

CASE 10: NEPAL

From pilots to policies: improving medical waste management

**GRANTEE**

Center for Public Health and Environmental Development (CEPHED)

**COUNTRY**

Nepal

**LOCATION**

Nepal

**SGP CONTRIBUTION**

US\$84,918

**IN-CASH CO-FINANCING**

US\$80,650

**IN-KIND CO-FINANCING**

US\$200,454

**START DATE**

December 2009

**END DATE**

May 2015

(two projects were supported by SGP during 2009–2015)

PROJECT CONTEXT

In Nepal, a total of 274 hospitals generate 10,520 tonnes of non-hazardous healthcare waste per year and 3,094 tonnes of hazardous medical waste (Government of Nepal, 2014). The waste was disposed of as regular city garbage, which presented a problem for municipal waste collectors. It was also burnt in incinerators which released persistent organic pollutants (POPs) such as dioxin to the environment. Both of these practices are a threat to human health. Following the success of an initial SGP supported project to manage waste during 2010–2012, Center for Public Health and Environmental Development (CEPHED) sought grant funding from SGP to launch a new initiative to influence the healthcare sector and build momentum for the implementation of clear policy initiatives.

The project sought to address the unintentional release of POPs to the environment, from waste burning at healthcare facilities as well as from open burning. Efforts were also aimed at limiting the release of furans and polychlorinated biphenyls by eliminating the use of contaminated transformer oil in welding machines. Additionally, the project advocated to ban the import and use of endosulfan in Nepal.

As POPs are known to bio-accumulate, these chemicals were increasingly detected in soil, water, fish and aquaculture, and vegetables grown and marketed in urban areas such as Kathmandu, Nepal's capital. While there was a degree of awareness among some stakeholders such as healthcare workers and welders; however, awareness needed to be raised among all stakeholders. The increasing unintentional release of POPs such as dioxins and furans as a result of waste burning required sustained levels of engagement.

PROJECT IMPLEMENTATION

In addition to the support it received from SGP, CEPHED also generated broad support from international organizations such as UNEP and WHO, the government of Nepal, the Federation of Grill and Steel Fabricators, and the healthcare sector when it launched the project to demonstrate best practices in avoiding waste burning and raising awareness on POPs for policy makers, healthcare workers, waste managers, metal workers, and the general population of Nepal.



PHOTO: SGP NEPAL



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The project engaged the local community and key stakeholders by forming a Waste Management Committee that targeted the appropriate professional organizations for outreach, such as the Metal Fabricators Association. To convince stakeholders to reassess their practices and develop new methods, CEPHED produced a number of briefing papers on POPs, PCBs, healthcare waste management systems and mercury-free healthcare to distribute among interested persons in these communities. During the two years, as a result of the project's awareness raising strategy, the media also produced over 100 news articles on medical waste and POPs, and both social media and several national news channels covered the issues to increase the level of awareness of the general public.

From 2013 to 2014, a series of six training sessions in different locations throughout Nepal were conducted on Healthcare Waste Management and POPs with 293 participants benefitting from these trainings. Five awareness-raising workshops and two model development sessions on PCBs were also conducted, benefitting over 500 participants. Three hospitals received installation of full waste management systems, and were recognized as model hospitals and demonstration sites for transfer of best available techniques and best practices in medical waste management. To mitigate the release of PCBs and POPs emissions from the steel industry, three model metal workshops were selected and outfitted with dry welding machines. The new technology eliminated the need for use of contaminated transformer oil and subsequent emission of PCBs, dioxins and furans were avoided. Additionally, CEPHED produced

and disseminated a publication, "State of PCB Contaminated Transformer Oil and Equipment" to inform and update stakeholders about this problem.

RESULTS AND SCALING UP

The project succeeded in raising awareness and building capacity among concerned stakeholders, by providing access to good information about POPs and hazardous waste. The model hospital and metal workshop sites offered demonstrations of environmentally sound waste and chemicals management. Obsolete pesticides and POPs were safely sent back to Germany to be disposed in a safe manner, and the use of PCB contaminated transformer oil has been reduced. The pesticides stored in warehouses were studied for their contamination level to envision possible and potential site reclamation processes and the results were shared with the concerned government agencies. This information was also included in the new National Implementation Plan (NIP 2017) of POPs during its development.

This project, as well as the earlier CEPHED initiative, contributed to the enactment of the Solid Waste Management Act of 2011 and the Solid Waste Management Regulation of 2013, which define key aspects of healthcare waste management roles and responsibilities. Project learning and experiences were also shared and contributed towards development of Health Care Waste Management Guideline 2014 by the Government of Nepal, Ministry of Health and Population. This guideline has been adopted by the Government and is now required for all hospitals to follow.

The great success of the first SGP supported CEPHED project resulted in wide recognition and praise. CEPHED was awarded one of only two of the 2011 Stockholm Convention PCB Elimination Network Awards for Outreach and Capacity Building and The Grill Traders National Award 2011. In Nepal CEPHED was also awarded with the Environment Conservation Award 2012 from the Government of Nepal, Ministry of Environment.

Healthcare waste managers and metal workers who visited the model hospitals and metal workshops requested technical support to replicate the initiatives. CEPHED has received requests to develop similar, environmentally sound healthcare waste management systems in other hospitals in Nepal.

EXPERIENCES AND LESSONS LEARNT

Among the main lessons learnt from CEPHED's projects in Nepal is the recognition of the difficulties in translating technically complex POPs and chemicals language in a manner that is accessible to the layperson. Barriers to successful knowledge exchange include limitation of budget and resources to continue research, generation of additional and new information. Ensuring effective and wide dissemination of knowledge and information continues to be a key need.



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