The Housing & Building Research Institute (HBRI) started work on the research and development of an eco-housing project in Bangladesh aimed at developing prototype houses suitable for primarily rural areas and one unit for urban localities. In this regard it paid attention to achieving green technological goals applied in the building sector. Amongst the goals were strategies to develop various new and improved applications of traditional building materials and technologies incorporating a large component of green and sustainable civil construction that is environmentally better performing and more sustainable than typical conventional construction methods and techniques. In addition it tried to incorporate design strategies for passive energy use to maximize user comfort. At the same time it incorporated alternative energy technologies biogas for cooking, solar panels for electricity generation and wind turbine for harnessing wind energy potentials. It also incorporated rainwater harvesting to supplement drinking water requirements with a potential goal to mitigate arsenic related ailments developing in various regions of Bangladesh. The experimental project was started in 2007 and completed in 2009 and was executed at the experimental site within the HBRI campus in the Mirpur area of Dhaka. There were five different unit types that were brought under this study. These included better performing roofing technology, wall materials and climatically more responsive construction techniques such as flood resilient plinth construction, firmly anchored roof structure, chemically treated bamboo and stabilized clay, as well as rattap bonding and recycled concrete block housing. This paper describes the various green technology goals and how they were achieved in the design and construction phase of this project. Then it justifies how these goals were appropriate to address the present day energy and climate related situation particularly confronting the rural housing sector in Bangladesh. Even though, most developed countries follow a primarily urban area based eco labelling tools with an emphasis on achieving green architecture in urban centres, this project the goals of eco-settlement in Bangladesh and extends the principles in the case of rural housing. This paper charts out a brief description of the project.

**Key words:** Eco-Housing, Sustainable, Eco-Design, Green-Construction, Alternative Energy.