PROJECT PROFILE

Title of the Project	:	**Reclamation of laterite lands using beneficial Microbes in Kasargode District.**
Principle Investigator	:	Dr. A. Karthikeyan
Co Investigators	:	Nil
Duration of Project (Start & End)	:	1.4.2013 to 31.12.2016
Objectives	:	1. Identification of beneficial microbes for afforestation of laterite soils along with fast growing native tree species. 2. Assessment of growth and survival of fast growing native tree species planted in laterite soils inoculated with beneficial microbes
Funding agency	:	Kerala Forest Department
Summary/Achievements	:	Laterite lands are rich in Kasargode District of Kerala (India) that used mainly for making bricks in building construction. These lands are found barren in Kasargode (District) Kerala due to lack of vegetation. To develop vegetation in these laterite lands the soil properties of laterite was examined. It was found that the soils have lack of beneficial microbes and poor in major nutrients (N, P, K). Therefore the beneficial microbes Arbuscular mycorrhizal fungi, Azospirillum (N fixing bacteria) and Phosphobacterium were selected for reclamation in laterite waste lands along with *Ailanthus tryphysa, Holoptelia integrifolia* and *Swietenia macrophylla*. The laterite soils were collected and used as potting media for seedlings of selected trees in nursery. Thereafter the cultured beneficial microbes were inoculated in to the seedlings and maintained for 6 months under nursery conditions. The beneficial microbes inoculated seedlings showed improved growth and biomass than un inoculated control seedlings. Later the seedlings were transplanted at laterite waste lands at, Kasargode, Kerala India and monitored their growth for 18 months. The seedlings inoculated with beneficial microbes showed 90- 97% survival rate and improved growth. This study will help to convert the degraded barren laterite lands into productive lands with eco friendly manner