Ground water quality of Kathmandu valley in Post- Earthquake scenario (June 2015 to August 2015)

Aim:
To assess the current status of quality of groundwater in Kathmandu Valley and also compare the quality in pre and post-earthquake scenario.

Description:
Ground water contributes as one of the major sources of drinking water in Kathmandu valley. Since groundwater is likely to change in aftermath of earthquake, this study was designed to study the groundwater quality of Kathmandu valley after the powerful earthquake of 7.6 magnitude hit the valley on April 25, 2015. The study was carried out with the objective of assessing current status of various physico-chemical and microbiological parameters of groundwater and comparing them with pre-earthquake scenario. Groundwater samples were collected from different parts of the Kathmandu valley and analyzed for color, odor, pH, temperature, electrical conductivity, turbidity, total hardness, total alkalinity, ammonia, chloride, nitrate, arsenic, calcium, cadmium, chromium, copper, hydroxide, fluoride, iron, lead, manganese, total coliform and *E. coli*. The analysis were compared with National Drinking Water Quality Standards (NDWQS) of Nepal.

Key findings:
- The parameters like electrical conductivity (2.27 % of total samples), color (4.55 %), turbidity (43.18 %), ammonia (56.82 %), nitrate (27.27 %), iron (59.09 %), manganese (45.45 %), total coliforms (90.91 %) and *E. coli* (70.45 %) were not found within the National Drinking Water Quality Standards (NDWQS), in post-earthquake scenario.

- However, the parameters like total hardness, pH, calcium and chloride contents, including heavy metals like copper, chromium, lead and arsenic of all the water samples were within the drinkable limit.

- Parameters such as calcium, chloride contents, copper, chromium, lead and arsenic were significantly different in compared to the water quality between pre and post-earthquake, except the pH parameter, which significantly decreased by an average of 0.35 after the earthquake.

Achievement:
Poster presentation on “7th National Symposium Challenges and Opportunities for Sustainable Management of Groundwater Resources in Nepal”.