Probing Concepts of Sustainable Package Design

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Abstract. Taking ideas of sustainable development as starting point, and based on the analysis of cutting-edge concepts related to sustainable design, this paper discusses the principles in sustainable package design and predicts the future trend of as well.

Keywords: Package Design, Sustainable Concepts, Sustainable Design.

Population explosion, environment pollution and resource shortage are three major challenges which human beings have to face in 21st century. Due to the devastating traditional mode of production and consumption during the long course of social development, human society is now plagued with serious problems which, in the long run, will threat the existence of human race as a whole. So far, the ever worsening environment pollution and resource shortages have given rise to concerns from all around the world. Strategy of Sustainable Development, which advocates saving natural resources and protecting environment, was first proposed in World Conservation Strategy in 1980[1]. Sustainable design is a new mode of design which borrows its concepts from general principles of sustainable development. This new mode of design integrates user, machine and environment into one system and creates a harmonious relationship between human and nature. By now, the concept of sustainable design is being adopted in various fields of design. With the introduction of new concepts of living, production, energy, transportation and consumption, the ever-increasing demand for sustainable design will create a new field for designers to try their talents. As an indispensible part of production which plays a vital role in economic activities, packaging design calls for more new and creative ideas to ensure its sustainable nature.

1 Basic Ideas of Sustainable Design

Design is meant to create order out of chaos. Sustainable design, which, as a new idea evolved into being in the long process of social development, is closely related to the thoughts of Victor Papanek in his Theories on Resource Shortage. Taking modern ecological theories as guidelines and aiming at maintaining ecological balance, sustainable design gives full consideration to environmental benefit in every decision-making stage in order to minimize its negative effects on environment. In doing so, sustainable design not only creates social values and maintains ecological
balance which guarantees a harmonious relationship between human and nature, it also reduces the consumption of energy and raw materials, which in return cuts down carbon emission, and realizes easy recovery and recycle of different parts of products [2]. Sustainable design, in short, can be regarded as the consummation and perfection of green design which focuses mainly on the solutions to some particular problems which exert ill effects on environment, problems like the efficiency of energy and resource consumption, the reduction of waste, etc. By contrast, while attaching more importance to the recycling feathers of the whole system of product, sustainable design also focuses on how to extend the life circle of product, the main purpose of sustainable design being encouraging a socially healthy and environment-friendly mode of consumption. One of the key principles of sustainable design is to adopt a holistic approach which, unlike traditional approach to design, doesn’t limit itself to the much narrower business-product domain. It is this holistic approach which attaches importance to the basic benefits of human beings and aims at re-establishing a balance between human and nature.

2 The Process of Sustainable Package Design

Since sustainable package is the embodiment of ideas and principles of sustainable design, it is harmless in terms of recycle and exerts little negative effect on environment. Besides minimizing the use of resources and cutting down production cost, sustainable package employs renewable or regenerative resources in order to facilitate the recycle and reuse of waste materials. Based on the features mentioned above which guarantees the sustainability of packaging process, five steps of sustainable package design are fully discussed in the following chapters.

2.1 Step One: Design

In this step, a comprehensive market survey is carried out and relevant information collected. Then, environment-friendly materials are decided and a systematic design completed and adjusted according to necessity. This systematic design includes innovative ideas, relevant parameter (mass and variable data, planned capacity or allowable variation), environmental factors and artistic expression. As an integrated part of sustainable design, environmental factors have to be taken in to account when it comes to the employment of packing materials. It is important to use degradable, harmless and environment-friendly materials to facilitate recycle and reuse of package. To this end high-performance synthetic materials and natural materials are strongly suggested. With respect to artistic expression, sustainable design, like any type of design, has to make every effort to create aesthetic structures, patterns and illustrations with corresponding colors and words. Any kind of visual pollution generated in design shall be avoided.