WREC Global Information session on Reverse Logistics

September 2023

WREC Project

Enabling humanitarian logistics partners to reduce their impact on the environment

- **Focus** on waste & greenhouse gas emissions
- **Increase** knowledge and awareness in the community
- **Support** practitioners in impact reduction

Expertise of over 500 Logistics Cluster partners and the broad reach of project partners

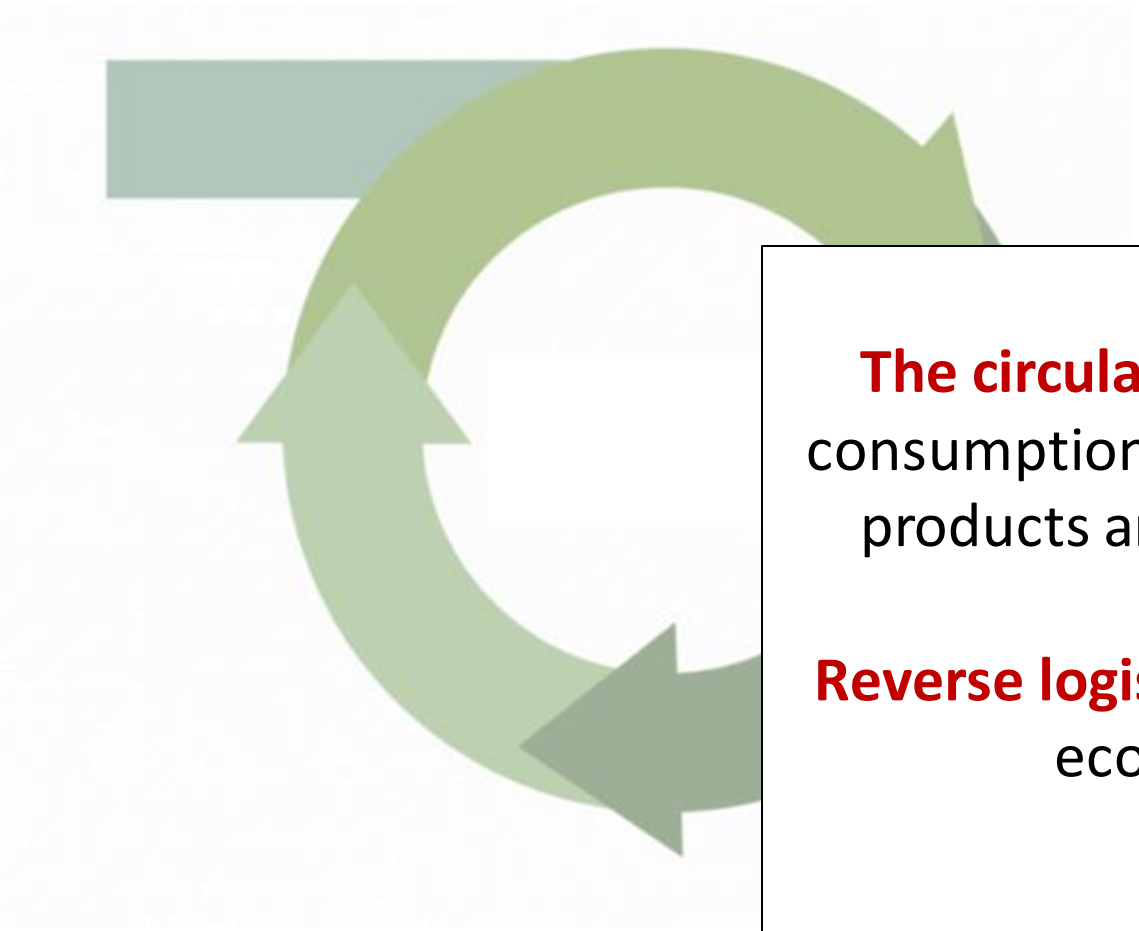
Sustained adoption of best environmental practice across the humanitarian logistics community

September 2023

Agenda

1. ***Introduction on Circular economy and Reverse logistics WREC Approach***
2. ***Success stories from the field*** *(Hanken School of Economics, Helsinki, Finland)*
3. ***Breakout groups & Menti - Discussion on the results***
4. ***How to apply reverse logistics to supply chain steps: Procurement & End-of-life***
5. ***Q&A and open discussion***

Circular economy and reverse logistics



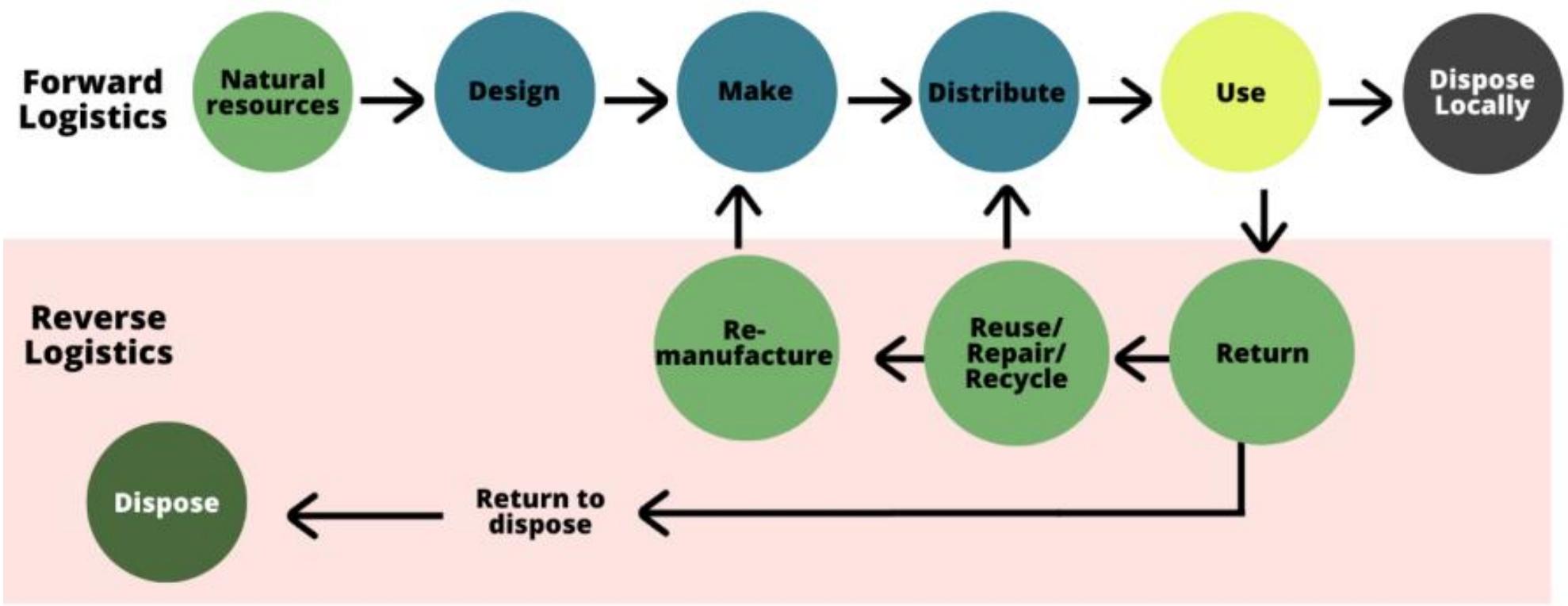
The circular economy is a model of production and consumption which reduces material use and redesigns products and services to be less resource intensive.

Reverse logistics is one of the process to apply circular economy in the humanitarian sector

WREC Approach – Reverse logistics

Reverse Logistics is a supply chain management **process** involving the flow of materials from the point of consumption back to any steps of the supply chain (i.e. manufacturing, distribution, etc.) to recapture value, redistribute/resell, or to properly dispose of materials.

WREC Approach – Reverse logistics



WREC Approach – Reverse logistics

In humanitarian contexts reverse logistics should be applied and items back-tracked particularly in the following cases:

- For **item value recovery** (reuse, refurbish, remanufacture, repurpose, or recycle items);

- When **items** were found **faulty, damaged, or returned** due to quality control issues (return to suppliers), or **expired** (properly dispose);

- When **items are no longer needed** but are **not damaged/faulty** and can still be redistributed.

Benefits and challenges

BENEFITS

- Reduce waste volumes to final disposal
- Keep products and materials in use for as long as possible
- Create organization financial advantages in the long term
- Organizational good reputation by giving example
- Add value to waste and support the local recycling markets
- Raise awareness among workers and the community

CHALLENGES

- Logistics schemes to be redefined (onwards steps) to track damaged, expired, returned and recyclable items.
- Need of an initial investment (e.g. infrastructure, software, training, monitoring)
- Create additional GHG emissions
- Change the mindset

Success stories from the field

Gyöngyi Kovács
Erkko Professor in Humanitarian Logistics
Hanken School of Economics, Helsinki, Finland

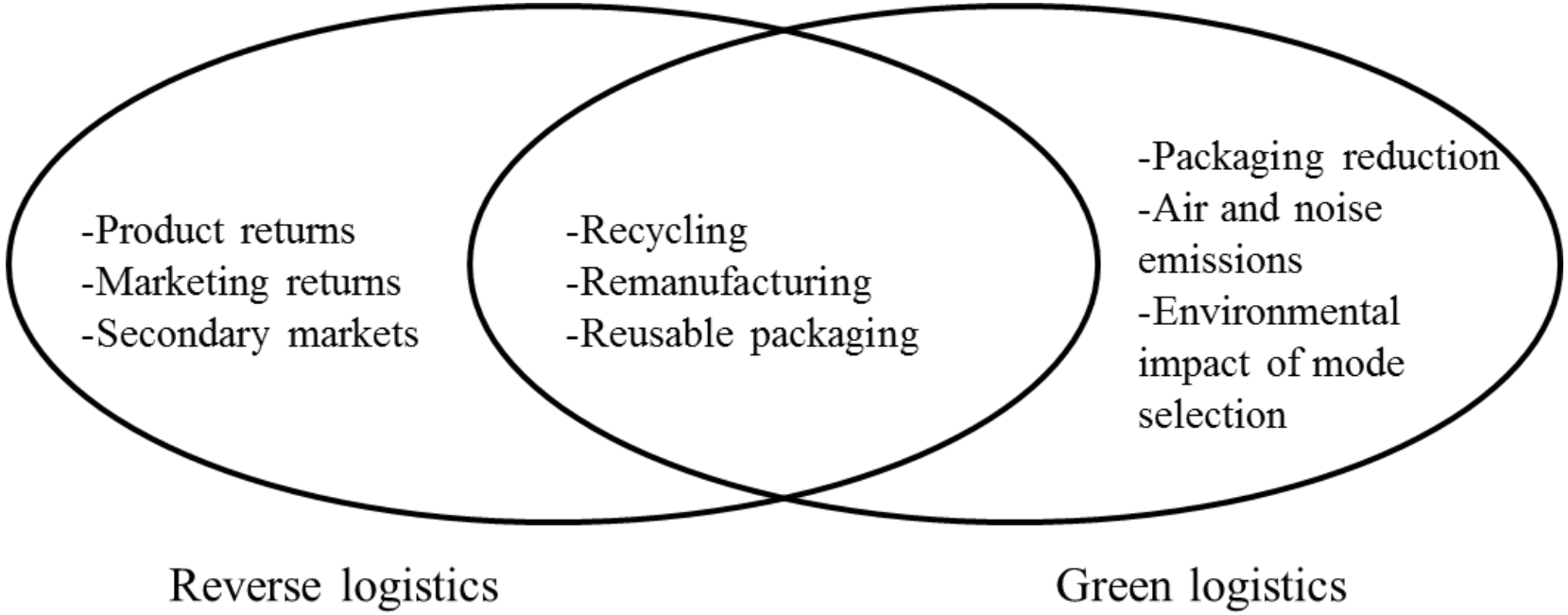
Reverse logistics

Gyöngyi Kovács

Erkko Professor in Humanitarian Logistics

Sep 27, 2023 WREC / Log Cluster

Conceptual overlaps and differences



Source: Rogers and Tibben-Lembke (2001)

What constitutes returns?

The immediate problem – waste management
- End of use items: expiries, damaged goods
- Wrong deliveries
- End of life items

The big picture – closing the loop
- Green and sustainable SCM
- Avoiding returns – right decisions first
- Gatekeeping – both in procurement up front and when collecting items

(The semantics: reverse logistics, closed loop supply chains, circular economy…)

General issues with reverse logistics
- Product-related: timing, shape and form of returns, packaging => logistical problems
- Status of the product when returned => limits options of what to do with it
- Responsibility & accountability <-> extended producer responsibility

Humanitarian-specific issues
- Collection systems – plug and play with extant systems in country?
- Responsibility if not producer (but importer!)

10 Rs + 1

Overarching principle: design for eco-efficiency	CE Practices	Description
Reduction in all types of waste	R0- Refuse	Product no longer needed- abandon the function, offer same function elsewhere, substitute existing
	R1- Rethink	Make product use more intense by sharing the product, concentrating the product etc.
Efficiency in resource use	R2- Reduce	Increase efficiency in product manufacture or use by consuming fewer natural resources or materials
	R3- Reuse	Reuse by another consumer of discarded product still in good condition, fulfills original function
	R4- Repair	Repair and maintenance of defective/broken product so it can be use in its original function
	R5- Refurbish	Restore old product & bring up to date
	R6- Remanufacture	Use parts of discarded product or its parts in a new product with the same function
	R7- Repurpose	Use the discarded product or its parts in a new product with a different function
Recycle wherever possible	R8- Recycle	Process materials to obtain the same (high grade) or lower (low grade) quality
Recover as much value as possible	R9- Recover	Anaerobic digestion, composting or incineration of material with energy recovery

Source: Morseletto (2020)

+ Biodegradables (e.g. some bioplastics)

Some more questions:

- Business model of closing the loop
- Supply chains to support that

Few examples from the humanitarian sector – what are yours?

Programmes with waste pickers
- E.g. Mr Green Africa + Danish Refugee Council
- But, question of waste picking as a negative coping strategy?

Programmes in refugee camps
- Material recovery + sanitary landfill facilities in Cox' Bazaar – WFP

Upcycling programmes
- Bags out of waste

As part of warehouse management
- Managing expiries, segregation of waste

As part of facility management
- Incineration
- Plug and play with waste management in country

As part of maintenance and repair operations
- E.g., choice of IT suppliers in country vs importing equipment and exporting it again for MRO

Very few examples of collecting and managing returns

HANKEN
SCHOOL OF ECONOMICS

Thank you!

Hanken

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Breakout groups & Menti

GO TO menti.com

Discussion on the results

How to apply reverse logistics to supply chain steps: Procurement

Why Procurement is Key to Reverse Logistics?

Terms of Reference

a) Any planning starts with a good Terms of Reference (ToR).

b) Reverse logistics ToR should prioritise product returns, recycling, reusability, and waste management.

c) Well-planned ToRs prepare vendors for evaluation and selection.

Finding Reliable Suppliers

a) Procurement must actively find reverse logistics vendors throughout planning.

b) Find vendors who reuse and recycle.

c) Check their storage facilities for analysis procedures.

Aligning Internal Stakeholders

a) Internal divisional alignment is essential for seamless planning.

b) Involving logistics and operations early guarantees that reverse logistics aspects in the ToR and contracts are operational.

c) Coordination between departments prevents bottlenecks and issues.

Contracts

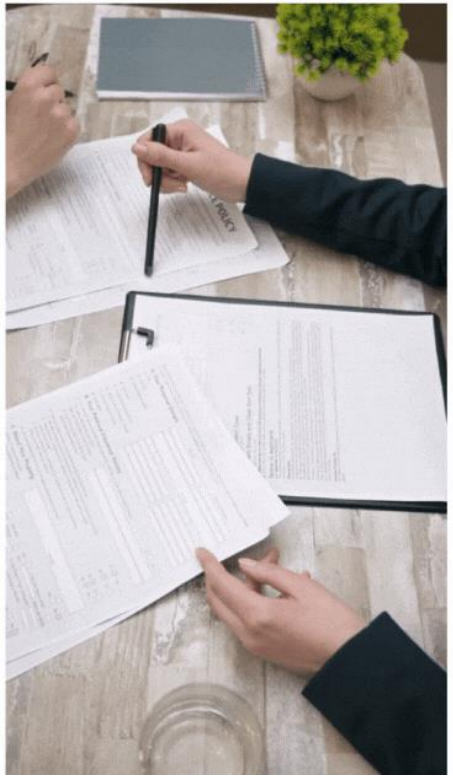
a) Contracts should clearly state Reversed Logistics methods.

b) Allow contractual reviews to implement reverse logistics best practices.

c) Require regular audits or performance appraisals to monitor compliance.

How to apply reverse logistics to supply chain steps: Procurement

How to Embed Reverse Logistics in the procurement process



- RFPs should mention reverse logistics. Only qualified vendors who meet these standards will respond. **Expression of Interest (EOI)** Will help prequalify vendors within the market.

- **Evaluation Matrix:** Within the technical evaluation requirements, set up a matrix that allocates a specific percentage of the total points to Reverse Logistics capability. For example, 10-20% of the points could be based on this component.

- **Short-term expenses vs. long-term advantages** Although there's an upfront investment, effective Reversed Logistics System decrease waste, enhance reuse and recycling, and cash out returned products, justifying original costs. Try a Return on Investment (ROI) model for returned things to make money

How to apply reverse logistics to supply chain steps: End-of-life

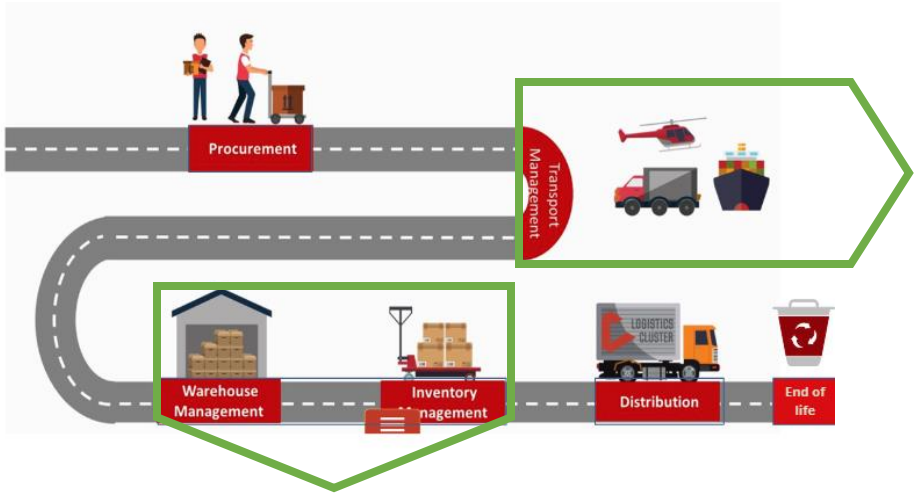
Reverse Logistics provides organizations with the capacity to mobilize items on time to be reused, repaired, repurposed, relocated, recycled and **avoids the generation of waste** and contribution to harmful waste management practises:

Dumped in drains or community areas

Open-burned by the community

Collected but dumped in unsanitary landfills

How to apply reverse logistics to supply chain steps: End-of-life



TRANSPORTATION:

Fleet waste (mostly hazardous materials): used tyres, used oils and filters, refrigerants, batteries, etc. can be returned to certified companies to be properly treated locally or internationally.

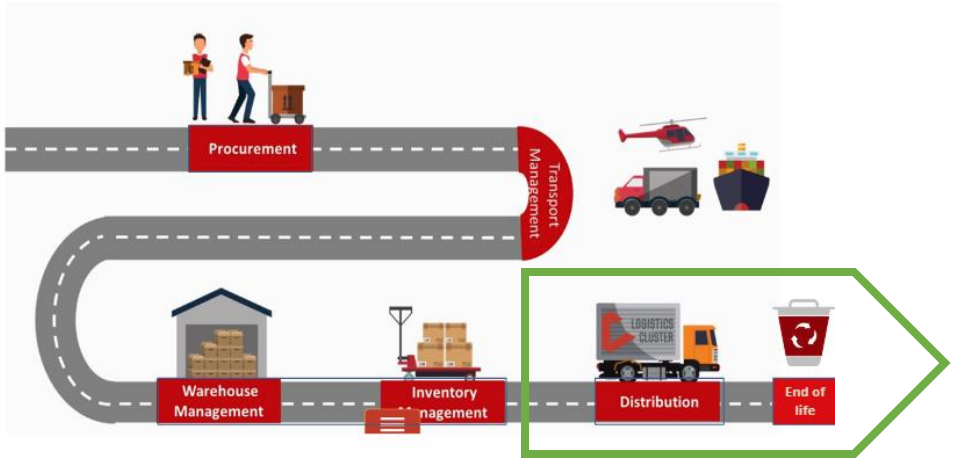
WAREHOUSE & INVENTORY MANAGEMENT:

Pallets: can be returned to the warehouse to be reused, repaired, recycled.

Packaging materials (cardboard box, film plastic): can be returned to warehouses to be reused, recycled.

Damaged/expired/over-supplies items: food, medicines, machines, etc. can be returned to deal with them properly.

How to apply reverse logistics to supply chain steps: End-of-life



DISTRIBUTION & END OF LIFE:

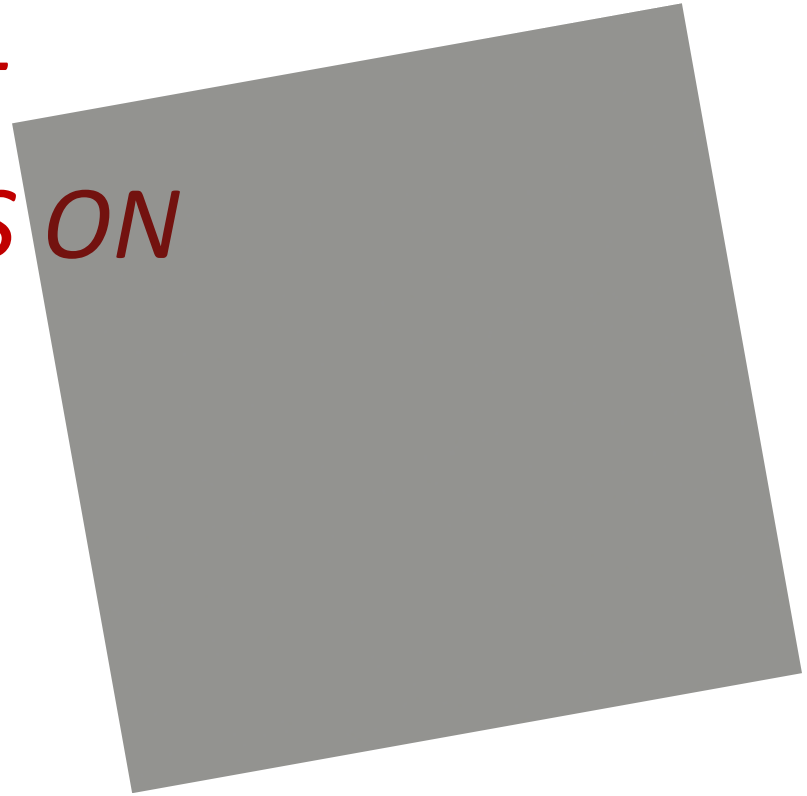
Relief items (e.g. electronic items such as solar lamps, mobile phones): can be returned to be repaired or treated properly.

Packaging items (primary) (e.g. sachets, plastic bottles): can be collected to be reused, repurposed or recycled.

Emergency aid distribution (e.g. waste collection can be reinforced at food distribution points).

Environmentally friendly disposal: non-recyclable and non-hazardous waste can be returned to proper disposal.

CALL FOR EXAMPLES/CASE STUDIES/GOOD PRACTICES ON REVERSE LOGISTICS



please contact: **global.WREC@wfp.org**

Quick guide & Call for case studies

- *Reverse Logistics Quick Guide*
- *Call for for examples/case studies/good practices on Reverse Logistics*
- *Note for the Record (NFR) and next session*
- *Survey on the Reverse Logistics session*

Questions?

WREC
Environmental Sustainability in Humanitarian Supply Chain

Thank you!

For more information on the project or on the Reverse Logistics, please contact: **global.WREC@wfp.org**

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