

Research Article

The Research on Ecological Design-oriented Folk Food Products

¹Qi Zhou, ¹Qilan Xie and ²Fei Yu

¹School of Mechanical Engineering, Hubei University of Technology,

²School of Art and Design, Hubei University of Technology, Wuhan 430068, China

Abstract: This study focuses on the development of ecological design-oriented method for folk food products in China. As special food form, folk foods, with features of rich content, flexibility, scientificity, interestingness, entertainment and randomness, play an important guiding role in physical, intellectual, moral and aesthetic development of children. Oriented by ecological design, with the purpose of protecting and inheriting folk foods products, this study presents the design and research of folk foods on the basis of the concept of ecological design. Based on the protection of intangible cultural heritage and combined with the development goal of contemporary China, it demonstrates the importance of folk foods systematically and explores the sustainable development of ecological design-oriented folk food product design. The research is of great significance to children's future growth and to intangible culture protection and inheritance of folk foods.

Keywords: Ecological, folk foods, food design

INTRODUCTION

Product eco-design, i.e., the green design, life cycle design, or environmental design, is a combination of environment and design, which based on the idea of ecology, with a comprehensive consideration of product-related ecological environment problems in the product development stage. It is a systematic design of new products which can meet people's need while being environment friendly. Following the principles of localization, economization, naturalization and easy participation, ecological design emphasizes reduction, reuse and recycling (Zhen, 2012).

Design and research of folk foods, conducted from the aspect of social realization, with the history and reality of ecological design as the starting point, will bring about in-depth social reflection on various ecological problems that influence the design. Based on the position to protect Intangible Cultural Heritage, combined with contemporary China's development goals, the research expounds the impact of folk foods systematically and explores the sustainable development of ecological design-oriented folk food product design, which is significant to ecological civilization construction of socialism with Chinese characteristics. Two considerations are mainly included in eco-design activities: Firstly, from the perspective of environmental protection, they will reduce resource consumption and achieve sustainable development; secondly, from a commercial standpoint, they will reduce cost and potential liability and improve competitiveness (Wang *et al.*, 2012).

Folk food culture use people as the most fundamental heritage carrier, which fully responds to the government's goal for ecological civilization construction of socialism with Chinese characteristics. It carries much wisdom and culture and is inseparable from people's activities and behaviors. Folk foods, craftsmanship of making the food and the process of play are all interpretations of the concept of "living", which is consistent to the "living culture" emphasized in intangible cultural heritage. Moreover, the "physical" exhibited by a physical presence of folk food tools also has a "living" characteristics, which takes knowledge, emotion, intelligence, skills and other spiritual principles as the basis and form of its existence. Folk food culture is a symbol of Chinese 5000 years of splendid culture and treasures, the crystallization of wisdom and valuable intangible cultural heritage that cannot be forgotten and needs being carried forward.

In order to deal with the ecological design-oriented method for folk food products in China, a systematic research has been implemented in this study. The design principles of folk food products have been introduced at aspect of ecological design. The way to developing the ecological design-oriented for folk food products has been addressed. The findings of this study can support the intangible culture protection and inheritance of folk foods.

MATERIALS AND METHODS

The purpose of ecological design is not only to prevent waste or reduce load on environment in the

process of production, but also to achieve dematerialization, improve resource efficiency, reduce the consumption of products and prolong the service life of products. The key of ecological design lies in how to penetrate environmental awareness to the design of products and production processes. Only with a fundamental change in design concepts, can the development of eco-design theories and methods be promoted. With eco-design as its starting point, product eco-design take environmental influences on product life cycle into account in product design and development process, so that the impact of the whole product life cycle on the environment can be minimized (Feng and Xiong, 2012). The integration of the concept of eco-design into the design of the folk food products will help to stimulate consumers' enthusiasm in learning folk food culture, arouse people's awareness of local ecological environment protection, prolong the life cycle of folk food products, build a good ecological mechanism of product recycling and promote the circulation of material and intangible culture and sustainable development.

With regional features and national characteristics, folk food products are the material carrier of dissemination of folk culture and play an important role in inheritance of folk food culture. As folk food products are closely related to the local ecological environment and customs, their styles, material selections, design orientations and theme settings should be decided from the perspective of eco-design and reflect the folk characteristics.

The focus of folk food product design is mainly on the processing and transformation of aspects such as structure, material, manufacturing process, etc., so that folk food can constantly adapt to the development of ecological civilization.

Principle of integration: In folk food design the local natural environment should be considered and the effect of human activities on the environment should be studied. The appearance and profound significance of the product should be coordinated with natural environment and human environment, emphasize the overall optimization and integrated innovation and enhance people's attention on environmental protection. In this way, through the design principle of integration, the ecological idea can be implanted in the food design and stimulate people's consciousness to protect the ecological environment.

Under the premise of locality and ecological protection, the overall design should cater to modern aesthetic ideas and increase plain exaggeration based on the bionic design in traditional folk food products, so that their models and colors can be enriched and given features of integration, seriation, strong theme and

excellent production. Moreover, different types of food products, such as compact type, collectable type and so forth, can be adopted to keep the originality of food products and enrich their types.

Principle of sustainability: The choice of materials of the food products should reflect the principle of sustainable development. The materials of traditional folk foods are usually from the local, with choices of natural materials, such as clay, cloth, paper, bamboo, etc. Due to their high manual degree and long production cycle, it is difficult to inherit the workmanship. Some of the best productions are often retained in the form of crafts, but no living condition culture is formed. The scale of production is increased appropriately in the materials of modern foods on the basis of the eco-friendly concept of the traditional folk foods and the reservation of their plain and folk flavor. The traditional materials processing technology and new materials processing means are combined to exert the advantages of products full of folk food culture, so that they will be more durable and easier to save. Furthermore, the materials should not only demonstrate aesthetic value and heritage significance of the food products, but also be replaceable, recyclable and prolong the life cycle, rather than making them disposable products without their original vitality and value once they leave the native environment.

Principle of friendliness: Folk food products should be identifiable, easy to use and friendly interactive. Different food products represent folk culture with different geographical characteristics; therefore, identifiable shape, color and structure are an important sign to distinguish different food cultures and easy-to-use product semantics is an important manifestation of the food's PFP features. In the innovative design, with the application of both modern production technology and manual molding method in the manufacturing process, the food product presents its basic components with modular forms. Therefore, users only need to assemble the components according to the schematic diagram to get a complete food product. This kind of user participation in food design and assembly is a major feature in this new type of folk food products, in which users can gradually understand the material characteristics, processing technology and culture connotation. On the basis of building friendly human-computer interaction, users can better appreciate the charm of different folk food cultures.

RESULTS AND DISCUSSION

According to users' behavioral expectations at the time of actual consumption, eco-design concept should

be integrated into product design rationally and emotionally and convey the information of harmonious coexistence of man and nature to users, which may help to arouse consumers' awareness of environmental protection during use and cultivate good habits and lifestyles. However, with the limitation of the material products, further study on eco-design mode should grasp the concept of eco-design from the global and holistic perspectives, allow users to fully participate, know and understand the intention of eco-design and influence and inspire people with emotional factors and cultural spirit of non-material products, so that the design, inheritance and development of Hubei featured folk foods can be promoted.

Activeness of food products: If the traditional folk food is the non-material cultural heritage, then the inborn active state of food products open up a broader space for the culture exhibition. In the course of presentation, besides the object of the product, specific rules, production process and vivid performance and interpretation are shown. In addition to static culture exhibition, dynamic performance behaviors prolong the life of food products, cause interaction between traditional culture and modern culture, make the demonstration more vivid, intuitive and appropriate and express the profound connotation and artistic charm of folk food culture. Furthermore, food products have social, artistic and market values that many mainstream, traditional arts do not have. Therefore, they can uphold the active nature of folk food culture and extend the vitality of folk foods in their development.

Diversity of the user experience: As an important design consideration in modern product design, user experience is not about how the product works, but how the product is connected with and plays a role in the outside world, that is to say, how people "touch" and "use" it (Garrett, 2013). The "cultural experience" brought by the food products to consumers will be rich and colorful. In the experience process, players will learn about the typical traditional cultural practices, craft skills, religious culture, food culture, customs and habits, encyclopedic knowledge and so on, develop a profound understanding of folk emotion and wisdom carried by the food products and gradually recognize the dynamic process of inheritance-development-evolution of traditional folk foods. In the production process, the food products will fully mobilize individuals to get involved in the production process in which the components are assembled in a modular form, allow the players to experience the whole process of production, understand the principles and the structures of the food and provide design space for the innovation of the food products.

Education and inheritance of food culture: Enriched with intellectual factors in accordance with child psychology, traditional Chinese folk foods have been of great benefit to intelligence and education for a long period of time, while the current food modes of computer foods and electronic toys have caused children's hearts and minds to be too dependent on a predetermined category and gradually move away from real life. In the book *The Disappearance of Childhood* the American educator, media theorist and cultural critic Neil Postman pointed out that the electronic information environment is making childhood disappear. The early childhood experts also claimed that now many children don't know how to play; despite many toys available, without traditional foods the children lose the ability to communicate and interact with people; they no longer play the food for the food and the food has lost its nominal value (Wang, 2013). Commercial purposes of the food have caused a gradual decline of human factors, which reflect a lost of true value in the folk foods for children (Wang, 2013). In the information age, while face-to-face communication between people is more valuable, children can learn the local customs, religious culture, norms and knowledge through the food products, which will promote healthy psychological development of children and their social interaction, coordination and harmony and improve children's emotional intelligence and IQ. Meanwhile, the integration of knowledge in the play can enhance education effect and create favorable condition for inheritance.

CONCLUSION

Ecological design-oriented folk foods is not only a new approach to the inheritance and development of modern folk food culture, but also an innovation of the continuation of traditional folk foods' cultural vitality and an important method to promote the sustainable development of regional folk food culture. Moreover, it plays an important role in the inheritance and development of the sustainability of intangible cultural heritage protection.

Derived from the folk, the food products is a tool of infinite creation by people's subjective wishes, which can make people imagine, experience and redesign freely. They condense the ethnic spirit of Chinese folk food culture and embody emotions of people of all ethnic groups. Today, a new generation of folk food products will better serve the public with unique cultural advantages and modern ecological design concepts, which explores a new idea for the Hubei folk food cultural heritage and development and proposes new concept for other areas to design local-featured food products.

We believe that, with the development of social productive activities and social culture, the social value of eco-design-oriented folk foods will be continuously recognized by people and play a significant role in the inheritance and development of folk food culture.

REFERENCES

- Feng, H. and Y. Xiong, 2012. An initial study on basic characteristics and research focus of eco-design domain. *Environ. Sci. Technol.*, 18: 1-4.
- Garrett, J., 2013. *The Element of User Experience: User-centered Design for the Web and Beyond*. 3rd Edn., New Riders Press, Berkley, CA.
- Wang, H., 2013. An analysis of the loss and return of traditional folk foods. *Basic Educ. Res.*, 2: 5-9.
- Wang, X., H. Chen and W. Chen, 2012. Research on the social implementation of eco-design. *Pop. Literature*, 23: 77-78.
- Zhen, L., 2012. Race against time-sustainable product eco-design. *Art Life*, 5: 42-43.