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Contribution of Sustainable Waste Management Systems in The Tourism Sector for The Protection of Marine Ecosystems

TouMaLi Project Local Activities in Egypt

Monitoring of Beach Litter CI 22

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CHAMPION of Plastic Pollution Prevention in the Mediterranean

Honorary title, in recognition of the voluntary action taken in combating pollution from plastics, awarded by the EU funded "Water and Environment Support (WES)" project, in partnership with the Union for the Mediterranean and the Mediterranean Action Plan of the United Nations Environment Programme

What is TouMaLi?

- **Project:** TouMaLi – **T**ourism **M**arine **L**itter
- **Duration:** July 2021 – April 2024 extended to June 2026
- **Project Countries:** Morocco, Tunisia, Egypt

“The overall project goal is to minimize the proportion of waste from tourism in the target regions, and to recycle and reuse unavoidable waste in order to sustainably reduce the overall amount of marine litter.”

- **Project Group:** 5 local and 5 German institutions

Work Packages Overview

WP I : Coordination, national networks, pilot areas & background data analysis

- Establishment of national networks in each partner country
- Pilot site selection
- Data collection

WP II : Concepts for waste & marine litter reduction and mitigation

- Financial , technical & policy concept
- Institutional framework
- Industry & stakeholder engagement

WP III : Development of EPR concept for the benefit of tourism sector at national level

- Definition of challenges and stakeholders
- Design of an EPR-setup
- Workshops for stakeholders & cooperating partners

WP V: Implementation of local waste reduction solutions

- Separation at source
- Technical solutions to avoid littering & landfilling
- Trainings on waste reduction
- Local measures and efficient upcycling

WP IV: Monitoring, quantification & tools

- Monitoring concept
- Beach and underwater pollution assessment
- Emission source identification
- Spatial pollution analysis

WP VI: Dissemination, awareness raising & capacity building

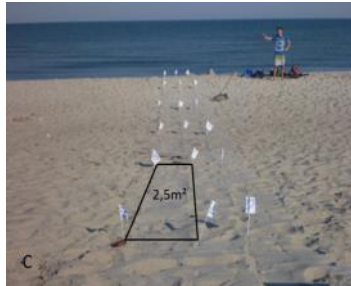
100 m Beach litter monitoring method (CI 22 Beach Macro-litter)

- Starting 15th March to 1st April
- Covering Alexandria (the pilot area) and Marsa-Matrooh (West of Alexandria)
- No of participants: 15 (5 IOW team + 10 AASTMT team and students)
- Sampling of 10 Beaches (2 in Marsa-Matrooh & 8 in Alexandria) – 2 Marina in private clubs – Questionnaire for 3 Hotels with Beaches.
- Training of 5 Students for beach waste sampling, sorting, classification, counting and filling the OSPAR form list.



Sand Rake Method (Suggested method for micro-tidal areas)

- Suggested by the JRC - Guidance on the Monitoring of Marine Litter in European Seas: An update to improve the harmonised monitoring of marine litter under the Marine Strategy Framework Directive (2023)
- Focus on meso-litter on the beach - Material that remains in the sand even if beaches are cleaned

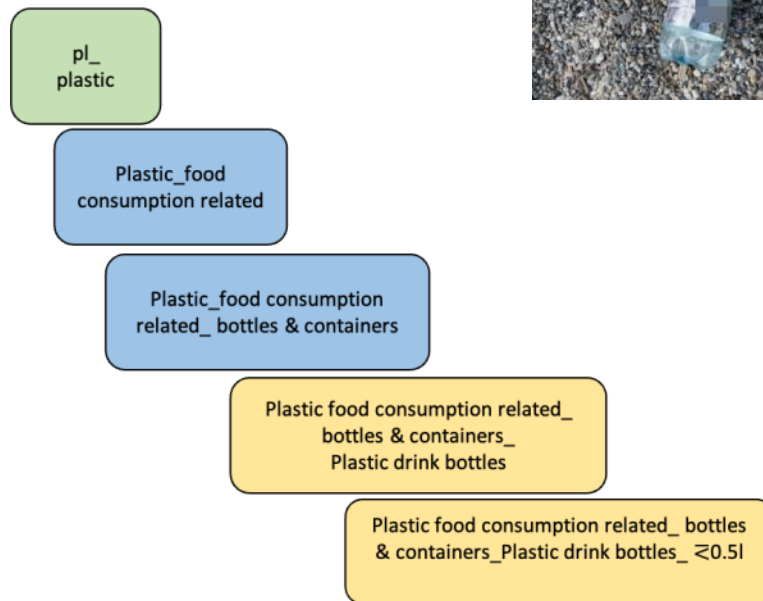


Litter analysis

- Litter found is categorized in the 'Joint list of litter'
- 8 categories with ~ 160 litter items

Table 1. Material categories used in the Joint List with their letter code.

Type Code	Material Category	Description
ch_	chemicals	Persistent chemicals, which occur as lumps, puddles and balls, e.g. tar balls of different sizes. In field surveys, without chemical analysis, they can only be categorised according to their appearance.
ct_	clothes/textile	Objects and fragments made of fabric, including those made partially or completely of artificial polymer fibres.
fw_	food waste (organic)	Food waste of anthropogenic origin, such as treated and cooked food, fruit and vegetables, but not naturally occurring fruits.
gc_	glass/ceramics	Objects and their fragments, made of glass or ceramic material.
pl_	artificial polymers/plastic	Artificial polymer material, often referred to as plastic, including all types of anthropogenic polymer material, excluding objects attributed to the cloth/textile or the rubber fraction.
pp_	paper/cardboard	Cellulose based man-made objects, paper, cardboard and similar items and their fragments.
ru_	rubber	Objects and fragments made of rubber, including those that are rubber-like or are typically considered to be made of rubber, e.g. rubber boots, tyres.
wo_	processed/worked wood	Worked and/or treated wood, i.e. sawn, planed, painted, impregnated, coated wood, or wood with nails, screws, etc.



Training the Egyptian team on the Beach Monitoring Methodology, Alexandria, Egypt, March 2022

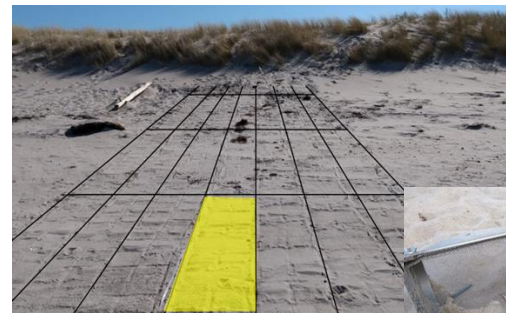
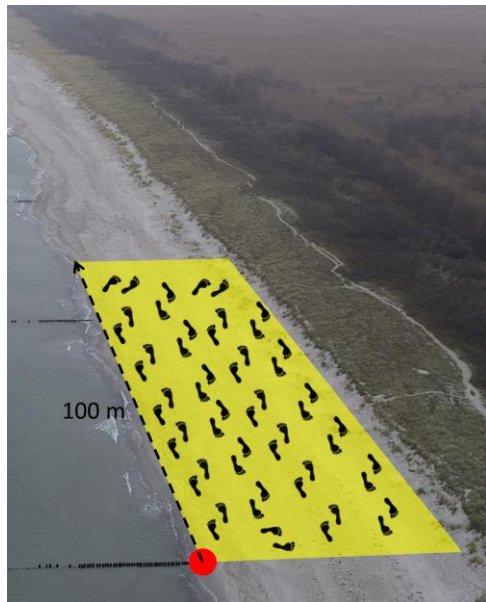
Training starts with one day theoretical background training session

The practical training extended for about 10 days to cover all the monitoring stages including the sampling and collection, sorting and counting, data filling and entry



Training the Egyptian team on the Beach Monitoring Methodology, Alexandria, Egypt, March 2022

Sampling and collection



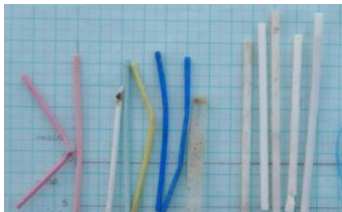
Sampling & Beach Monitoring Campaign, Egypt, March 2022

Sorting and counting,



Sampling & Beach Monitoring Campaign, Egypt, March 2022

Data filling and entry

[illegible]

- When all litter is counted and entered in the list of litter the survey is finished and is sent to the responsible person for the data collection.

Beach monitoring training Campaign with WMRA (Waste Management Regulatory Authority) October 2022

The same training is repeated to WMRA staff by October 2022

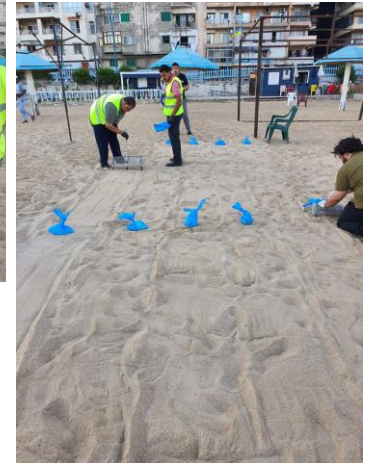


Conducted Beach monitoring Campaigns

The beach campaigns cover 6 beaches in Alexandria and 2 in Maras Matrooh during the high season

The manual cleaning activities are done continuously during the day with 2 main cleaning actions every 12 hours at the morning time and the sunset time.

The campaigns are conducted early in the morning before the morning cleaning activity.



Conducted Beach monitoring Campaigns

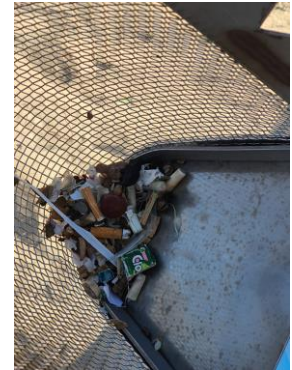
The primary results show that:

As expected for high season with continuous cleaning activities, all the beaches are low polluted except one public beach which can be classified as a moderate polluted beach.

The sand rack method is used in all the low polluted beaches since there is no waste with large size.

Cigarette butts are the most commonly waste found in the sand rack method analysis.

In general, the primary analysis for the high season shows a values less than 30% - 20 % of the values recorded during the off season (March period – 6 months without cleaning).



Beach Monitoring activities

The beach monitoring campaigns are slow-down since December 2022 since a lot of beaches we do our monitoring activities are closed due to construction work to increase the width of the sea road





Beach Monitoring activities

Although there are some beaches are still closed due to construction work, We coordinate with beach management authority in Alexandria our beach monitoring activities to be during June 2025 for some open beaches.



World-Cleanup Day (16th September 2023)



World-Clean-up Day (16th September 2023)



Solution and Implementation :

The 2- beach cleaning machines have been received and commissioning /the training session was conducted for 8 labours in one of the public beaches according to coordination with Alexandria governorate. The results are very good regarding the Cigarette butts and small plastic parts.



Thank You for your attention
Hoping you all a Sustainable Future