

## **Vertical electrical sounding for delineating subsurface geology of the Armala valley area, Kaski district, Western Nepal**

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Electrical resistivity investigation was carried out around Armala valley of Kaski district in order to study the subsurface geologic layer with a view of determining the depth to the bedrock and thickness of the geologic layers. Data were acquired using Resistivity meter WDJ-4 and analyzed using computer software IPI2Win, which is used for processing and interpretation of the apparent resistivity. Resistivity Data were correlated with available lithologs. The simulated results of the 15 VES points conducted using Schlumberger configuration with AB/2 varying from 2 to 400 m and MN/2 varying from 0.5 to 50 m reveal the presence of 4 to 8 geoelectric layers. The top layer comprises intercalations of silty sand and silty clay. Layers underneath the top soil are the dry angular boulder, cobble sized gravels, sandy silts, gravels, sands, fractured bedrocks and fresh basement rocks. The resistivity values of the different layers' ranges from 40  $\Omega$ m to 52042  $\Omega$ m and were statistically analyzed. The depth of the bedrock from the topsoil or earth's surface ranges from 40.9 m on outer edges of valley to 71 m on the central part. Contour map and 3D map of bedrock for the conceptual model shows that the gradient of the contour is high in the surrounding parts and fl at in the center of valley.