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492E GRADUATION PROJECT

Atatürk Airport

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Pollinate

Spreading from center. Cultural and ecological aspects of transition.

ATATÜRK AIRPORT



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Pollinate

'paː.lə.neɪt

to give (a plant) pollen from another plant of the same kind so that seeds will be produced

"Airports have never been more central to the life of cities, yet they have remained relatively peripheral in design discourse. In spite of this, however, landscape architects in recent decades have reaffirmed their historic assertions about the airfield as a site of design through a range of practices"

(Dümpelman & Waldheim, 2016)

Research Keywords:

Landscape urbanism, urban park, cultural heritage, urban identity, resilience, landscape context, ecology, urban wild scape, transportation hub, infrastructure, flows, volumetric landscape.

1.1 PURPOSE AND SCOPE OF GRADUATION PROJECT

The purpose of the graduation project is to demonstrate that the student has the necessary knowledge and development in all the disciplines that make up the whole of the education and training in the Department of Landscape Architecture and put forth a finishing work proving that the student has the necessary knowledge and development and attained the desired professional level and on the other hand, development.

1.2 AIMS AND CONTENT OF GRADUATION PROJECT

Airports have always been the blind zones of the cities. Their peripheral location can change through time as the cities spatially expands through periphery. In that case airports and their surrounding environment become a very critical planning and design issue to provide a spatial setting in relation with the urban landscape. With their huge scale and infrastructure, these spaces generally be a subject of landscape architecture discipline from two perspectives; ecological enhancement of operating airports and the conversion of abandoned airports. "Pollinate" as the main theme of the 2019-20 Spring Semester Landscape Architecture Graduation Project, invites students to discuss up to date nationwide concept of "nation garden" over one of the most polemical conversion project in Istanbul; Atatürk Airport. This approximately 800 ha. public park will provide a complex landscape that is structured around issues addressing environmental sustainability, urban ecologies and rich heritage of the site. Just like its counterparts around the world such as Toronto Downsview Park in Canada or Tempelhof Airport in Berlin, Atatürk Airport would be a dramatic case of transformation from logistic landscape to an urban park with new programs.

"Pollinate" seeks for creative ways to reconfigure the urban wildscape with the opportunity to spread the landscape idea to the city. In contrary to the generic notion of greening the city, "pollinate" defines a dynamic, open ended and flexible process to seed the idea of urban park within the solid forms of existing spatial setting of the airport. "Pollinate" aims to discuss the current modes of the production of urban landscape. Here contemporary theories of landscape architecture will be used as a guide to consider the intensive infrastructure of the airport from ecological, social and cultural perspective.

This graduation booklet encourages students to discover the hidden potentials of the site associated with its multiple meanings which underline the airport as a part of national identity, operational field and ecological degradation. Therefore, it is expected from graduation candidates to develop a landscape context and a program for the project site by considering its size, history, infrastructure, and environmental relations.

GRADUATION PROJECT



The graduation project consists of the project, jury sessions during the semester, sketching exam and the final review. The graduation project will be developed according to the graduation brief and other conditions and will be the end result of the original ideas and individual efforts. The graduation jury, assess and evaluate the graduation project according to the requirements throughout the semester in three sessions that is organized as phases. In the fourth session (final jury) the jury evaluates the whole graduation project and grade the project. The students have to submit all the required project materials one day before the final jury date by signature. The jury makes a preliminary evaluation after the submission and the students who submit all the materials at the required level is allowed to present the graduation project in the final jury. The jury can take the initiative to dismiss a project that doesn't meet the requirements. All the details specifed on the graduation project brief must be completely included in the project. The powerpoint presentaions may only be used as a supplementary element during the jury. Each student have 10 minutes to make the presentation.

CORE JURY MEMBERS



Assoc. Prof. Dr. Meltem ERDEM KAYA

Landcsape Design Methadology / Ecological Landcsape Reclamation and Rehabilitation / Approaches in Landscape / Rural Settlement Brown Fields Desifn and PLanning /Ecological Identity and Morphology Researches / Planning and Design / GIS Based Landcsaape Regerenative Strategies for Urban Vacants / Post- Studies / Sustainable Landsapes / Coastal Areas Industrial Landcsape Design

GUEST JURY MEMBERS



Assoc. Prof. Dr. Deniz ASLAN

Landscape Design / Urban Design

ASSISTANTS



Parametric Landscape Architecture design Landscape Design / Architectural Visualization / and methadologies / Performatif Approaches in Landscape Architecture / Visualization and representation techniques in design



Assoc. Prof. Dr. F. Ayçim TÜRER BAŞKAYA

Planning and Design / Landcsape Management and Environment Law



Assist.Prof. Muhammed Ali ÖRNEK

Computer-aided education in landscape architecture / Landscape construction / Digital game-based learning and information technologies.



Sustainability / Urban Design / Urban Regeneration / Participation in Planning



Res. Assist. Nergis Aşar



ABOUT THE SITEYeşil Köy - Atatürk Aırport

HISTORICAL BACKGROUND

Atatürk Airport takes total space of 11.776.961m2 in the districts of Bakırköy, Yeşilköy, Yeşilyurt, Florya ve Sefaköy. The area is 24 km apart from the Istanbul city center and consists of 1.500.000 m2 concrete area. In 1912 the first airfield of Istanbul, started to serve in Yeşilköy with military purposes. In 1933 after the first flight from Istanbul to Ankara, Yeşilköy airfield started to serve for civil flights. As a result of rapid increase of flight traffic and passanger number, a masterplan for Yeşilköy Airport for was put in practice in 1971.

Plan was consist of 4 terminal buildings with 5 million passanger capacity per year and its complementaries. In 1985 Yeşilköy Airport with its new modern look became Atatürk Airport. The enlargement of airport has continued until 2000 (URL-2, 2019). One of the important addition to the Yeşilköy Airport is the once new terminal building designed by Dr. Hayati Tabanlıoğlu which started operating on 7 th October 1983, and the architect was awarded with Sedat Simavi Award in the same year. (Erdoğan, 2005)

Scheduled flights were officially ended in 6th April 2019. (Çiftçi, 2019)



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1.3 GENERAL INFORMATION ABOUT SITE

Istanbul Atatürk Airport is located with in the borders of Bakırköy which is one of the largest province of Istanbul and the coastal province Yeşilköy. In detail, on the south there is Marmara Sea, on the north there is E5 highway, on the west there is Florya Atatürk forest and on the east there is Ayamama Stream. Atatürk Airport or with its old name Yeşilköy Airport, was used for domestic and international civil flights purposes. Atatürk Airport is 24 km away from the city center.

(Çiftçi, 2019)

1.4 NATURAL ENVIRONMENT

The total area of public green and open spaces around the site is 379 hectare. Atatürk Airport with its 1.177 hectare area is almost equal to 3 times of the total amount of public green areas and outdoor spaces. (Çiftçi, 2019)

Even though the site is not necessarily consists of plant material, possible Flora of the site can be examined by, examining the closest large green areas such as Florya Atatürk Forest (Çiftçi, 2019). Some of the most common plant materials in the forest are Kermes Oak (Quercus coccifere), Laurel (Laurus nobilis), Phllyrea (Phillyrea latifolia), Mastic tree (Pistacia atlantica), Judas-tree (Cercis siliquastrum), Linden tree (Tilia argentea) (Karabacak, 2018).



Bakırköy province was located next to Küçükçekmece Lake and basin. The basin shines out with the bird population, it is home to.

(Çiftçi, 2019).

Küçükçekmece Lake is 1500 ha. The deepest area of the lake is 20m and it is mildly salted. Site is home to significant amount of birds in winter such as Great crested grebe, Great cormorant, Caspian gull. (Yarar & Magnin, 1997).

According to Karabacak the dominant climate is Marmara region climate which is a sub-climate type of mediterranean climate. According to Köppen-Greiger climatic classification area is in mild temperate zone (Karabacak, 2018).



1.5 URBAN ENVIRONMENT

Atatürk Airport as being one of the most important airports in the world consists of three airstrip. One 05/23 airstrip which is 60m in width and 2600m in length, one 17L/35R airstrip which is 45m in width and 3000m in length and one 17R/35L airstrip with same dimensions. Airport is also consists of 369.200 m2 apron, airplane parking area with 90 airplane capacity, 189.000 m2 terminal building and 179.000 m2 car parking area with 7.069 vehicle capacity, and other facilities such as airplane maintenance areas first aid units, control tower and etc. (URL-2)

The additional international terminal building which started operating in 2000, One of the important criteria on the designing process was direct link with both in city and express ways. The direct connection of urban railways (metro) transportation method which goes from city center to airport was outstand as an effective method when the soon to be increased passenger capacity was thought.. On the other hand the ferries became a good alternative with the ease and speed for the passanger especialy for the ones that are coming from the other side of the sea. (Erdoğan, 2005)



TECHNOSCAPE_ecodistrict of Istanbul

2 ATATURK AIRPORT: DATA ISTANBUL CULTURAL AND ECOLOGICAL CENTER : TRANSFORMING & SPREADING Duygu DURMAZ



TECHNO SCAPE SADİYE GÜLGÜN ATALAY



The idea of ecodistricts designates an urban planning aiming to integrate objectives of sustainable development and social equity and reduce the ecological footprint of a neighborhood, urban area, or region. This notion insists on the consideration of the whole environmental issues by way of a collaborative process.



nder the name of Yesikov Airr which is 45 m wide and has 3 the eted, operation on October 29, 1983 the airport has been of the 18/36 run changed and its name international terminal twice, increased its total terminal area to 286,770 square meters.

With 1453 (An airplane landing or take-off every 59.46 seconds) broke the al-time record According to data from 2015, it is the world's 11th busiest airpo ad to civil flights



through our mutual communication he could find everything as much here." by Alain de Botton impressed me a lot while beginning and thinking where to start for the project.

The Atatürk Airport which is the project area is located in Yeşilköy, İstanbul. It was the biggest and the busiest airport in Istanbul until Istanbul Airport is built. Now most of the space of Atatürk Airport is abondened because of not having any functions. The project aims to produce an urban landscape on this area. Landscape itself is dynamic, flexible and livig. But in the urban conditions, the area is surrounded by the settlements because airport creates a possibility to

develop on the surrounding. Hence, all the agricultural fields which were located before the airport constructed or developed are turned to the settlements so airport was acting like a parasite for the agricultural fields It is also important because airport is a product of globalization, an significant sign of modernization, a catalyzator, a nexus between local and global and between nature and technology.









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EcoDistricts are "an important scale to accelerate sustainability - small enough to innovate quickly and big enough to have a meaningful impact". (EDF 2013). It brings a systematic approach that combines technological and social strategies to address sustainability. This area is selected as the pioneer technology ecodistrict because it has great business transportation conditions to reach other strialization parts of the city, local residents and neighborhoods are making up the large part of population and environment conditions, there is an opportunity of the direction of new settlements; hence, green living technologies can be applied



Strategy of Vegetation

The strategy of reforestation is based on the movement of settlements when the airport was built. Airport was acting like a big patch in the middle of **horizon** the agricultural fields. Because the value of surrounding got increased, the settlements was developing in the direction of the airport, it was seeming like the airport was absorbing the agricultural fields. In this project, this movement is applied as a metaphore to the tree groups. Man-made tree patches with sharp edges will be applied to the airport area. All the patches will have different sizes and species which can create relations by pollunation. Also there will be ditches on the ground which are traces for putting seeds in it and observing the succession from the beginning.



through characteristics of airport flow CO 400 200 200 200 CO genius loci threshold Focus Works Museums 2- EDUCATION 3- MEMORY open air museums Exhibition Center movie events

Design Strategy



Landscape

the memories

plane ruins

urban meadows bird meadows

urban agriculture

seed festivals

harvest season

organic bazaar

open air movie

open air exhibitio

carpark

Performing Arts Center

Focus Works

Event Areas

Festivals

Artscapes

Fairs

Performance Spaces

installation art

Irban meadows festival area

event landscape

landarts

cut and fills

Cultural Facilities

workshops







The project focuses on the connections based on cultural, social, ecological and economical. As being the pioneer for the ecodistrict in Istanbul, the project aims creating awareness of natural and cultural sources we have and how we protect, maintain, and sustain them in 21st century and for the future. To be an ecodistrict, the undefined and passive spaces between the houses will be productive or recreational landscapes by using innovative technologies and collective work of community. The project especially focuses on creating connections between students, local elder people, people from different cultures, scientists, investors, and



-X



collecting water max. 30cm water

100cm

spaces between the houses will be productive or recreational landscapes by using innovative technologies and collective work of community. The project especially focuses on creating connections between students, local elder people, people from different cultures, speciality, investors, and



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2 DATA ISTANBUL

Operational landscapes become the keystone that determines the mode of transformation process of Data Istanbul, as well as in the understanding of landscape urbanization, by having a potential of being the initiator of new processes. A virtual platform that includes geographical and forestry data base will affect the ecological and cultural mode of transformation by pollinating data on a national and international scale.

While the urban landscape system proposal is formed under three main topics; biotechnology with the science fields, permaculture understanding and phytoremediation processes.



Data Istanbul provides ecological restoration by the opportunity that emphasizes the importance of the accessibility of the data while changing and improving itself within its environment for the ecological thresholds. It attempts to describe an intellectual and holistic approach that detects, analytical thinking and operational landscape understanding from its ecological and cultural characters that initiates a metamorphosis process.















The main design decisions in the project were made based on the 'wind' factor, which is linked to both the pollination concept and the airport design. In order to increase the pollination and speed in this zone, birds and various animals providing pollination are included in the design. In addition, the increasing bird population in the region will continue the flight movement in the memory of the area by taking reference to the planes.

Each year, hundreds of birds migrate through Turkey, therefore our country is hosting habitats for short rest periods during migration. An ecologicalsociocultural and economic design idea was created on the city scale by proposing a holistic cycling route passing through bird watching points at Istanbul scale and making the area a part of this system. In another way, the project aims to serve ecotourism. It is aimed that the area will be open and accessible to people of all ages and situations. In addition, it is aimed to provide ecological diversity by increasing pollination by animals such as birds, bees, wasps and butterflies

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frastructure-logistics ctive role cological connectivit connectivity role changing) Avamama Stream defining flood and sea level rise Küçükçekmece Lake Improvement of wetlands

Atatürk Airport, which is located in Bakırköy district, plays a very important and critical role in bringing a new urban park to Istanbul in terms of its land, location and scale. For this reason, the design decisions in the project started to be made with the analyzes made in Istanbul scale. Based on the concept of landscape urbanism, a holistic design that contributes to the city in an ecological, sociocultural and economic sense, preserves dynamic, functional and national memory has been adopted.

In the design of the area, three separate zones, core, buffer and transition, were created. The 'Core' zone covers pollination and bird habitat. This area includes a wide range of active plants throughout the year, wetlands created using the existing canal infrastructure, structures for bird shelter, some open areas for people and fruit trees. The buffer zone includes the grove system located around this area.

topography

& elevation

There are four different entrances to the area. Circulation was created by constructing primary, secondary and tertiary road systems including vehicle-bicycle-pedestrian roads. Edible gardens, orchards, farmer's market, greenhouses, activity hills for interactive installations, open air exhibitions, open air performances, view terraces, recreational areas, sitting areas, entrance and meeting areas, sport areas, event meadows, theme gardens, energy production areas were designed.

bird nest areas

bird ne lake

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The airport was

transferred to



S	additional winter immigrants to the native population	Jan. Fe	D. M	ar. Ap	r. M	ay Ju	ne Ju	ily Au	ig. Se	pt. Oc	t. No	v. Dec.
Ð	Gavia arctica			20	-	20	20	-				
	Podiceps cristatus				5	5	5	5	5	5	5	
U	Puffinus yelkouan 💹	14	Y	4	Y	4	Y	Y	Y	4	4	4
C)	Phalacrocorax carbo	1 .	0	\$	4	0			2			4
-	Phalacrocorax aristotelis	K K ;	l ;	1	4	1	4	1	1	1	1	1
Ц	Ardea cinerea	1		1	1		1	121	1.1	1		
S	Anas platyrhynchos			3	5	-	3	1	-	5	-5	
24	Falco tinnunculus	1	1	1	1	1	1	1	4	1	1	1
	Phasianus colchicus	-	6	6	-	-	6	-	-	-	-	6
~	Rallus aquaticus		-	-	-	-	-	-	-	-		-
-	Gallinula chloropus				1	1	0.	1	1		1	
-	Fulica atra	1			-		1		-	1	1	
\Box	Columba livia	11	1	1	-	1	1	1	1	-	1	1
	Streptopelia decaocto	4	4	4	4	4	4	- 4	4	4	4	4
	Spilopelia senegalensis	11		1	A	1	*	*	*	1	1	1
	Psittacula krameri		1	1	1		1		1		1	
	Athene noctua		6	6	1	6	6	6	0	1	0	0
	Steix aluco	1	1	1	1	1	1	1		1	1	
	Picus canus Picus viridis		1	1	5	5	5	5	1	5	5	5
	Dendrocopos major	1	1	1	1	1	1	1	1	1	1	1
	Dendrocopos syriacus		1								1	
	Dryobates minor	1			+	1				+		1
	Galerida cristata		3	1		-	1	1	4	-		
	Alauda positos Troglodytes troglodytes	5 6				6	6	6	1	6	2	
	Erithacus rubecula						1					-
	Saxicola rubicola				-	-	-	1	1	-		
	Turdus philomelos		-									
	Cettia cetti		-	-	-	-			*		-	
	Regulus regulus				-	-	-					
	Cyanistes caeruleus				6		6	6	6		6	
	Parus major						•					
	Certhia brachydactyla				1	1	1	-	1		1	1
	Garrulus glandarius		1	-	1	-	-	-	-	-	-	-
	Corvus monedula	1	1	1	4	4	4	4	4	4	4	4
	Corvus cornix	1	1	1	1	-	1	1	1	1	1	1
	Sturnus vulgaris				1	2	2	1	2		-	
	Acridotheres tristis	1	1	1	1	1	1	1	1	1	1	1
	Fringilla coelebs 🎉	-		-	1	1	1	1	1		-	
	Chloris chloris Carduelis carduelis	-			-	4	-	-	-			
	Coccothraustes coccothra	ustes	-	-	•	•			•		_	-
	Emberiza calandra	-	-									
	1					-	-		1		-	

GRADUATION PROJECT ITU | LA studio report **19-20 SPRING**

birds & plane crashes

"An airport alone has a regional impact on bird populations. It is frighten-ing that storks that have to descend on the roofs of the houses cannot find any mixed land to be put in Istanbul, and have to migrate hundreds of kilometers of hungry without lood. Otherwise, place collisions will harm a few individuals, so be sure that many birds are killed by the collisions on the highways. Birds cannot escape from volicies traveling laster than BO kilometers; houseer, hunger and constant fatigue collapse the whole population." mithologist Assoc. Dr. Zwrm, ferkingingdit



Compared to Yeşilköy, at least 4 times more birds pass through the region where the 3rd Airport will be built and the risk of accidents is much higher. According to the risk modeling of Arslangündoğdu based on data such as the size of the airport, the number of flights and the amount of birds to pass through the airport, there is a probability that there will be at least 2-3 accidents caused by birds every year.



The transformation of existing contaminated hard floors into a green texture in the project area has been designed with the succession method at certain time intervals according to this:

1-5 years: formation of new zones by transporting herbaceous plants and seeds through pollinators 5-10 years: Involving shrubs and young trees 10-50 years: the formation of mature individuals, reaching the final form of groves, forests, wetlands and also bird habitat & pollination area





SNOL- IN

users of pollination





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