

## Cost Benefit Comparison for Different Compost Manufacturer Categories in Sri Lanka

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An ad-hoc decision to ban inorganic fertilizer created a massive and irreversible crisis due to the scarcity of fertilizer. Even though organic fertilizer is a good substitute for inorganic fertilizers, organic fertilizer production is limited and inadequate supply is seen in the market. Compost is a major type of organic fertilizer. This study aims to study the organic fertilizer industry in Sri Lanka in order to identify its constraints, possibilities and prospects, focusing on compost production. Financial constraint is the major constraint for the compost production process. The economic profitability of the compost fertilizer production process was evaluated in small (ten producers), medium (eight producers), and large-scale compost producers (four producers) using the cost-benefit analysis method. Four indicators were calculated: Net Present Value (NPV), Internal Rate of Return (IRR), Pay Back Period (PBP) and Benefit Cost Ratio (BCR). The analysis was carried out utilizing primary data collected through face-to-face interviews with compost producers. Sensitivity analysis was conducted considering different discount rates. The small-scale producers' NPV was Rs.217,537.70, IRR was 10.7%, PBP was 7.97 months, and BCR was 1.41. The medium-scale producers' NPV was Rs.2,418,521.17, IRR was 26.0%, PBP was 3.65 months, and BCR was 1.59. The large-scale producers' NPV was Rs.10,921,816.06, IRR was 60.8%, PBP was 1.64 months, and BCR was 1.45. Accordingly, the large-scale compost producers carry out the most profitable production in terms of financial aspects. Large-scale producers allocated a higher portion of the cost for raw materials, while medium and small-scale producers spent higher for establishment and machinery. It is also clear from the results that the IRR value is higher than the bank interest rate for each compost manufacturer category, and each scale of compost manufacturers can take a viable credit facility to start a compost manufacturing process.

**Keywords:** Compost Fertilizer Production, Cost Benefit Analysis, Net Present Value