



**USAID**  
FROM THE AMERICAN PEOPLE

# PROPOSED SOLUTIONS TO CONTROL HEAVY METAL POLLUTION IN CRAFT VILLAGES

*Bac Ninh, January 2021*

*Disclaimer: The training program is organized and co-chair by Bac Ninh DONRE and CECOD, with financial support from USAID through Pure Earth.*

# 1. Propagating and raising community's awareness on environmental protection

- ❖ Disseminate the health effects of emissions from manual metal recycling furnaces; wastewater containing chemicals from soaking, washing metal products, polishing product surface discharged into canals and ditches.
- ❖ Encourage production facilities to invest in waste gas treatment systems, sort waste at source, collect domestic waste to the right place as prescribed, prevent waste and raw materials spread to the road causing loss. regional beauty.
- ❖ Propagandize and apply technology innovation and innovation and apply cleaner production solutions in the production process.
- ❖ Build a campaign encouraging all people to participate in environmental protection, choose 01 day to clean the environment every month.



*The metal furnace has a smoke and toxic gas extraction system*



*The polluted exhaust gas is treated with dust through cloth bag dust filter*



*The toxic gas is processed through a wet filter (Scrubber).*

# *Industrial hygiene*



*Concrete floor of the factory*



*Clean the factory with an industrial vacuum cleaner*



*Clean machines every day*

## *Limiting dust spread from transport vehicles*



# ***Change in waste management methods***



All generated waste is kept within the premises until ready for disposal, preferably tightly secured in sacks.

## **Provide personal protective equipment for workers**





# Clean up contaminated soil and households in the residential area

## Eliminate polluted waste and contaminated soil



Do not store metal-contaminated waste or dust from your cloth filter in the garden

Do not use battery covers as fences, flower pots and to pave roads

## Completely clean inside the house



Clean the walls with a sponge or wet cloth

The floor and yard will be vacuumed with a vacuum cleaner or mops

Wipe flat surfaces

# Give up the habit of bringing contaminated clothing into home



**Do not bring labor insurance clothes home**



**Build bathrooms for workers**



**Wardrobe for workers**



**Temporary shower at workers' homes**



**Separately wash clothes for labor insurance outside the home**

# Maintain high level of hygiene and home-cleaning to minimize exposure to heavy metals



***Remove dirty shoes  
before entering the  
house***



***House cleaning  
every day***



***Wash the  
motorcycle's saddle  
after returning home***



***Don't prepare food on the floor***



***Must prepare food on a clean  
table top***



# Maintaining high level of hygiene



***Clean up soil from fruits and vegetables in the garden before bringing them indoors***

***Wash your hands often, especially before eating, drinking or smoking***

***Keep children away from all work clothes, including clean and dirty***



***Do not eat or feed children in areas contaminated with heavy metals***

***Must eat on a clean table top***



## ***2. Strengthen inspection and examination process***

- ❖ State management agencies on environmental protection coordinate with localities to promote the inspection and examination of the observance of the Law on Environmental Protection for production and business establishments in craft villages; suspend production, revoke business registration, enterprise establishment registration, tax identification number for production and business establishments that violate the law on environmental protection.
- ❖ Local police scouting, catching and strictly punishing metal recycling facilities, dumping scrap business, indiscriminately burning waste, discharging untreated chemical waste water out of canals and ditches.
- ❖ Do not allow new business registration, business establishment registration for the recycling industry, waste collection for establishments in the craft village. Maintain the status quo of production, proceed to relocate recycling facilities in craft villages to industrial clusters.

### 3. Developing dust and gas emission treatment system



- Require metal recycling establishments and households to properly classify input materials in order to remove impurities mixed in scrap before being recycled;
- Requiring businesses to invest in dust and gas emission treatment systems by absorbing clear lime water solution.

## 4. Waste water treatment

- ❖ Production facilities and households must invest in preliminary wastewater treatment facilities before discharging them into the general drainage system.
- ❖ The locality shall dredge the entire sewer system, drainage ditches and the pond and lake area is polluted by domestic wastes and production wastes; transfer the waste after the dredging process to the unit having the function of collection and treatment. Then, renovate, upgrade and build a new drainage system.
- ❖ To mobilize investing in the construction of concentrated wastewater treatment systems for craft villages.



## 5. Solid waste management

- ❖ The locality shall plan and arrange the gathering and treatment areas for trade village wastes. The Department of Science and Technology researches and applies technology to treat and reuse production waste of handicraft villages.
- ❖ For production solid waste (aluminum slag, copper, coal): It is required that production establishments and households must not dump production waste indiscriminately, not at the prescribed place, to arrange a temporary waste storage area. and sign contracts with functional units for collection and treatment.
- ❖ For domestic waste: Regularly operating the waste gathering points in accordance with the instructions of the Department of Natural Resources and Environment; intensify spraying of probiotics at the gathering point and propagate to people in the garbage disposal area at the right place.



# Thank you for listening!

