

# **Salt Production Process and its Socio-economic and Environmental Impacts of Kinniya Saltern**

*M.S. Risna<sup>1</sup>, M.G. Mohamed Thariq<sup>2</sup>, M.M.M. Najim<sup>3</sup>*

*<sup>1,2</sup>Department of Biosystems Technology, Faculty of Technology, South Eastern university of Sri Lanka*

*<sup>3</sup>Department of Zoology and Environmental Management, Faculty of Science, University of Kelaniya*

*<sup>1</sup>msrisna1998@gmail.com, <sup>2</sup>mgmthariq@seu.ac.lk, <sup>3</sup>mnajim@kln.ac.lk*

## ***Abstract***

Saltern located close to the residential areas causes several socio-economic and environmental issues in the surroundings. This study investigated salt production methods, and socioeconomic and environmental impacts on the surrounding areas in Kinniya saltern. Thirty-one salt farmers and 100 households in the vicinity of saltern, living in <10m, up to 50m, 100m, and 150m distance from the saltern were interviewed through a structured questionnaire during August to October 2023. The results showed that 87% and 13% of salt farmers used 3-step and 2-step traditional methods, respectively despite the 4-step recommended method to produce salt. The impacts on environment were identified as; salty well water, land salinity, corrosion of fence wire, corrosion of fence metal and damage to fence walls by 69%, 100%, 71%, 9% and 5% of the respondents, respectively. The impacts on socio-economic aspects were identified as; corrosion of household equipment, corrosion and colour changing of vehicles, damage to house walls, damage to wall paint of houses, damage to roofing wood, short term crop loss, long term crop loss and health effects by 57%, 50%, 40%, 44%, 15%, 95%, 5% and 43% of the respondents, respectively. The distance between the house and the saltern was significantly associated with effects on household equipment ( $p<0.05$ ), buildings ( $p<0.05$ ), and health ( $p<0.001$ ). It is concluded that corrosion/damage of household equipment and buildings, short-term crop losses, salinity in lands and well water and health effects were the major socioeconomic and environmental impacts. It is recommended that relevant authorities should take measures to minimize the impacts and to also stop further expansion of the impacts to the surrounding areas.

***Keywords: Crop loss, Corrosion, Health effects, Salt production, Salinity in land and well water***