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***Abstract*—Global warming is a huge concern right now, this has prompted the interest in increasing the usage of natural fiber in composite materials, with the progression of the time the source of natural fiber can be renewed unlike synthetic fiber. While there are a few drawback of natural fibers such as low impact strength, poor moisture resistance and degradation by microorganisms and sunlight could be overcome with the addition of glass fiber. Natural fibers are rich in cellulose, hydrophilic in nature due to this natural fiber are vulnerable towards water absorption properties. Water absorption causes swelling in the fiber which reduces the dimensional and mechanical properties of the composites due to microcracks at fiber-matrix space. Besides that, due to hydrophilic nature of the natural fiber and poor fiber matrix, the interaction between the bagasse and this might cause cracking or debonding at the interference. Moreover, due to inhomogeneous fiber architecture, air entrapment is formed between the composite which contributes to the formation of voids. The significance of this study is to promote the usage of natural fiber instead of synthetic by creating a hybrid bagasse/glass fiber composite. Moreover, this new hybrid material can be used for outdoor purpose and can be used to fabricate materials with complex shapes. The fabrication of corrugated shape plate made out of hybrid bagasse/glass fiber composite using vacuum infusion. Besides that, we want to fabricate hybrid composite consist of natural fiber with lower absorption properties, high formability capabilities and high impact resistance.**

***Keywords*—hydrophilic,microcracks**