

The Hazards of Using Scrap Asbestos from Ship-Breaking Operations and the Effect of Environmental Exposure to Asbestos on Women's Health in Sari Kili, NWFP, Pakistan

Noor Jehan¹, Fazia Raza² and Mohammed Nasir Khan³

¹ *Department of Environmental Sciences, University of Peshawar, Pakistan*

² *Khyber Teaching Hospital, Peshawar, Pakistan*

³ *Integrated research and development Organization, Pakistan*

Abridged slide presentation

Abstract

Survival of women is closely linked to sustainable planning and management. They are the first line of defense. Women are often most vulnerable to the environmental risks caused by para-occupational exposure. There is strong evidence of the irrevocable damage caused by environmental assaults on women. The intensity of para-occupational exposure of women is still unrecognized and uncharacterized to a large extent. Official action and public awareness remain inadequate regarding this issue in Pakistan in general and particularly in NWFP.

During this study the asbestos sheets cutting unit situated in Dagi Kili, District Mardan was taken as a case study. The unit uses asbestos containing sheets obtained from the scrapping of ships at Gaddani Ship Breaking Yard located in Baluchistan Province. From here various types of pure and processed asbestos in the form of sheet and fine fiber has been distributed throughout the country particularly to the North West Frontier Province (Mardan & Swabi cities).

Two sets of air samples, one from the said unit and the other from the neighborhood village called Sari Kili, were collected to measure the airborne asbestos fiber level within the unit and in the neighborhood. XRD, Polarized Light Microscopic and Scanning Electron Microscopic studies were conducted for qualitative and quantitative analyses. The results indicated that the airborne asbestos fiber concentration was higher in Sari Kili compared to the cutting unit. The exposure limit was 1,000 times more than the international permissible exposure limit of airborne asbestos fiber, which proved that these fibres originated from the same unit and migrated in the neighborhood.

After the confirmation of the sample results, a detailed survey was conducted to find out the relationship of the exposure of women and children staying in the vicinity of asbestos, particularly the women, and the potential risks posed by the asbestos fiber concentration in the target area. It was found that the majority of women were suffering from various lung diseases, including lung cancer, in the target area.