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

\[
\text{Informal Sector Component} = (\text{equals}) \quad \text{Total Quantity of ULAB Generated} - (\text{minus}) \quad \text{Quantity of ULAB Processed by Licensed Recyclers}
\]
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
3) **Occupational & Environmental Exposure:**

- Precautions to minise 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?
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