# CONFLICTS IN PLANNING PROCESS OF LOCALLY UNWANTED LAND USES (LULUs): A CASE STUDY IN İZMİR

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## Abstract

Land use planning is a both technical and political process in which many different groups with multiple interests are affected by planning decisions. While every land use planning problem has a potential of creating conflicts Locally Unwanted Land Uses (LULUs) are the most conflict facing subjects in urban land use planning.

Locally Unwanted Land Uses are land uses which may be regionally or nationally needed or wanted but are considered objectionable by many people who live near them because of their negative externalities. Land allocation for LULUs is usually problematic and usually a threat for the whole planning process. A site selection decision for a LULU becomes more difficult when there is a NIMBY (not in my backyard) movement against the LULU. It is opposed by interest groups with various reasons such as health effects, economic costs, harms to environment. The possible relation between the conflicts about land uses and its decision making process should be discussed.

This paper focuses on the need for understanding and evaluating the planning processes of LULUs. The paper is based on a research examining the planning processes of a LULU in İzmir, Turkey. The case study is examined to demonstrate;

- the whole process followed for the land allocation of the LULU,
- the conflicts and the reasons of conflicts,
- interest groups involved and conflicting interests,
- solutions searched or proposed by planning authorities or related institution and,
- what might be done for a more smooth process and formation of a consensus base

To understand the reasons of conflict and to highlight the potentials that planners should seek would be a step for solutions.

Keywords: Locally Unwanted Land Uses (LULUs), Land use planning, Conflicts in planning process

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## 1. Introduction

Land use planning, as a process affecting various interests groups, faces with conflicts especially while dealing with locally unwanted land uses (LULUs). The aim of this paper is to emphasize the importance and difficulty of site selection processes of LULUs.

The research involves two main parts. The first part includes a short review of literature related with LULUs, their decision making process, conflicts and conflict resolution techniques.

The second part includes a case study about site selection process of solid waste disposal area in İzmir. The case study aims to demonstrate the conflicts, the conflicting interests, the movements against site selection decision in an ongoing process and the actions taken and proposed by the responsible institution to solve the problem. Finally the paper discusses reasons of conflicts, and possible solutions to conflicts.

The data for the case study is gathered from the archives of local institutions and newspapers. The plans analysed are obtained from İzmir Metropolitan Municipality. The web-based archives of two national (Milliyet and Hürriyet) and a local newspaper (Yeni Asır) including news since 2004 are searched. 417 news from three newspapers are searched and 93 related news are found in the period between 09.03.2009 and 19.02.2012. Additionally a city planner from the Planning Department and an environmental engineer from the Department of Solid Waste Facilities of İzmir Metropolitan Municipality are interviewed.

## 2. Planning for Locally Unwanted Land Uses (LULUs)

### 2.1 What are LULUs?

LULUs are described as development projects that are predictably objectionable to many of their neighbours (Popper, 1983), a set of technologies with the potential of creating major environmental or social perturbations (Nordenstam, 1994), potential threats to the environmental safety and the economic value of property to adjacent communities (Peyton, 2007), and land uses which may be regionally or nationally needed or wanted but are considered objectionable by many people who live near them because of their negative externalities such as being noisy, dangerous, ugly, smelly; polluting; increasing traffic; and lowering property values (Popper, 1985; Nordenstam, 1994).

There are various examples of LULUs given in the literature. These are energy, waste, industry, transportation, housing, health, and crime related LULUs. Energy related LULUs are nuclear facilities, power plants, refineries, mines and electricity generating facilities, and so on. Waste related LULUs are solid waste facilities, hazardous waste facilities, landfills, incinerators, and so on. Factories are industrial

LULUs examples. Airports, highways and other transportation infrastructures are LULUs related with transportation. Housing related LULU examples are low income housing, slums, shelters for the homeless, housing for the mentally ill and so on. In addition, there are health related LULUs such as rehabilitation clinics, drug treatment centres and mental health facilities. Prisons and detention centres are also noted as LULUs related with crime. There are also other LULUs such as red-light districts and military installations.

## 2.2 Decision Making for LULUs

Local level has more importance in decision making of LULUs than other various levels (such as territorial, national or global) of environmental problems (Peeples, 2000). There are post-siting effects of the LULU decision making process (Been, 1994). Classical location criteria are not suitable for decision making of LULUs, rather multi-criteria undesirable facility location model is needed (Colebrook and Sicilia, 2007). Also, there should be an integrated framework guided by a multi-disciplinary approach in LULU decision making (Nordenstam, 1994).

Various interest groups are affected by decisions of land use planning. These groups include different levels and departments of government, representatives of special interests such as neighbourhood preservation, environmental conservation and minority groups, and market oriented groups including private sector land owners, developers and builders, local residents and other members of the public, and finally land planners (Kaiser et al., 1995).

## 2.3 Conflicts in Planning LULUs

Urban land use planning process faces with conflicts about various topics because urban environment itself includes various people with multiple interests. Therefore, every land use planning problem has a potential of creating conflicts. LULUs are one of the most conflict facing subjects in urban land use planning. Land use planning process deciding a site selection of LULUs becomes more difficult when there is a NIMBY (not in my backyard) movement against LULUs. NIMBY is described as mobilizations to oppose the siting of LULUs. It is opposed by interest groups with several reasons such as health effects, economic costs, harms to environment, and so on.

One point of view demonstrates that LULUs are located in economically deprived or racially and ethnically minorities' neighbourhoods and the lack of equity in these kinds of site selection decisions are seen as reasons of LULU conflicts (Minchart and Neeman, 2002; Rootes and Leonard, 2009). On the contrary to the view describing siting LULUs as racist and classist, Been (1994) discussed the possibility that neighbourhoods surrounding LULUs may become poorer and become home to a greater percentage of people of colour over the years following the sitings.

## 2.4 Conflict Resolution for Land Uses

Several strategies to solve land use conflicts are proposed in literature. Participatory planning (Magigi and Drescher, 2010), mediated negotiation strategies describing various roles for planners such as mediator, resource, regulator, negotiator and process manager (Forester, 1987), dispute resolution techniques (Dorius, 1993), decision making processes considering local community perspectives (Nash et al., 2010), and to sum up the need for alternative planning processes with more public participation than planner-centred planning is underlined by various studies.

Collaborative planning which seeks to bring together major stakeholders to build consensus rather than use majority rule, and also generates commitment to commonly accepted objectives and fosters commitment to implementation is one of these alternative planning approaches (Healey, 1997; Margerum, 2002). It engages stakeholders in interest-based negotiation to reach consensus agreement on plans. There are both advantages such as avoiding win-loss outcomes and improving stakeholder relations; and limitations of collaborative planning such as powerful stakeholders' possible reluctance to participate (Cullen et al., 2010). Also, there are several recommendations for collaborative planning such as including full range of stakeholders and participation on an equal basis and full information (Margerum, 2002).

# 3. Case study: Land Allocation Process of Waste Disposal Sites in İzmir

## 3.1 Waste Disposal Sites

İzmir is the third biggest city in Turkey with a total population of 3 948 848. Total amount of waste collected in İzmir in 2010 is 1 685 659 tons/year. It is almost 7 percent of total waste of Turkey in the same year. Almost 77 percent of the collected wastes are disposed in controlled landfill site while others are disposed in dumping sites of municipalities in İzmir in 2010. Composting plants have been used for waste disposal until 2008 (TurkStat, 2010), but these facilities located in Uzundere and Menemen in İzmir are not active today (Özen, 2011) because of revision studies (CEE, 2009).

There are 41 municipal waste landfill sites in Turkey in 2009 (MEF, 2009). Two of these landfill sites are located in İzmir: Harmandalı and Foça. Foça Solid Waste Landfill Area is constructed in 1999 for Foça, Bağarası, Gerenköy and Yenifoça Municipalities (MEF, 2008). Harmandalı Solid Waste Landfill Area is constructed in 1992 by İzmir Metropolitan Municipality (MEF, 2008). It is the first regular waste disposal site in Turkey. It has 90 hectares of area. It is 25 km. far from city centre. It has run out of its temporal capacity of 15 years (İDA, 2008).

Almost 3000 tons/day of waste is collected in this area everyday. There are three types of waste collected in this area: domestic waste, industrial waste with domestic characteristics and medical waste (Figure 1). Oozing water from the collected waste

is transferred to sewage system and refined in Çiğli Waste Water Refinery. Harmandalı Solid Waste Landfill Area serves all settlements within the boundaries of İzmir Metropolitan Municipality. The capacity of this facility is increased in 2007 (Özen, 2011).

Figure 1. Disposal areas for domestic waste (left), for industrial waste with domestic characteristics (middle) and for medical waste (right) in Harmandalı Solid Waste Landfill Area (İWSMGD, 2010)

The boundaries of İzmir Metropolitan Municipality is enlarged in 2004 due to the Law of Metropolitan Municipalities (No. 5216). 24 of the 26 irregular waste disposal sites in new added settlements are closed and 2 of them are going to be closed after construction of new waste transfer stations. The wastes from these settlements are being transferred to Harmandalı Solid Waste Landfill Area. There are transfer stations in Halkapınar, Gediz, Kısık, Gümüldür, Karşıyaka, Selçuk, Torbalı, Foça and Urla (Figure 2). In addition, the site selection and project preparation processes are continuing for Türkelli and Kemalpaşa Transfer Stations (Özen, 2011).

Figure 2. Waste Transfer Stations in İzmir (Özen, 2011)

### 3.2 Site Selection Process of Waste Disposal Sites

The legislation related to the waste disposal sites in Turkey includes fundamental right of living in healthy environments in Turkish Constitution, 6 laws about environment, municipalities, metropolitan municipalities and penal code, almost 15 regulations about waste processes including incineration, disposal, control and so on,

almost 21 circulars about waste disposal facilities, implementation projects, management plans, permissions and so on, and other related notifications. While the related laws regulate the general rights and rules, the regulations specify the type of waste such as oil, vehicles, batteries, construction wastes and so on.

The Department of Solid Waste Facilities in İzmir Metropolitan Municipality is the responsible institution for preparation of plans, projects, adjudication documents and Environmental Impact Assessment (EIA) reports, and control of these processes. Location decisions are taken by this institution. An environmental engineer from the department explained the process they followed for site selection: First they use several criteria to select a location, produce alternatives according to these criteria, choose the most suitable alternative and start the land allocation procedure. Then they call for a bid for EIA report preparation. Afterwards, they report the selected location to the Department of Planning so as to make the decision added to the plans. Sometimes Planning Department report negative opinions to the selected locations depending on planning principles but they do not take part at the beginning of the process. The Department of Solid Waste Facilities considers plans while studying the criteria before proposing alternative locations. That means plans are included in the process, but planners are not.

The criteria in the site selection process of waste disposal sites considered by the Planning Department are as follows:

- Space requirements
- Distance to settlements
- Distance to agricultural lands
- Distance to olive groves
- Land use capability classes
- Distance to industrial zones
- Distance to conservation sites
- Distance to military zones
- Distance to natural lakes
- Distance to dams
- Distance to rivers
- Distance to drinking water wells
- Distance to 1$^{st}$ degree highways
- Distance to 2$^{nd}$ and 3$^{rd}$ degree highways
- Distance to railways
- Slope
- Elevation

Minimum or maximum values are determined depending on existing regulations and legislation for each of these criteria.

The processes about transfer stations are not so different; however, there are fewer criterions for site selection. Accessibility and the availability of roads for trucks are the most important criteria. Also, minimum space requirement is specified as 6000-

$8000m^2$. First, the department proposes a site for a transfer station considering these criteria. Then, EIA Report is prepared. Documents that state "EIA Report is not needed" is also valid. After the EIA process, geologic situation of the area is analysed for development and construction; and finally the implementation projects are prepared. The project is sent to the Planning Department. If there are objections to the selected site of the project, alternative locations are searched. For those alternative locations the opinions of several institutions are taken (İMM, 2008).

### 3.3 Planning Decisions on Waste Disposal Sites

Plans with upper scales in İzmir include decisions about waste disposal sites. 10 waste disposal sites are shown in the Manisa Kütahya İzmir Environment Plan (Figure 3). This plan proposes strategies to minimize the pollution depending on solid wastes. The main suggestion of the plan is that there should be infrastructure unions in which the solid waste problem is solved for a region including several settlements instead of solving the problem for each settlement. The location criteria should include geographic structures of the land. It should serve the whole city. Regional solutions are needed.

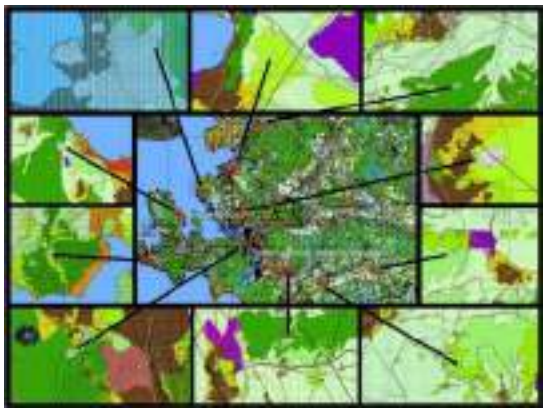

Figure 3. Solid Waste Landfill Areas in the boundaries of the city of İzmir shown in Manisa Kütahya İzmir Environment Plan with 1/100 000 scale (webpage: gisapl1.cevreorman.gov.tr/cdp/)

İzmir Development Plan approved by İzmir Metropolitan Municipality shows several waste disposal site decisions (Figure 4). The plan proposes a total area of 237,2 hectares of solid waste collection and disposal areas. The plan includes Solid Waste Disposal Areas in Harmandalı (existing 107,1 ha, proposed development 147 ha, conservation zone in a buffer of 1km), Konak Uzundere (8,2 ha and conservation zone in a buffer of 1km), Foça (4,8 ha), Torbalı (43 ha), Mordoğan (5,9 ha), Urla (12,5 ha), Yelki (1,5 ha) and Gümüldür (0,4 ha), Solid Waste Transfer Areas in Buca (6,1 ha), Karşıyaka (5 ha) and Menemen (6,1 ha), Kemalpaşa (4,1 ha), a rubble disposal area in unused area of stone mines in boundaries of forests in Bornova (50 ha), renewal of the irregular waste landfill in Aliağa and transform of it to a regular solid waste landfill area (4,3 ha). The plan includes requirements about solid waste

landfill areas. First obligation is EIA. Second, waste collection is not allowed in 1st and 2nd Zone Resource Conservation Areas. Finally, the Environment Law (no. 2872) and related regulations including Solid Waste Control Regulation should be considered in all solid waste facilities.

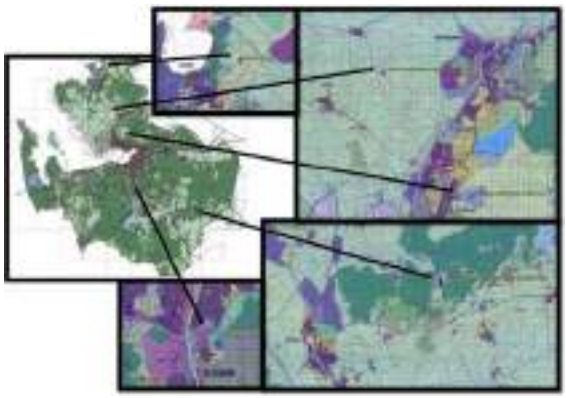

Figure 4. Some of the Solid Waste Landfill Areas in İzmir Development Plan with 1/25000 scale (3D City Map of İzmir Metropolitan Municipality)

### 3.4 Search for a New Site for Waste Disposal

The site selection process of solid waste landfill areas in İzmir is a difficult decision making process facing with conflicts depending on negative opinions of some institutions and objections of nongovernmental organizations and local people.

As Harmandalı Solid Waste Landfill Area has completed its capacity and, as the city grows, this facility becomes so near to the residential areas (The proximity can be seen in Figure 5). İzmir Metropolitan Municipality tries to find a new site for waste disposal. The Department of Solid Waste Facilities plans to construct a Solid Waste Assessment Facility for effective and efficient assessment of solid waste, separating recyclable waste from others, producing electrical energy from organic waste and composting wastes (Özen, 2011).

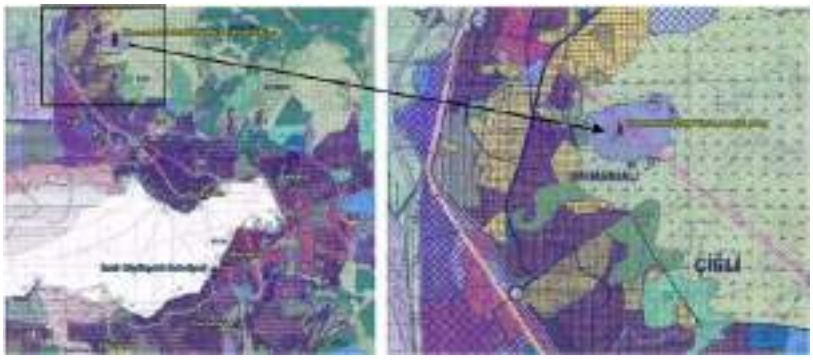


Figure 5. Harmandalı Solid Waste Landfill Area in İzmir Development Plan with 1/25000 scale (3D City Map of İzmir Metropolitan Municipality)

According to the Action Report of the Department of Solid Waste Facilities (2008), a new regular landfill area is planned in the southern part of the city. First, several alternative areas in Torbalı are proposed. After a series of cancellations for most of the sites because of objections of several institutions, an area of 168 hectares is selected. The prior authorizations are taken from Forestry General Directorate. The area is approved by Local Environment Committee. Map preparation and then, EIA report preparation and planning processes started. The new solid waste facility is added to the İzmir Development Plan, and then the institution opinions are collected for plans with lower scales (İMM, 2009). The project was planned to be finished until 2010 (İMM, 2008). However the actual process was not same as predicted in the Action Reports.

In 2009 the mayor of the Metropolitan Municipality announced the plans to close the existing disposal area in Harmandalı in the following 2 years and to select a site for a new facility. There were two possible lands for an Integrated Solid Waste Facility including collecting wastes, composting or incinerating them and producing energy. First one was in Torbalı and the second one was in between Bornova Gökdere village and Buca Kaynaklar village (M, 09.03.2009; YA, 07.10.2009). This announcement started the discussions with several conflicting opinions.

The first responses were from the majors of the municipalities of Buca and Bornova. They did not want the facility in the boundaries of their municipalities. Also, the Minister of Environment and Forestry were opposed to the type of facility. He explained that incineration facility which was planned to be constructed was not appropriate to the existing conditions and budget of the country. Depending on these objections, Metropolitan Municipality gave up the project in that location (YA, 31.03.2010) and discussions continued on the alternative proposals for Torbalı, Menemen and existing Harmandalı sites (Figure 6).

Figure 6. Locations of existing Harmandalı Solid Waste Landfill Area and proposed Solid Waste Landfill Areas in Torbalı and Menemen (image from 3D City Map of İzmir Metropolitan Municipality)

For the Torbalı proposal an objection came from the Provincial Directorate of Agriculture as 47 hectares of the total 168 hectares of proposed area contained olive

graves (Figure 7). This problem was overcome by decreasing the site to 121 hectares (YA, 31.03.2010).

Figure 7. The Proposed Site for Solid Waste Disposal Area in Torbalı Taşkesik (YA, 06.05.2010)

Then many objections came from different individuals but more from local or central authorities, NGOs, representatives of political parties and groups of local people who were usually activated by professional chambers. They showed their protests in municipality councils, through press releases, going to court or collecting signatures by door-to-door visits. The majors of the Chambers in Torbalı including Chamber of Commerce, Chamber of Agriculture, Chamber of Tradesmen, and Chamber of Drivers worked in a union to prepare a report about the problems of Torbalı including the location of solid waste disposal area. They visited the Minister of the State, Vice-Prime Minister and deputies from the three major political parties, and presented that report to them (YA, 04.04.2010).

Beside objections there were few supporters of the proposal. The director of the Provincial Directorate of Environment and Forestry supported the mayor and criticized the people saying "not in my town" that they did not learn the type of facility, its technology or its quality (YA, 05.06.2010; M, 06.06.2010). Also, some newspaper writers reminded that there were several institutions giving positive opinion to this site such as Regional Directorate of Forests, Institute of Mineral Research and Exploration, Ministry of Environment and Forestry, General Directorate of State Hydraulic Works, Provincial Directorate of Agriculture, Gediz Electricity Distribution Company and other related institutions (M, 06.06.2010; YA, 09.06.2010).

The mayor of the Metropolitan Municipality visited the proposed site in Torbalı and faced with protests (Figure 8). Almost 70 villagers from 3 villages met in the area, stopped the bus of the Metropolitan Municipality, booed, showed banners writing “We do not want İzmir’s waste in our region”. Some of them showed their land titles to the mayor and said that the area was theirs. Some of them loudly asked the mayor why he did not ask them while making this decision. The mayor tried to explain the process, told that their opinions would be taken in two or three meetings after the EIA report and suggested them to come to the meetings and to tell the reasons of not wanting. The headman of the village told that they gave petitions against the decision but did not get answers. The mayor told that telling opinions was their right, however

the decision would be taken depending on science and if there were no legal constraints then they would locate the facility in this area. The villagers shouted him down and then he got angry and left the area (YA, 04.06.2010; M, 05.06.2010).

Figure 8. The Protests against the Decision of a Solid Waste Disposal Area in Torbalı (photo on top left from YA, 04.06.2010; other photos from M, 05.06.2010)

Following these protests Metropolitan Municipality organized a trip to Germany to show good examples to interested people or groups. Some of the interest groups decided not to attend the trip as a response, while some others decided to participate to learn so as to oppose better and consciously. 32 people including some villagers, people from central and local government, representatives of universities, chambers and other nongovernmental organizations attended to the trip and gained positive opinions about constructing the similar in İzmir (YA, 20-23-25.09.2010; M, 23.09.2010). The trip included technical observation in Münster Mechanic-Biologic Processing and Regular Disposal Facility and Vereinigte Ville Regular Disposal Facility in Cologne (Figure 9).

Figure 9. The Participants of the Technical Trip to Germany (left photo from YA, 25.09.2010; right photo from M, 23.09.2010)

The people objected the solid waste facility in Torbalı established a Nongovernmental Initiative Group against Waste in the coordination of Torbalı

Chamber of Commerce. The group included participants from political parties, nongovernmental organizations, unions, headmen of villages, and representatives from 25 institutions (Figure 10). They organized meetings and discussed possible movements against waste. They decided to sign a declaration, distribute hand-outs including this declaration, announce by newspaper advertisement, tell the possible harms and bad effects of the facility to the villagers, make a press release in Harmandalı waste disposal area, start legal fight, visit the institutions in the EIA process, organize an exhibition in Torbalı centre including the photos of Harmandalı waste disposal area, stop waste trucks and stay in tents in the proposed waste area (YA, 28-31.10.2010; M, 30.10.2010).

Figure 10. The Participants of the Nongovernmental Initiative Group against Waste in Torbalı (left photo from YA, 28.10.2010; right photo from YA, 31.10.2010)

While discussions were continuing for Torbalı, in a press release, the mayor of the Metropolitan Municipality announced a proposal for a secondary waste disposal site in the northern part of the city too (YA, 3.11.2010; M, 04.11.2010; H, 04.11.2010).

On the other hand, people living near the existing solid waste landfill area in Harmandalı also started to take actions and organize meetings to force the responsible institutions to find solutions as soon as possible (Figure 11). The headman of the Cumhuriyet Quarter in Harmandalı applied to the Human Rights Committee of İzmir Governorship, Environment Commission of İzmir Bar Association and Provincial Directorate of Health. His applications were based on the 56$^{th}$ sentence of the Constitution which guarantees the right of living in healthy environments for everybody. He complained about the environmental problems and health risks caused by waste disposal, but the authorities from Metropolitan Municipality Water and Sewerage Management General Directorate rejected the claims and told that there was no risk of explosion, no stored gas, no leakage of polluted water (YA, 05.12.2010). The people from Harmandalı explained their decision to go to the European Human Rights Court. The mayor of the Metropolitan Municipality supported this decision and told that they were right (YA, 05.10.2011).

Figure 11. The meetings of the people living near the existing solid waste landfill area in Harmandalı (left photo from M, 09.09.2011; right photo from M, 13.09.2011)

The news about the movements against the existing condition of the solid waste landfill area in Harmandalı increased the movements in Torbalı (Figure 12) (YA, 06.12.2010). The first legal action of the Nongovernmental Initiative Group against Waste in Torbalı was going to the court with an aim of cancellation of the Manisa-Kütahya-İzmir Environment Plan claiming that the proposal for a waste disposal area in Torbalı was on contrary with the 20$^{th}$ Sentence of the Law about Rehabilitation of Olive Production and Vaccination of Wild Olives with No. 3573 (YA, 28.12.2010; M, 29.12.2010).

Figure 12. The Meeting of the Participants of the Nongovernmental Initiative Group against Waste in Torbalı Taşkesik (YA, 06.12.2010)

The group organized a meeting, invited first the Minister of Environment and Forestry, then organized another meeting, invited the Minister of Culture and Tourism and presented reports including their opinions against waste facility in Torbalı. Both of the ministers said that Torbalı is not appropriate for this facility. The mayor of the Metropolitan Municipality told that if any other more appropriate area was possible the Metropolitan Municipality would change the decision (YA, 01-02-03-04.04.2011; YA, 03.08.2011).

In the following days the EIA report for the area in Torbalı was completed. It was found that the ground was permeable and also there were underground water resources. Therefore, Metropolitan Municipality announced that the area was not suitable for any waste facility, rejected the possible proposed methods using impermeable membrane in the ground of the facility, and the process of searching a

new area for the facility was continuing (Figure 13) (YA, 27.08.2011; M, 29.08.2011).

Figure 13. Villagers of Taşkesik and members of the Nongovernmental Initiative Group against Waste in Torbalı Taşkesik celebrating the decision of Metropolitan Municipality not to locate waste disposal area in Taşkesik (YA, 27.08.2011)

With a majority of votes the Council of the Metropolitan Municipality decided to transform the existing compost waste facility to a new more technological one on an area of 203 acres in Menemen. The facility would not be for storing waste but for separating it and producing energy and raw materials for industries (M, 16.10.2011). The mayor of Metropolitan Municipality organized a press release, explained the details of the project and the reasons of the selection of the area. He added that there would be another solid waste disposal area in an unused area of stone mines in the southern part of the city (YA, 05.10.2011; M, 28.10.2011).

The people against the solid waste disposal area in Menemen came together to show their response. The mayor of Menemen Municipality organized a press release and told that the decision was not appropriate to the Development Plan and the Environment Plan. He emphasized that the economic structure of Menemen depending on agriculture would be affected badly with this land use decision (M, 26.10.2011; YA, 28.10.2011). The mayor of the Metropolitan Municipality responded to the oppositions by explaining the reasons of site selection as the area was far from settlements, it was near to highway, using the existing facility and renewing it would be more feasible, and there would be no odour and no stored waste after the process which had a high technological design (YA, 06.11.2011; M, 07.11.2011). However the movements of people from Menemen continued with a meeting of representatives of several chambers, City Council and Profession Organizations Platform of Right and Left Coasts Irrigation Associations (M, 13.11.2011). They protested the decision by showing agricultural products (Figure 14). The head of Left Coast Irrigation Associations told that they went to court to cancel the project (YA, 15.11.2011) to protect the neighbouring agricultural lands and water resources (M, 16.11.2011). The protests were supported by the representatives of the political parties, nongovernmental organizations and lots of farmers (M, 17.11.2011). The nongovernmental organizations in Menemen also went to court to cancel the project (M, 08.12.2011).

Figure 14. The Meetings of the People in Menemen to Protest the Decision of Solid Waste Disposal Area (left photo from YA, 15.11.2011; right photo from M, 17.11.2011)

İzmir Metropolitan Municipality sent the proposal for Menemen solid waste disposal area to the Provincial Committee of Soil Conservation. The committee investigated the site and reported that the area was agricultural land with quality (Figure 15) depended on the Law about Soil Conservation (no. 5403) (YA, 30.12.2011).

Figure 15. The Existing Waste Facility in Menemen between Agricultural Lands with Quality (YA, 30.12.2011)

In the following process the Metropolitan Municipality is going to approve for 'public interest' decision in the area to the General Directorate of Local Administrations in the Ministry of Internal Affairs (YA, 30.12.2011). If it is not possible to get this decision for the additional area, the existing area of 65 acres will be used (YA, 12.01.2012; M, 13.01.2012). According to the mayor there is no need to take EIA report again, because it was taken before for the existing facility. On the other hand, according to the head of Left Coast Irrigation Associations, EIA for the existing facility was given in 1995 and it is not valid in 2012; therefore a new EIA process is needed (YA, 16.01.2012). That shows signs that the following process will go on with conflicts.

## 4. Discussion: Conflicts in the Process and Possible Solutions for a Consensus Base

The problem of site selection of a new solid waste disposal area in İzmir remains unsolved. Analysis of the process may be of help to understand the reasons of the problem and learn lessons for a smoother process.

There are several actors involved in this site selection process. These actors may be grouped as; (I) public institutions including İzmir Metropolitan Municipality and host municipalities, ministries and their local directorates, (II) local people and their representatives, (III)non-governmental organizations such as chambers of various professions, environmentalist groups, political parties and so on, (IV) universities, and (V) private companies including possible investors of the facilities.

Most interested and involved actor groups are public institutions and local people groups. The first group is the responsible institution that makes the decision. Second group involves the people who are living close to the proposed area and think that they would be directly affected by the decision. This group is usually supported by various actors from the third group. These groups are the main stakeholders of the site selection process. They are conflicting with each other and among themselves. While the people living near the existing disposal area in Harmandalı take actions to call the attention of metropolitan municipality to the completed capacity of the area, on the other hand, the people living near the proposed disposal areas in Torbalı and Menemen move against the land use decisions and organize meetings to make the metropolitan municipality to change the location of proposed solid waste disposal area.

The other groups are less interested. These are the institutions that give/or not give permission to the project, the groups with political interests, and so on. The examples in İzmir showed that the groups with political interests oppose to the project to make the municipality unsuccessful and that their approaches are not for solving the problems but for inciting the conflicts.

The types of responses of the second group to the decision are several. The most popular response is verbal notification of the opposition. There are group based responses such as organizing meetings, going to the site, stopping the bus of the municipality, booing, showing banners writing negative opinions to the decision, preparing reports including the reasons of ‘not wanting’ the facility, collecting signatures against the facility by door-to-door visits, signing a declaration, distributing hand-outs including this declaration, announcing by newspaper advertisement, telling the possible harms and bad effects of the facility to the villagers, making press releases, visiting the institutions in the EIA process, organizing an exhibition of the photographs showing the situation of the existing solid waste landfill area, stopping waste trucks, showing agricultural products to protest the decision of solid waste area located in agricultural lands, camping in the proposed area, calling all people living in host settlement for action against the

decision. The Nongovernmental Initiative Group against Waste in Torbalı also invites the Minister of Environment and Forestry and the Minister of Culture and Tourism. Some members of the council of metropolitan municipality show responses by leaving the council chamber. Legal movements are also seen such as giving petitions against the decision, working with an environmentalist lawyer and going to court. There is an application of the headman of the Cumhuriyet Quarter in Harmandalı to the Human Rights Committee of İzmir Governorship, Environment Commission of İzmir Bar Association and Provincial Directorate of Health. Also, the people from Harmandalı explain their decision to go to the European Human Rights Court. One of the extreme responses is from the preceding mayor of the Torbalı Municipality. He explained his will that his name would not be given to any place in the settlement after his death if this waste disposal area decision is implemented in Torbalı.

The objections to the proposals stems mainly from environmental concerns, traffic problems, image of the town and political reasons. People emphasize the health effects, natural, economic and social harms and traffic congestion. The olive groves next to the proposed area in Torbalı and the absolute agricultural lands next to the proposed area in Menemen are listed in the reasons to oppose the waste facilities. One of the reasons of the cancellation of the area in Torbalı is written as the existence of underground water resources in EIA report. Is it a sign that the metropolitan municipality skipped the site selection criterion about distance to the underground water resources? Are there variations in the thresholds of the criteria? Isn't it interesting that the metropolitan municipality learned the underground resources from the EIA report? Well designed processes in which analyses are fulfilled and site selections are depended on these analyses would not face with this kind of results.

The decisions of existing plans of the settlements are also considered as a reason of opposing the waste facilities. Both the opposing and the supporting groups use this subject in their speeches in Menemen case. The opposing groups say that the facility is not appropriate to the İzmir Development Plan, while the metropolitan municipality says that it is appropriate. In fact, the proposed area for waste facility is shown in the plan between absolute agricultural areas and also the plan notes give permissions to the new solid waste disposal areas without a need to review the plan if there is a public interest and need for public investment.

The manager of the Department of Solid Waste Facilities explained two major reasons of the conflicts about site selection processes of waste disposal sites of İzmir. First, "the problems of the existing waste facility cause a negative public opinion and people need to see good examples". Second, there is a lack of trust to public institutions responsible for organization, management and control because these institutions failed to fulfil their previous promises about the environmental investments such as waste disposal facilities. Then what might be done for a more smooth process and formation of a consensus base? What are the ways to minimize or overcome the conflicts?

The metropolitan municipality tried to change the perspectives of the opposing groups by showing good examples in a trip to Germany. The technology and quality of the visited facilities without odour and harm to environs was useful to make people think that similar would be good for İzmir. However, what about the people denying to attend to the trip? A trip to show good examples abroad would be a solution to conflicts just with a limited success. The attempt with much possibility of success is to show the local good examples. In Menemen case, the mayor gave the example of purification facility 2,5km far from the proposed waste disposal area in Menemen and told that the new facility would be as unproblematic as that. This is much meaningful because the management of this good example is in their responsibility.

One solution proposed by the metropolitan municipality was an additional tax. It would be useful to make host municipalities to support the site selection process, but what about the local people? They would be forced to pay extra for the facility that they do not want. The support of the host municipality is not enough to solve the conflicts as seen in Torbalı example. On the contrary, the opposing people blamed the mayor of the Torbalı Municipality not to be against the waste facility.

An important requirement for a process with minimum conflicts is that the locations of LULUs such as solid waste disposal areas should be decided with a comprehensive approach while deciding all other land uses and planning the whole city or region. These decisions are sometimes skipped or postponed in the planning process and they are handled when there is an urgent need. This is resulted with inconsistency between planning decisions. The environmental engineer from the Department of Solid Waste Facilities told that there would be better site selection processes if there was cooperation between their department and the planning department. Joint works of experts from various professions would be better. Experience is also important in this process. They solve problems easier than the process of their first waste disposal site proposal. She told the possible strategies that could be used. She gave the example of making investments to villages with no water purification facilities. If these kinds of villages are chosen for waste disposal sites, the villagers will gain a water purification facility. She also gave example from Japan. She told that there is a mutual gain system in waste disposal site selection processes in Japan because they construct public swimming pools in the settlements in which they plan to locate a waste disposal site. She thinks that trying this kind of solutions would be a chance to solve problems about waste disposal sites in İzmir.

For a more smooth process, first the responsible institution should select a process which is technically and scientifically proved. The previous solid waste landfill site selection cases should be considered and their proposals should be modified to the conditions of İzmir. For example, several multicriteria analysis methods, combination of the multicriteria analysis and geographic information systems (GIS), combination of the analytical hierarchy process and GIS, adding remote sensing methods to these two techniques, the Analytic Network Process, combination of

stakeholder analysis and spatial multicriteria evaluation are used in various cases (Vasiloglou 2004; Banar et al., 2007; Chang et al., 2008; Schumati et al., 2008; Ersoy and Bulut, 2009; Wang et al., 2009; Aragones-Beltran et al., 2010; Ekmekçioğlu et al., 2010; Şener et al., 2011; Geneletti, 2010). If the responsible institution uses such a method to select a location for solid waste disposal areas, it would be easier to persuade the opposing people. To consider various interests including local interests would increase the possibility of better solutions and focusing on reasons rather than insisting on positions would also be useful for opposing groups.

## 5. Conclusion

The results of this research indicate that the process has conflicts in which opposing groups could not propose an alternative solution and the metropolitan municipality could not ensure trust because of doing technical mistakes and unkept promises. This lack of trust causes people not to believe although there are scientific data and evidence.

Planning LULUs requires a carefully designed decision making process. The responsible institution should ensure trust by finding solutions to minimize negative externalities of LULUs, choosing scientific and applicable methods to select a location. However choosing a location with technically appropriate process is not enough. There is also a need to maintain a fair process, considering all interest groups. To solve or minimize conflicts depending on local interests the reasons of conflicts should be carefully analysed. The conflicts can be solved by changing the site selection method. Site selection process of LULUs should not be handled incrementally but should be solved comprehensively. In addition, planning practices for LULUs should give more attention to local level than the other land use decisions.

## 6. References

Aragones-Beltran, P., Pastor-Ferrando, J. P., Garcia-Garcia, F. & Pascual-Agullo, A., 2010. An Analytic Network Process approach for siting a municipal solid waste plant in the Metropolitan Area of Valencia (Spain). Journal of Environmental Management, 91, pp. 1071-1086.

Banar, M., Kose, B. M., Ozkan, A. & Poyraz Acar, I., 2006. Choosing a municipal landfill site by analytic network process. Environmental Geology, 52, pp. 747-751.

Been, V., 1994. Locally Undesirable Land Uses in Minority Neighborhoods - Disproportionate Siting or Market Dynamics. Yale Law Journal, 103, pp. 1383-1422.

CEE, 2009. İzmir Çevre Durum Raporu (İzmir Environmental Situation Report) 2009, TMMOB Çevre Mühendisleri Odası İzmir Şubesi (Chamber of Environmental Engineers İzmir Chapter), İzmir.

Chang, N. B., Parvathinathan, G. & Breeden, J. B., 2008. Combining GIS with fuzzy multicriteria decision-making for landfill siting in a fast-growing urban region. Journal of Environmental Management, 87, pp. 139-153.

Colebrook, M. & Sicilia, J., 2007. Undesirable facility location problems on multicriteria networks. Computers & Operations Research, 34, pp. 1491-1514.

Cullen, D., McGee, G. J. A., Gunton, T. I. & Day, J. C., 2010. Collaborative Planning in Complex Stakeholder Environments: An Evaluation of a Two-Tiered Collaborative Planning Model. Society & Natural Resources, 23, pp. 332-350.

Dorius, N., 1993. Land-Use Negotiation - Reducing Conflict and Creating Wanted Land Uses. Journal of the American Planning Association, 59, pp. 101-106.

Ekmekcioglu, M., Kaya, T. & Kahraman, C., 2010. Fuzzy multicriteria disposal method and site selection for municipal solid waste. Waste Management, 30, pp. 1729-1736.

Ersoy, H. & Bulut, F., 2009. Spatial and multi-criteria decision analysis-based methodology for landfill site selection in growing urban regions. Waste Management & Research, 27, pp. 489-500.

Forester, J., 1987. Planning in the Face of Conflict - Negotiation and Mediation Strategies in Local Land-Use Regulation. Journal of the American Planning Association, 53, pp. 303-314.

Geneletti, D., 2010. Combining stakeholder analysis and spatial multicriteria evaluation to select and rank inert landfill sites. Waste Management, 30, pp. 328-337.

Healey, P., 1997. Collaborative planning. Shaping places in fragmented societies. Houndmills and London: MacMillan Press.

Hürriyet (H), all related news from the web-based search of the newspaper between 2004-2012. [online] Available at: <http://www.hurriyet.com.tr/> [Accessed April 2012].

İDA, 2008. İzmir (TR31) Bölgesi Mevcut Durum Raporu (İzmir Region Situational Report), İzmir Kalkınma Ajansı (İzmir Development Agency), İzmir.

İMM, 2008. Faaliyet Raporu (Action Report) 2008, İzmir Büyükşehir Belediyesi (İzmir Metropolitan Municipality), Çevre Koruma ve Kontrol Dairesi Başkanlığı (Department of Environmental Protection and Control), Katı Atık İşletmeler Şube Müdürlüğü (Department of Solid Waste Facilities), İzmir.

İMM, 2009. Faaliyet Raporu (Action Report) 2009, İzmir Büyükşehir Belediyesi (İzmir Metropolitan Municipality), Çevre Koruma ve Kontrol Dairesi Başkanlığı (Department of Environmental Protection and Control), Katı Atık İşletmeler Şube Müdürlüğü (Department of Solid Waste Facilities), İzmir.

İWSMGD, 2010. Faaliyet Raporu (Action Report) 2010, İzmir Büyükşehir Belediyesi İzmir Su ve Kanalizasyon İdaresi Genel Müdürlüğü (İzmir Metropolitan Municipality İzmir Water and Sewerage Management General Directorate), İzmir.

Kaiser, E. J., Godschalk, D. R. & Chapin F. S. Jr., 1995. Urban Land Use Planning. 4th edition. Urbana and Chigaco, IL: The University of Illinois Press.

Magigi, W. & Drescher, A. W., 2010. The dynamics of land use change and tenure systems in Sub-Saharan Africa cities; learning from Himo community protest, conflict and interest in urban planning practice in Tanzania. Habitat International, 34, pp. 154-164.

Margerum, R., 2002. Evaluating Collaborative Planning. Journal of the American Planning Association, 68, pp. 179-193.

MEF, 2009. National Activities of Turkey on Climate Change, Ministry of Environment and Forestry, General Directorate of Environmental Management, Ankara.

MEF, 2008. Atık Yönetimi Eylem Planı (Waste Management Action Plan) (2008–2012), Çevre ve Orman Bakanlığı (Ministry of Environment and Forestry), Çevre Yönetimi Genel Müdürlüğü (General Directorate of Environmental Management), Ankara.

Milliyet (M), all related news from the web-based search of the newspaper between 2004-2012. [online] Available at: <http://www.milliyet.com.tr/> [Accessed April 2012].

Minchart, D. & Neeman, Z., 2002. Effective siting of waste treatment facilities. Journal of Environmental Economics and Management, 43, pp. 303-324.

Nash, N., Lewis, A. & Griffin, C., 2010. 'Not In Our Front Garden': Land Use Conflict, Spatial Meaning and the Politics of Naming Place. Journal of Community & Applied Social Psychology, 20, pp. 44-56.

Nordenstam, B. J., 1994. When Communities Say NIMBY to Their LULUs: Factors Influencing Environmental and Social Impact Perception. Doctor of Philosophy, University of California.

Özen, N., 2011. İzmir Büyükşehir Belediyesi Atık Yönetimi (İzmir Metropolitan Municipality Waste Management), İzmir Büyükşehir Belediyesi (İzmir Metropolitan

Municipality), Çevre Koruma ve Kontrol Dairesi Başkanlığı (Department of Environmental Protection and Control), Katı Atık İşletmeler Şube Müdürlüğü (Department of Solid Waste Facilities), KALDER Temiz Çevre Günleri Sempozyumu (Symposium of Clean Environment Days), 18 October 2011, İzmir.

Peeples, J. A., 2000. Place and Identity as Rhetorical Tactics in Locally Unwanted Land Use Disputes. Doctor of Philosophy Doctoral Thesis, University of Washington.

Peyton, B., 2007. Rethinking Spatial Conflict: An Analysis of LULUs and Their Encroaching Communities. Master of Arts, Tufts University.

Popper, F. J., 1985. The Environmentalist and the LULU (cover story). Environment, 27, pp. 6-11.

Popper, F. J., 1983. LP/HC and LULUs: The Political Uses of Risk Analysis in Land-Use Planning. Risk Analysis, 3, pp. 255–263.

Rootes, C. & Leonard, L., 2009. Environmental movements and campaigns against waste infrastructure in the United States. Environmental Politics, 18, pp. 835-850.

Sener, S., Sener, E. & Karaguzel, R., 2011. Solid waste disposal site selection with GIS and AHP methodology: a case study in Senirkent-Uluborlu (Isparta) Basin, Turkey. Environmental Monitoring and Assessment, 173, pp. 533-554.

Sumathi, V. R., Natesan, U. & Sarkar, C., 2008. GIS-based approach for optimized siting of municipal solid waste landfill. Waste Management, 28, pp. 2146-2160.

TurkStat, 2010. Atık hizmeti verilen belediye sayısı, nüfusu, yaz ve kış mevsimine göre ortalama atık miktarı (Number and population of municipalities served by municipal waste services and amount of waste collected seasonally), Bertaraf Yöntemine Göre Atık Miktarı (Amount of Waste due to Disposal Method), Türkiye İstatistik Kurumu, Turkish Statistical Institute. [online] Available at: <http://www.tuik.gov.tr/cevredagitimapp/katiatik_ing.zul> [Accessed March 2012].

Vasiloglou, V. C., 2004. New tool for landfill location. Waste Management & Research, 22, pp. 427-439.

Wang, G. Q., Qin, L., Li, G. X. & Chen, L. J., 2009. Landfill site selection using spatial information technologies and AHP: A case study in Beijing, China. Journal of Environmental Management, 90, pp. 2414-2421.

Yeni Asır (YA), all related news from the web-based search of the newspaper between 2004-2012. [online] Available at: <http://www.yeniasir.com.tr/> [Accessed April 2012].