

Abstract No: MP-03

Financial feasibility of waste paper recycling: A case from Sri Lanka

G. M. Indunil* and W. A. R. T. W. Bandara

Department of Zoology and Environmental Management, University of Kelaniya, Sri Lanka
mihirigunasekara5@gmail.com*

Sri Lanka has been facing many social, environmental, and economic challenges due to wastage of resources including papers. Recycling waste papers can be identified as a profitable venture in addressing waste paper to ensure resource recovery. The largest state-owned printing entity in Sri Lanka produces 600 tons of paper waste per annum and the majority is disposed as waste. The objective of this study is to assess the financial feasibility of installing a paper recycling plant in which the process involves waste paper shredding and pulping, screening, deinking, bleaching and rolling. To assess the financial feasibility of plant installation, a cost-benefit analysis was carried out considering the currency conversion rate of 1US\$ = 200 LKR. Cost-Benefit Ratio (CBR), Net Present Value (NPV), and Internal Rate of Return (IRR) were calculated. This study assumed; recycled waste papers are used to make file covers only with the market price of one file cover is 3.95 LKR, price of the file covers as well as the cost of electricity, water, maintenance, and labor are constant throughout the year, proposed paper recycling process operates 16 hrs. per day/20 days per month, machines operate in two shifts with 4 skilled professionals and 6 unskilled laborers in each shift, production of the 1st year of the project is 50% from its full production potential, and the whole recycling process operates manually. The estimated minimum land extent to install the paper recycling plant is 10 perches from the printing premises. Related data were collected from a world-recognized paper recycling machine manufacturer and by interviewing four professionals in the paper recycling industry. CBR of the proposed paper recycling plant at the existing printing entity is 1.09, NPV is 11,230,770.65 LKR at the 10% discount rate, and the IRR value is 32%. Calculated CBR, NPV, and IRR values justified the financial feasibility of the proposed paper recycling plant in the State Printer's premises. As paper recycling consumes a considerable amount of water, installing a recycling water plant, proper management of work schedules, and diversifying recycled paper products can help to further reduce the project costs.

Keywords: Cost Benefit analysis, Paper Recycling Plant, Waste paper