

Best Practice: Large-scale Landfill Restoration into a Seaside Park

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CITY: TEL AVIV

POLICY AREAS: ENVIRONMENT; PARKS AND GREEN SPACES

BEST PRACTICE

The **Jaffa (Yafo) Seaside Park** project, one of the major green initiatives in Israel to date, involved the cleaning up of the Jaffa landfill and developing the area into a public seaside park.

ISSUE

Since the 1960s, the 200 dunam (approximately 50 acres) seaside site served as a licensed landfill for construction waste. Over the years, the garbage accumulated into a 15 meter (approximately 45 feet) mountain of hazardous waste. In 1989, the site was officially closed after a petition to the High Court of Justice; however, illegal dumping continued. The landfill constituted an environmental hazard where spontaneous fires erupted and the unsupported slopes constantly gave way to the sea. The landfill destroyed the original coastline, preventing residents from accessing seaside views or the shoreline.

GOALS AND OBJECTIVES

The Jaffa Slopes plan was to reclaim a blighted shoreline for the public and to create a seaside park that would serve the neighboring communities for mixed usage.

IMPLEMENTATION

Phase I: In 2006, Tel Aviv Yafo Municipality Parks and Recreation Department began clearing the 15 meter tall landfill waste that had accumulated over four-plus decades of dumping. This phase consisted of excavation, earthworks, clearing the landfill and recycling the waste.

In order to minimize the demolition-related truck traffic entering and exiting the site, this process involved on-site grinding, recycling, and reuse of waste when possible. Following the full removal of landfill waste, the slopes were moderated, stabilized and planted with seaside climate-suitable vegetation.

Recycling Process: In order to maintain a high level of environmental consideration, suitable materials found at the site were recycled and reused. More than 1,000,000 tons of waste were ultimately recycled and reused in the area and in other construction sites around the country. The recycled soil was also used for plantings in the new park.

Phase I of the project achieved the following goals:

1. Reducing the amount of waste removed from the site, thus reducing the environmental impact on the local residents (such as increased traffic of trucks and large vehicles, dust and noise).
2. Self-Funding: close to 33% of the cost of the project was covered through the resale of recovered materials from the dump yard. Reusing the materials on the site and in other infrastructure projects saved massive amounts of energy and cost in providing new materials.
3. Promoting the idea of recycling and sustainability on a local and on a national level.



Recycling at the site

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Environmental consultants reviewed and monitored the project to continually examine environmental hazards throughout the building process.

Phase II: The Tel Aviv Yafo Municipality Parks and Recreation Department partnered with a landscape architecture firm, Braudo Maoz Landscape Architecture Ltd., to develop the Jaffa Seaside Park. The development phase included paving paths, planting vegetation, installing lighting, building sports arenas and an amphitheater.

The following have been included in the development of the park:

- 1.5 kilometers (<1 mile) of bike path connecting Yafo to Bat Yam and Tel Aviv
- Fishing deck
- Amphitheater
- Boardwalk/Promenade along the shore
- Outdoor recreational facilities (including exercise equipment)
- Playground
- Shaded view points
- Picnic areas with tables and benches
- Lawn - 70 dunam (about 17 acres) of grassy meadow
- Fruit trees and shade trees
- Three connecting paths from the neighborhood to the seashore



Visitors enjoying the promenade

Today, Jaffa Seaside Park's promenade is used daily for walking, running, cycling, and enjoyment of the beautiful view.

COST

The project was divided into two phases. The total cost of the project was 60 million shekels (approximately \$15 million USD).

Phase I: This phase consisted of excavation, earthworks, clearing the landfill and recycling the waste. The total cost of this phase stood at 45 million shekels (approximately \$12 million USD). As a result of the recycling efforts, 30 million shekels (approximately \$8 million USD) were earned through salvage and resale operations, resulting in the end cost of just 15 million shekels (approximately \$4 million USD).

Phase II: The development phase included paving paths, planting vegetation, installing lighting, building sports arenas and an amphitheater. The total cost of this phase stood at 45 million shekels (approximately \$12 million USD).

RESULTS AND EVALUATION

Access to the sea along with the creation of public parks and spaces changed the quality of life for residents of the adjacent Ajami neighborhood and for visitors. As a result, the housing values in the vicinity rose. The neighborhood that was once marred by drugs and crime entered a new era of increased socio-economic standing.

The project received several awards including "Project of the Year" for 2009/2010's category of Landscape Architecture from the Architectural Association of Israel in conjunction with the European Union. Additional



Pre-existing Conditions at the Slopes and the Mediterranean Sea

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awards were won in the areas of design and planning by various local colleges and institutes.



Aerial View of the Completed Project at the Slopes and the Mediterranean Sea

TIMELINE

The project started with a petition to the High Court of Justice (HCJ) to halt illegal dumping at the site. The HCJ ruled in favor of the petition, and paved the way for the planning phases of the park.

2003	The Minister of Interior approves National Master Plan Number 13 (TAMA 13) for the creation of a park.
2003	The Parks and Recreation Department at Tel Aviv Yafo Municipality submits a master plan prepared by an architecture firm.
2004-2005	Public Participation (Yafo Governance Department) – Ten meetings with the local community were held, each time with different stakeholders from the area in order to garner public support and receive input.
Early 2005	The developed program was submitted to the Tel Aviv Yafo Municipality for approval and opened up for feedback from the public, both online and through face to face contact.
Late 2005	The Tel Aviv Yafo Municipality approved the plan.
2006	Waste clearing and construction began
2009	Park Inauguration



Public Participation Meetings (2004-2005)

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LEGISLATION

In 2003, the Interior Ministry approved National Master Plan Number 13 (TAMA 13) which aimed to convert the seashores along the Mediterranean coast into public assets. Most of the land included in this plan was earmarked for public park development.

LESSONS LEARNED

Donation pledges precipitously declined during the construction process. Consequently, this necessitated creative budget cutting and a partial increase in the amount of municipal funding.

During the final stages of development, Israel experienced a drought and the Israel Water Authority restricted irrigation. The drought created many challenges, including the delay of planting grass across the park. The Municipality negotiated with the Water Authority and reached an agreement allowing the City to continue planting if the City resorted to decreased water consumption and increased the reuse of water in other areas of the City.

Following the park's completion, problems remained. In addition to the park's regular maintenance duties, there is a constant need to clean the seashore of debris that continues to be washed ashore.

Recycling and reusing of this scale provided a precedent for Israel. The money earned from selling the usable scraps funded approximately one third of the project.

Public involvement proved crucial in creating an atmosphere of cooperation and support. Since residents were involved in the planning process, they were more prepared for minor discomfort that would be caused during the construction period.



View of the Pedestrian Walkway to the Sea

TRANSFERABILITY

When reclaiming an area previously used as a landfill site, methods of recycling and scrapping should be utilized as a way to fund the project and reduce the cost and energy used to develop the location. The residents of the surrounding area should also be kept informed of the development as a way to address any of the issues faced during the construction and maintain support of the project. The city should also have strategies in place to address problems faced by weather or financing, if partnered with a private agency.

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Facts and figures in this report were provided by the highlighted city to New York City Global Partners.