction process of the stone and mud prototype with a great use of wood in its internal structure.

#### THREE COMPLETED PROTOTYPES: Block, Stone and Wood

Once the three constructions were completed with different anti-seismic techniques (confined block masonry, stone and mud, and prefabricated wood panels) conclusions have been drawn. The experience of building these three models has allowed us to find the most appropriate technique for our surrounding background. The confined block masonry was chosen for the following reasons: the most inexpensive material, the faster execution and an optimal thermal performance. It also represented a good chance to improve the technical knowledge of the local masons (mistris) and the quality of the block local constructions, which is still very precarious.



From left to right: block, stone and wood prototypes respectively.

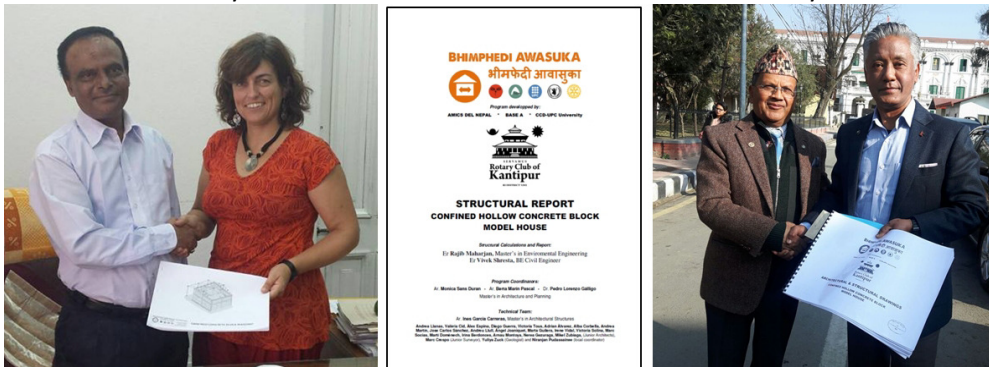


### GOVERNMENT APPROVAL FOR THE AWASUKA MODEL

After the earthquakes in 2015, the Nepalese government published two catalogues of anti-seismic prototypes so that people could adopt them without paying for an engineer. The first volume included traditional techniques: stone and mud, stone and cement, brick and mud, brick and cement. The second volume was a collection of different techniques from various agencies and local and international NGOs. Only one of the prototypes from the second catalogue contained confined block masonry, using a slightly different technique from ours.

From Awasuka we proposed a confined block masonry house typology which was more adapted to rural life-style and was made with simpler and cheaper construction materials. For this reason, we decided to submit our house model to the government, so that it could also be used in the rest of the country. In addition, our prototype's approval would also allow our beneficiaries to receive the government financial aid. The procedure began in early July with the first meetings between Awasuka coordinators (Amics del Nepal, Base-A and CCD-UPC), NRA engineers (Nepal Reconstruction Authority) and Rotary Club of Kantipur members (our local partner). After many meetings, documentation deliveries and seismic structural calculations (by a Nepali engineer), we obtained the government approval by the end of January 2018. This would not have been possible without the drive and arrangements from Rotary Club Kantipur.

The government was very pleased with Awasuka's working system, and especially for being able to provide technical assistance in rural areas through technical volunteers. That is why they announced that they would come to visit our work in the field shortly.



Left and right images are seven months apart: the time taken by the approval to be obtained.

### AWASUKA CERTIFICATES DELIVERY

On July 21, 2017, we issued certificates to those workers who had been working with Awasuka for a year and who had learned correctly the anti-seismic techniques in stone, wood and block. The award ceremony was held in the multi-sports ground next to the stone prototype and it was attended by the recently elected president and vice president of Bhimphedi's new municipality, the president and other members of Agragaami Agricultural Cooperative, our Rotary Club Kantipur partners and Amics del Nepal, base-A and CCD-UPC coordinators.



Delivery ceremony of Awasuka certificates. Right: Pedro Lorenzo giving a certificate to a worker.





### THE HOUSES IN SUPIN

Supin was the most damaged community of Bhimpheedi during the earthquakes of 2015, that's why it was decided to build the first houses in this place. However, the beginning of works was delayed due to the slow government approval process and to the unexpected workload the drafting of credit implementation agreement implied. The latter, which was to be signed between the two Nepalese entities (Rotary and Agragaami), was drafted with the help of Rotary Club's legal adviser and the credit management was designed in a transparent, agile and effective manner.

The works finally began with the foundations' construction. Thanks to the confined block prototype, all beneficiaries will be eligible to receive government assistance, which is currently 4 lakhs (400.000NRS). In Supin, five normal houses and two social houses are being built. Subsequently, six additional houses will be retrofitted, among which a social house, to ensure that they all have an anti-seismic performance.

After some months of slow administration processes, the works are now going very fast and there's a big workload ahead. For this reason, it was decided to increase the last turn's technical volunteers' number from two to three. By doing so, we expect to give a better response to the huge amount of work.



Supin houses foundations running smoothly and quickly.

### ACKNOWLEDGEMENTS

We would like to express our most sincere gratitude to all the people involved in this program from the different Catalan and Nepali organizations for their commitment, as well as the funders for their trust.

# BHIMPHEDI AWASUKA



## भीमफेदी आवासुका



### DEVELOPERS



**Amics del Nepal.** General Coordination, local infrastructure and accountancy



**Base A.** Technical Coordination and Technical Volunteers



**CCD-UPC.** Expert Advisor in Habitat Improvement Programs and Cooperation  
Financial grants to the program covering travel expenses for technical volunteers



**Agragaami Krishak Krishi Sahakaari.** Counterpart. Agricultural Cooperative: local organization and social diffusion



**Rotary Club Kantipuri.** Local Partner. Government procedures, legal advice, local coordination.

### COORDINATION

**General Coordinator:** Mònica Sans, Architect and Singer – Amics del Nepal

**Technical Coordinator:** Berta Marín, Architect - Base-A

**Expert Advisor:** Pedro Lorenzo, PhD Architect - CCD-UPC

### TECHNICAL TEAM

Nerea Gezuraga, Mikel Zubiaga, Andrea Llanas, Valeria Cid, Àlex Espina, Diego Guerra, Victoria Pous, Adrian Álvarez, Alba Corbella, Andrea Martín, José Carlos Sánchez, Andreu Llull, Angel Joaniquet, Victoria Solina, Marc Socias, Marta Guilera, Irene Vidal, Martí Domènech, Anna Gonzalvo, Irina Berdonces, Arnau Montoya.

**Topography:** Marc Crespo. **Geology:** Yuliya Zuck. **Water Biologist:** Eva Pubill. **Journalists:** Sara Barrera and Xavier Clarà. **IT:** Carles Turró. **Coordinators' Accommodation:** Bhupendra Man Pradhan.

### CONTACT

**Base A Blog (weekly articles):** <http://base-a-org.blogspot.com.es/search/label/Nepal>

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