

Attitudes on Plant Materials Used in Family Houses in Isparta City, TURKEY

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Abstract

The purpose of this study was identify and inspect plant materials used in gardens of family houses in Isparta city center, to identify socio-economical characteristics of residents of these houses and revealing reflections and effects of these characteristics on gardens. The landscaping preferences in these houses was also determined with qualitative and quantitative methods. The study was conducted in gardens of 299 randomly selected family houses in Isparta city center. As a result of the physical analysis of residential gardens and face-to-face surveys with residential users, it was found that there were no green space standards in residential gardens, hard floor usually intended for parking lots and roads dominated soil. It was also determined that house owners in general benightedly chose plant materials in accordance with their economic level, rather than products that fit the purpose and the idea of getting economic benefit from gardens stood out, to the point of making it a tradition. Certain suggestions have been made about what should be done regarding this issue.

Keywords: Home garden, plant material, garden design, green area.

1. Introduction

Throughout the ages, gardens have become some sort of refuge where people could be together with beings of nature and get rid of their boredom resulting from mediocrities of everyday life. In certain periods of the history, they have also been places reflecting society's living conditions, economic and cultural level which were shaped by climate and terrain features of that specific country. In this respect, variability and variations in societies' structure have provided garden art with several spiritual and formal differences (Akdoğan, 1995).

As a result of the gradual reduction of green areas in cities, today, residential gardens have gained importance for people to fulfill their longing to green, enhance their relationship with the nature and gain houses aesthetic value. In residential gardens, considered as a unit of urban open green spaces, there are different approaches in terms of aesthetics and function, as well as plant materials used. Today, it is known that gardens have significant aesthetic and functional deficiencies due to social, economic, cultural and legal factors and also have various difficulties.

Notion of garden, an integral part of houses, reflect a society's traditional life style. Since ancient times, people have tried to enhance the beauty of their houses for various reasons and create a more comfortable life style form themselves with certain additional practical practices.

Socio-cultural factors such as tradition, family, religion and personal opinions have been influencing in shaping of houses. The sense of garden emerged in Turkish houses due to socio-cultural factors have shown its impact on the shaping of houses. Ground floors of houses are generally open to the garden and closed to the street. This case of closure arising from privacy requires the garden to be closed to the external environment, i.e. the street. This is achieved by garden walls surrounding the house and garden. In a sense, garden plan influences the shape of the house and the house plan influences the shape of garden (Gedikli, 1993).

Garden allows interior space functions to spread around with a perspective facing outward from inside. Therefore, house plan on a land must take into account both internal and external space. In carefully made plans that fit their purpose, the use and maintenance of interior living space and elements in the space are taken under control as a whole. They also create the most suitable landscape in terms of recreation with family life, individual work and resting (Öztan, 1971).

In this study, it was aimed to identify the relationship between plant materials used in gardens of family houses in Isparta city center with socio-economical characteristics of residents, and suggestions were made regarding what should be done. When examining houses in Isparta city center, commonly found houses without a garden in especially the city center and surrounding neighborhoods were not included in the study.

2. Material and Method

This study was carried out in the weather was hot and sunny. According to the data obtained from the municipality of Isparta, the total number of houses in 41 neighborhoods of Isparta city center is approximately 45.000 hectares and the housing zones covered approx. 642 hectares (ha). It was assumed that about 1/3 of the total number of houses (approx. 15.000 houses) were high-rise apartments and blocks called collective housing (Gül and Küçük, 2001). In the study, we gathered information about 43 neighborhoods in Isparta city center, gardens of 299 family houses in 39 neighborhoods were included in the study with convenience sampling method, while 4 neighborhoods were excluded due to lack of family houses with desired qualities and in desired number.

As far as study method goes, a physical analysis of residential gardens was made, plant materials in space and usage of space were examined in detail, and face-to-face survey method was used for residents. Face-to-face survey method has recommended as one of the most efficient methods to gather reliable data of many target audiences (Sheskin, 1985).

The survey application was carried out starting early in the morning until sunset on weekdays and weekends, so that a more comprehensive representation could be obtained. Gardens were examined in detail before surveys and findings regarding plant material and space usage were recorded in the observation form prepared in advance. Then, standard survey questions prepared in advance were asked to individuals and their answers were recorded. At the end of the survey questions, individuals were asked if they had any

general suggestions regarding survey topics and they were encouraged to speak freely. Each survey took about 20-30 minutes to complete.

It has already predicted that open-ended questions, an effective technique in terms of obtaining more detailed information allowed people to express their opinion as they wished (Gardner, 1978; Sudman and Bradburn, 1982; Oppenheim, 1992). It was thought that having open-ended questions in the survey would be useful in determining people's actual tendencies and beliefs. In addition, this type of questions makes it possible for studies to go deeper and creates substantiality (Gardner, 1978). The collected data was analyzed with using SPSS 13.0 (Statistical Program for the Social Sciences) and results were given in tables and graphs.

3. Research Findings

Findings obtained in the study are given below under two titles. Firstly, plant materials in residential gardens were identified on site and findings achieved as a result of observations have presented under the first section. Then the survey results have given under the second section.

3.1. Physical Properties of Residential Gardens and Observation Findings

It was identified that 28% of family house gardens found in Isparta city center were smaller than 50 m², which is quite small, 23% were between 51-100 m² and only 13% were bigger than 300 m². According to this data, there was not a standard measure in relation to garden area. Houses with large gardens were mostly found in neighborhoods such as neighborhoods of Mehmet Tönge, Gülistan, and Ayazmana, which are on the edge of the city center, while mostly houses with smaller were found in the city center. Hence, it was understood that the garden size was associated with economic situation of residents and importance that they attention on garden.

It was also found that there were additional structures such as poultry house, barn, kitchen, or toilet in most of the gardens. These additional structures narrowed down already insufficient garden areas. These structures were mostly found in slums.

In terms of general views of residential gardens in the study, plants were randomly placed in 39%, number of small plants was higher in 21%, number of large plants was higher in 18%, plants were placed in an order in 12%, and 9% were very heavily planted. It is only natural that garden spaces were narrow and the number of plants was high due to the presence of gardens with a space of 50 m² or smaller. People want to grow plants in their garden, but narrow gardens give rise to problems in terms of both aesthetics and function. Some gardens were encountered in which plants were placed in an orderly fashion, although there was still a lack of design. General view properties belonging to gardens of family houses are given in Figure 1. Examples of garden's general view are given in Figure 2.

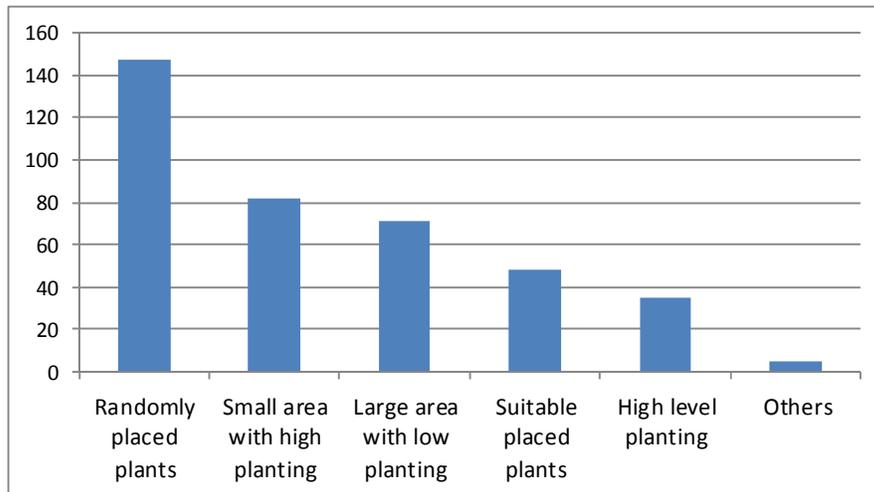


Figure 1. General properties of gardens



Figure 2. General appearance of gardens (small garden area with high planting, Foto: C. Sahin)

In terms of the general view of plant material found in gardens of family houses in the study, it was found that 78% were well-kept, 15% were neglected. Gardens considered to be neglected were divided into subgroups and subjected to detailed evaluation. It was identified that, among these herbal materials, 3% were overgrown, 2% were cramped and 1% grew pale.

Majority of the plants seen and recorded in residential gardens were fruits and vegetables. It was found that annual or perennial species, clumping and climbing plants, coniferous trees, shrubs and brier patches were not widely used. The most commonly found ornamental plants in gardens were roses and lilies. Most commonly grown plants in gardens of family houses are given in Table 1.

Table 1. Plant materials that found in thegardens

Plantproperties	Botanical name	CommonName	Frequency	Percent (%)
Fruit	<i>Vitisvinifera L.</i>	Grape	254	84.9
Fruit	<i>Prunus domestica L.</i>	Plum	201	67.2
Ornamentalplant	<i>Rosasp.</i>	Rose	191	63.8
Fruit	<i>Prunus armeniaca L.</i>	Kayısı	176	58.8
Vegetable	<i>Lycopersiconesculentum L.</i>	Tomatoes	172	57.5
Fruit	<i>Cydoniavulgaris Pers.</i>	quince	142	47.4
Vegetable	<i>Capsicumannuum L.</i>	Pepper	128	42.8
Fruit	<i>Prunus avium L.</i>	Cherry	119	39.7
Fruit	<i>Prunus persica L.</i>	Peach	112	37.4
Fruit	<i>Juglansregia L.</i>	Walnut	110	36.7
Vegetable	<i>Menthapiperita L.</i>	Mint	102	34.1
Ornamentalplant	<i>Liliumcanadense L.</i>	Lily	100	33.4
Ornamentalplant	<i>Antirrhinummajus L.</i>	snadragon	99	33.1
Fruit	<i>Morusalba L.</i>	Mulbery	97	32.4
Fruit	<i>Maluscommunis L.</i>	Apple	93	31.1
Ornamentalplant	<i>Chrysanthemumcoronarium L.</i>	chrysanthemum	91	30.4
Fruit	<i>Prunus cerasus L.</i>	Cherry	89	29.7
Ornamentalplant	<i>Irisgermanica L.</i>	Irises	88	29.4
Ornamentalplant	<i>Viola tricolor maxima</i>	Violet	82	27.4
Ornamentalplant	<i>Lonicera nitida L.</i>	Honeysuckle	76	25.4
Ornamentalplant	<i>Tagetes erecta L.</i>	Velvetflower	68	22.7
Fruit	<i>Pyrus communis L.</i>	Pear	65	21.7
Vegetable	<i>Allium cepa L.</i>	Onion	64	21.4
Vegetable	<i>Lactuca sativa var. longifolia L.</i>	Lettuce	64	21.4
Fruit	<i>Punica granatum L.</i>	Pomegranate	62	20.7
Vegetable	<i>Helianthus tuberosus L.</i>	Yams	60	20.0
Ornamentalplant	<i>Mirabilis jalapa L.</i>	Eveningprimrose	60	20.6
Fruit	<i>Prunus amygdalus L.</i>	Almonds	56	18.7
Vegetable	<i>Petroselinum hortense Hoffm</i>	Parsley	54	18.06
Ornamentalplant	<i>Rosa wichuriana</i>	Wrappingroses	54	18.06
Ornamentalplant	<i>Cedrus libani A. Rich.</i>	Touruscedar	52	17.3
Fruit	<i>Ficus carica L.</i>	Figs	51	17.0

3.2. Survey Findings

Survey data belonging to participants residing in family houses obtained as a result of face-to-face survey application in 34 neighborhoods in Isparta city center can be summarized as follows:

A total of 299 individuals, 172 (58%) female and 127 (42%) male, participated in the survey. The reason why the number of female participants was higher was that housewives usually could be found at home during the day. It was understood that women were easier to reach and tended to the garden more. It is noteworthy that majority of participants were 40 years or older (83%) and primary school (old system) graduates (63%). Given that those whose spouse passed away were considered as single, almost all of the participants were married (90%). In terms of the number of individuals in family, the majority of participants had a family of two (47%). It was identified that these were newly-wed couples with no children or couples whose children got married and moved out. Although there were different income groups, it was found that the majority of participants (82%) had a monthly income of 400-1000 Turkish Liras. 12% of families had at least one more working member other than the breadwinner, while the majority of the families (88%) had only one person providing for the family. It was observed that the residential origins of city-dwellers were effective in terms of garden usage and plant material preferences. Most of the participants (86%) lived in urban areas for a well part of their lives. It is notable that those who spent most of their lives in rural areas (14%) used to live in the central village or slums such as; neighborhoods of Çünür, Dere, Vatan, Gülcü, Ayazmana.

In order to find out time/money spent that the residents of family houses in Isparta city center on their gardens, participants were asked questions regarding '*whether they had a landscape plan prepared, whether they received opinions or help from an expert, how much time and money they spent on their gardens*'. It was found that almost all of the participants (97%) did not have a landscape plan prepared for their gardens or receive any opinions or help from experts regarding landscaping. Similarly, the majority of participants (87%) stated that they did not receive any help from others regarding this issue. Those who got help regarding landscaping (17%) received this help from either people around them (76%) or used books and magazines (24%). The vast majority of participants (86%) stated that they carried out maintenance on a regular basis. According to data related to time and money spent on regularly maintained gardens, it was seen that the majority of participants (70%) spent 1 hour or less on their gardens and the majority (96%) found the time spent sufficient. In terms of expenses assessed based on money spent on water bill, pesticides, fertilizers and man power for garden maintenance, annual expenses of the vast majority of participants (86%) were 500 Turkish Liras or less.

Factors affecting the participants regarding landscaping of their gardens (garden design) and reasons for not carrying out maintenance are given in Table 2. These were usually '*knowledge from ancestors*', '*family members*', '*regional influences*', '*neighbors*' and '*circumjacent gardens*', in order of importance. It was seen that the most effective factors were opinions of parents and family members. While neighbors and circumjacent gardens were also among factors influencing residents regarding landscaping, it was seen that practices seen on television or newspaper did not have much influence. Participants who stated that they could not carry out regular maintenance on their gardens (14%) were not able to tend to their gardens due to economic reasons or lack of time in general.

Table 2. Variables that effects on garden design and maintenance

	Factors affecting the garden design	Frequency
The garden design knowledge	Information fromtheancestors	227
	Familymembers	96
	Localeffects	43
	Neighbors	18
	Surroundinggardens	17
	TV / newspaper	1
The reason for not care to gardens	Monetary	18
	Lack of time	15
	Illness	5
	Soilpoorness	4
	Lack of knowledge on maintanene	3
	Oldage	2
	Non-continuousresidence	1
	Thesmallgardenarea	1
	Thatwill be giventocontractors	1

Naturally, gardens of family houses were mostly used during summer (65%) and spring (22%), and in the afternoon (51%) during of the day.

Participants' purposes of use of their gardens are given in Table 3. Accordingly, participants mostly used their gardens for growing fruits and vegetables, and sitting and resting.

Table 3. TheParticipants' purposes of garden use

Thepurpose	Frequency
Fruitcultivate	115
Sitting-resting	77
Greens	58
Vegetablecultivate	37
Beauty	31
Shadow	14
Spent time	12
Hobby	10
Ornamentalplantcultivate	9
Enjoy	8
Play game	6
Plantcultivate	6
Non-use	5
Eatings	3
Favorite	2
Experiments	1
Sportactivities	1
Mitzvah	1

Family house residents were asked questions about ‘*what they liked the most and would like to see in their gardens and what they disliked the most and what bothered them the most*’. The answers of participants are given in Table 4. Accordingly, what participants liked the most in their gardens were fruit trees, flowers, everything green, roses and vegetables, i.e. plants in general, respectively. The vast majority of participants (73%) was happy with their gardens and stated that there was nothing that they disliked, while others (27%) stated that they disliked weeds, pests, poor soil quality, the shape of the garden, fruits and leaves falling off from trees, and intruding animals, respectively.

Table 4. The family house residents’ preferences in their home gardens

		Frequency
Most loved plants	Fruit tree	81
	Flowers	69
	All greens	45
	Roses	44
	Vegetables	43
	Unstable	23
	Sit in garden and eat/drinks	22
	Pick vegetable and fruits from branches	11
	Work in gardens	9
	grapes	8
	Beauty	6
	Coniferous trees	5
	Lawn	2
	Rare plants, tropical trees	2
	Swing	1
	Quiet	1
Garden fence	1	
Unloved plants	Weeds	47
	Pests (spiders, flies, insects, greenbits)	15
	Lack of good soil	6
	The shape of the garden	3
	Spilled fruits, leaves from plants	3
	Cats, dogs, turtles, birds	3
	Organisms in the soil	3
	Cleanup	3
	No fruit trees	1
	Theft made from the garden	1
	vegetation	1
	Stinging nettle	1
	Lack wall	1
	Pears	1

The garden intended for	Fruit trees	45
	Pool / waterfall	35
	Vegetables	32
	Different flowers	30
	Beautiful/well-kept garden	28
	Ornamental plants	23
	Living space	14
	Planting grass	12
	Greenhouse /nursery	10

Most of the problems mentioned here are usually due to insufficient maintenance on the garden. Upon being asked about *'what they would like to see in their gardens other than those present'*, while 47% of the participants said nothing, 53% stated that they would like to have more fruit trees, pool/waterfall, vegetables, different flowers, a more beautiful and well-kept garden, and ornamental plants.

When the participants were asked *'what plants found in their gardens they did not like'*, the majority (81%) stated that they were satisfied with the plants in their gardens. Other participants (19%) stated that they disliked plants such as weed, agrostis, goosefoot, poplar, willow, mulberry and rose respectively. The majority of those who stated that there were things that they disliked in their gardens were either tenants or residents who bought the house later. These individuals did not choose the plants themselves.

About half of family house residents (49%) grew medicinal/officinal plants in their gardens. Notable medicinal plants found in gardens are mint, thyme, linden, basil, parsley, quince and nettle.

Family house residents were asked questions about *'reasons for choosing plants in the garden'*. The answers of participants are given in Table 5. Accordingly, the majority of participants were reason for plants in the garden for beauty of appearance (38%) and to have fruit (36%), while 14% stated that they liked to be green appearance.

Table 5. The family house residents' plant preferences in their home gardens

Reason	Frequency
Beauty of appearance	231
To have fruit	223
To be green	87
To be flower	30
The easy of care	21
To be shadow	11
Fast grown	6
To be suitable to Isparta region	4
To have healing properties	2

4. Discussion and Conclusion

The residential houses should not be considered as a structure or shelter that is disconnected from its surrounding. Those are a concept that involves neighborhood and social environment as well as the house

itself. In this context, it has realized that green areas surrounding houses are very important not only for environmental quality, but also as places where people spend their leisure time.

It was realized that there were no green space standards in residential gardens in Isparta city, Turkey. It was also found that home owners were chosen plant materials in garden with their economic level. However, the use of plant material in gardens has important effects improving recreational and behavioral properties of people.

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References

Akdoğan, G. (1995). 'Dünden Bugüne Bahçe Kültürümüz', Sanat Dünyamız, *Kültür Dergisi*, Sayı:58, 7-13, İstanbul.

Anonim, (2006). 'Isparta Çevre Durum Raporu'. T.C. Isparta Valiliği İl Çevre ve Orman Müdürlüğü Yayını, 450s, Isparta.

Chamberlain, D. E., Cannon, A. R. and Toms, M. P. (2004). 'Associations of garden bird with gradients in garden habitat and local habitat', *Ecography* 27: 589- 600.

Gardner, G. (1978). 'Social Surveys for Social Planners', *Open University Press*, 176s, Milton Keynes.

Gedikli, R. (1993). 'Trabzon Kenti Geleneksel Konutlarında Konut-Bahçe İlişkisi Üzerine Bir İnceleme', KTÜ FBE Peyzaj Mimarlığı Anabilim Dalı, *Yüksek Lisans Tezi*, 182s, Trabzon.

Gül, A., Küçük, V. (2001). 'Kentsel Açık-Yeşil Alanlar ve Isparta Kenti Örneğinde İrdelenmesi', SDU Orman Fakültesi Dergisi, Seri:A, Sayı:2, 27-48, Isparta.

Kendle, A. D. and Forbes, S. J. (1997). 'Urban Nature Conservation: Landscape Management in the Urban Countryside', *E & FN Spon*, London.

Oppenheim, A.N. (1992). 'Questionnaire Design', Interviewing and Attitude Measurement, *Pinter*, London.

Öztan, Y. (1971). 'Peyzaj Mimarlığı, Peyzaj Mimarisi Derneği Yayın Organı', 2:1 1971-1. AÜ Peyzaj Mimarisi Bölümü, Ankara.

Sheskin, I. M. (1985). 'Survey Research for Geographers', *Association of American Geographers*, Washington.

Sudman, S., Bradburn, M.N. (1982). 'Asking Questions', *Jossey-Bass Publishers*, London.

Turner, K., Lefler, L., Freedman, B. (2005). 'Plant communities of selected urbanized areas of Halifax, Nova Scotia, Canada', *Landscape and Urban Planning*, 71, 191–206.

Ulrich, R.S. (1986). 'Human responses to vegetation and landscapes', *Landscape and Urban Planning*, 13, 29–44.

Zanette, L. R. S., Martins, R. P., Ribeiro, S. P. (2005). 'Effects of urbanization on Neotropical wasp and bee assemblages in a Brazilian metropolis', *Landscape and Urban Planning*, 71:105–121.