

# 'Leave' It Back to Us: A Comprehensive & Sustainable MCD Concept Integrating the Whole Life Cycle of Consumer Goods

Chan, Weng lo (School: Keang Peng School - Secondary Section)

Wong, Weng lan (School: Keang Peng School - Secondary Section)

Current consumption culture is a producer-polluting framework which harms the environment. Consumers cannot determine raw materials, production process and disposal of goods. Moreover, they play no role in waste management. All the above seriously retards sustainable development. This project suggests an innovative 'All-to-Participate MCD Concept' that integrates manufacturing, consumption and disposal. We believe consumers should have the rights to determine the entire life cycle of goods, and consumption culture should be fully green until the end. We make use of board production to examine the mindset: making board wastes precious wood and produces contamination, and the used products become waste. Meanwhile, fallen leaves are rubbish easily ignored, and so we build a new natural cycle of fallen leaves combining both nature and culture, and use them to make leaf boards with some natural binders. They are 100% natural and compostable. After comparing the internal resistance to temperature change, strength, permeability, density and resistance to bending of the 4 sample boards made with 4 formulas of binders and a market paper board, we found the formula of A.L.50 has an even better quality than the market product. Our project creates a new concept and can be the prototype of other consumption cultures, contributing to a brand new environmental measure where everyone is the contributor. It also gives rise to a new type of industry linkage where primary, secondary and tertiary production are connected in a sustainable cycle and welcome public participation. The breakthrough gives rise to a sustainable voluntary based policy, and can be utilized to mitigate global warming, enhance environmental awareness, create vacancies and even create a zero-waste globe.