Identification of key considerations to design an indoor "worm pet home"; for urban flats in Sri Lanka

D.M.S.S. Jayakody[1] and W.M.N.D. Ranasinghe[2]

Abstract

Sri Lanka is a country which is struggling with waste. Lack of the sustainable and adapted solutions have become the dominant reason for this issue. Not only that but also Sri Lankan urban population is increasing with a considerable rate. The negative fact is that the waste generation is directly proportional to the population growth. Under these conditions, urban flats have become a smart solution in these densely populated areas. But many research findings prove that their participation in waste management is critically low and it is the primary level of the issue. The most sustainable method for a Sri Lankan urban flat in gaining this participation, engagement, eco-centric thinking pattern, corporation, spiritual practice, sharing and caring in waste management is vermicomposting. Most of the above targets can be achieved as the process can be carried out on a mutual relationship between the earthworm and the urban dweller. The main objectives of this research are to address the present waste issue of Sri Lanka in a creative, sustainable, waste generator participated and oriented manner, establishing and promoting the idea of eco-centric and enhance the disciplinary links between product design and biology. The concept of waste management hierarchy and zero waste theory were collaborated in clarifying the following considerations. The research will be based on the grounded theory method as well as real scenario observation, to get the factual data. There were some factors to be considered in generating this mutual relationship inside an urban flat, basically the Environment of urban flat and general factors, Factors essential for the earthworms and the factors essential for the urban dweller. Interior arrangement, Present product usage, the culture of waste handling, type of earthworm and process of earthworms can be included under the Environment of urban flat and general factors. Adequate moisture, dissolved oxygen, protection from light, pH condition, and suitable temperature are included under factors essential for the earthworms. Elegance, usability, functionality, cost-effectiveness, simplicity, aesthetics and design details are included under factors essential for the urban dweller. These are the main theoretical factors which will be considered for the design process. There should be a clear blending and correlation between these categories in designing a worm pet home. The research will evident that; to build this correlation several product design considerations such as product material, product form, product color, Product detailing, product function and product aesthetics as the key factors to be prominently considered in designing (idea generation, sketching, brainstorming, prototyping) an urban "worm pet home".

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[1] *Department of integrated design, University of Moratuwa, Colombo, Sri Lanka.*
Corresponding author's email: sudharasuneath@gmail.com
[2] *Department of integrated design, University of Moratuwa, Colombo, Sri Lanka*