

## ADAPTABILITY OF ALLEY CROPPING TECHNOLOGY IN RAINFED UPLAND CROPPING SYSTEM IN THE DRY ZONE OF SRI LANKA

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A long term experiment was started in farmer's fields to determine the adaptability of alley cropping technology in rain-fed upland cropping systems in the dry zone of Sri Lanka. A comprehensive analysis of environmental, technical, economical, and social aspects of the technology evaluates adaptability of this new technology. The results of the first three years of experimentation showed that the alley cropping technique was socially acceptable to rain-fed farmers and environmentally sound as it sustains crop yields, reduces grassy weeds and produces a considerable amount of fire-wood. Technically, the operations, such as collection of *Gliricidia* seeds, nursery management, field planting and management of *Gliricidia* hedgerows were not feasible under farm conditions due to absence of wild *Gliricidia* trees, lack of water, timeliness in rain-fed cropping practices and limitations in timely availability of labour. The cost and benefit analysis showed that the new technique was not economically viable during first three years of implementation. Therefore, adaptability of alley cropping technology to rain-fed upland cropping systems in the Dry zone is poor mainly due to the technical and economical difficulties of subsistence farming. Further studies are required to determine the long-term adaptability of alley cropping.