

Study Report Launching, Awareness, and Capacity Building Program

STUDY, AWARENESS, AND POLICY ADVOCACY FOR THE PREVENTION OF OCCUPATIONAL EXPOSURE TO WELDING FUMES AMONG METAL FABRICATORS IN NEPAL



Kathmandu, Nepal 30th July 2022



Government of Nepal, Ministry of Labour
Employment and Social Security
Department of Labour and Occupational Safety
Occupational Safety and Health Center (OSHC)
Vaithepal, Lalitpur



Center for Public Health and
Environmental Development
(CEPHED)



Federation of Grill and Steel Fabricators
Nepal (FGSFN)
Kathmandu, Nepal



SMS Environment and Engineering
Mahalaxmi-1, Lalitpur



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Organized by

Center for Public Health and Environmental Development (CPHED)

Kathmandu Nepal In collaboration with

Government of Nepal, Ministry of Labour, Employment and Social Security (MoLESS), Department of Labour and Occupational Safety (DoLOS), Occupational Safety and Health (OSHC), Federation of Grill and Steel Fabricators Nepal (FGSFN), and SMS Environment Engineering Pvt. Ltd. Nepal.

July 31st, 2022

Study Report Launching, Awareness, and Capacity building program

Successful organizations of Study Report Launching, Awareness, and Capacity building program on “ Study, Awareness and Policy Advocacy for the prevention of Occupational Exposure to Welding Fumes among Metal Fabricators in Nepal” well participated by around 100 plus metal fabricators workers and their entrepreneurs from different part of the country, Government officials and media personnel. The program has been supported by Takagi Fund for Citizen Science, Developing World Outreach Initiatives(DWOI), and Asia Monitoring Resource Center (AMRC).

A collaborative initiative of the Center for Public Health and Environmental Development (CEPHED) with the Occupational Safety and Health Center (OSHC), Department of Labour and Occupational Safety (DoLOS), Ministry of Labour, Employment and Social Security (MoLESS), Government of Nepal, Federation of Grill and Steel Fabricators Nepal (FGSFN), SMS Environment and Engineering Pvt. Ltd.

A study of welding fumes and associated health implications issues completed recently under this initiative revealed an urgent need of enacting welding rod/electrode quality standards and fixing the exposure limits of welding fumes to ensure occupational safety and health of the welding workers in Nepal and therefore request for the same with the concerned government agencies.



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2022



Author

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Executive Director of Centre for Public Health and Environmental Development and Environment Scientist, Mr. Ram Charitra Sah welcomed the participants and highlighted the purpose of the program to all the participants of the workshop. Mr. Satish Kumar Upadhyaya, Senior Officer of Occupational Safety and Health Center(OSHC), Government of Nepal, gave a congratulatory speech and expressed his commitment to continuous organizing of training and capacity building from the center to reduce the effects of welding fumes and to ensuring the health and safety of the workers. He expressed his commitment to effectively implement and continue to implement the suggestions made in the study report. Addressing the program, the president of the federation, Mr. Mohan Katuwal, pointed out the need for the results of this study, which was completed in collaboration with the federation, to be disseminated throughout the country as the workers are at great risk due to the lack of occupational safety and health-related knowledge. Expressing the commitment that the Federation will take initiative with the relevant government agencies and other development agencies for the effective implementation of the recommendations of the study. He wished the program to achieve the expected goal. He also expressed his gratitude to the Center for Public Health and Environmental Development (CEPHED) and its officers who have always provided support for the rights and occupational safety and health of Grill Entrepreneurs and workers.







July 30, 2022, Kathmandu: Center for Public Health and Environmental Development (CEPHED) in collaboration with the Government of Nepal Ministry of Labour, Employment and Social Security (MOLES), Department of Labor and Occupational Safety (DoLOS), Occupational Safety and Health Center (OSHC), Nepal Grill and Steel Fabricators Federation (FGSFN) and SMS Environment and Engineering Private Limited conducted a study on 'Welding Fume and

Occupational Safety and Health' by taking 21 samples from 11 industries operating in Kathmandu Valley.

Under this research measuring personal exposure of the workers to the toxic welding fumes by personal samplers, metal characterization of respiratory illness through pulmonary function test (PFT) of the welding workers was tested, analyzed, prepared, and released through organizing a workshop.

The study, awareness, and policy advocacy for the prevention of occupational hazards caused by welding fumes were completed by the Center for Public Health and Environment Development with the financial and technical support of Takagi Fund for Citizen Science, Japan, Developing World Outreach Initiative (DWOI), USA. The report published based on the study of the occupational safety and health effects of the welding fume was released on Saturday, July 30th, 2022 with the participation of over 100 grill industrialists and workers from different parts of the country through a workshop in collaboration with Grill and Steel Fabricators Federation of Nepal, the umbrella organization of grill and steel fabricators across Nepal. Program under the chairmanship of Grill and Steel Fabricators Federation President Mohan Katuwal and Senior Officer of Occupational Safety and Health Center Satish Kumar Upadhyaya and Senior Vice President of Grill and Steel Fabricators Federation Niranjana Kumar Shrestha along with the gracious presence of the presidents of all the district committees of fabricators was completed.

To the participants, Executive Director of the Centre for Public Health and Environmental Development and Environmental Scientist, Mr. Ram Charitra Sah presented a scientific paper on the **study, public awareness, and policy advocacy for the prevention of occupational risk from welding fumes among the workers** and oriented all the participants. The results obtained from the study, its effects, and the three policy, industry, and workers level recommendations for mitigation and control measures for the welding fume-related OSH were presented in detail.



fumes.

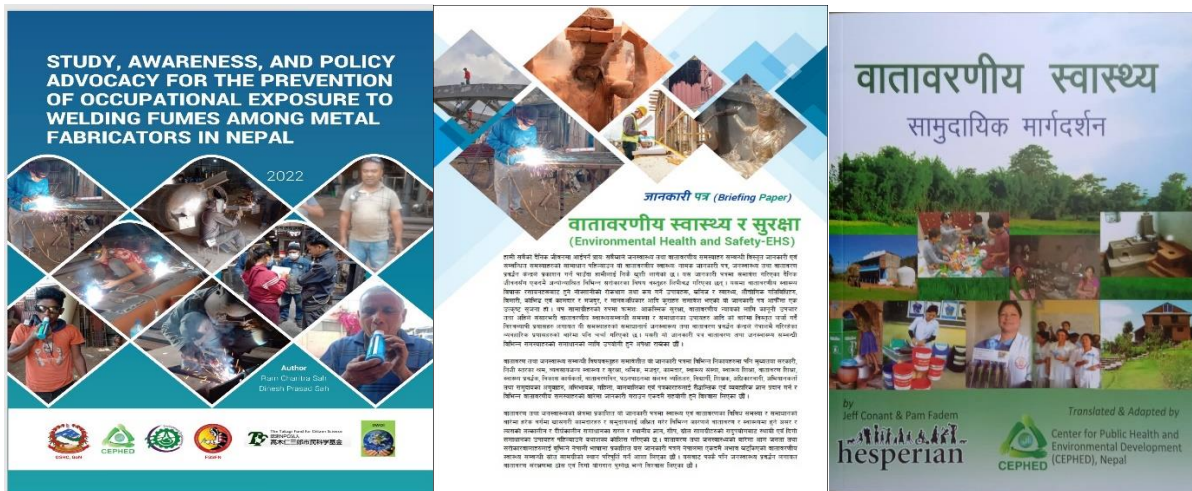
21 welding samples were collected from different 11 welding workshops in Kathmandu, Lalitpur, and Bhaktapur. According to the study, 52% (21 out of 11) were collected from 11 welding workshops and laboratory-tested fume samples exceeded the American Conference of Governmental Industrial Hygienists (ACGIH) guideline standard of 5 mg/m³. Thus it revealed that workers working in more than 50% of welding workshops are at high risk of welding

Also, when analyzing the toxic metals in the welding fumes, iron and manganese were found in 100% of the samples, while chromium was found in 19%, nickel, and copper in 71.42%, and zinc in 85.71% of the samples. In two samples, iron was found more than the TLV (Threshold Limit Value) standard (5 mg/m³) and in four samples magnesium was found more than the TLV standard (0.2 mg/m³). Chromium was found to exceed the TLV standard (0.003 mg/m³) in one sample.

Pulmonary function test (PFT) results were analyzed in a total of 88 welders and 108 controls. Which, 41.46% of the workers were found in the life-threatening group, 20.23% in the acute severe group, and 27.31% in the moderate exposure group, These showed that their health condition is under severe threat, and needs to be protected.

Mr. Sah recommended making work arrangements in cross ventilation areas or open spaces. Mandatory use of full personal protective equipment (PPEs). Regular occupational safety and health (OSH) training and public awareness should be promoted among welders. There is an urgent need to define and recognize the work of welders as hazardous work. Labor laws (acts, regulations, policies, etc.) should include specific provisions regarding the occupational exposure of welders to the protection of welding fumes. It should be made mandatory to submit periodic health surveillance reports of all welders to the Department of Labor and Occupational Safety (DOLOS). To ensure the professional safety and health of the workers working in the welding business, the standards of the welding rod (electrode) and the exposure limits that come into contact with the smoke should be implemented as effectively as possible. Quite smoking among the welding would be beneficial to mitigate the welding fumes impacts.

In addition, all the participants were provided with a study report on occupational risks from welding fumes, environmental health and safety briefing paper, and Environmental Health, a community guidebook. Lastly, a press release has been made.







Lists of Participants of Study Report Launching, Awareness, and Capacity Building Workshops,
July 30, 2022

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