

**Sustaining Vetiver grass Handicrafts: An Innovative Focus on Rural Area and Tourism**

**Yasemin CINDIK AKINCI<sup>1\*</sup>, Öner DEMİREL<sup>1</sup>**

<sup>1</sup> Karadeniz Technical University, Faculty of Forestry, Department of Landscape Architecture, Trabzon/Turkey

\*Corresponding Author: [yasemincindik@gmail.com](mailto:yasemincindik@gmail.com)

**Abstract**

In Turkey, agriculture has a great economic, cultural and ecological significance for tourism. Agricultural products to be obtained from handicraft products, especially to contribute to cultural tourism and agricultural tourism. The tourism contribution of the sale and exhibition of these products is also important for the development of the region and local people. Vetiver grass (*Vetiveria zizanioides* (Linn.) Nash), is known in the world as a plant of water and soil protection (wind, water and soil erosion, flood, etc.). When the studies are investigate, it is found that espically the roots and leaves of the plant are valuable and it facilitates the development of rural development economically. Vertically growing plant roots have been shown to be a miracle plant for handicrafts, perfumery products and a wide range of applications as well as for soil and water protection. It has also increased the living standards of those living in rural areas and directed them to activities related to Vetiver grass. Vetiver grass has been tested for soil erosion in the Eastern Black Sea Region of Turkey (Maçka / Trabzon) and its roots have been shown to show improvement. The aim of this study is to discuss the contribution of rural arts and crafts to the crafts that can be obtained from the roots of the Vetiver grass and encourage the people in the regions and regions that are suitable for the production of vetiver craft products. It also aims to demonstrate the contribution of the products that can be obtained from their roots to marketing and to reduce environmental destruction, to protect agricultural lands from destruction (flooding, soil loss, pollution, etc.) by appropriate methods.

**Keywords:** Vetiver grass, Agritourism, Handicraft, Rural

**INTRODUCTION**

Turkey is a hidden paradise with the rural areas that many of us do not know or see. The population living in rural areas is mainly labored in agriculture and stock raising. The population has begun to decrease in rural areas in order to increase degree of urbanization, development of technology and gain prosperity. But this decrease does not harm the presence of the rural area. Rural areas provide environmentally attractive environments in many parts of Turkey.

The rural area is also defined as the opposite of the urban area as it is in terms of weighted production activities, population and administrative status (Kayıkçı, 2009). The concept of rural area is a concept used to distinguish rural and urban areas from each other and to determine areas with low urban density.

The development of rural areas is also important in terms of people living in urban areas as well as people living in rural areas (Kayıkçı, 2009). In some of the rural areas in Turkey, development presents a poor prospect for future generations to improve. For this reason, it is important to develop rural tourism for future generations.

Tourism is one of the fastest and largest flameless industries in the world (Neto, 2003; Boz, 2011). Tourism is considered to be a viable tool for raising economic activity for both developed and developing countries (Hall, 1994).

One of the most important tools in Turkey for rural employment is seen as tourism. Eco-tourism, agro-tourism or cultural tourism activities are gradually starting to come to Turkey. Even if these initiatives are limited, urbanization also encourages rural migration (Örnek, 2007).

In rural areas poor people have different skills and crafts to reach good income. However, it is still up to the policies and projects developed to transform these skills into employment levels and create workforce. Rural areas offer many development opportunities such as for new sectors, tourism opportunities, becoming a center of attraction for living and working, diversity towards natural resources (Örnek, 2007).

The Eastern Black Sea is a region suitable for agricultural areas, tableland, ecological, aesthetic and cultural sense of rural tourism. Handicrafts are an alternative source of livelihood in an environment with fewer employment opportunities. Eastern Black Sea is a region famous for its local products (oil, cheese, etc.), handicrafts (basket, clothing, etc.). In this region farmers who are engaged in agriculture and households with a low level of employment generally earn additional income from handcraft production.

It is necessary to develop and expand the handicraft industry in parallel with tourism in developing countries. Both are logical and powerful combinations of development projects (Benson, 2014).

The Eastern Black Sea has topographically sloping rural areas. Landslides and flood disasters occur in these areas. Water and soil must be protected worldwide and necessary precautions must be taken. Cındık (2012) used Vetiver grass for water and soil protection in its erosion prevention work. Vetiver grass is a natural barrier to soil with its strong roots and wide-tight crown formation.

Vetiver grass, an economic proposition is used as perfume, cosmetics, handicrafts and artifacts, bouquet and animal food, obtained from fragrant roots. This plant is used in China, Australia, Vietnam, Thailand, Philippines and Bangladesh and many world countries (Panichpol, Waipanya, Siriwongse and Srichoo, 1999; Islam, Bhuiyan, and Hossain, 2000; Chomchalow, 2008). There are studies with Vetiver grass in Turkey (Demirel and Demirel, 2005; Memişoğlu Bingöl, 2008; Kirici, Inan, Turk and Giray, 2011; Cındık, 2012).

In this study, Vetiver grass is aimed to protect suitable rural farming areas, to provide handicrafts, employment and economic input to be obtained.

### **INFORMING: VETIVER GRASS**

The Vetiver name is derived from the word "vettiver", which is the Tamil vocabulary. Known on the Réunion Island as Vetivert, it is a plant that is naturalized and said to have been brought from India through Indonesia (Lavania, 2008). India recognizes Vetiver grass for aromatic and medical use. There are also environmental and rural uses in India and elsewhere.

Vetiver grass; Poaceae (Gramineae) family, a fast-growing, broad adaptive, rooted and perennial C4 plant (Chaudhry and Sarwar, 2006), (Figure 1).



**Figure 1.** Vetiver grass

Vetiver plants grow and bloom throughout the year where the temperature is convenient, and are not affected by light changes. If the shade was once planted, it could live in these dark shady areas for many years. The most important feature of veterinary plants, which should be taken into consideration in the fight against erosion, the roots are in large, spongy masses. One of the biggest advantages of Vetiver grass, where it is planted is permanent. For this reason it is not invasive, it rarely spreads into the environment (National Research Council - NRC, 1993). There are roots that hold the soil and soil in depth. Its roots keep the land and soil in depth. Even in very heavy rain, the root zone protects the land from abrasion and does not allow it to flow away from the soil (Lavania, 2003).

Vetiver grass plant has many uses. They are used to perform specific functions in agricultural and non-agricultural applications; soil and water conservation, incline of slope/slope stabilization, fill stabilization, erosion control, environmental protection, reclamation of problematic soils (saline, acidic, sodic), contaminated soil rehabilitation, absorption of heavy metals, disaster damage mitigation, contaminated water rehabilitation , etc. In addition to livestock grazing, feed plants, ornamental plants, landscape plants, carbon sequestration and crafts (Chomchalow and Chapman, 2003).

### **Handicrafts: Tourism Contribution**

In the 21st century, tourism is a major source of economic income. In addition, the development of culture tourism has increased the attractiveness of handicrafts. A strong combination of tourism and handicrafts. Handicrafts are an experience for tourists, gifts and memories of a good holiday.

Tourism increases the quality of life for the craft and their families, creates employment and provides economic growth (O'Connor, 2006). Tourism is a journey, a holiday and an adventure where people often seek something other than normal life experiences. In a word tourism is usually an opportunity to encounter, appreciate and even purchase "alterity" that is "otherness" (Graburn, 2006).

Traditional handicrafts have a "local" character because they are the products that people make out of the materials that they can easily find around them to meet their needs. In this way they also explain the formation of different traditional cultural elements in different ecological environments and cultural diversity (Karabaşa, 2012). Handicrafts are not just souvenirs in tourism. They are a dynamic part of the contemporary tourism world (Graburn, 2006).

Hand crafted products are genuine and valuable as long as they carry and reflect the characteristics of the crafting. The raw materials of the products, the pattern, the production technique and the ability of the person making the production cause the product to gain different value (Özcüre and Yavuz, 2006).

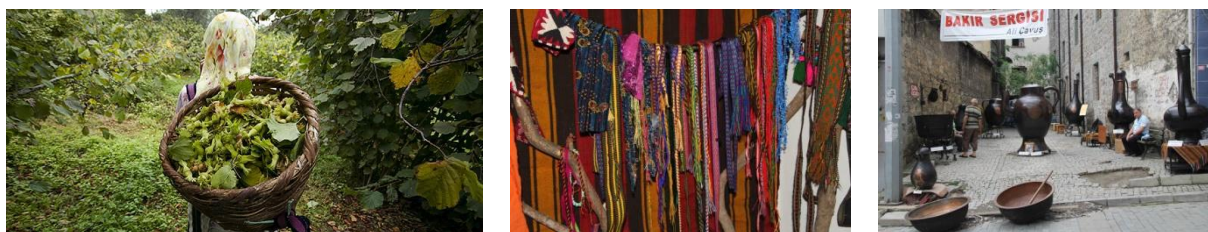
Craftsmen need to continue to be service providers rather than beneficiaries in the tourism sector, especially in the rapid growth of cultural tourism. The economic and social significance of tourism and handicrafts is related to the international arena. Recognizing the region where handicrafts are visited is an important part of tourism to provide employment and cultural exchange, to stimulate the economy.

### **VETIVER CRAFTS**

Today, handicrafts have an important role in the living and reflecting of the work force, leisure time, traditions and customs of the local raw materials and family members that are produced. In regions where crafts values exist, people can work in tourism and souvenir

production and marketing businesses as well as establish their own businesses (Özcüre and Yavuz, 2006).

The Eastern Black Sea Region is a developed region with alternative rural areas and alternative tourism types. For low-income disadvantaged groups living in rural areas, it may be a source of new income and employment, the development of home and handicrafts, and agricultural products are expected to be marketed on the spot (DPT and JICA, 2004). In eastern Black Sea, weaving, knitting, bags, basket processing, musical instruments, stone and copper workmanship, silver art etc. has developed (Figure 2).



**Figure 2.** Blacksea region handicrafts (Governor of Trabzon, 2015).

Cındık (2012) has identified the development of Vetiver grass roots and leaves in his work on rural areas to prevent erosion. For this reason, the work to repair the plant may contribute to the locality. The economic and artistic characteristics of the plant should also be evaluated for tourism.

Vetiver grass plants have scented, fragrant roots and firm leaves. For this reason, oils obtained from roots and perfume and cosmetics industry is a commonly used plant. The aromatic smell of the root of the plant directs the plant to different products derived from the roots. Farmers who used vetiver as soil and water conservation plant in rural areas of the world have discovered the plant's susceptibility to handicrafts. Roots and leaves are used in handicrafts (Figure 3).



**Figure 3.** South Indian Vetiver Handicraft (Truong, 2008).

Plant leaves and roots are used in a wide range of handicrafts in Vetiver countries (Thailand, Indonesia, Chinese, Latin America, Africa, etc.) (Chomchalow and Chapman, 2003). Indonesia sells and exhibits handicrafts made in and around Bali, many tourist towns and villages (Thomas, 2004).

Products obtained from vetiver leaves and stems; (1) handy accessories such as bags, hats, belts and brooches, (2) containers such as baskets, pots, boxes, utility bowls, (3) decorating materials such as clocks, picture frames, lamp shades, dolls, animal figures, flowers; and (4) home appliances such as chairs, stools, room partitions, tables (Chomchalow and Chapman, 2003).

Products obtained from vetiver roots; Fan hangers and flower blends (Chomchalow and Chapman, 2003). In addition, Roman shades, large hampers, vetiver balls, net bags, hand bags, coasters, boxed placemat gift sets, newspaper hampers, placemats and tassels are obtained from the fragrant vetiver roots (Thomas, 2004).



## **DISCUSSION and CONCLUSION**

As regards rural development, first of all, Turkey has to cope with some economic, social and environmental challenges ahead. At the beginning of these, ecotourism, agricultural tourism opportunities should be investigated and put into practice in rural areas. Rural areas are used to support tourism, livelihoods and handicrafts and to prevent immigration to urban areas.

Handicrafts are used in various fields with social, economic and tourism purposes in Turkey. Only projects and ideas related to handicrafts need to be increased. Furthermore, development should be provided to support farmers or people living in rural areas such as the Eastern Black Sea.

Diversifying tourism handicrafts can provide a level of prosperity for people in rural areas. For this reason, efforts should be made to diversify tourism products in order to benefit the wider community.

Vetiver grass has ecological, economic projects that are effective and easy to apply in the countries of the world. In the short term, in order to provide social development in the rural and tourism outdoor areas, it is necessary to introduce the vetiver crafts in Turkey and apply the projects. For this, the local people should be become self-aware and educational support should be provided.

The economic artistic value of the Vetiver grass plant, which has been tested in the Eastern Black Sea, Trabzon, should not be overlooked. Root and leaf development of the plant gave positive results. Vetiver grass is thought to be an additional income for tourism purposes in rural areas. It is thought that local handicrafts will be reinforced in the region. Furthermore, it should not be overlooked that the handicrafts produced and produced according to the style and taste of the region may reflect the local characteristics.

As a result, Vetiver grass plant is used for protection of water and soil in Eastern Black Sea, it can be trained for tourism purposes in empty places. For rural development, handcrafted products for tourism are fed only from talent. And if vetiver grass grows are thought to be economical, we should be prepared for innovative investments.

## **ACKNOWLEDGEMENT**

This article was presented at the International Conference on Agriculture, Forest, Food Sciences and Technologies (ICAFOF) held in Cappadocia / Nevşehir on May 15-17, 2017 and published in summary.

## **REFERENCES**

- Benson, W., 2014. *The Benefits of Tourism Handicraft Sales At Mwenge Handicrafts Centre In Dar Es Salaam, Tanzania*, Tampereen Ammattikorkeakoulu Tampere University of Applied Sciences Degree Programme in Tourism.
- Boz, M., 2011. Leakages and Value Added in International Tourism Revenues; Tourism Satellite Account as A Measurement Method, *International Journal of Business and Social Science*, 2(24), 198-206.
- Chaudhry, M.S. and Sarwar, G., 2006. Leaf Anatomy of a Miracle C4 Grass: *Vetiveria zizanioides* L. Nash, *Vetiver Systems: The Fourth International Conference on Vetiver, Vetiver and People, ICV4*, Caracas, Venezuela.
- Chomchalow, N., 2008. *Other Uses and Utilization of Vetiver*, Proceedings First Indian National Workshop, Vetiver System for Environmental Protection and Natural Disaster Management, Chapter-6, 181-193, Cochin, India.

- Chomchalow, N., and Chapman, K., 2003. *Other uses, and utilization of Vetiver*, Proceedings of the Third International Conference on Vetiver and Exhibition, Guangzhou, China.
- Cındık, Y., 2012. *An Investigation of the Possibilities for the Prevention of Erosion Using Vetiver grass (Vetiveria zizanioides (Linn.) Nash): The Case of Esirođlu Area in Maçka Province of Trabzon*, Karadeniz Technical University, The Graduate School of Natural and Applied Sciences, Landscape Architecture Graduate Program, Trabzon, Turkey.
- Demirel, O., and Demirel, K. 2005. An examination of the “Vetiver Grass” to prevent erosion in Yusufeli Region (Coruh Watershed Area-Turkey): A Case Study, *Journal of Environmental Biology.*, 26(2), 409-419.
- DPT and JICA, 2004. *Dođu Karadeniz Bölgesinde Turizmin Geliştirilmesine Yönelik Kalkınma Çalışması, Nihai Rapor Yönetici Özeti*. Türkiye Cumhuriyeti Başbakanlık Devlet Planlama Teşkilatı Müsteşarlığı, Japonya Uluslararası İşbirliği Ajansı (JICA), BELDA LTD (Belde Proje Danışmanlık ve Ticaret Ltd. Şti) ve Semor (Seminer Organizasyon Danışmanlık ve Turizm A.Ş), Ankara.
- Governor of Trabzon, 2015. El sanatları. <http://www.trabzon.gov.tr/el-sanatları> (accessed 20 March 2017).
- Graburn, N., 2006. *Tourism and Handicrafts: Modernity and Identity in the Global Marketplace*, Tourism and Handicrafts A Report on the International Conference on Tourism and Handicrafts, 13-15 May, Tehran, Islamic Republic of Iran.
- Hall, C.M., 1994. *Tourism and Politics: Policy, power & place*. Wiley, Chicester.
- Islam, M. P., Bhuiyan, K.H., and Hossain, M. Z., 2000. Vetiver grass a potential source for rural development in Bangladesh, *Agricultural Engineering International: the CIGR Ejournal*. Invited Overview No. 5. Vol. X.
- Karabaşa, S., 2012. Ekolojizmin Ortak Paydasında Geleneksel El Sanatları, Yeşil Tekstil ve Yavaş Moda (Sultan Sazlığı Örneđi), *Akdeniz Sanat Derneđi*. 4(8),1-3.
- Kayıkçı, S., 2009. *Türkiye’de Kırsal Alan Yönetimi*. Ankara Üniversitesi, Sosyal Bilimler Enstitüsü, Kamu Yönetimi ve Siyaset Bilimi (Yönetim Bilimleri) Anabilim Dalı, Doktora Tezi, Ankara, Türkiye.
- Kirici, S., Inan, M., Turk, M., and Giray, E.S., 2011. To study of essential oil and agricultural properties of vetiver (*Vetiveria zizanioides*) in the southeastern of Mediterranean, *Advances in Environmental Biology*, 5 (2), 447-451.
- Lavania, U., 2008. *Historical Perspective and Prospective for Development of Specific Genotypes for Environmental or Industrial Application*, Indian Vetiver Network, National Workshop on the Vetiver System, Vetiver System For Enviromental Protection and Natural Disaster Management, Cochin.
- Lavania, U.C., 2003. *Other uses of vetiver: Vetiver oil*, Proceedings of the Third International Conference on Vetiver and Exhibition, Guangzhou, China.
- Memişođlu Bingöl, A., 2008. *Bor ile kirlenmiş toprakların yeşil islah (Phytoremediation) yöntemi ile arıtılması / Phytoremediation of soil contaminated with boron*. PhD thesis, Atatürk University, Institute of Science, Department of Environmental Engineering, Erzurum, Turkey.
- National Research Council -NRC, 1993. *Vetiver Grass: A Thin Green Line against Erosion*, National Research Council Board on Science and Techonology for International Development, National Academy Press, Washington, D.C.

- Neto, F., 2003. A New Approach to Sustainable Tourism Development: Moving Beyond Environmental Protection, ST/ESA/2003/DP/29 DESA, Discussion Paper No. 29, United Nations.
- O'Connor, D., 2006. *Handicrafts and Their Linkage with Tourism Artisans Are Also Your Treasures*, Tourism and Handicrafts A Report on the International Conference on Tourism and Handicrafts, 13-15 May, Tehran, Islamic Republic of Iran.
- Örnek, A., 2007. *Kırsal Kalkınma El Kitabı*, Heinrich Böll Stiftung Derneği Türkiye Temsilciliği, ISBN 978-975-00954-4-3.
- Özcüre, G., and Yavuz, C., 2006. *El Sanatları Ürünlerinin Bulunduğu Yöreye Sosyo-Ekonomik Etkileri ve Katkıları (Ordu İli Örneği)*, Uluslararası Katılımlı Sanat Ekonomisi Sempozyumu Bildiri Kitapçığı, 167-183, Çanakkale, Türkiye.
- Panichpol, V., Waipanya, S., Siriwongse, M., and Srichoo, C., 1999. *Analysis of chemical composition of Vetiveria zizanioides Nash for using as feed stuff*, In: Abstracts of papers presented at ICV-3, 141, Thailand.
- Thomas, J., 2004. Vetiver Root Crafts in Bali. [http://www.vetiver.org/INR\\_vet%20art\\_r.pdf](http://www.vetiver.org/INR_vet%20art_r.pdf) (accessed 16 March 2017).
- Truong, P., 2008. South Indian vetiver handicraft. [http://www.vetiver.org/IND\\_handicrafts.pdf](http://www.vetiver.org/IND_handicrafts.pdf). (accessed 20 March 2017).