



KARBALA COMPOST PROJECT AWARENESS CAMPAIGN

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Abstract

There is an increasing generation of municipal solid waste in Iraq, particularly in the city of Karbala, and high proportions of organic components within it. To keep pace with the global organic waste management paths, the United Nations Environment Programme (UNEP) West Asia Office and United Nations Development Programme in Iraq (UNDP-Iraq) have collaborated with the Ministry of Environment-Iraq and local authorities in Karbala in implementing the programme entitled “Sustainable Solutions of Compost Production from Organic Waste in Iraq-Karbala Governorate.” The programme promotes environmentally sound waste management in Iraq with a focus on Karbala, increase and improve composting practices and culture and help Karbala society implement the most appropriate waste management systems according to their waste properties and the nature of their city.

Within this project framework, the UNEP West Asia Office, in collaboration with the Institute for Global Environmental Strategies (IGES), and the United Nations Development Programme in Iraq (UNDP-Iraq) organized an awareness campaign for 20 days (27/12/2021 – 15/1/2022) in Karbala city targeting different groups of within the society; restaurants, hotels, local markets, schools, fertilizers distributors, and waste collectors. The main goal was to bring composting to light and educate people on how beneficial and easy it is to compost organic wastes, the importance of the project to their city, and their role in the success of this project.

1. Introduction

1.1. Solid waste situation in Iraq

Municipal solid wastes are normally collected and transported to disposal sites (mostly open dumpsites) without any sanitary measures, sorting or recycling. There are no management, recycling, or recovery actions for municipal solid wastes, except small private companies for recycling papers, cardboards, and metallic cans.

Studies indicate that the percentage of organic components in municipal solid waste ranges between 55-60% which can be converted to compost by the application of composting facilities. In Karbala, specifically, huge amount of food waste is generated during religious events, indicating that large proportion of organic wastes can be reused and recycled effectively, making it the best choice of city for composting facility.

1.2. Karbala city

Karbala is a small city located in the middle Euphrates region in Iraq, about 100 km (62 mi) southwest of Baghdad. Karbala city is the capital of Karbala Governorate which shares internal boundaries with the governorates of Anbar, Babil, and Najaf. It has an estimated population of 1,250,806 people with a distribution of 33.13%, 66.87% in rural, urban areas respectively (2019).

Karbala's economy is based around two main sectors: religious tourism and agriculture. Every year, during religious events, millions of pilgrims from inside and outside Iraq visit the governorate, and a huge amount of food waste is generated. As such, the most suitable location for composting project in Iraq is Karbala.

1.3. Karbala compost project

Karbala compost project aims to promote environmentally sound waste management in Iraq with a focus on the capital city, increase and improve composting practices and culture, and help implement the most appropriate waste management systems according to their waste properties and the nature of their city.

The current compost project is an important project not only for Karbala city but to all of Iraq. It would introduce composting concept to the community, at the same time reduce the

volume and cost of managing millions tons of municipal solid waste produced annually, and provide green jobs to the local community.

The current project aims to invest in large proportion of municipal waste by recycling and converting it to organic fertilizers that reduce the need to import, manufacture and use chemical fertilizers that are harmful to the environment, as well as reduce the need to bury large quantities of waste.

2. Awareness campaign

Within this project framework, the United Nations Environment Programme (UNEP) West Asia Office, in collaboration with the Institute for Global Environmental Strategies (IGES), and the United Nations Development Programme in Iraq (UNDP-Iraq) organized an awareness campaign which lasted for 20 days (27/12/2021 – 15/1/2022) inside the city of Karbala, targeting different groups of Karbala society; workers and honors of restaurants, hotels, local markets, school students, fertilizers distributors, and waste collectors. The main goal was to bring composting to light and educate people on how beneficial and easy it is to compost organic wastes, the importance of the project to their city, and their role in the success of this project.

2.1.Awareness materials

The awareness materials were two sets of brochures developed in collaboration with the IGES and CCET teams, the first brochure title was “From Waste to Resource to Protect our Environment, Society, and Economy”, which focused on food waste and hierarchy, how to prevent and divert the food waste with practices of waste separation at source, and the importance of these practices to our environment, society, and economy. The brochure also included the fate of our food waste and the effects of improper management of dumping sites on our health.

The second brochure titled “Lets Separate Organic Waste for Making Compost”, discussed the benefits of making compost, which reduces negative environmental impacts and promotes sustainable agriculture. A few notes were included about the benefits of consuming organic products, a brief illustration for recyclable materials, organic wastes, the importance of separating it from hazardous materials, and finally the residues which do not belong to any of the three types of waste.

More than three hundred copies of each set of brochures were distributed through the awareness campaign, gaining people's attention due to its simplicity in summarizing the concept and importance of composting, which is relatively new to many of the audience (see Appendix 1).

2.2. Targeted groups:

- I. **The first group** includes 50 selected producers of organic wastes, including hotels, restaurants, café, local markets, and a shopping mall all located within Karbala city (see Appendix 2). The reason for choosing this group is that they are considered major producers of organic wastes, as they produce hundreds kilograms of waste food on a daily basis (as they mentioned). Their organic waste is relatively easier to separate from other types of waste (making them the best source for the composting project). Most of them welcomed the project, while others mentioned they already separate food wastes for donation purposes.



Figure (1): The awareness campaign tours in hotels and restaurants (Baron Hotel to the left, and Tarboush dine-in restaurant to the right)

II. Schools

Schools were the second targeted group for this campaign. 20 primary, secondary, and high schools from different neighborhoods within the city of Karbala were included in the awareness campaign. The aim was to provide students with proper awareness on the composting processes and its importance to their health, environment, and society, as well as educating them on how they can easily get involved through food waste separation at source (see Appendix 3).



Figure (2): The awareness campaign tours in schools
(Karbala high school for boys to the left, and Al-Sharif Al-Radhi primary school to the right)

III. Waste collectors

In Iraq, there are small groups of people running small businesses and collecting specific kinds of wastes from markets, restaurants, and hotels (mostly collecting cardboard, papers, metallic cans, or food waste) for reusing or recycling purposes. Others who work in collaboration with Karbala municipality to collect mixed wastes from local markets, were all included in the third targeted group for the awareness campaign since they are working on and in direct contact with municipal solid waste and could have a role in diverting food waste stream from dumpsites or landfills. This part of the campaign were adopted by the campaign volunteers who work in the municipality since they have direct contact with this group (see Appendix 4).

IV. Fertilizer distributors

Since the main fertilizer distributors and retail fertilizer dealers have a major role in marketing the compost product, it was included into the campaign as well. Most of the retail fertilizer dealers mentioned that this type of fertilizer is unknown locally and the demand for it is very low, and they attributed the lack of demand to the high prices of the imported compost, thus, most farmers prefer to buy chemical fertilizers since they are cheaper. They showed their readiness to market this type of product upon the increase in demand and the decrease in its price to ensure smooth marketing (see Appendix 5).



Figure (3): Al-Qarya Al-Asrea co. (fertilizers distributor)

2.3. The campaign volunteers

The campaign was carried out with the help of a group of local volunteers who have set up tours for 20 days inside the city of Karbala to shed light on compost and its importance to individual's health, the environment, and to the entire city. In their tours, which started on 27th December 2021, they had visited restaurants, hotels, local markets, schools, fertilizers distributors, and waste collectors (see Appendix 6).

Results and discussions

The campaign targeted a wide range of cultural levels and age groups, resulting in different impressions from each group. In the school category (which had the youngest age group), students' inquiries were limited to how they could contribute to the success of the project and the relationship of compost with organic foods. The group of restaurant and hotel owners and employees welcomed the idea of the project, and demanded the provision of containers to collect the huge quantities of food waste generated on a daily basis in their restaurants and hotels to support the project. On the other hand, the fertilizer distributors gave several proposals regarding the produced compost and its promotion, as many of them suggested distributing the first batches of the product free of charge to the farmers, and setting the price of the compost lower than the market prices to support the product compost and ensure the continuity of demand on it. Others suggested making a pilot project for a model farm in which compost is used, then comparing its crops with other farms that use chemical fertilizers to demonstrate the difference in the quality of the product to both farmers and consumers.

Recommendations

- Repeating the campaign when the compost plant begins to release product to encourage people to use the new product.
- Carrying out awareness campaigns for farmers encouraging them to use compost.
- Executing a pilot project of a farm using compost as the only fertilizer, comparing its products quality with that of farms using chemical fertilizers, and advertising it for this project.
- Raising a special awareness campaign regarding **organic foods**, illustrating its importance to health, its close relationship with compost usage (especially locally produced), and the benefits of organic recycling.

Appendix 1: Promotional materials used in the campaign



(A) The first brochure: From Waste to Resource to Protect our Environment, Society, and Economy.



(B) The second brochure: Lets Separate Organic Waste for Making Compost.

Appendix 2: Hotels, restaurants, café, and local markets covered by the campaign tours.

No.	Name	Type	Location / neighborhood
1	Baron Hotel	Hotel	Al-Hussainiya Road
2	Al Shakreen Hotel	Hotel	City Center / Bab al-Salalma
3	Al Yassin Hotel	Hotel	City Center /Jomhoriyah Street
4	Yosef Hotel	Hotel	City Center / Bab Al-Khan
5	Al-Harith Hotel	Hotel	City Center / Bab Al-Khan
6	Anwar Baghdad Hotel	Hotel	City Center / Bab Baghdad
7	Elijah Hotel	Hotel	City center
8	Al Rawan Hotel	Hotel	City center
9	Emperor Hotel	Hotel	City Center / Al-Abbas Street
10	Al-Sultan Corner Restaurant	Restaurant	Al-Baladiah
11	Rihana Restaurant	Restaurant	Al-Dhareba road
12	Al-Dur Al-Nasrawy	Restaurant	Al Sanater Street
13	Saj Al Reef Restaurant	Restaurant	Al Sanater Street
14	Al-Said Food Restaurant	Restaurant	Al-Baladiah
15	Nour Fatima Restaurant	Restaurant	Al-tarbea
16	Zad Al Khair Restaurant	Restaurant	Al-Baladiah
17	Cardinia Restaurant	Restaurant	Al-Baladiah
18	Maram café	café	Haider Al Karar Street
19	coffee time café	café	Haider Al Karar Street
20	Fruity Up café	café	Al-Eskan
21	Ain Al Tamr Restaurant	Restaurant	Qantara Al Salam Street
22	Zamzam Restaurant	Restaurant	Bab Baghdad
23	Shee Tayeb restaurant	Restaurant	Al-Moathafeen neighborhood
24	Kebab Nabil Restaurant	Restaurant	Ramadan neighborhood
25	Mandy Ahmed Restaurant	Restaurant	Al-Taleem Neighborhood
26	Hay Al-Hurr market	Local market	Al Hur neighborhood
27	Abu Yasser Restaurant	Restaurant	Al-Moathafeen neighborhood
28	Al Hussein Family 2	Restaurant	Al-Hussein neighborhood
29	Al Hussein Family 1	Restaurant	Al-Hussein neighborhood
30	Kentucky House	Restaurant	Al-Hussein neighborhood
31	The Mona Lisa Restaurant	Restaurant	Al-Hussein neighborhood
32	No diet Here Restaurant	Restaurant	Al-Hussein neighborhood
33	Eat & Go. Restaurant	Restaurant	Al Sanater Street
34	Aseer Time and baba konafa	café	Al Sanater Street

35	Toot Café	café	Al Sanater Street
36	Al-Melad Kebab Restaurant	Restaurant	Ahmed Al Waeli Street
37	Lokma Star Restaurant	Restaurant	Al-Hussein neighborhood
38	Zait and Zaatar Restaurant	Restaurant	Al Sanater Street
39	Peri Peri Restaurant	Restaurant	Al-Eskan
40	Monster Falafel and Fresh Point	Restaurant	Al Sanater Street
41	Al-Afaf	Shopping Mall	Al-Hussein neighborhood
42	Pizza House Restaurant	Restaurant	Haider Al Karar Street
43	kebab Mohamed restaurant	Restaurant	Al-Eskan
44	Falafel Ahmed Al-Baghdadi	Restaurant	Al-Eskan
45	Mandy Daoud restaurant	Restaurant	Al-Eskan
46	Hekaya Restaurant	Restaurant	Al-Hussein neighborhood
47	Shawarma City Restaurant	Restaurant	Al-Hussein neighborhood
48	Al-Haboubi Market	Local market	Al-Molhaq Neighborhood
49	Al Ghadeer market	Local market	Al Ghadeer Neighborhood
50	Tarboush dine-in restaurant	Restaurant	Al-Eslaah

Appendix 3: Schools covered by the campaign tours.

No.	Name	Type	Location / neighborhood	Date of visit
1	Al-Faris	Secondary School	Al-Askary neighborhood	3/1/2022
2	14 Ramadan	High School	Al-Thawra	10/1/2022
3	Al-Yarmouk	High School	Al-Moalemen neighborhood	10/1/2022
4	Al-Atyaf school	Primary school	Al-Qadisiyah	11/1/2022
5	Al-Sabaah	Primary School	Al-Hur neighborhood	12/1/2022
6	Egaila	High School	Al-Hur neighborhood	12/1/2022
7	Al-Athmar	Secondary School	Al-Hur neighborhood	12/1/2022
8	Al-Hussein School for Boys	Secondary School	Al-Moalemen neighborhood	12/1/2022
9	Noor Al Abbas School	High School	Al- Zubaylia	12/1/2022
10	Ajyal Al-Ghad School	High School	Al-Hussainiya	13/1/2022
11	Baraem Karbala Secondary School for Boys	Secondary School	Al-Hussein neighborhood	13/1/2022
12	Baraem Karbala High School for Girls	High School	Al-Hussein neighborhood	13/1/2022
13	Al-Salihah high school for girls	High School	Al-Hur road	13/1/2022
14	Al-Awael Secondary School for Boys	Secondary School	Al-Hur road	13/1/2022
15	Karbala high school for boys	High school	Al-Hussein neighborhood	15/1/2022
16	Karbala high school for girls	High School	near the governorate	15/1/2022
17	Ammar Bin Yasir School	High School	Al-Eskan	15/1/2022
18	Maysaloon	Primary School	Al Maslah Street	15/1/2022
19	Al-Sharif Al-Radhi	Primary School	Al-Hussein	15/1/2022
20	Asmaa school	Secondary school	Al-Eskan	15/1/2022

Appendix 4: Waste collectors / collecting places covered by the campaign.

No.	Waste Collectors	Location
1	Multiple workers and owners of small groups working in collecting specific kinds of wastes from markets, restaurants, and hotels (mostly collect papers, metallic cans, or food waste), and others who work in collaboration with Karbala municipality to collect mixed wastes from local markets	The first municipal sector
2		The second municipal sector
3		The third municipal sector
4		The fourth municipal sector
5		The fifth municipal sector
6		The sixth municipal sector
7		The seventh municipal sector
8		The eighth municipal sector

Appendix 5: Fertilizers distributors within Karbala City covered by the campaign.

No.	Name	Location
1	Al-Qarya Al-Asrea (Mustafa Bayde)	Karbala, Alatibaa
2	Atheer Al-Badry (Atheer Al-Badry)	Karbala Market
3	Basmala (Mustafa Sahib)	Karbala Market
4	Barakat Al-Hussain (Haydar Ali)	Karbala Market
5	Al-Mujtaba (Muhanad)	Karbala Market
6	Barakat Al-Zahra's office (Abdul Kazem Hassan)	Najaf Road, Pillar 1175
7	Al Bahadli Office (Nasser Mahdi Al-Bahadli)	Near the vegetable market
8	Al-qarya alhaditha office (Mustafa Mohammed)	Alatibaa, Main Street

Appendix 6: The campaign volunteers.

No.	Name	Origin	Nationality
1	Safaa Hameed Sahib	Karbala	Iraqi
2	Anwar Saad Gadar	Karbala	Iraqi
3	Safaa Hamid Neamah	Karbala	Iraqi
4	Maryam Abduisattar Hussein	Karbala	Iraqi
5	Abbas Ramadan Abod	Karbala	Iraqi
6	Zhraa Jaafar Alwan	Karbala	Iraqi
7	Zahraa Nabeel Mohammed	Karbala	Iraqi
8	Alaa Mohamed Bayde	Karbala	Iraqi

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