



Pakistan Straw Bale and Appropriate Building

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Pakistan Straw Bale and Appropriate Building (PAKSBAB)

is a nonprofit organization created in response to the Kashmir earthquake that devastated Northern Pakistan in October 2005. Our mission is to adapt, apply and transfer straw bale and other appropriate building methods to protect and improve the lives of the poor, especially in earthquake and extreme weather regions of the developing world.

Straw bale construction uses straw, an agricultural byproduct, compressed and tied into bales, as building blocks. Currently practiced in many developed countries, it offers numerous benefits, including energy efficiency, the use of natural non-toxic materials, and resistance to earthquakes, fire and pests. However, similar to modern conventional building methods, it typically requires the substantial use of energy intensive and high-cost materials, skilled labor, and complex tools and machinery, making it largely unaffordable for the poor.

In response, PAKSBAB has developed simple, unique, low-cost systems that utilize indigenous renewable materials, local labor, and adapt traditional building techniques. Our houses are up to 80% more energy efficient at about 50% of the cost of conventional earthquake resistant construction. Since straw bales suitable for building are not available in Pakistan, we have developed a baling system from locally fabricated compression moulds and manually operated farm jacks. Additionally, because the primary materials are locally available and affordable, grassroots industries can be created to serve the needs of those without homes and empower those who provide them.

Additional appropriate building methods that PAKSBAB is promoting include passive solar, rainwater catchment, high-efficiency cooking and heating, and the use of sustainable and natural materials such as light straw clay and cob.

To date, PAKSBAB has built 11 straw bale buildings in Pakistan's North West Frontier Province. Our 2006 pilot project was a straw bale women's community center in Jabori, followed by a residence / training course in Hillkot. In 2007, we collaborated with the organization Salamat-e-Hazara on a residence / training course and subsequent 3-house project. In 2008, we initiated our Community Participation Program (CPP), through which we build houses for those in need while engaging the beneficiaries in the construction process, completing three houses. In 2009, we constructed two employee residences at the Bach Christian Hospital in Qalandarabad and are currently conducting a CPP training / 6-house project.

PAKSBAB recently completed a successful shake table seismic research project at the University of Nevada, Reno, with support from the Network for Earthquake Engineering Simulation and the Earthquake Engineering Research Institute. The house survived 8 levels of increasing seismic shaking and a final acceleration of 0.82g without collapse. For more information please visit the research page on our website.

Tax deductible donations make our work possible and can be made payable and mailed to our supporting partner Builders Without Borders (www.builderswithoutborders.org), 119 Main Street, Kingston, NM, 88042, memo: PAKSBAB.

For more information, please contact one of us below:

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Jabori Straw Bale Women's Community Center, 2006