

## **Sustainability in Product Design and using it for designing organic food containers**

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### **Abstract:**

The use of raw paper and single-use plastic containers in the processes of packaging and containing food and beverages is widespread. After the exacerbation of their damages to the environment and humans alike, and since the research problem relates to the spread of intermediate containing products, and the diversity of their raw material, without taking into account the negative impact some of them have on the environment, it was necessary to search for alternative materials that are healthier, more sustainable, and less hazardous to the environment and which are degradable and usable repeatedly. Therefore, the research objectives are summarized in shedding light on sustainable, degradable materials that reduce the damage to the environment instead of increasing it, especially those local materials that are easy to obtain at low cost. The importance of the research revolves around introducing the wasted materials that can be used in the processes of packaging and containing products. The research is also concerned with clarifying the idea of the re-use of intermediate containing products because of their positive impact on the environment. The results of the research introduce raw materials, including local ones, which can be used as an alternative to the raw materials that are harmful to the environment. It pinpoints the differences between both categories and the advantages of the former. This opens the way for designers and researchers to explore alternative materials for the materials used nowadays. There is also an emphasis on the possibility of benefiting from agricultural waste and engaging farmers' interest through the profit they can gain from the manufacturing process. The results clarify some ways of applying the idea of re-use and re-packaging to reduce wastes as well. The product design process introduced a sustainable design which was proposed for a leading organic food company, and it was nominated for the stage of match-making with companies in a competition organized by the Nilepreneurs Initiative. The product design concept was used as a strategy for designing packaging containers which give the producing company a special and distinct identity.

### **Keywords:**

Sustainable design - Sustainable products - Organic food - Biodegradable materials - Products design.