



WASH Sector
Cox's Bazar

ISCG

INTER SECTOR
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GROUP

Understanding the Solid Waste Management System and how it relates to EPR

Basic Orientation on EPR Management for FSS Partners

WASH Sector, Cox's Bazar

29th March 2022



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Key sharing points

Part 1: SWM Concepts and system

Part 2: SWM and EPR linkages

Part 3: Sustainable packaging and other key considerations during the emergency



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Part 1: SWM Concepts and system

Impact from insufficient SWM



- 1 – waste dump in Cox's Bazar municipality
- 2 – unsafe SWM in markets
- 3 – waste disposal from emergency food distributions
(In the aftermath of 22nd March 2021 fire incident)



Why is Solid Waste Management important?

SWM is not about aesthetics, perception or acceptance of solid waste pollution!

SWM is about **public health, environmental protection** and reduction of **greenhouse gas emissions**:

- Toxic fumes from uncontrolled burning
- Breeding ground for disease vectors (rodents, insects)
- Pollution of drinking water & food sources
- Marine pollution
- Emission of greenhouse gases
- Etc.

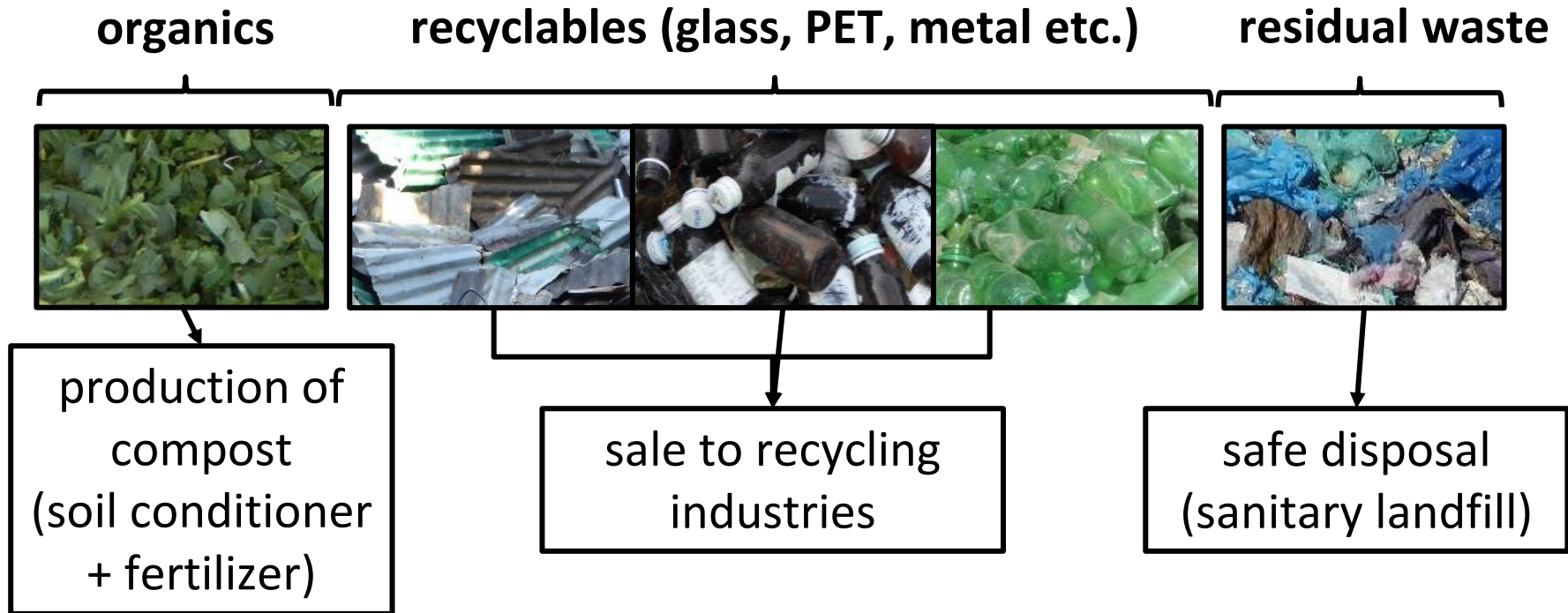
Waste composition in Bangladesh?

Domestic solid waste ([WASH, 2019](#))



What to do with Solid Waste (2)

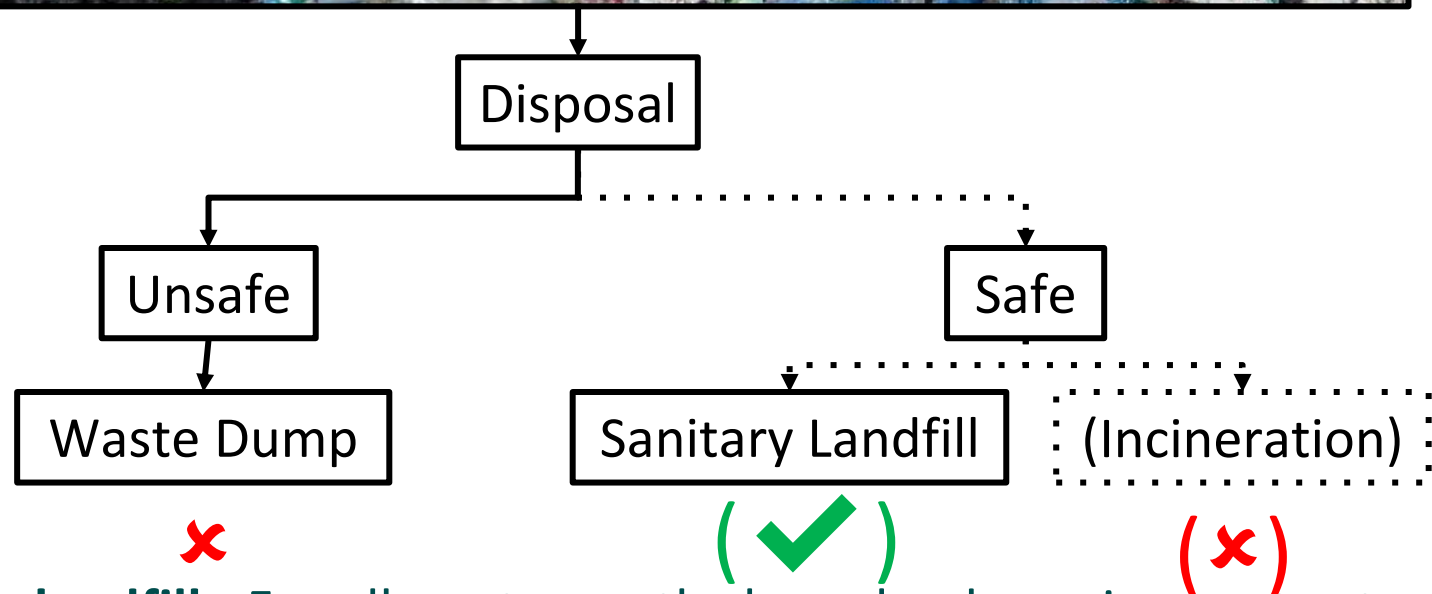
If waste is segregated, various valuable resources come available



- Resources - Business opportunities (Commercial and Sector Initiatives)
- Reduction of operational costs for SWM

What could we do with the residual Solid Waste (1)

Only option for mixed (domestic!) waste: safe disposal



- **Sanitary landfill** - For all waste: costly, large land requirements etc.
- **Incineration** - Inappropriate for CXB

Waste Dump vs. Sanitary Landfill?

Waste Dump in Cox's Bazar Municipality



Waste Dump:

- breeding ground for disease vectors
- renewed spreading of waste into soil, air and water
- greenhouse gas emissions

Sanitary Landfill in Camp 20 Ext., Cox's Bazar

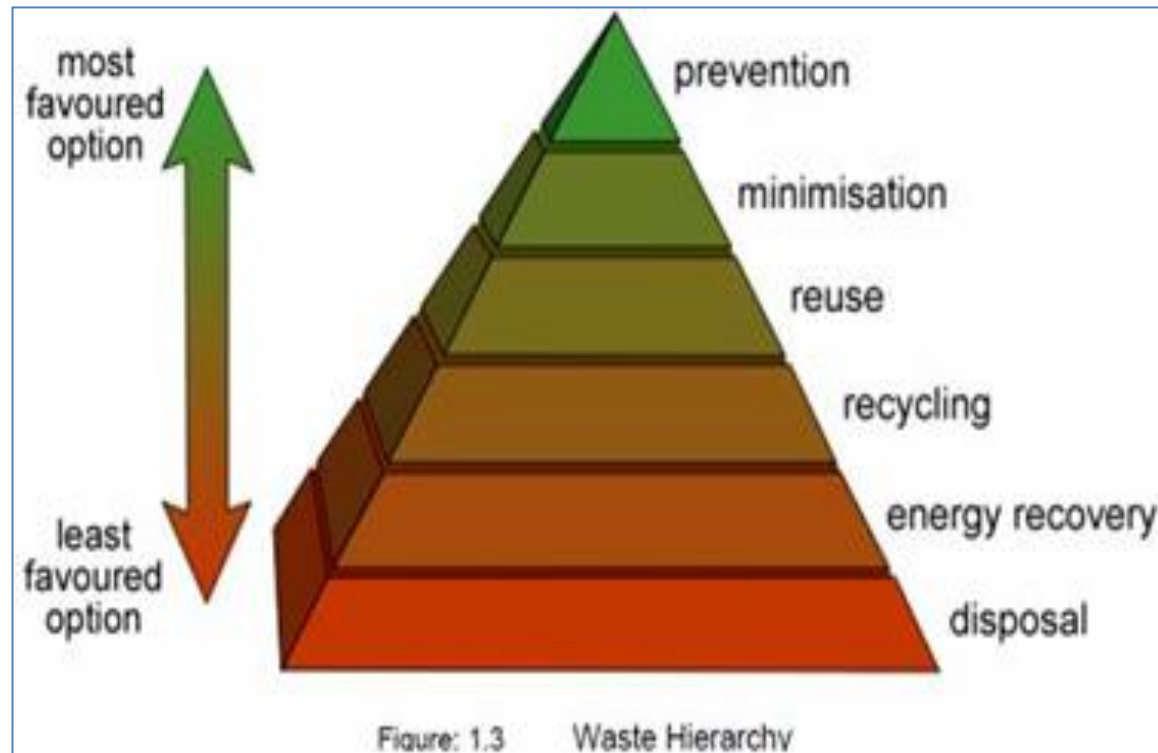


Sanitary landfill:

- Safe disposal of solid waste: pollution of soil, air and water is reduced to a minimum

SWM Process Review Principles

(from National 3R Strategy for Waste Management)





WASH SWM strategy 2021 = (value) chain model

*at households, markets,
restaurants etc.:*

source
segregation

collection

transport

value
recovery

safe
disposal

non-organic materials

organic materials

*at Material
Recovery Facilities:*

at Sanitary Landfill:

Principles of SWM strategy:

1. Avoidance of waste
2. Reuse & recycling
3. Safe disposal of residual waste

60%

production of compost

10%

sale of recyclables

30%



safe
disposal



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Illustrations to understand SWM



Behavior change:

The main challenge:

Only **51 %** of households are disposing waste in designated areas

27 % reporting the presence of garbage near their houses ([MSNA, 2021](#))



HH Collection and segregation:

2 colour HH bins, community bin and waste collection point



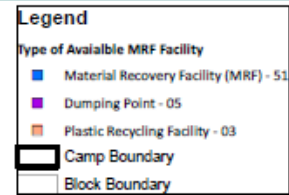
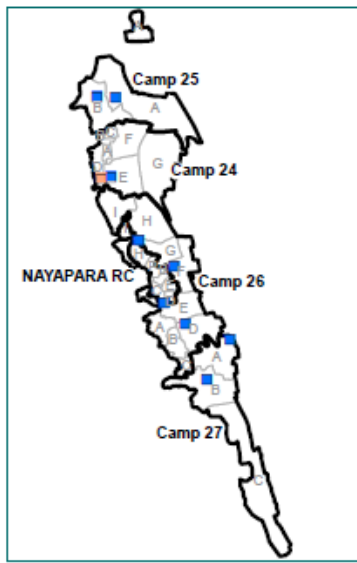
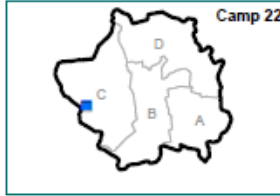
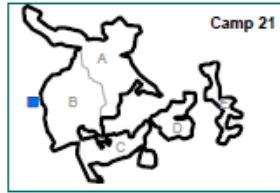
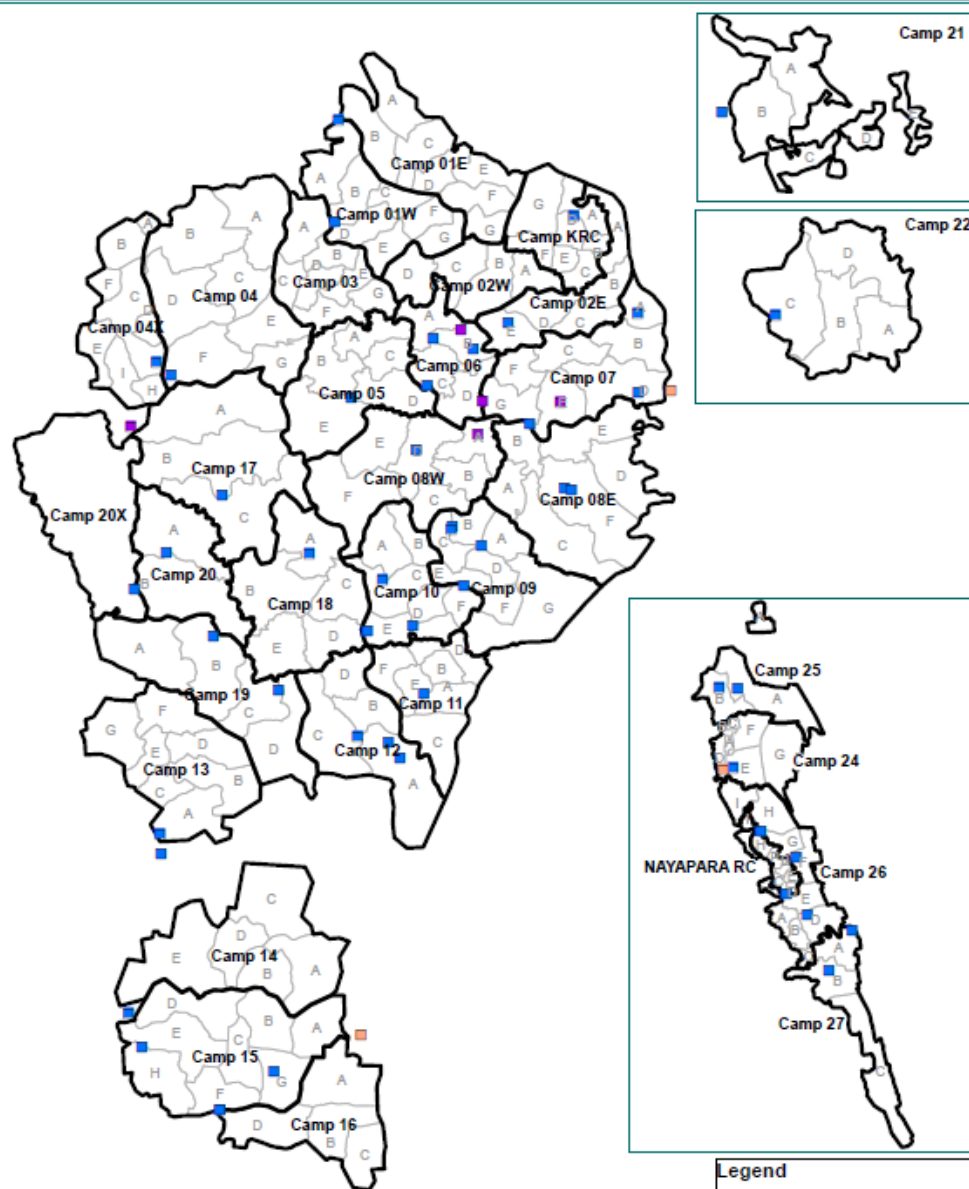
0.13kg/day/person of waste = 120 Tn/day in all camps

Representing 512 m³ of waste/day in camps ([WASH, 2019](#))

Transport of waste to MRF:



Material Recovery Facility (MRF) Location Map (Updated March 15, 2022)



Note: This map produces for Humanitarian purposes only. Displays the locations of Material recovery Facilities (MRF) across the camps here couldn't verified in the field level at this stage.

Source:
Camp & Block Boundary: ISCG, April 2021
Material Recovery Facility (MRF): WASH Partners Jan, 2022
Coordinate System: WGS 1984 UTM Zone 46N



Segregation at MRF:

There are **51** Material Recovery Facility across the camps

86% of the HH in camps covered by near MRF

809 Volunteers on waste collection, segregation and disposal

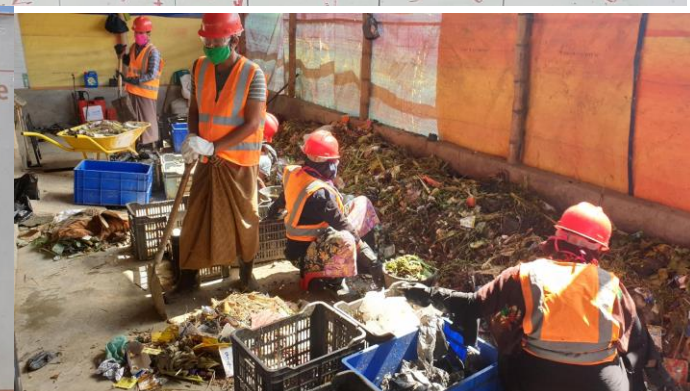
At least **10** types of categories of waste:

Organic; slow-degradable organic; different type of plastics; sandals; cardboard; glass; metal, residual, etc.

[Source: WASH, MRF mapping, 2022](#)

CARE Bangladesh
UNICEF Funded, WASH Project
Camp #15, Block-H-G
SWMP Weekly Monitoring toll

Date	Total Waste Entered in the Plant (kg)	Organic (kg)	Recyclable (kg)	Disposable (kg)	Incinerable (kg)
15/01/22	564kg	187kg	19 kg	352kg	06kg
17/01/22	510kg	214kg	22kg	267kg	07kg
18/01/22	582kg	154kg	24kg	399kg	05kg
19/01/22	467kg	138kg	20kg	305kg	04kg
20/01/22	548kg	156kg	29kg	358kg	05kg
23/01/22	498kg	118kg	21kg	355kg	04kg
24/01/22	525kg	137kg	26kg	356kg	06kg



Composting at MRF (organic waste):

30-40 Tn compost monthly production





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Recyclable Waste at MRF:

80 to 100 Tn recyclables monthly transferred to recycling sector



List of waste with value



Soft Plastic
(LDPE)



Low Grade Plastics
(Biscuit, Chips etc. packets)



Water/Soft Drink Bottles
(PET)



Litchi bottle



Broken Sandals



Hard Plastic/Juice Bottles/Shampoo bottles
(HDPE, PVC, PP)



Black and White Battery



Cardboard



Rod Steel/Iron



CI Sheet/Tin



Can Bottle



Copper



Aluminium



Silver



Glass

Support to private sector for recyclable (Metal):



2 Scrap dealers Associations: collecting
1,060 Tn recyclables monthly



Support to private sector for recyclable (Plastic):



Support to private sector for recyclable (Paper/cardboard):



Recycling in camps:

5 recycling plants: absorb 12 Tn non-valuable plastics monthly





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Reduce:

Responsible Partners in the Humanitarian Response

ecolife

We plan to create a range of items with refugees

- Sack Bag
- Hessian Bag
- Shopping Bag
- Grocery Bag
- Promotional Bag
- Conference Bag
- Seminar Bag
- File Cover
- File Folder
- Calendar

The items can also be customized on request

WHY A JUTE BAG?
Take a closer look at the bags that you are currently using. Your favorite plastic bags are becoming a global problem. Tons of plastics are accumulating in landfills and in oceans. These are harming animals, marine life, and the environment as a whole. If we want to save our environments from pollution and degradation, we should choose eco-friendly options. NGO Forum believes it can make a small but worthwhile contribution to this wider effort in its work with refugees in Cox's Bazar. Our organization, staff, and the refugees we work with, are all committed towards a better, cleaner and greener tomorrow.

More designs are available in our production center

Project Office:
NGO Forum for Public Health
Sayeman Pink Pearl, Flat # B-1:3 (2nd Floor), Plot # 71
Block-A, Hotel-Motel Zone, Kollatoli Zone, Cox's Bazar

Operation Office:
Jute Bag Production Center
NGO Forum, Camp-5, Kutupalong, Ukhiya, Cox's Bazar
Mobile: +8801815-482147

Info: [bpc.ngof@gmail.com](mailto:info@bpc.ngof@gmail.com) | www.ngof.org

Re-use:



Wall of plastic bottles (camp 6)

Up-cycling:



WFP-ICCO
Upcycling
center



Residual waste (no-valuable):

1 Sanitary landfill for safe residual waste disposal: 12,461 m³ total disposed (Mega-camp) ([UNDP, 2022](#))

Potential 3 extra years of life-expectancy.

Advocating for another landfill in Teknaf.

[\(SOP Sanitary landfill, UNDP 2020\)](#)



Sanitary landfill Camp 20Ext.





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Part 2: SWM and EPR linkages

1. Sequence/Stages of waste generation in the aftermaths of an emergency (e.g. camp fire):

- Debris waste
- Food waste
- Drain waste
- Shelter waste



There is a sequence/Stages of waste generation in the aftermaths of an emergency (e.g. camp fire):

- Debris waste
- Food waste
- Drain waste
- Shelter waste



There is a sequence/Stages of waste generation in the aftermaths of an emergency (e.g. camp fire):

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Organic waste



Inorganic waste

There is a sequence/Stages of waste generation in the aftermaths of an emergency (e.g. camp fire):

- Debris waste
- Food waste
- Drain waste
- Shelter waste



Emergency Food distribution



Old waste in drains

There is a Sequence/Stages of waste generation in the aftermaths of an emergency (e.g. camp fire):

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Part 3: Sustainable packaging and other Key considerations during the emergency

[\(FSS/WASH Waste avoidance in emergencies, 2021\)](#)

2. What can we do as FSS partners?

- **Waste reduction:** avoid or reduce waste generation by using recyclable or biodegradable materials for food packaging - avoid one single use recipient.
- Sustainable packaging:
 - Reusable
 - Compostable
 - Recyclable
 - One single use



2. What can we do as FSS partners?

- **Waste segregation:** into two main category:
 - organic food waste – transferred to the near MRF => composted
 - and inorganic food waste – transferred to the near MRF => recycled/disposed



Waste generated at the **distribution point/hot kitchens**
(deploy labelled bins)



During **waste collection/cleaning tasks**, segregation of waste and send it directly to sanitary landfill and/or MRF.

2. What can we do as FSS partners?

- **Coordination** : agree with the WASH Sector and [WASH camp focal points](#) camp focal points on roles and responsibilities during an emergency.



Daily waste collection: at food distribution sites/hot food kitchens and block level.

Photo: FSS (left) Tika (right)



Water collection points access.





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AOB / open discussion



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Many thanks!

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