Full Length Research Paper

From burial ground to green oasis: evaluating the ecological potential of Ankara's Karakusunlar Cemetery

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This paper concentrates on the evaluation of an abandoned cemetery as a green area. The study area is an abandoned cemetery which was once an active cemetery where no new interment is made now and which is tucked among dwellings as a result of urban development. The study is about an ecological approach for evaluation of this abandoned cemetery as an urban greening without changing its function. The study is based on field observations, surveys, analyses and relevant literature. The study develops proposals for bringing about a more functional and aesthetic green area maintaining the original and traditional tissue. The abandoned cemetery is in a favorable stand with respect to its existing flora, folkloric importance as well as its position as an ecological area among dwellings notwithstanding its bad appearance as an old and uncared-for cemetery tucked among intensive urban structuring. Therefore, local plants are proposed together with those existing in the area which can be revalued as an ecological, economic and aesthetic green area with arrangements allowing passive recreation. This study emphasizes that a physical planning of an old cemetery must be made with an approach which also includes ecological, social and economic perspectives.

Key words: Abandoned cemeteries, vacant lands, cemetery, urban greening, ecology park, green area politics, Ankara / Turkey.

INTRODUCTION

Cemeteries are major part of the urban landscape and invariably represent valuable open space of special interest from historical, architectural and cultural perspectives. They have a significant role in urban areas where they are particularly important for local com-munities where open space is at a premium. There is a great deal of potential to develop the role of cemeteries as open spaces. Municipal cemeteries cover significant areas in most cities. Cemeteries serve as historical, memorial, spiritual, aesthetic and passive recreation green spaces within the urban environment.

The word of cemetery derived from the Latin term "sleeping space". The main purpose of cemeteries is the dignified disposition of human remains in accordance with provincial status and municipal by-laws. Urban cemeteries have an important role in urban environments. Urban cemeteries also play a role in understanding of urban environments. According to historians Veit and Nonestied (2008), cemeteries both

artistically and culturally, are sensitive indicators of what is important to cultures and reflect larger cultural trends.

In cities of our days, appreciation of urban lands, and increases in structuring due to urbanization make it obligatory to plan the cemeteries as green areas. Many urban areas can easily leave their places to other kinds of use while cemeteries are lucky in this respect. Due to religious and social reasons, the cemeteries cannot easily leave their place to other functions (housing, com-merce etc.) in rapidly developing urban areas. Therefore, vacant urban lands, abandoned quarries and cemeteries are potential assets which can be revalued as green areas of the city. Abandoned cemeteries are morally and philosophically important areas beyond their potential to turn into green areas. These areas reflect and bring to our days the past times and the local historical characteristics. Cemeteries have somewhat documentary qualities. The florae, the epitaphs and the furnitures like "kuşluk" (water bowls for birds) and fountains convey the

folkloric characteristics of those days. Furthermore, cemeteries are also places telling people about the meaning of life and arousing philosophical and mystical emotions. In our cities, sufficient land area for cemeteries is difficult to find in populated areas, and in the near future areas. Sufficient space for cemeteries may not be found at all in cities in the most parts of the world. Researchers, Dent and Knight (1998); noted that cemeteries can be regarded as special kinds of landfills in that a limited range of organic matter is covered by soil fill. As resources become scarcer, it becomes necessary to make greater intensive use of resources that are presently available (Groves and Cauley, 1979). Planning is the key to use of a resource. The world can no longer afford crisis planning. The key dimension to future success in resource problems is preventive planning. Therefore it is an important issue to design the abandoned vacant areas left in the urban development in a way that they can contribute to the city. Countries which have space limitation for existing cemeteries or difficulty finding new suitable areas for cemetery planning have to reexamine all the systems of disposal of human remains (cremation, burial by ground and walled-grave) and all the parameters involved in the process of bodies decomposition (Santarsiero et al., 2000). If vacant abandoned lands within the city are left unattended they can be seen as "more natural areas" but they can also be regarded as ragged areas by the urban dwellers and remain rather unused (Meyer, 1999). Ucisik and Rushbrook (1998) noted that most existing cemeteries were visited without thought being given to potential risks to the local environment or local community. It is obviously clear that there is certain relation between public health and cemetery regarding environmental matters such as water pollution, epidemic etc. The location of burial is often based on ethnicity, religion, and social class. The size of grave marker indicates the relative power of males over females, adults over children, and the rich over the poor (Aries, 1974).

Historical events, people's memories, and a city's aura shape the urban experience because they create a sense of place rather than space (Dow and Wyche, 2009). The qualities that give places their character and identity are too often overlooked or paved over in today's urban environment. Cemeteries are often overlooked in the monotonous sprawl of cities. The cemetery's role as a repository of the history and memories of the local community is fading (Paulos and Godman, 2004). Cemeteries are a window through which a city can view the hopes, fears and designs of generation that created it and is buried within it (Sloane, 1991).

The importance of old/abandoned cemeteries

Old cemeteries may provide with some of the earliest written local history. Headstones reveal names and dates for locally significant persons.They also provide with samples of local folk art and reflect a substantial amount of popular cultural standardization of monument forms and motifs. Extant historic plant materials can be collected for study and can be reintroduced in other gardens. Cemeteries give knowledge, childhood diseases, childbirth, wars and epidemics. They tell about the recurring cycle of birth, life and death, and life cycle. Cemeteries are integral parts of the cultural landscape. School children and other members of community may use them as outdoor museums dedicated to an area's history and cultural traditions. Historic cemeteries are important cultural, architectural and archaelogical resources. Often a cemetery is the only remnant left from early settlements and as such is a vital link with the past. They provide quiet places to commemorate the deceased, whether it is of a most personal nature, or on a local, regional or even national scale (King et al., 2004).

Historical cemeteries give opportunity to connect people to the past. Unlocking the qualities of place is vital, because when people feel connected to a place- emotionally, culturally, and spiritually, they are more apt to care for it. Old cemeteris are visible, tangible links with people who made history. A cemetery is more than a collection of interesting historical data. It is also a place, an open space populated by monuments and vegetation which forms a very particular and revealing part of our built environment. Each cemetery has its own history of creation, development and growth. Older cemeteries demonstrate their value as a cultural heritage resource in different ways. They have aptly been called"outdoor classrooms". For students of all ages they offer endless possibilities for continuing education involving both natural and historical resources.

Some cemeteries promote recreational use of their grounds by maintaining extensive and well-labelled collections of plants and trees for hikers, cyclists, photographers, and bird watchers and by organizing walking tour and outdoor chamber-music concerts. Cemeteries supplement community Park Systems and enhance adjacent public open space; larger, park-like cemeteries provide habitats for wildlife. The character of cemetery changes with the passage of time. There are active cemeteries, which accept interments, and there are inactive cemeteries some stiil maintaned, though closed, and others abandoned.Time also inevi-tably alters the landscape with and around a cemetery. Weathering, often aided by environmental pollutants, can damage monuments and structures as can accidents, vandalism, and neglect. Well-intentioned interventions may obliterate the original relationships among carefully laid out parts of the cemetery. Maintenance cost, ageing infrastructure, changing surrounding and context, and public liability are pressures facing all cemeteries.

Where context and landscape design are significant, the application should describe the attributes of the landscape in which the cemetery is located. It is useful to

note the following;

1. Design and layout of the cemetery, including any special landscape features such as trees, plantings, fences, entrances, roads, open spaces, walls, pathways, gates and fountains.
2. The relationship of the cemetery to the general community, in which it is located,
3. Its relationship to historical settlement patterns and use of land,
4. The integrity of the site,
5. If the property is one of only a few remaining,
6. The cemetery's role as a physical or spiritual landmark.

According to Moorehouse and Hassen (2006); cemeteries are dynamic, reflecting changing and ethnic composition. When cemeteries are ignored and allowed to deteriorate and gravestones are destroyed, societies lose an important part of their identity. Some cemeteries have important vegetation such as trees, prairies. Some of the cemeteries capture attention because of their natural prairies, and savanna vegetation, and in some countries these kinds of cemeteries are currently protected under protection systems or status.

Moorehouse and Hassen (2006) noted that cemeteries have been as living people rather than the dead because of the importance of their open space and the messages contained within them. These messages reflect choices; the shape of headstones, the use of symbols and the text of all convey information.

Reuse of vacant or abandoned urban lands is particularly important for big cities in terms of economy and improvement of urban areas (Pagona and Bowman, 2000). Beatley (1999) emphasizes that urban improve- ment efforts to be made both in district and building scale must be primarily based on ecologic principles. In contemporary cities it is particularly emphasized that the urban development should be within the existing urban settlement rather than occupying the peripheric natural and green areas; in other words, "the compact urban form" must be maintained. In this regard, vacant or abandoned urban areas and reuse of those not used for whatsoever reason are suitable instruments in terms of compact urban form.

Cemetery as a place

Place is difficult to define and measure because it is subjective. Research approaches that acknowledge subjectivity's role in design have driven their preliminary research. They propose using audio and visual media to enhance the experience for visitors. Their initial design for using technology to engage the public in the cemetery and Atlanta's history is a self-guided audio tour. From Georgia Institute of Technology/USA, Human, centered computing program, researchers Dow and Wyche deve-

loped an old cemetery toure guided by technology in Oakland Cemetery.They used sound effects and narrator (actually an inhabitant of the cemetery), are exploring the use of the Global Positioning System (GPS), which would enable them to deliver media based on where the user is located in the cemetery. Professional actors recorded their voices for a script developed by historians and media theorists. Their understanding of the place qualities was instrumental in developing the dialogue and sound design. The audio media was placed onto a small portable computer equipped with headphones and audio segments were controlled by a "wizard" operator who monitored the experience nearby.

Dow and Wyche's contribution is to recognize how urban cemeteries play a role in understanding of urban environment in their study.They proposed that effects have been made to use advanced technology to enhance visits to any of the 200 cemeteries tucked away in America's cities.They argue that by using technology, cemeteries can be visited as cultural institutes such as art and natural history museums. They claimed that advanced technology can enhance to visit cemeteries as cultural institutions like art and natural history museum. Dow and Wyche (2009) believed that technology can revitalize and draw attention to areas in cities that are threatened by homogenity. Retelling the story of a place, through media enhanced tour systems, is a powerful and graceful way to educate users about urban landscape. Dow and Wyche believe that technology can revitalize and draw attention to areas in cities that are threatened by homogenity. Retelling the story of a place, through media-enhanced tour systems, is a powerful and graceful way to educate users about urban landscape. They used technology by retelling the deceased's stories, they want to expose people to the richness buried in historical cemeteries and motivate others to recognize these urban spaces as places or gems for learning. They organized a media-enhanced tour guide for Oakland Cemetery visitors. Space is organized not just physically but culturally; cultural understandings provide a frame for encountering space as meaningful and coherent. Because technology causes people to re-encounter space, it is important to understand and to respond to users' needs for a sense of place. Dow et al. (2005) intend to entertain and educate visitors about historically and culturally significant events related to the deceased inhabitants of the cemetery. They worked with the constraints and affordance of the physical environment of the cemetery to design an audio-based dramatic expe- rience. Some types of burial places represent events, customs, or beliefs common to many cultures, locations, or time periods. Others are unique representatives of specific people or events. In general, burials customs have varied widely, not only geographically, but also through time, having been shaped by different environ- ments, social structure, and spiritual benefits. Today, cemeteries that in the past were located on the outskirts

of the town happen to be in the middle of the town, because of the expansion of towns and because of the lack of new suitable areas to designate to cemeteries and burial grounds (Santarsiero et al., 2000). As reported in the literature, it is supposed that burial procedures may affect the development of the micro-flora necessary for the process of cadaver decomposition with regard to infectious risk; pathogens may be present in the corpse if it was an incubatory carrier (Santesiero et al., 2000). According to one resarch, there are four characteristics important to the creation of a sense of place, or spiritual landscape. These include the axis mundi (the focus of our attention or the goal of our approach), the approach itself (the directionality of our attention or how we get there), the boundary of the site (that space in its defined particularity), and the site's domain (its effect). It is an organized defined space; it is a place (Korp, 1997).

Cemetery as a green area

In contemporary cities it has been obligatory to view the cemeteries as green areas which in the historical process were regarded as places to inter the deceased bodies. In the Middle Age in France, there were great pits meters deep called *"fosses aux pauvres"* which means "pits for poor" where the deceased bodies were thrown in and then filled with soil. The bones from the old pits were undug and taken to the "charnier"s. In ancient Rome, everybody, even the slaves had places of burial. These places were called *"loculus"* and marked with inscriptions (Aries, 1991).

Designing the cemeteries as green areas, and parks dates back to very old times. Spring Grove Cemetery designed by Adolf Strauch as a park with natural effects was chosen as the best American landscape design in 1900 at the Paris International Exposition. The cemetery of Spring Grove, which has natural effects and designing like a park designed by Adolf Strauch, won the gold medal at the Paris International Exposition as the best designed landscape in the United States, in 1900. In addition, Olmsted observed" I know of no cemetery in the country in which there are any natural effects of landscape gardening, properly so called, except at Spring Grove". In 1875, Frederick Law Olmsted praised Spring Grove as the best cemetery in the nation "from a landscape gardening point of view". In addition, Olmsted personally believed that only parks should be more expressive of function.

Prussian landscape gardener Adolf Strauch's landscape lawn plan brought a type of zoning to Cincinati's Spring Grove (1845) Cemetery design contributed to the rise of professional landscape architects and inspired the making of the nation's first public parks (Kenneth and Vergara, 1989). Art Cowie considers the old cemeteries located within big cities as interesting places telling about the history of the region, and argues that in places where

land is at a premium cemeteries are "like undiscovered urban parks" and therefore that they must be revalued by being redesigned. Sometimes, locations of some cemeteries turn the cities into important places. For example, in Berlin Cemetery of the March Revolution and the public cemetery in Friedrichsfelde, Revolutionaries' cemeteries in Berlin, become key sites of memory and commemoration for the working class movement (Stangl, 2007). Stangl (2007) argued that spatial relations are critical in determining meaning in the landscape; equivalent to syntax in language. He explicated that when a physical space acquires social meaning it becomes a "place". In his article he examines the changing relationship between state history, political practice and place-based identity, and, examined the cemeteries meaning in this regard.

Some cemeteries which have adapted themselves to the conditions of the modern age serve for different purposes other than being just burial places. For instance Spring Grove Cemetery remains proactive in its multiple roles and functions. It is not simply a place for burial but one fostering in the sort of enduring comme-moration. Business of memories and horticultural mission of cemetery remain alive. Its ecologically important place shelters diverse wild life. It includes fine arts, archti-tecture, education programs and events cultivate public interest. Photographers, bird watchers, students always visit cemetery because its arboretum and burial ground importance. Spring Grove is seen as important green space in Cincinati's dense metropolitan fabric, a vibrant, busy place, more for the living than for the dead. Cemeteries should be adapting to modern conditions redefining its original missions, horticulture, commemoration and landscape.

Existing cemeteries, especially in urbanized areas, are often located on land that was, at the time the cemetery was built, on the outskirts of the community. Over time these cemeteries have often become "landlocked" hemmed in by development (Capels and Senville, 2006). Planning for new or expanded cemetery is a challenging issue, often given little attention (Capels and Senville, 2006). At the same time, maintenance of existing cemeteries has become a growing concern. Capacity of existing cemeteries is also another concern. The use and development of natural resources is becoming a critical concern, especially considering the economic development and stability of the world money market. Maintaining an adequate standard of living and the quality of life is a complex planning problem in technological societies. In many western countries, public cemeteries are consi-dered as a part of the park system.

They are not only places to bury the deceased but also places for remembrance and joy (Huang, 2007). In Turkish cemetery traditions, cemeteries (which were buried their ansectors) people visit their ansectors' graveyards to worship and show their respect to deceased relatives in every religious festival called as

"bayram - bairam" or anniversary of their relative death-day. According to common belief that cemeteries are seen frightening and forbidden places. Cemeteries are places showing people their future. Cemeteries remind people the reality is that everyone will die one day.

Designing the cemeteries as parks is among projects with priority for many countries in different locations with diverse religions. There are some projects in different countries, which varies, religions in all over the world in these projects. There were expected that park-like public cemeteries would improve the overall environmental quality, provide dignified environment for worship and offer pleasing outdoor spaces for recreational use (Huang, 2007). Huang (2007) who investigated possibilities of recreational use of cemeteries showed that Taipei residents' recreational intention at public landscaped cemeteries was high.

The results of Huang's study (2007) indicated that a majority of participants liked public land-scaped cemeteries, but their intention for the recreational use of the cemeteries was moderate. Cemeteries are a physical embodiment of the methods of artificial memory recommended by ancient rhetoricians (Wright 2003). According to Wright (2003), cemeteries remind us that will humans want eternel truths, want cemeteries to contain memories that last until eternity, our truths are very much of the moment. Claydan and Woudstra (2003) showed that in their studies, there was a wide spectrum of approaches to twentieth century cemetery design which had resulted in radically divergent cemetery landscapes. They believed that cemeteries, like all landscapes, are dynamic environments. Some of the issues explored include how cemetery design can contribute to the open space structure of the city and thus be of importance for recreation and ecology. Other issues include the way designers have responded both to local history and to the existing nature of the landscapes where the cemeteries are laid out, and the implication of how the design and organization of the cemetery meets the needs of the bereaved and of visitors, as well as those responsible for the day-to-day management. Claydan and Woudstra (2003) investigated twentieth century European cemetery design such as Denmark, Sweden, The Netherlands, Spain cemeteries. In Almera-Haven the designers have also sought to preserve local identity by selecting species which are typical of the character of the neighbouring landscape. The cemetery in Almere-Haven is remarkable for its integration of the cemetery in everyday landscape, and in how the planting reflects a local identity. Planner and designer, Cowie called cemeteries as "undiscovered urban parks" and discussed current memorial trends in Canada and in Europe. According to Cowie many municipalities have started revisiting their older cemeteries and looking for ways to revitalize them to meet the community demand for burial spaces, improved visual appearance and better use as casual open space. Howard Weed wrote in 1919

"the landscape features of the modern park and the modern cemetery are essentially the same, with green grass, flowers, shrubs, and trees so arranged as to produce harmonious effect, pleasing to eye" (Bridgeham, 2002).

In early times, caves provided both shelter for the living and a sepulchre for the dead. The cemetery must satisfy the needs of the bereaved during different stages of grief (Salisbury, 2002). The modern cemetery also fulfills a wide range of roles for the larger community roles for the living, ranging from active recreation to personal contemplation. As a natural and integrated landscape it may help to normalize death and grieving. The natural landscape of the cemetery may indeed provide a normalized therapeutic environment for the grieving. Salisbury (2002) indicated that a growing trend in commemoration is the use of trees and gardens to memorialize loved ones. Trees have played an important role in the memorial designed for the victims of the Oklahoma City bombing, survivors of Hiroshima and Texas A and M homecoming tragedy to name a few high profile examples. Helping to plant a tree is an important element in the emotional formula for handling grief and memorializing loved ones.

The cemetery is an integral part of the larger community, both in a physical sense and in a psychological sense. Genealogist and researchers commonly rely on the historical records of cemeteries and tombstone inscriptions to gain valuable insight into past cultural and personal events. The cemetery is a window into our past (Salisbury, 2002). Many urban cemeteries were originally designed as, and continue today to function as mixed-use open space in the city. It is not uncommon for cemeteries to have more recreational visitors than mourners on any given day. Joggers, bird watchers and walkers often use the cemetery (Mc Pherson and Nilson, 2987). Wright (2005)'s article considers how the essential nature of the cemetery makes it both a very usual and unusual me-mory place. As a physical place and a spiritual space, the cemetery confuses the symbolic and physical to allow memories forgotten in other locations to survive-often silently.

She considers the cemetery as a rhetorical memory place. Cemetery certainly is known as a sacred space that contains many memories. The cemetery is the center of the living and the dead. Jhonson (2008) argues that the cemetery in real and ideal terms manifests and intensifies a variety of rural and urban spaces and, paradoxically, generates a model millieu for the living. Efforts have been made in various countries to improve the cemeteries and to solve some problems observed. For example, in Taiwan between 1976 and 1985 the administrations particularly developed a series of cemetery beautification projects (Huang, 2007). Some European approaches to twentieth century cemetery design (Clayden and Woudstra, 2003). According to Francis et al. (2000),

cemeteries are spaces which record sociocultural and religious change. Their physical landscapes register varying religious traditions, and their ownership reveals a history of inclusion, assimilation and exclusion. Also they claimed that such public spaces encode identity, status, ideology and memorialization both at the collective and individual level. Their study suggests that bounded ecological areas within cemeteries are managed with an enhanced understanding of natural process. In Turkey, municipal authorities have responsibility about the planning design and management of cemeteries. According to legal provisions, private cemeteries are not allowed. Ownership is always by municipal authorities. In Turkey also, many European countries, the municipality has dominated the provision of cemeteries, which tend to be managed as any other local service, for example environmental health enforcement or recreational amenities.

Cemeteries are able to carry multiple social and political meanings. The sites are intended to serve the whole community, and in doing so are closely integrated into community history (Rugg, 2000). J.S. Curl is one of the writers who defines cemetery as a large landscaped park. Julie Rugg's study proposes definitions of cemeteries. The cemetery can also be a way of demonstrating a degree of civic pride (Rugg, 2000). Extensive biological diversity and density of vegetation in cemeteries provides habitat for a variety of wildlife, moderates the urban environment, intercepts airborne particulate, and reduces storm water runoff in urban areas (Mc Pherson and Nilson, 1987).

RESEARCH DESIGN

The study was constructed on the basis of the question:

"What can be done to put into use this inactive but important open green land as an aesthetic and functional green area?"

To this end, general characteristics and problems of the area have been determined, and then proposals have been developed for this place. Observations have been made in the field in different seasons on different hours to determine the tendencies and behavioral patterns of the user group, and a survey has been made with people with face - to - face interviews. The survey was made with 96 randomly selected persons living around the cemetery and who were in direct visual contact with the area. The existing plant species were determined with field observations made in different seasons. Data were derived from these observations and the survey with respect to designing the area. A design philosophy to preserve the original character of the area as a cemetery was proposed notwithstanding that the study area is not an active sepulcher. Strengths and weaknesses of the area were determined with the survey and field observations (using SWOT analysis). A design philosophy was determined taking into account the users' requirements, issues relevant to traditions and faith, as well as urban conditions and general characteristics of the area.

A set of tasks was completed that included site reconnaissance, site analysis, literature review, interviews and development of the concept. Interviews were conducted individually. Planning and design issues, goal and objectives were refined and developed in

the light of the interviews with people who live and work in the surrounding area, and school children. The existing cemeteries (those still used for burials) are generally far from the cities and are not visited frequently. In Turkey, according to legal provisions the Greater Municipalities are responsible for establishment and maintenance of the cemeteries. Due to lack of economic resources and experienced personnel at the municipalities, there are deficiencies with respect to design and maintenance; therefore the urban dwellers consider these places as "cold and scary places". The boring and scary psychological effects of the cemeteries also play a role in staying away from such areas. Whereas, cemeteries are "special" areas that should be treated specifically and can be revalued for the cities which are under pressure coming from intensive and rapid structuring. In this context, the study area was particularly selected.

Study site (History of the study area)

Karakusunlar cemetery was originally laid out as a burial ground. Karakusunlar cemetery originally is located in the outskirt of the urban settlement, formerly in the village, that is now becoming a more urbanized area. It can provide a place for quiet reflection and solitude and much needed open space. It becomes even more vulnerable due to the physical and economical dynamism of urban forces. In recent decade, cemetery area has been maintained poorly, surrounded by incompatible uses, become forgotten landscapes and has detoriorated. Some pedestrian (path road) divided the cemetery from the surrounding urban context. This study has been carried out within the city of Ankara. It covers about 19.087 m². It is inactive and closed to future burial where the grave-markers found within the cemetery. The site where the cemetery is located was a village about 20 years ago. The village and its cemetery was opened to urban habitation as a result of proliferation of urban development in Ankara to the urban periphery in the course of time. The boundary of the quarter where the cemetery is located was turned into multi-storey buildings with development plans. The cemetery tucked between intensive housing has remained an old and abandoned cemetery among dwellings since it could not be transformed to another use. The area attracts attention as an abandoned, ragged and vacant land though the development plans mark it as a land to be forested. There are 179 graves in the cemetery where no new interment is made in recent years. 89 graves have tombstones and the identities of the buried bodies are known, while 90 graves carry no name or informative indications.

Sizes of 15 graves which do not carry information imply that they can be infant graves. There are only a few tombstones and graves recognizable in the site. No new interment is made in "Karakusunlar Cemetery" which is abandoned and tucked between dwellings. In the vicinity of the cemetery there are some little businesses like garages, a primary school and houses. The area is used as a passage between houses and the market place while children living in the vicinity pass some time in the area. Observations made in different years and seasons show that further than being a cemetery the area is used for other functions, too. For example, a slopy area close to the boundaries of the cemetery is used by the children for skiing in winter (Picture 2). The area is under a heavy pedestrian traffic in different hours of the day especially when green market of the region is active (two days a week on Thursday and Sunday). The area where no new interment is made is left vacant due to both religious rules and development plans.

The abandoned cemetery tucked between luxury housing sites is a ragged and vacant land. The target is to create an aesthetic and visually rich area which would meet passive recreation requirements of the inhabitants of the region. As shown in Picture 1, the area has a triangular form on two sides of which there are roads. The cemetery is surrounded by houses, a primary school and a small garage. It is a passage for the surrounding housing sites and

Picture 1. Aerial photo of the study area.

Picture 4. Photo taken from the cemetery in summer.

Picture 2. Children playing in the cemetery in winter.

Picture 3. The cemetery in winter.

used frequently between the market place and houses (Picture 1). Pictures 2 and 3 are photos taken from the study area in winter. Picture 4 was taken in summer.

RESULTS OF THE STUDY

Survey results

The survey including 24 questions was made with 96 persons. This figure represents 2.4% of the inhabitants of the region which is around 4000. Of the respondents 44.8% were male and 55.2% were female. Majority of the respondents were young, and 6.2% were between 61 and 99 (Table 1). Investigation of the educational status of the respondents revealed that 32.2% were primary school, and 35.4% were university graduates.Table 2 shows the educational status, and Table 3 shows distribution of vocations of the respondents.

Opinions of the respondents about the area

Opinions of the people leaving in the region who were everyday in contact with the area either visually or by being there were sought via various questions. The questions designed for this purpose tried to measure positive and negative impressions of the individuals about the area, their reason for being there, and the times of their visit. 41.7% of the respondents defined the area as "scary". 21.9% found the area boring while 14.6% defined it peaceful. Table 4 shows the words used to define this abandoned cemetery. Looking at the negative ex-pressions like boring, scary etc. it is seen that the area is defined with negative words. Only 14.6% of the respondents defined the area as peaceful.

  The cemetery located between dwelling areas was annoying for 58.3% of the respondents. Rate of those who do not feel annoyed from the presence of a

Table 1. Distribution of the ages of the respondents.

7-17 Years (%)	8 - 25 Years (%)	26 - 35 Years (%)	36 - 45 Years (%)	46 - 60 Years (%)	60 < Years (%)
10.4	19.9	24	25	14.6	6.2

Table 2. Education levels of the respondents.

Education levels of the respondents (%)	Primary school	High school	University	Post graduate
	32.2	29.1	35.4	6.2

Table 3. Distribution of vocations of the respondents.

Distribution of vocations of the respondents (%)	Liberal profession	Student	Public servant	Pensioner	Housewife	Unemployed	Other
	23	18.8	14.6	12.5	9.4	6.2	15.6

Table 4. Distribution of the words used by the respondents to define the cemetery.

The best word defining the present situation of the cemetery in the opinion of the respondents	Scary (%)	Boring (%)	Neutre (arouses no feeling) (%)	Peaceful	Other negative definitions (ragged, repulsive, indecent, no landscaping, like an ordinary area) (%)
	41.7	21.9	16.7	14.6	5.2

Table 5. Distribution of the respondents by reason of presence.

Distribution of reasons of presence in the area (%)	Access to market place or vicinity	Walking	Sitting-resting	Watching the surroundings and plants
	37.5	5.2	7.2	3.1

cemetery where they live was 41.7%.

The respondents were asked whether or not they used the cemetery for crossing, walking, resting and similar purposes. 46.9% responded that they never used this area for whatsoever purpose, while 53.1% stated that they used it for various reasons. 37.5% of those who used the cemetery stated that they used the area as a passage to other functions such as market place, school etc. Table 5 shows the distribution of the reasons of presence in the area. 90.7% of the respondents who used the cemetery stated that they used the area during day, and 9.3% at night. When seasonal use was investi-gated it was found that a majority of 52.8% used the area in summer. 13.2% of the respondents reported that they used the area in fall, 3.8% in winter and 30.2% in spring. 31.7% of the 46.9% of the respondents who never used the area stated scariness as the reason of not using it. 63.5% stated that they did not find any reason to use the area, and 4.8% stated other reasons. Those not using the area for other reasons argued that "because of their faith it was not right to rest or walk in the cemeteries and that cemeteries were not convenient for such purposes".

91.7% of the respondents did not have relatives buried in this cemetery, while 8.3% had. Rate of respondents who were not content with the existing situation of the area without any improvement was 86.5%. 13.5% stated that they were content with the existing situation. 86.5% of the respondents not content with the existing situation stated the raggedness of the area as their reason of complaining. 11.6% found the area unsafe (due to street dogs, and risk of running into bad intentioned people like thieves); while 1.9% found it empty and useless. The respondents mainly proposed construction of bycicle and walking roads if the cemetery was going to be redesigned.

Table 6 shows the modes of use the respon-dents mainly prefer. 70.8% of the respondents favored the idea of arranging the cemetery as an ecology park (with an approach caring for preserving the nature and natural equilibrium, and embracing a design philosophy placing importance on the environment and green), while 29.1% did not. Generally, the idea of "cemetery" is perceived negatively and arouses adverse feelings. Nonetheless, number of people who do not feel uneasy with existence

Table 6. Percentage of the preferred modes of use of the cemetery.

Bycicle road (%)	Watching (landscape) (%)	Resting area (%)	Walking road (%)	Yoga-meditation (%)	Other activities (café, sport complex) (%)
25	25	21.9	20.8	1	6.3

Tabe 7. Strengths, weaknesses, opportunities and threats of the study area.

Strengths	Weaknesses	Opportunities	Threats
Existing vegetation (some herbaceous bulbous species) Harbouring samples of steppe flora	Raggedness	Existing samples of steppe flora can make it possible to use drought-resistant species	May easily change function in a region where profitability is high (land prices are high in the vicinity)
It has been able to remain an open space among intensive development	It is not included in the maintenance program of the municipality	It is a habitat for fauna like bugs, birds etc (it provides shelter and food) and has potential contribution to bio-diversity	It is uncared-for and so may pose threat to safety in future
Existance of the habitual use of the area by the people	Widespread belief that the area is scary because of being a cemetery	Opportunities of collective transportation in the vicinity (existing bus stops), easy access	The negative prejudice about using the cemeteries as green areas
It is located within the city	Existance of a pre-school and a primary school in the vicinity	With a good design the existance of the school may ensure sustainability of the area	Deficiencies in social acceptation
Land prices in the vicinity are high	Bad image	It may be a natural and environmental education site for children	

of a cemetery in the region is close to number of those who do. This shows that they respect the cemetery though they do not necessarily have positive feelings about it. Generally, the people do not use the cemetery in their daily lives except for passing through it to nearby places. This indicates that they do not want to include the area in their lives. Number of those who use the area willingly is very low. Those who use the area unwillingly use it mostly in day time

Results of SWOT analysis /strengths and weaknesses of the area

One of the important instruments determining the designing decisions of the area is the strengths and weaknesses of the area (Table 7). As it is seen in the table, some qualities are considered as weaknesses for the area, while they may also be taken as opportunities. For example, being uncared-for and lack of any intervention has made the area strong in terms of ecology. Similarly, some functions existing in the vicinity may be considered both as weakness and opportunity. The school and the bus stop ensure maintenance and management of the area while making it easily accessible.

The existing foot paths show that the cemetery has undertaken the role of a passage zone among other

functions and therefore that the people use it habitually. Accordingly, putting the existing foot paths to use again is considered as an opportunity in this sense. Some species of the natural flora of the cemetery have been especially considered as strengths. Some of the species found in the area are listed below. It is very important to preserve these species in the cemetery which has an important place in urban ecology with its colors, flowers and forms.

- *Adonis aestivalis ssp.aestivalis*
- *Alcea pallida,*
- *Artemisia fragrans,*
- *Amyygdalus orientalis*
- *Anthemis cretica ssp. Tenuiloba*
- *Centurea urvillei*
- *Cephalantera longifolia*
- *Cichorium intybus L.*
- *Echinops sphaerocephalus ssp.sphaerocephalus*
- *Festuca valesiaca*
- *Glaucum corniculatum ssp.corniculatum*
- *Lavandula stoechas*
- *Muscari armenum*
- *Thymus squarrosus*
- *Salvia cryptantha*
- *Ornithogalum armenum*

Pictures 5, 6 and 7 show some wild flowers growing in the region.

Picture 5. An example of the existing vegetation (*Alcea pallida*).

Picture 6. Another example of the existing vegetation (*Echinops sphaerocephalus ssp.sphaerocephalus*).

Picture 7. One of the last graves made: self-growing herbaceous plants on the grave (*Capsella bursa-pastoris, Adonis aestivalis ssp.aestivalis, Glaucum corniculatum ssp.corniculatum*).

Targets and proposals for the abandoned cemetery

The overall philosophy and major emphasis of the design is to transform the cemetery into an ecologically rich area which is visually satisfactory for the settlement in its vicinity, and which can be used by the living people, too (for recreation, passage between different functions, meditation etc.) without neglecting its function as a "cemetery". The cemetery consists of 19.087 m² used for burials, and an undefined 1.860 m² in the East of the area separated with a wall. The area to be designed has increased to 24.851 m² as a result of the changes in the development plan. The following targets have been put for the area after discussions, field surveys and analyses:

Basic targets

1. Improve aesthetic qualities and visual appearance of the area,
2. Provide ecologic contributions,
3. Strengthen pedesterian connectivity,
4. Preserve the existing characteristics of the area with moral considerations,
5. Ensure better use as casual open space,
6. Improve the visibility and safety around the cemetery,
7. Improve aesthetic qualities of the cemetery,
8. Provide a safe and pleasant walking experience for pedestrians,
9. Improve the overall aesthetics of the site to make it more appealing for a potential visitor,
10. Improve pedestrian accessibility and safety,
11. Create an aesthetically urban design,
12. Preserve existing plots,
13. Improve aesthetic qualities and the accessibility in the area.
14. Improve the physical and visual connections with the cemetery and surrounding urban context,
15. Preserve existing plants cover and existing character of the area,

Groundcover is used extensively in an effort to guide the visitor on a path throughout the desired route. Thus the site now much richer in natural foliage, becomes a place with a purpose for the visitor and has a created mood of serenity and peacefulness. With this contex, the site is transformed into a place. The buried are recognized and respected and the unkown are memorialized. Thus the site becomes a site that is not only resting place of the deceased, but also a place that can be experienced by the living. Redesigning the abandoned cemeteries preserving their historical and cultural characteristics, and making them reusable for the cities with a protectionist approach make it obligatory to develop new approaches. The major problem of the cities to be solved is invasion of the urban areas by buildings due to increases in land prices, and disappearance of open and green areas.

Picture 8. Foot path in the cemetery – before.

Picture 9. Putting into reuse the foot path as footway – after.

Picture 10. The proposed footways and the curtaining between the school and the cemetery.

Drought resistant species like *Astragalus, Acantholimon* etc. which do not require much maintenance and which lay deep their roots are proposed as a ground cover for slopy zones. Furthermore, it has been found important to use some existing plants of the natural flora like

Lavandula, Adonis etc. as ground cover on the graves. *Amyygdalus orientalis* traditionally used as small trees will be convenient in terms of preserving the identity of the area. The project is based on a planting which reflects and preserves the local identity. Natural stone is proposed for covering the foot paths, and as furniture to be used in sitting and recreation zones Pictures 8 and 9.

An envelopment to be made using intensive and evergreen species all over the cemetery is found to be inconvenient. An open visuality must be created to ensure safety and to get rid of the negative image of the cemeteries that they are cold and scary places. Therefore, a planting which does not limit visibility must be made around the cemetery. However, *Cupressus sempervirens"* commonly used in cemeteries has been proposed to cut visibility from the primary school next to the cemetery Picture 10. Maintenance costs like irrigation, pruning and mowing must be principally decreased to minimum. To this end, self-growing species chosen from the natural flora which do not require much maintenance must be chosen. High species like lawns are not proposed since they require high maintenance costs of irrigation and mowing.

DISCUSSION

Vacant and abandoned urban lands are important potentials for the urban green. Particularly, cemeteries are strong lands in terms of urban ecology. Determining the existing faunal and floral characteristics of such lands, reusing them even only for passive recreation, and management and maintenance of them by the public authorities will make them advantageous spaces which local administrations can cost-effectively establish. Existance of such lands will also provide social benefits like public health and social integration as well as ecologic and economic benefits. The provision of green spaces within the urban environment has always been strongly linked to good health, and areas with poorly managed open green spaces are accordingly more likely to have a higher incidence of poor health.

Cemeteries are not simply places for burying the dead; they are increasingly recognised as a significant part of our historic and architectural heritage. Cemeteries have a significant role in urban areas where they are particularly. With the green they harbor and the spiritual meaning they have, the cemeteries have missions different from urban parks. The cemeteries should be considered as urban green spaces like urban parks. However, lands like Karakusunlar cemetery which remain within rapidly developing and extending urban areas and are no more functioning as burial places must be taken up and designed with a particular attention. Unfortunately, urban parks, too, are turning into structures with rapid urban structuring (hard surfaces, cafés etc.) When seen from this point, old cemeteries can be redesigned without much structuring cost and financial burden on the

municipalities. Using the existing steppe plants and enriching the place with simple but functional furniture made of natural materials will make these places preferable. Such reused places must also be conveyed to new generations as folkloric documents. Recommencement of urban use of old cemeteries has ethical values in this respect, too. The importance of urban parks as green spaces with structures decorated with ornamental plants cannot be denied. However, it can neither be denied that with different planning and design approaches the abandoned cemeteries as well as those still used actively for burials can also be used as green areas in terms of ecology. Cemeteries no more functioning as burial places, or abandoned vacant lands remained in the rapidly urbanizing areas are important potential instruments for a healthy and lively urban environment. Economic and ecologic concerns must be given priority when designing such places. Using the existing steppe plants and enriching the area with simple but functional furnitures made of natural materials in accordance with this approach concretized with the study area, will make such places preferable. Such reused places must also be conveyed to existing and future generations as folkloric documents. Recommencement of urban use of old cemeteries has ethical values in this respect, too. Having a say in, and contribution to availing of visually weak but culturally valuable urban places to the urban dwellers will foster civic pride, too.

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