The efforts to harness the natural fibres as a substitute for synthetic fibres in composite reinforcement is gathering momentum among researchers due to its environmental friendly and low cost properties. The lenses of this thesis are focussed on the designing of hybrid and textile composites. A unique combination of banana and sisal fibres having remarkable difference in mechanical properties has been utilised in unsaturated polyester to produce cost-effective composites. A positive hybrid effect could be observed in tensile and flexural properties of the hybrid composites. The fibre surface could be modified by different chemical treatments to improve the fibre/matrix adhesion.

High performance composites could be developed using woven and non-woven fibres by resin transfer moulding.

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