

ECO-FRIENDLY BRICKS AND DESASTER RESISTANT HOMES MADE BY BUILD UP NEPAL

Since 2015 the social enterprise [Buildup Nepal Engineering](#) provides innovative machines and technology allowing local entrepreneurs to produce eco-friendly earth bricks and earthquake resilient homes in rural areas of Nepal.

The [CSEB – Compressed, Stabilized, Interlocking Earth Bricks](#) are produced in the villages, using local materials (sand, soil) and only 10% cement. They are consolidated by pressing and used as an alternative to fired bricks, allowing to reduce CO2 emissions. These bricks are high-quality and low-cost. The construction technology adopted and transferred to the local enterprises allows to build disaster resistant homes and schools, environmentally friendly and 25% cheaper than current buildings.

In the [Climate Friendly Construction section of the webpage](#) the data illustrating the great advantages for the environment of the building system using CSEB Interlocking Bricks technologies are presented.

Since 2015 Build Up Nepal provides driven micro-entrepreneurs with low-cost machines, training and support to establish long-term sustainable construction enterprises. By combining these three aspects, this social enterprise has managed to generate the following results in the rural areas of the country: 250 construction enterprises involved in 300 villages, 4,500 houses built, 2,500 new jobs created and 20,610 tons CO2 saved.

In 2020 Build Up Nepal was one of the innovations winning the [United Nations STI Forum](#) for its work enabling local enterprises to build safe homes, creating jobs and reducing CO2 over the long-term. In 2020 Build Up Nepal was also recognized as one of the 11 winners of the [International Ashden Awards](#) for backing green building entrepreneurs. In 2020 Bild Up Nepal also won the [If Social Impact Prize](#).

The social enterprise was created to help address the dramatic situation of the country, after the 2015 earthquakes followed by severe flooding that had destroyed more than 800,000 homes, as a support to rural communities that needed skills and appropriate technology to build safe earthquake resilient homes. Supported by an experienced entrepreneur of a Swedish engineering firm, the social enterprise was created in Chakupath (Patan Dhoka), and its team today consists of 24 professionals including managers, engineers, and social mobilisers, all committed to further improving their technology and scaling up the social impact.

Build Up Nepal provides local entrepreneurs requiring their support with the following machines and training activities useful to establish sustainable construction enterprises.



Machines and technology

The innovative machines and technology designed and constructed by Build Up Nepal allow to produce with local materials the Compressed Stabilized Interlocking Earth Bricks (CSEB), consolidated by pressing and used as an alternative to fired bricks. The machines are made of quality steel and developed for maximum efficiency, being able to produce at high capacity even in remote areas. In particular [the enterprise provides the following models](#):

- CSEB Single mould machine. A low cost, easy-to-operate, highly efficient machine suitable for remote locations, with a capacity of 600 bricks per day;
- CSEB Multi mould machine. Suitable for commercial entrepreneurs, allowing to exchange moulds to make pavers and different size of bricks to supply wider market, with a capacity of 800 bricks per day.
- CSEB Hydraulic machines. Suitable for commercial production with a capacity of 1600 bricks per day, operates on 3-phase or single-phase electricity. Moulds can be exchanged to make different size bricks and pavers.

Training for making bricks

Build Up Nepal supports with on-site training the interested enterprises in using the machines for making CSEB bricks using local materials. The training includes all issues and skills to make quality bricks, as soil test and mixing, how the machine operates and its maintenance, efficient production and quality control. The activity also includes a business training for running an efficient local enterprise.

Training for building

Build Up Nepal supports local enterprises to design buildings with CSEB interlocking bricks and at the same time by accompanying them in the construction of the first house or school. The main themes of training concern aspects such as: theoretical principles and disaster resistance, walls and beams (brick laying, beam casting, quality control and all aspects of wall construction), how to build loadbearing structures (design principles of building and guidelines). The activity also includes training of the local enterprise for an efficient production at wide scale and business management.

The following goals are planned by Build UP Nepal for their future work in the country, scaling up the use of their innovative technology:

- Support 600 villages starting micro-construction enterprises to enable low-cost and safe earthquake resilient homes.
- Build 25,000 houses in collaboration with local entrepreneurs and partners.
- Create 6600 long term and qualified jobs in rural areas with focus on women, youth and disadvantaged groups.
- Save 115,000 tons of CO2 emissions by replacing fired brick with eco-friendly Interlocking Bricks.

By the years, [Build Up Nepal has also opened an international level of activities](#). Their team is equipped to provide high-quality machines, training and technical support worldwide, helping small enterprises to start production and building with Interlocking Bricks. The main components of interventions and training methods are the same as those adopted in Nepal, adapted to the different contexts. Working with the support of many international organizations, they have trained more than 300 teams in production with CSEB Interlocking Bricks and 1200 masons in construction in different world countries.

The website invites all interested actors [to establish contacts and collaborations](#).



To know more

[Build Up Nepal website](#)

[Build Up Nepal in Facebook](#)

[Build Up Nepal machines and training](#)

[Build Up Nepal projects](#)

[Design Catalogue 2016](#)

[Build Up Nepal in stiforum4sdgs.globalinnovationexchange.org](#)

[Build Up Nepal in Ashden Awards website](#)

[Build Up Nepal in ifworlddesignguide.com](#)

[Build Up Nepal News](#)

[Futures-project.org website](#)

[Engineers without Borders Sweden website](#)

[Article in globalcement.com](#)

