

Chapter 1

INTRODUCTION

In coastal Karnataka areca plantation is very common. This long slender branchless tree is grown in thousands of numbers in every plantation. The stem can be easily broken into the form of bars which has good tensile strength. This drew our interest to use areca stem as reinforcement in concrete instead of steel bars. We went through literatures and found a lot of papers regarding the bamboo reinforcement in concrete. Even areca also has similar mechanical property like bamboo there were no research works done on this till a team of researchers from Kerala published “Feasibility Study of Areca Reinforced Concrete” in 2014. We have undertaken the work of studying suitability of areca as reinforcement in reinforced concrete members and have studied the tensile properties of areca, tested practical areca reinforced slabs and gone through many literatures to come to conclusion regarding durability and bond strength. We hope this study may open a new branch of reinforcement materials in the field of reinforced concrete construction.

1.1 Biological Classification of Areca:

The areca plant falls in following biological classification:

Kingdom	Plantae
(unranked)	Angiosperm
(unranked)	Monocots
(unranked)	Commelinids
Order	Arecales
Family	Arecaceae
Genus	Areca
Species	Catechu
Scientific name	Areca catechu

Table 1.1: biological classification of areca plant