COMPARATIVE STUDY ON ALTERNATIVE SHEAR LINK ARRANGEMENTS TO ENHANCE THE SHEAR CAPACITY OF BAMBOO REINFORCED CONCRETE BEAMS

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ABSTRACT

Previous studies conducted by the researchers on simply supported Bamboo Reinforced Concrete (BRC) beams without shear links showed that the dominant failure mechanism in flexure is due to the shear stresses developed in the section but not due to the bending stresses. Therefore, the main idea of this experimental study is to find how shear resistance can be improved in a BRC beam. A rectangular beam (cross section: 300 mm x 200 mm) of 1000 mm length was selected for this study. The reason for selecting this section is mainly to make the shear dominant during this experimental program.

Untreated bamboo strips are hard to bend in the same way as the conventional rectangular shape of steel shear links. Therefore, a different yet suitable cross-section was needed for the shape of bamboo shear links. For the comparison of results, another two types of beams were tested, one with a composite bamboo and steel reinforcement arrangement and another with the usual steel reinforcement arrangement. This paper is mainly about the experimental study conducted and the results of this study needs further analysis and will be presented in future.

***Key words*:** Bamboo, Span/depth ratio, Shear stresses, Shear links