

**EFFECTIVENESS OF WOOD APPLE BUDDED SWEET ORANGE
CULTIVATION AS A COPING STRATEGY TO CLIMATE CHANGE:
VALUE CHAIN ANALYSIS IN NAWAGATHTHEGAMA, SRI LANKA**

P.A.S.S. Weerasinghe¹, K.P.P. Kopyawattage¹ and A.H.M.S.W.B. Abeyrathne²

¹*Department of Agricultural Systems, Faculty of Agriculture, Rajarata University of Sri Lanka, Anuradhapura, Sri Lanka.*

²*United Nations Development Programme, 202 – 204, Bauddhaloka Mawatha, Colombo 7, Sri Lanka.*

Wood apple budded sweet orange cultivation was identified as a unique farming system in *Nawagaththegama* divisional secretariat division amongst various economic coping strategies to climate change induced issues. This study investigates the effectiveness of wood apple budded orange cultivation, based on perspectival analysis of respondents in terms of ability to withstand prolong droughts and moderate saline soil conditions, resilient to wild elephant damages, and marketing potential throughout the year. Primary data was collected through structured questionnaire survey. Snowball sampling methodology was adopted and 65 farmers were surveyed. Key informant interviews and personal interviews were conducted to collect data from 15 other value chain actors to study marketing potential of sweet orange. According to perspectival analysis, ability to withstand prolong droughts, moderate saline soil condition, and resilient to wild elephant damages were 95.38%, 92.3%, 84.62% respectively. Producer-Collector-Wholesaler-Retailer-Consumer channel is the prominent market channel with sixty percent product flow. Grading and processing juice were the main value adding activities throughout the value chain. However, other than sorting and grading, value adding was not observed at producer level. The highest value margin (42.32%) was received by retailers. Regression analysis revealed higher cultivation extents, profit motives and local level extension services as drivers for commercial level cultivations ($p < 0.1$). Household credit facilities, lower prices, and distance to markets were main challenges faced by the farmers ($p < 0.05$). Main constraints faced by farmers were water scarcity, seasonal price fluctuation, low access to market information, lack of storage facilities. Despite constraints, farmers continue to expand wood apple budded orange throughout *Nawagaththegama* due to its resilience for climate change. Hence, findings conclude cultivation of wood apple budded orange as an effective local level economic coping strategy to climate change induced issues in *Nawagaththegama*. Value chain should be strengthened by direct marketing, provision of water, storage facilities, to provide better prices to producers.

Keywords: Constraint, Mapping, Marketed surplus, Sweet orange, Value chain