

THE COMPARATIVE VALUE OF EDIBLE PLANTS IN HOME GARDENS OF A CYPRIOT RURAL VILLAGE

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Abstract

*The heterogeneity of the Mediterranean rural landscape is the outcome of a combination of natural and cultural evolution which has a very rich biological and cultural diversity. Development of rural settlements with rural planning attitude is very important in terms of protection of local socio-cultural characteristics and plant biodiversity. In rural areas, the courtyard houses have a great value in terms of herb biodiversity. The rural village gardens should be assessed in a holistic perspective with ecological, local and cultural structure. There has been relatively little research on the courtyard gardens in traditional villages of Cyprus. The objective of this study was to record and value edible herbs and fruits derived from courtyard gardens in a rural village from Kyrenia region, Cyprus. This study has been carried out in Karmi village on the slopes of the Kyrenia Mountains facing towards the north. During the surveys in 2015-2016 the characteristics of the traditional courtyard houses were visited and edible plant species were determined within their courtyard gardens. A total of 16 different herb species and 20 different fruit trees were recorded during the surveys. Most widely used herb species in courtyard gardens which are also used in local cuisine as well were Rosemary (*Rosmarinus officinalis* L.), Sage (*Salvia officinalis* L.) and Thyme (*Thymus* spp.). With this research the information of local herbs that have been used in traditional courtyard gardens was investigated, in addition the importance of protection of the natural and semi-natural landscapes in rural areas in terms of "Rural Landscape Protection" has been underlined.*

Key words: rural landscape, edible plants, herbs, Kyrenia, Cyprus

1. INTRODUCTION

There is a growing interest in the documentation of edible plants provided by home gardens throughout the world. Fernandes and Nair (1986) defined a home garden as a privately managed land use system involving deliberate management of multipurpose plants in association with agricultural crops and invariably live-stock, within the compounds of individuals households (Mosina et al. 2014). Home gardens in rural and urban areas enable the inhabitants to interact with nature. This interaction enhances appreciation and understanding of the important ecological, social and psychological functions of green areas (Mosina et al. 2014). Also home gardens have been cited as important location for food production and the transfer of traditional knowledge from generation to generation (Moreno-Black et al. 1996).

Housing and home gardens are regarded as areas reflecting the interdependent social culture, each living space have special meanings for their owners. In terms of sustainable development, identification and protection of regional home garden character in rural areas is very important (Plieninger et al. 2006). The rural landscape is a mosaic of natural and human managed land uses that vary in size, shape and arrangement (Zaizhi 2000). Understanding the characteristics of rural settlements is important element of rural planning (Antrop 2005). In addition, "eco-agriculture" encourages the development of multifunctional landscapes which provide sustainable food production, biodiversity conservation and protection of ecosystem services (McNeely & Scherr 2003).

It is known that Mediterranean region is among the richest regions in the world for wild and cultivated plant species (Domina et al. 2012). Cyprus lies at the eastern end of Mediterranean Basin and it is the third largest island of the region after Sicily and Sardinia with wet and hot dry summers (Meikle 1985). Karmi village situated up on the mountains towards the west of Kyrenia. The village is inhabited by international residents. The old houses of the village have been renovated, it is a beautiful traditional village with nice little courtyard gardens.

Herbs and their use may be found in Chinese documents from as far back as 3000 BC. Ancient Egyptian recipes on papyrus from the middle of the second millennium BC called for the use of herbs such as anise, mustard, coriander, mint, wormwood, cinnamon and saffron. Herbs were used by human long time ago is Mesopotamia. The herbs and spices of the Mediterranean region owe their spread throughout Europe chiefly to Charlemagne who recognized their importance in cooking during his many military campaigns. Herbs and spices have been gaining in popularity since the end of World War II, not only in restaurants but also in the household. It is becoming a hobby for many people not only to cook with herbs and spices, but also to be able to identify fresh herbs, grow them at home or in the garden, and preserve them for winter use (Kybal & Kaplicka 1995). In this research the information of local herbs in traditional house gardens were investigated. Also the importance of protection of the natural and semi-natural landscapes in rural areas was underlined.

2. MATERIAL AND METHOD

2.1. Study Area

The study was conducted in Karmi village (Figure 1.) between October 2015 to February 2016. This study has been carried out in Karmi village on the slopes of the Kyrenia Mountains facing towards the north. The village was abandoned by Greek-Cypriot inhabitants during 1970 – 74. In time the old traditional houses became derelict and the village stayed empty. In 1982 Karmi was assigned a special development category and transferred to the Ministry of Tourism. Within 7 years roads and pathways improved, the houses leased to the foreigners, around 167 houses were renovated. Restoration of the houses was carried out by local architects and builders in order to conserve the traditional character of the village (Clark & Phillips 2010). In this little mountain village there are approximately 100 people living in different time of the year. Most of the residents are from European origin, there are also Cypriots living in the village. However only few numbers of people are living in the village all year round (Table 1.).

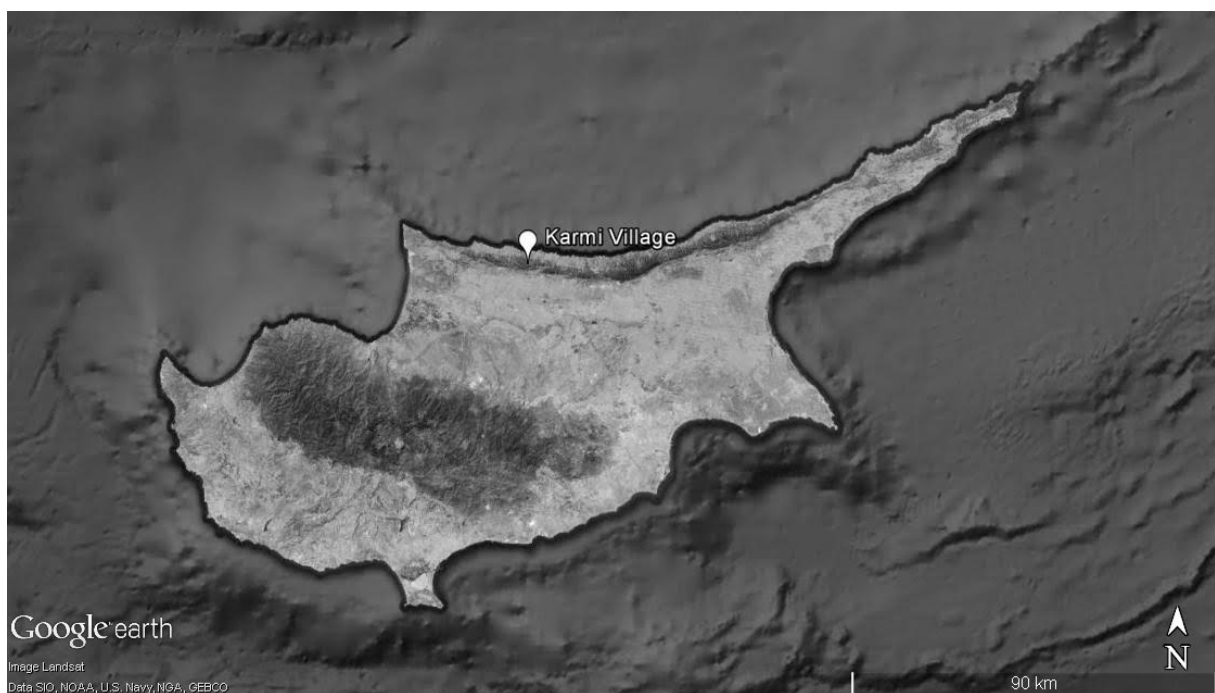


Figure 1. Map showing Karmi village

Table 1. Population of the study site according to 2011 census in north Cyprus (DPÖ 2013)

Survey Site	Population Male / Female	Total
Karmi	29 / 21	55

2.2. Climate

In this region summer months are hot and rather dry, rainfall mainly occurring between November and March. The average annual temperature varies from a winter minimum of 9 °C in December to a summer maximum of 35 °C in August in this region (Seffer et al. 2011).

2.3. Methods

Observation of home gardens and interviews of home garden owners are the primary sources of data for this study. A questionnaire is used to collect data from the home owners. Participants provided permission to photograph and to collect plant samples for identification and laboratory analysis. Informational data is developed on the basis of preliminary survey and discussion with experts. The questionnaire was mainly focused on home garden components. During the surveys home owners were asked about the common name of each plant species, corresponding uses and numbers present in their home garden. All fruit producing trees and shrubs were identified. Also the herbs that are cultivated by family for medicinal value or used in kitchen were recorded.

3. RESULTS

During the surveys in 2015-2016 the characteristics of the traditional courtyard houses were visited and edible plant species were determined within the courtyard gardens. A total of 16 different herb species were recorded during the surveys. Most widely used herb species in courtyard gardens which are also used in local cuisine as well were Rosemary (*Rosmarinus officinalis* L.), Sage (*Salvia officinalis* L.) and Thyme (*Thymus* spp.). Many herb species which were recorded within the gardens were determined that they are consumed by the home owners for medicinal value or as herb in kitchen (Table 2).

Table 2. List of herbaceous plants, botanical name, English name and Use categories

Species Name	English Name	Family	Use Category
<i>Allium cepa</i> L.	Onion	Amaryllidaceae	Food
<i>Aloe vera</i> (L.) Burm. F.	Aloe vera	Xanthorrhoeaceae	Med., Orna.
<i>Angelica archangelica</i> L.	Norwegian angelica	Apiaceae	Food, Med.
<i>Armoracia rusticana</i> G.Gaertn., B.Mey. & Scherb.	Horseradish	Brassicaceae	Food
<i>Coriandrum sativum</i> L.	Coriander	Apiaceae	Food
<i>Cymbopogon citratus</i> (DC.) Stapf	Lemon grass	Poaceae	Med., Orna.
<i>Lavandula angustifolia</i> Mill.	Lavender	Lamiaceae	Food, Med., Orna.
<i>Mentha spicata</i> L.	Spearmint	Lamiaceae	Food, Med., Orna.
<i>Laurus nobilis</i> L.	Bay Laurel	Lauraceae	Food, Orna.
<i>Ocimum basilicum</i> L.	Basil	Lamiaceae	Food, Med., Orna.
<i>Origanum majorana</i> L.	Marjoram	Lamiaceae	Food, Med., Orna.
<i>Pelargonium graveolens</i> L'Her	Rose Geranium	Geraniaceae	Food, Orna.

<i>Petroselinum crispum</i> (Mill) Fuss	Parsley	Apiaceae	Food, Med.
<i>Rosmarinus officinalis</i> L.	Rosemary	Lamiaceae	Food, Med., Orna.
<i>Salvia officinalis</i> L	Sage	Lamiaceae	Food, Med., Orna.
<i>Thymus vulgaris</i> L	Thyme	Lamiaceae	Food, Med., Orna.

*Med. : Medicine Orna.: Ornamental

In addition during the surveys a total number of 20 different fruit species were recorded. The most common fruits were fig trees (*Ficus carica* L.), almond trees (*Prunus dulcis* (Mill) D.A. Webb) and pomegranate (*Punica granatum* L.) (Table 3).

Table 3. List of edible fruits, botanical name, English name and family name

Scientific Name	English Name	Family
<i>Ceratonia siliqua</i> L.	Carob	Fabaceae
<i>Citrus x aurantium</i> L.	Bitter Orange	Rutaceae
<i>Citrus x limon</i> L. Burm. F.	Lemon	Rutaceae
<i>Citrus reticulata</i> Blanco	Mandarin Orange	Rutaceae
<i>Citrus x paradisi</i> Macfad.	Grapefruit	Rutaceae
<i>Eriobotrya japonica</i> (Thunb) Lindl.	Loquat	Rosaceae
<i>Ficus carica</i> L.	Fig	Moraceae
<i>Fragaria x ananassa</i> Duchosne	Strawberry	Rosaceae
<i>Morus</i> spp. L.	Mulberry	Moraceae
<i>Musa</i> spp. L.	Banana	Musaceae
<i>Olea europaea</i> L.	Olive	Oleaceae
<i>Opuntia ficus -indica</i> (L.) Mill.	Indian Fig	Cactaceae
<i>Persea americana</i> Mill.	Avacado	Lauraceae
<i>Phoenix dactylifera</i> L.	Date Palm	Aracaceae
<i>Pisidium guajava</i> L.	Guava	Myrtaceae
<i>Prunus domestica</i> L.	Plum	Rosaceae
<i>Prunus dulcis</i> (Mill.) D. A. Webb	Almond	Rosaceae
<i>Punica granatum</i> L.	Pomegranate	Lythraceae
<i>Pyrus communis</i> L.	Common Pear	Rosaceae
<i>Vitis vinifera</i> L.	Common Grapevine	Vitaceae

It is known that many of the fruit trees listed above has been cultivated thousands of years ago within the Mediterranean region (Kislev et al. 2006). Some of the fruit trees which were recorded within the home gardens of Karmi village were around 50-60 years old. Home owners, which were mostly from European countries (French, German, Dutch, Danish, Canadian), had a great interest of growing edible fruit trees in their garden.

The findings from our study show that edible plants, particularly herbs are commonly used by home owners of Karmi village. Many of the residents are happy to maintain their own garden themselves. Around 70% of the participants are consuming herbs and fruits regularly. This study shows that edible gardens in Karmi village have a great value for the international residents of the village. In addition this preliminary research is not only important for edible plant analyse of the region, it is also important for sustainable planning and management of rural landscape.

REFERENCES

- Antrop M 2005, Why landscapes of the past are important for the future, *Landscape and Urban Planning*, 70: 21-34.
- Clarck J & Phillips C 2010, Karmi to Karaman, A photographic history of a Northern Cyprus Village from the 1970s to the present day, 159 pages.
- Domina et al. 2012, Vascular flora evolution in the major Mediterranean islands, *Biodiversity Journal*, 3 (4) : 337-342.
- DPÖ 2013, State Planning Organization 2013, Turkish Republic of Northern Cyprus, State Planning Organization, Statistics and Research Department, 313 pages.
- Fernandes ECM & Nair PKR 1986, An evaluation of the structure and function of tropical homegardens, *Agrofor Systems*, 21: 279-310.
- Kislev et al. 2006, Early Domesticated Fig in the Jordan Valley, *Science*, 312 (5778): 1372.
- Kybal J & Kaplicka J 1995, *Herbs and Spices*, Harveys Bookshop Ltd., Magna Books, 224 pages.
- Laws B 2010, *Fifty Plants that Changed the Course of History*, David and Charles, UK, 223pp.
- McNeely JA & Scherr SJ 2003. *Ecoagriculture strategies to feed the world and save wild biodiversity*, Island Press, Washington DC, USA.
- Meikle RD 1985, *Flora of Cyprus, Volume Two*, Published by The Bentham – Moxon Trust, Royal Botanic Gardens, Kew, 1969 pages
- Moreno-Black G, Somnasang P & Thamathawan S 1996, Cultivating continuity and creating change: women`s home garden practices in north-eastern Thailand. *Agriculture and Human Values* 13: 3-11.
- Mosina GKE, Maroyi A & Potgieter MJ 2014, Comparative analysis of plant use in peri-urban domestic gardens of the Mimpopo Province, South Africa, *Journal of Ethnobiology and Ethnomedicine*, 10: 35.
- Plieninger T, Höchtl F, Spek T 2006, Traditional land-use and nature conservation in European rural landscapes, *Environmental Science and Policy*, 9: 317-321.
- Seffer J, Emirzade T, Özden Ö, Fuller WJ, Sefferova V 2011, *Management Plan for Kyrenia Mountains*, Nicosia, 143 pages.
- Zaizhi Z 1999, Landscape change in a rural area in China, *Landscape and Urban Planning* 47 (1-2), 1-9.