

# **INVENTORY OF THE INFORMAL SECTOR (IN ULAB MANAGEMENT)**

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# Why Inventory of the Informal Sector?

- Determining Magnitude of the Contribution to the total ULAB recycling
- Understanding the spatial distribution of recyclers and local risks from contamination / pollution
- Guidance for ULAB management policy formulation
- Guidance for effective intervention schemes (educational, economic, social, mitigation, remediation, etc)

# Scope of the Inventory

- Estimating Quantity of ULAB recycled by the informal sector
- Gathering information on location, activities and trades in the informal sector ULAB recycling biz

## **Estimating quantity of ULAB recycled by the informal sector**

- Can be done within the context of inventory of total ULAB generated for all sector;
- Given, that it is not difficult to determine quantity of ULAB recycled by licenced recyclers of the formal sector

$$\begin{aligned} & \text{Informal Sector Component} \\ & = \text{(equals)} \\ & \text{Total Quantity of ULAB Generated} \\ & - \text{(minus)} \\ & \text{Quantity of ULAB Processed by} \\ & \text{Licensed Recyclers} \end{aligned}$$

# Inventory of Total ULAB Generated

- Use the method contained in the new UNEP document:

*Draft practical manual for the development of inventories of used lead-acid batteries*

❖ Document UNEP/CHW.13/INF/22

Available at:

- <http://www.basel.int/TheConvention/tabid/5310/Default.aspx>

# Amount of ULAB recycled by the licenced smelters

- Obtain data from the usually few licensed recyclers available:
  - Use questionnaires
    - Classes of ulab processed?
    - Number in each class?
    - Total weight per class?
    - Useful life factor per class?
    - Total weight (tonnes) per class?
    - Total weight of ulab (all classes)?

# Inventory of other activities

- Difficult to Carry Out:
  - ✓ Informal recyclers are small-scale and very many
  - ✓ Requires large team
  - ✓ Location often difficult to make out
  - ✓ Respondent usually uncooperative and hostile
  - ✓ Locations and business times easily changed
  - ✓ Best by field surveys and direct administration of questionnaires/interviews

# Locating the recycling sites

- Get help from:
  - ✓ Local govt. officials
  - ✓ Other artisans
  - ✓ Scavengers of ulab / purchasers of ingots
  - ✓ Taxi cab owners
  - ✓ Cooperating recyclers, etc
- Look out for:
  - ✓ Discarded and empty battery cases
  - ✓ Welding equipment
  - ✓ Discoloured or corroded concrete floors and plastic adhesives
  - ✓ Bags of used battery plates
  - ✓ Hands of operators (brownish/burns)



# Questionnaire for the informal sector

## 1) General Information:

- Name of company or site
- Location
- Nature of business
- Number of employees

## 2) Process:

- Describe local process for recycling, recovery (ulab); reconditioning and servicing

# Questionnaire for the informal sector

## 3) Occupational & Environmental Exposure:

- Precautions to minimise lead emission
- Precautions to reduce risk of acid burns to skin and eyes
- Control of discharges of electrolyte into the environment

# Questionnaire for the informal sector

## 4) Awareness and Attitudes:

- Knowledge of potential occupational health risks from lead emissions
- Knowledge about environmental damage due to electrolyte discharge into environment

## 5) Domestic Use:

- To what use have the batteries been put?
- How are the batteries discarded /recycled?

# **Questionnaire for the informal sector**

## 6) Retail and Collection:

- Number and types of batteries sold
- Amount of ulab collected
- How batteries collected, stored and transported to recycler

**DATA FROM THIS “INVENTORY” IS ANALYSED AND USED TO FORMULATE COURSE OF INTERVENTION ACTIONS**