

Focus and Discourse on Organic Waste: Jordan and Egypt

TUESDAY, OCTOBER 03, 2023

*EWWI EGYPT WATER WASTE + INFRASTRUCTURE
01 TO 03 OCTOBER 2023, CAIRO EGYPT
INTERNATIONAL CONFERENCE CENTER, CAIRO*



THIS PROJECT IS FUNDED BY THE GERMAN FEDERAL ENVIRONMENT MINISTRY'S ADVISORY ASSISTANCE PROGRAMME (AAP) FOR ENVIRONMENTAL PROTECTION IN THE COUNTRIES OF CENTRAL AND EASTERN EUROPE, THE CAUCASUS AND CENTRAL ASIA, AND OTHER COUNTRIES NEIGHBORING THE EUROPEAN UNION. IT IS SUPERVISED BY THE GERMAN ENVIRONMENT AGENCY (UBA). THE RESPONSIBILITY FOR THE CONTENT OF THIS PUBLICATION LIES WITH THE AUTHORS.

Problem Definition & Objectives



Egypt and Jordan both face the challenge of **organic waste** comprising **more than 50%** of their solid waste streams.

Landfilling and dumping are the primary disposal methods.

- The **Objectives** include the introduction of a **circular economy** approach with a specific focus on organic waste
- Benefits including:
 - Making **value-added products**,
 - Decrease of **methane emissions** and **leachate** from landfills,
 - Substantial contributions to the Sustainable Development Goals (**SDGs**), the Global Methane Pledge,
 - Creation of **green job opportunities**, etc.



Focus and Discourse on Organic Waste



- A project **funded by** the Advisory Assistance Programme (**AAP**) of the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (**BMUV**) of Germany and will be **supervised by** the German Environment Agency (**UBA**).
- The project is a collaborative effort involving **research institutions**, namely the University of Rostock in Germany, the Egypt Solid Waste Management Center of Excellence, and the University of Science and Technology in Jordan.

Project Duration : 2 years & 4 months from 01 October 2023 to 28 February 2026.

Project Objectives



- Facilitate the **development of comprehensive policies and strategies** for planning and implementing organic waste management systems.
- In Egypt and Jordan, the **main beneficiaries** are Ministry of Environment in Jordan, Waste Management Regulatory Authority in Egypt.
- Beneficiaries are also **decision-makers and experts** of the Waste Management Regulatory Authority (WMRA) and national and regional stakeholders in charge of organic waste, and **circular economy** (administration, municipalities, academia, private sector, international agencies, etc.).
- The advisory assistance also **targets educational staff and students** specializing in environmental programs, particularly at the project partners Ain Shams University in Cairo and Jordan University of Science & Technology.

Project Kick-off Meeting



Mrs. Prof. Sherien Elagroudy
Chairman

Egypt Solid Waste Management
Center of Excellence (ESWMCE),
Ain Shams University,
Cairo, Egypt



Prof. Dr. Tarek El-Arabi,
Member

Egyptian Waste Management
Regulatory Authority (WMRA),
Cairo, Egypt



Dr. Barbara Beckert,
Member

German Environment Agency,
Dessau-Rosslau, Germany



PD Dr. Eng. Abdallah Nassour
Member

Department of Waste and
Resource Management, University
of Rostock, Germany

Kick-Off Session Program



Mrs. Prof. Sherien Elagroudy

10:00-10:15

*Welcome and Moderation
Open discussion*

11:15-12:00

Wrap-up

Prof. Dr. Tarek El-Arabi,

10:15-10:35

*Organic Waste Management
in Egypt: Current Status and
Future Perspectives*

Dr. Barbara Beckert,

10:35-10:55

*Germany's Advisory Assistance
Programme*

PD Dr. Eng. Abdallah Nassour

10:55-11:15

*Focus and Discourse on
Organic Waste: Jordan and
Egypt*

Project Kick-off Meeting – Biography of Chairman & Panelists



Mrs. Prof. Sherien Elagroudy
Chairman

Egypt Solid Waste Management
Center of Excellence (ESWMCE),
Ain Shams University,
Cairo, Egypt

Dr. Sherien is a Professor of Environmental Engineering at Ain Shams University, Egypt and the founding Director of Egypt Solid Waste Management Center of Excellence (ESWMCE) at the University. Ph.D. studies at Ryerson University and post-doctoral research at Yale.

The impact of Sherien work has been recognized in awarding her the Next Einstein Forum Fellow in 2016, L’Oreal UNESCO Fellowship for Women in Science, a fellow of the Global Young Academy and young scientist at the World Economic Forum in China in 2013.

Sherien has spent more than 20 years in research and practical projects to design and implement real-world solid waste management strategies, supervising both post-graduate students and junior engineers to train next generation of academic and industrial leaders in the field.

Consistent with her passion to do more than academic work, she has long been a solid waste expert and led teams in setting the solid waste management strategy for several municipalities in several Arab countries, managed several capacity building projects and supervised the design of several waste management facilities. Dr. Sherien is also working on several educational and research projects with several German and MENA region Universities.

Project Kick-off Meeting – Biography of Chairman & Panelists



Prof. Dr. Tarek El-Arabi

Member

Egyptian Waste Management
Regulatory Authority (WMRA),
Cairo, Egypt

Chief Executive Officer of Waste Management Regulatory Agency - Ministry of Environment

Professor of Geophysics, Faculty of Science, Cairo University. Director of the Project Management Unit “Protection of Human Health and the Environment from Unintended Emissions of POPs from Combustion and Open Burning of Healthcare and Electronic Wastes” funded by the Global Environment Facility (GEF) under the supervision of the United Nations Development Program (UNDP) and the implementation of Egyptian Ministry of Environment.

Vice Dean of the Faculty of Science, Cairo University for Community Service and Environmental Development Affairs. Air quality expert and project manager at the branch of the Norwegian Institute for Air Research in the United Arab Emirates - the strategic partner of the Environment Agency - Abu Dhabi. Director of the National Network for Noise Monitoring - Environmental Affairs Agency, headed by the Council of Ministers - Arab Republic of Egypt. Deputy Director of the Center for Environmental Risk Reduction at Cairo University, funded by the US Agency for International Development, and Deputy Director of the Basel Convention Regional Center for Training and Technology Transfer for Arabic-speaking Countries regarding the transboundary movement of hazardous wastes.

Project Kick-off Meeting – Biography of Chairman & Panelists



Dr. Barbara Beckert
Member

German Environment Agency,
Dessau-Rosslau, Germany

Dr. Barbara Beckert is a Scientific Policy Advisor at the Division for “International Sustainability Strategies, Policy and Knowledge Transfer” at the German Environment Agency. She is working on sustainability strategies and the implementation of the 2030 Agenda in the European Union. Within the Advisory Assistance Programme she is coordinating projects on various topics in Central Asia, Turkey and the MENA region.

Dr. Barbara Beckert obtained her PhD in Geography in 2017. She has several years of work experience in land use change research and environmental conservation. She worked on conflictive land relations in Indonesia, within the framework of an Indonesian-German Collaborative Research Centre, funded by the German Research Foundation (DFG). She was also a research associate at the Department of Human Geography at the University of Göttingen, Germany.

Furthermore, she has work experience with non-governmental organisations like the World Wide Fund For Nature (WWF) Indonesia and the German Federal Ministry for Economic Cooperation and Development in the Division for ‘Regional Development Policy, Middle East’.

Project Kick-off Meeting – Biography on Chairman & Panelists

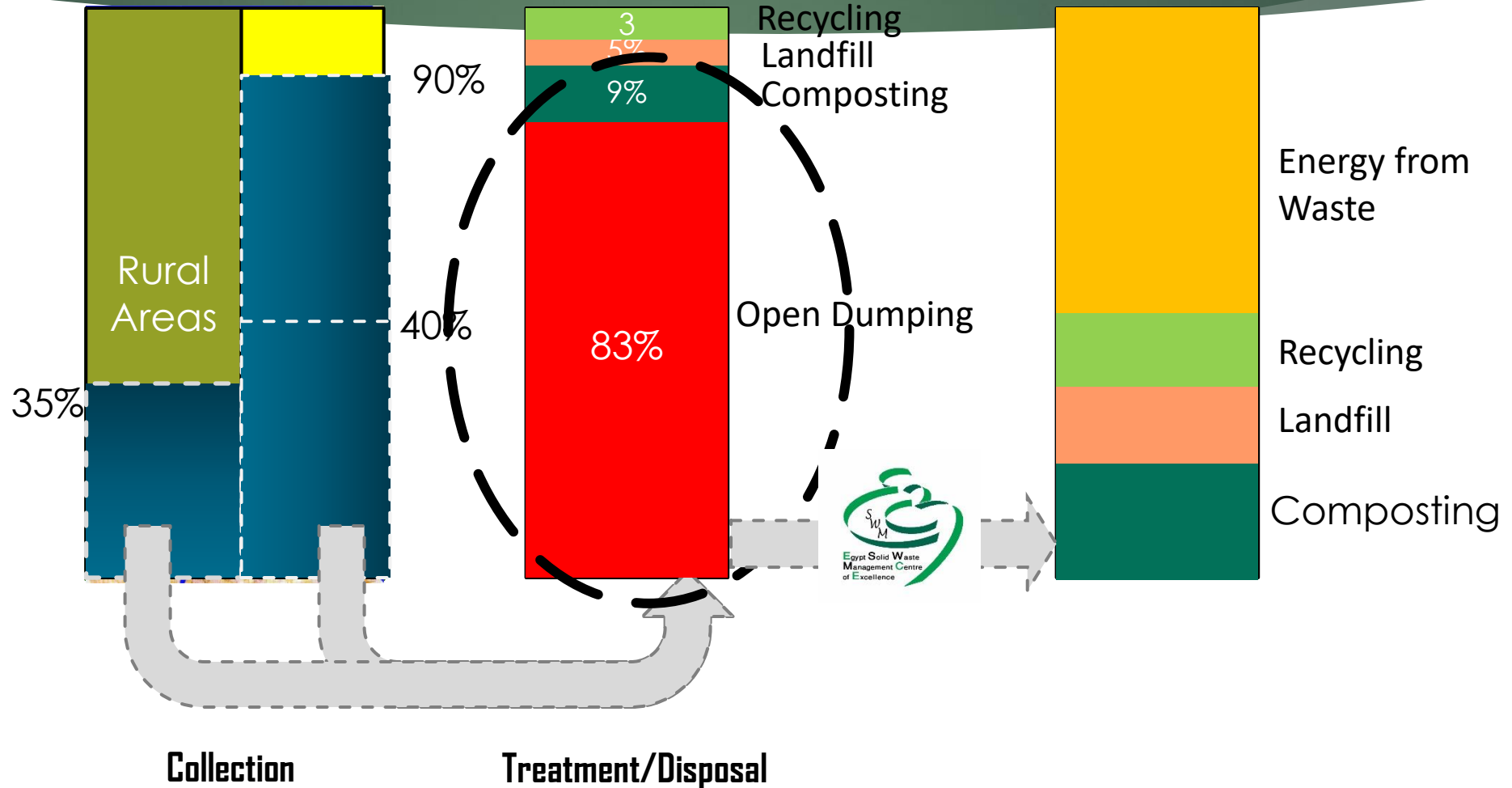


PD Dr. Eng. Abdallah Nassour
Member

Department of Waste and
Resource Management, University
of Rostock, Germany

Dr. Abdallah Nassour is an associate professor at the Professorship of Waste and Resource Management of the University of Rostock. He got his doctorate degree in 2005 on the subject “Approaches to reform the waste management in developing countries”. He has worked in the field of waste management since 1995 mainly dealing with developing countries in the MENA-Region of Tunisia, Jordan, Egypt, Algeria, Kuwait, Algeria, Libya, etc. He has 28 years of practical experience in solid waste management and a circular economy. Since 1995, he has been scientific consulting for politics, municipalities, companies, and education in sustainable solutions for solid waste management (laws, organization, financing, techniques, etc.). The focus of his experience lies in the areas of policy, laws, organization, financing of waste management, and knowledge transfer between Germany and the Arab regions. He created the German-Mena Universities Network in waste management in circular economy.

Current Waste management practices in Egypt



Current waste disposal practices

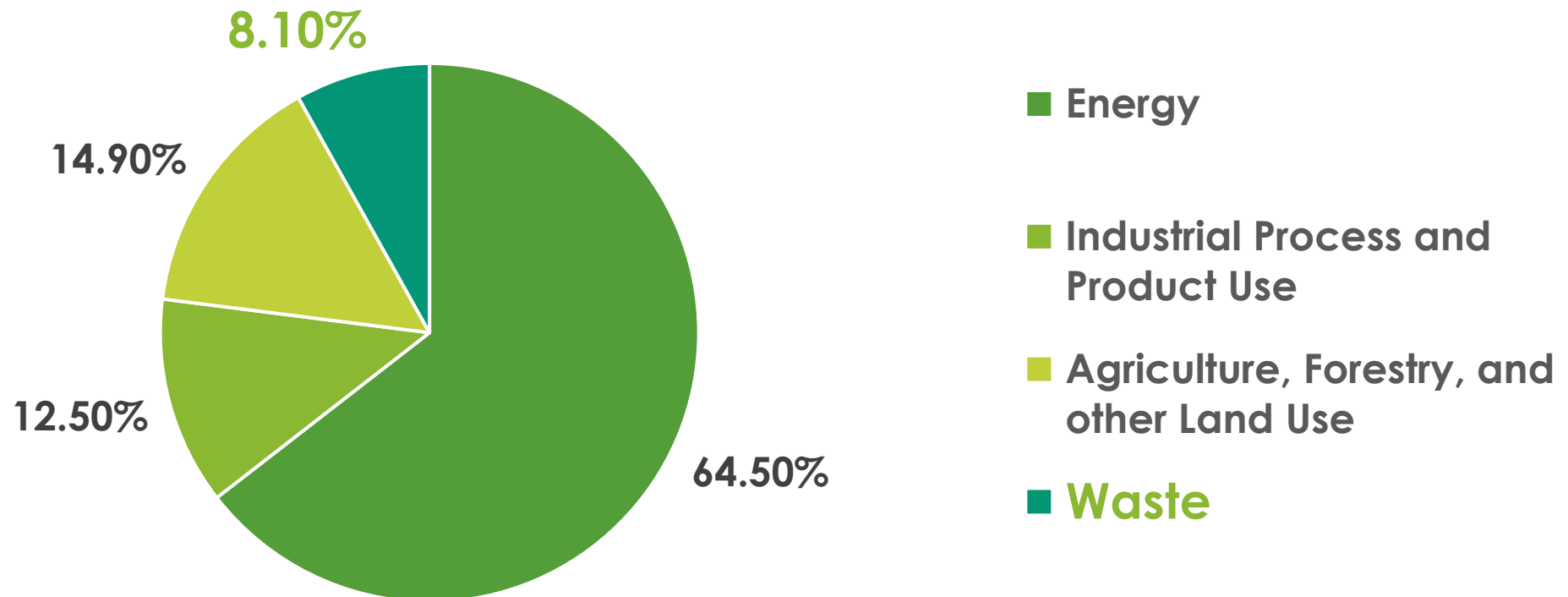
- Registered municipal solid waste (MSW) disposal sites across Egypt are:

Open Dumpsites	Controlled Dumpsite	Controlled Landfills	Sanitary Landfills	Landfills
6	2	15	23	21

- However, not all the registered disposal sites are currently fully operating as they are planned among a four-year plan starting in 2019 to improve solid waste management in Egypt.
- Furthermore, some officially-closed yet illegally-opened dumpsites are not included in such statistics.

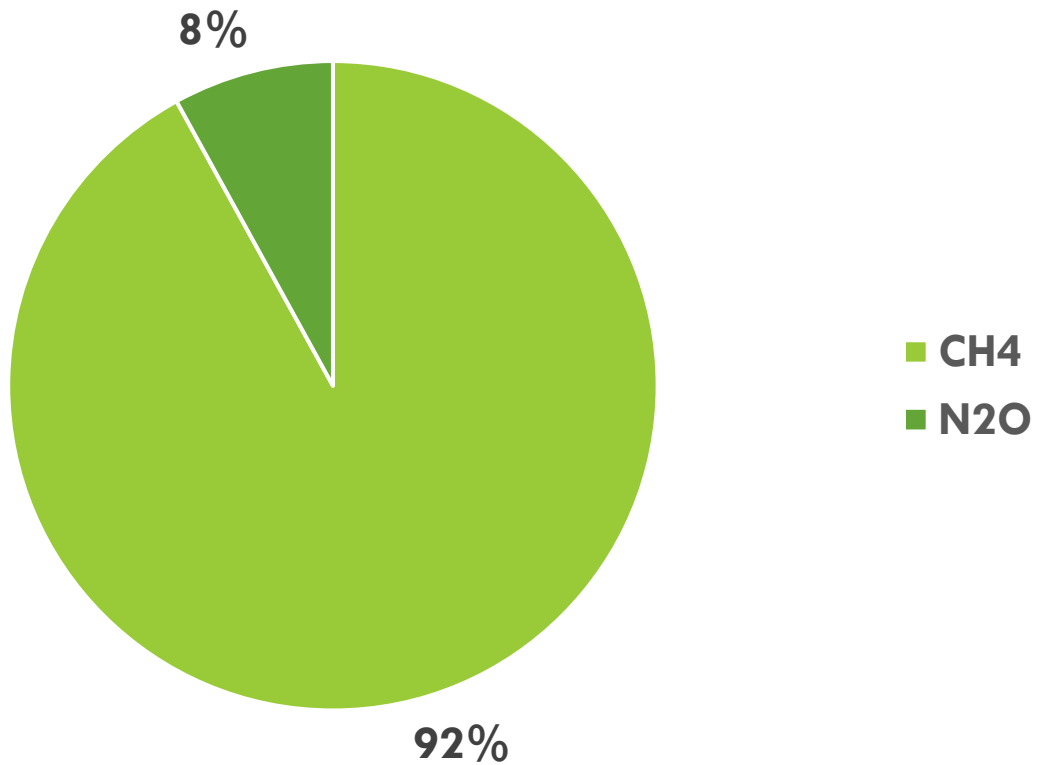
Egyptian GHG emissions

Egyptian GHG in 2015 (325.6 Million Tons CO₂e)

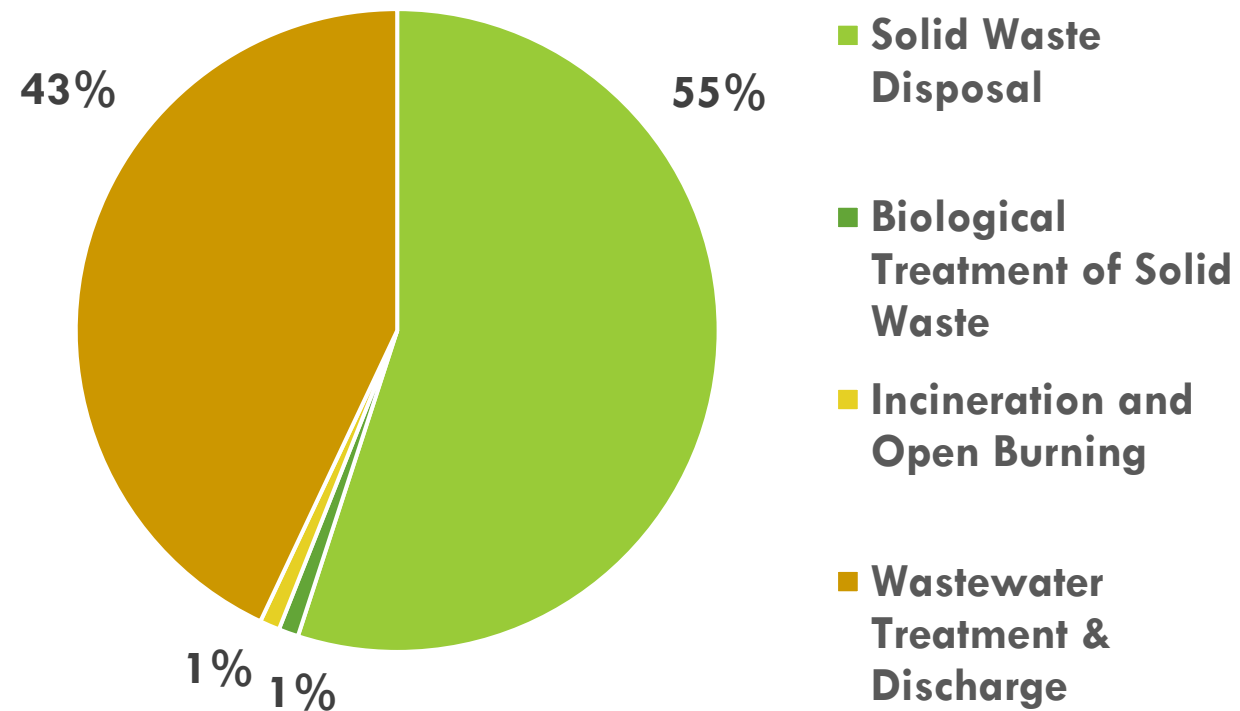


Egyptian Waste Sector GHG emissions in 2015

Emission per gas for the Waste Sector



CH₄ Emissions per Waste Subsector



Egyptian Waste Sector GHG emissions

Between 2005 and 2015, GHG emissions increased by:

- 24% for solid waste disposal sites
- 26% for biological treatment of solid waste (composting)
- 23% for open-burning of waste between 2005 and 2015.

Environmental, and Public Health and Safety Impacts from Waste Disposal sites

Environmental Impacts

- Surface and groundwater contamination
- Soil contamination
- Air pollution
- Fauna
- Flora

Public Health and Safety Impacts

- Open burning of solid waste
- Contaminants in soil and water
- Infectious diseases

Social Impacts

- Negative aesthetic impact on the value of properties near the site.
- Social stigma attached to living near a dumpsite.



Scope



IMPROVE

Higher/University education related to organic waste management to support sector development in both, Egypt and Jordan.

PROMOTE

National-level coordination and strengthen the regional experience exchange on waste management and related aspects.

ENABLE

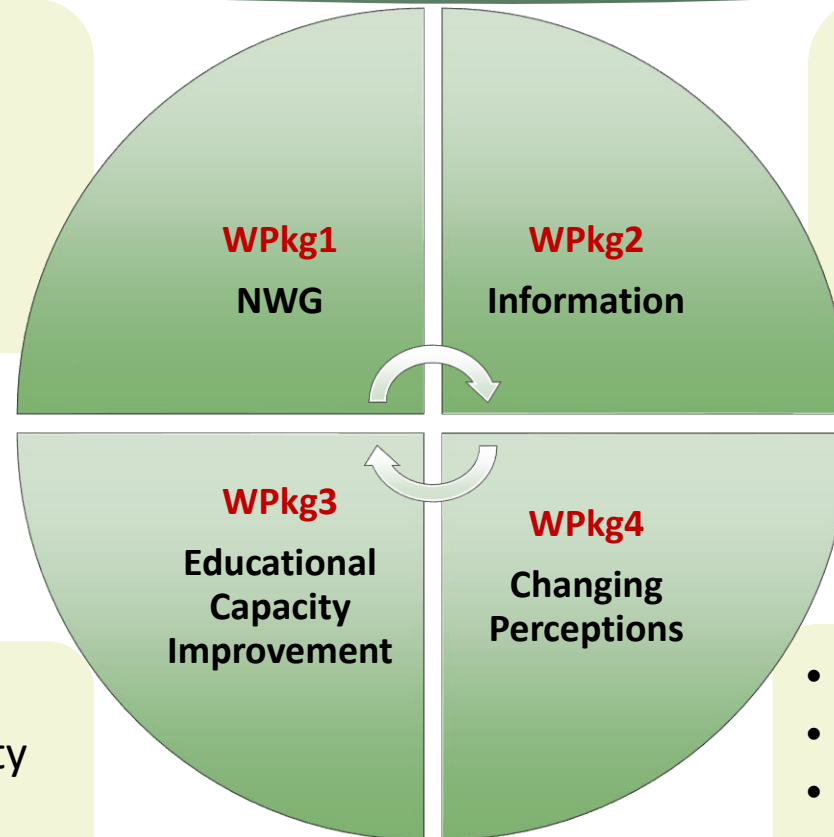
The local and regional beneficiaries and stakeholders, especially WMRA and the Ministry of Environment (Jordan) to cooperate across sectors and in the nexus of methane reduction, climate adaptation, or urban planning.

SHARE

Information for all stakeholders especially WMRA and the Ministry of Environment (Jordan) in order to change the perception and attitude on organic waste management and ultimately the transition from traditional landfilling to more sustainable options.

Planned Activities

- Form a national working group (NWG),
- Identify focal points,
- Identify roles & responsibilities



- Desktop Research to:
 - *Analyze the value chain of organic waste*
 - *Fill data gaps*
 - *Surveys and field work*
- Report the baseline situation
- Identify research opportunities

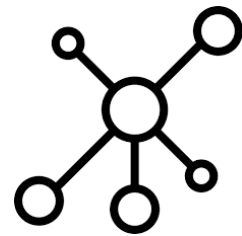
- Collaborative efforts, lectures and educational sessions from University Professors in Germany, Egypt & Jordan

- Study tour
- National & international conferences
- National guidelines development
- Report of findings

Expected Outputs



Established national-level **network**, able to coordinate and improve Organic Waste Management (OWM)



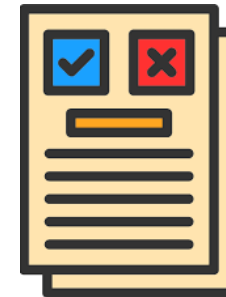
Create university **education** OMW material



Develop related **Cross sectorial Aspects** (methane reduction, climate adaptation)



Forming **polices, strategies and guidelines** to reduce/ban OW landfilling and promote material & energy recovery



Discussion – Current Status and Future Perspectives

by Prof. Dr. Tarek El-Arabi



1. CURRENT STATUS OF ORGANIC WASTE MANAGEMENT IN EGYPT
2. LAW 202/2020
3. PROBLEMS FACING ORGANIC WASTE MANAGEMENT
4. STRATEGIES FOR IMPROVEMENT

Discussion – Germany’s Advisory Assistance Programme

by Dr. Barbara Beckert



1. INTRODUCTION OF THE GERMAN ENVIRONMENT AGENCY (UBA)
2. WHAT IS GERMANY’S ADVISORY ASSISTANCE PROGRAMME (AAP)?
3. RELEVANCE OF THE PROJECT FROM THE PERSPECTIVE OF THE GERMAN ENVIRONMENT AGENCY

Discussion – Focus and Discourse on Organic Waste:

Jordan & Egypt

by PD Dr. Eng. Abdallah Nassour



1. CURRENT SITUATION OF BIOWASTE IN EGYPT and PERSPECTIVES
2. PLANNING of GLOBAL METHANE PLEDGE in EGYPT
3. REGULATIONS and STANDARDS FOR COMPOST in EGYPT
4. IS BIOGAS RELEVANT for EGYPT?
5. WHAT ARE THE OBJECTIVES of THE PROJECT?
6. SUSTAINABLE FINANCING of BIOWASTE in EGYPT

Wrap-up

by Mrs. Prof. Sherien Elagroudy



A Project Facing Regional & Local Challenges

A local & International Academic & SMEs collaborative efforts

2 Y&4M Of Desktop Studies, Field Work

Achieving Educational Goals

Guidelines

The Focus and Discourse on Organic Waste: Jordan and Egypt



Thank you