

FACTORS AFFECTING THE ADOPTION OF SPRINKLER IRRIGATION SYSTEM IN CAVENDISH CULTIVATION: A CASE STUDY IN *SEVANAGALA* DIVISIONAL SECRETARIATE DIVISION

B.G.A. Maduwanthi and S.M.C.B Karalliyadda

*Department of Agricultural Systems, Faculty of Agriculture,
Rajarata University of Sri Lanka, Anuradhapura, Sri Lanka.*

The agricultural sector in Sri Lanka, a major water consumer, faces the pressing need to improve water efficiency with the global water scarcity. Despite the global shift towards micro-irrigation methods like drip and sprinkler systems, their adoption in Sri Lanka, is limited and there needs to be more studies regarding adoption and the constraints. This study investigates factors affecting the sprinkler irrigation system adoption and explores perceptions of Cavendish farming in the Monaragala district, specifically within the *Sevanagala* Divisional Secretariate division, among growers participating in the Agriculture Modernization project. Through a multi-stage sampling primary data was gathered from 150 farmers utilizing a structured questionnaire, and descriptive statistics and principal component were analysed using SPSS version 22. Results revealed the relationship between age, education, gender, occupation and monthly income. Farmers' positive perception of Cavendish banana cultivation is determined by resource availability, diversification of income sources, and high profit potential. The five major factors influencing the adoption of sprinkler irrigation systems were identified: irrigation efficiency and resource availability, good performance of sprinkler systems, effective resource utilization, lack of awareness, and water management challenges. Farmers have emphasized the that small size of the sprinkler tops, the lack of training and support services are the major problems for not adopting sprinkler irrigation. The study identifies irrigation efficiency and resource availability as the primary factors influencing the adoption of sprinkler irrigation systems for Cavendish farming. Lack of awareness and challenges in water management are highlighted as significant barriers to the adoption of sprinkler irrigation among farmers. In conclusion, the majority of the Cavendish farmers are not using sprinkler irrigation and are affected by different better to include major factors when adopting the sprinkler irrigation system. This study suggests enhancing the adoption of sprinkler irrigation in Cavendish banana cultivation by implementing targeted farmer training, improving spare parts availability through partnerships, and strengthening market access by connecting with buyers and supporting fair trade.

Keywords: Adoption, Cavendish Cultivation, Sprinkler irrigation, Water efficiency