Pure Earth is conducting Regional Rapid Marketplace Screenings (RMS) with the support from GiveWell in 25 countries including Bangladesh to identify lead-containing products and prioritize countries for future interventions. Pure Earth has developed the RMS sampling protocol and completed the market assessment following that. The protocol for marketplace screenings is informed by regional reviews of published literature on local lead (Pb) sources to increase the likelihood of identifying lead-positive samples. A desk review was done to summarize available information for Bangladesh to assist in planning RMS data collection. The RMS was done in collaboration with International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b).

PURE EARTH BANGLADESH

BACKGROUND

Bangladesh is a developing country where almost one-fifth of the population lives below the poverty line. The ecological systems and population of Bangladesh are vulnerable to Pb due to the fact that it is ubiquitous in nature.

MARKET VISIT

The researcher collected samples of items of interest from markets across Dhaka city. Items were collected from a different wholesale bazaars, retail markets, and roadside shops. Specific information was also collected from the vendors from whom the items were purchased.

XRF TESTING ON SAMPLES

A total of 163 samples were tested through the XRF machine in the icddr,b lab.

RMS RESULT

Out of 163 samples of 11 types of items; lead is found in 40 samples of 9 types of items’ category.

153000 PPM Pb

DEEP YELLOW PIGMENT

The highest amount of lead is found in the deep yellow pigment which contains 153000 PPM Pb; it was a sample from the non-food category item.

List of Markets
- Mirpur Co-operative Market
- Mirpur Shah Ali Market
- Mohammadpur Town Hall Market
- Mirpur Capital Tower Market
- Mohakhali Nazra Bazar
- Mohakhali Bazar
- Mohakhali Shattola Bazar
- Chawk Bazar

Selected samples for the lead test
- Spices - 13 samples
- Pottery - 6 samples
- Ceramics - 3 samples
- Medicines - 14 samples
- Cosmetics - 46 samples
- Toys - 7 samples
- Paints - 11 items
- Other foods - 21 samples
- Other non-food items - 22 samples
- Other non-food items (pigment) - 11 samples
- Cookware from recycled aluminum - 9 samples
# XRF Analysis

## Samples with Lead (Pb)

A total of 36 samples (Ceramics/pottery samples - 08, Cookware: 08, Other Non-food items - 08, Other Food items: Rice-12) are currently going through laboratory tests.

### Paint
- Berger, Yellow, Distemper - 9 PPM
- Berger, White, Distemper - 8 PPM
- Berger, White, Plastic Paint - 9 PPM

### Cosmetics
- Deep brown (Eye Shadow) - 7 PPM
- Deep brown (Eye Shadow) - 7 PPM
- Green (Eye Shadow) - 4 PPM
- Light brown (Eye Shadow) - 4 PPM
- Purple (Eye Shadow) - 5 PPM
- Lal Shidur (Eye Shadow) - 5 PPM

### Pottery
- Duck - 27 PPM
- Elephant - 30 PPM
- Elephant - 31 PPM
- Matir bank - 28 PPM
- Mug - 33 PPM
- Doll - 98 PPM

### Ceramics
- Tea Mug - 3718 PPM
- Glass - 133 PPM
- Small bowl - 16 PPM

### Other Non-food item
- Plastic box - 1931 PPM
- Orange color Mug - 3387 PPM
- Yellow Spoon - 5 PPM
- Mum Pott - 4 PPM
- Zero cal container - 3050

### Cookware
- Lid aluminum - 131 PPM
- Lid - 250 PPM
- Pot - 255 PPM
- Pan - 1081 PPM
- Saucepan - 403 PPM
- Pitcher - 622 PPM
- Spatula - 2054 PPM
- Pan - 1738 PPM

### Medicines
  Kollan/Traditional medicine powder - 6 PPM

### Toys
- Birds - 5 PPM
- Ring - 277 PPM
- Orange Color lighting ball - 3 PPM
- Elephant - 16 PPM
- Duck - 722 PPM

### Other Non Food (Pigment)
- Deep Yellow - 153000 PPM
- Blue - 45 PPM
- Deep Red - 7 PPM