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Flood from debris covered glacier -Tshojo Glacier in Bhutan Himalaya-

Phuntsho Tshering^{1*}, Jiro Komori², Yeshe Dorji², Karma Toeb²

¹Department of Geology and Mines, Bhutan, ²Nagoya University

On 29th April 2009, swollen and muddy stream of Pho Chhu River terrified the local people of Punakha and Wangduephodrang, central Bhutan. The flood, which showed 2 meter of height which is low compared to 6 meter in summer occurred from Tshojo Glacier, one of the biggest debris covered glacier type in Bhutan. This flood was alerted downstream when the officials from early warning system dispatched at Lunana informed about the incident. However, reaching the site (Tshojo glacier), there was not large and obvious source of outburst on the surface of Tshojo glacier. Hence the cause of this flood is yet unknown. Our project on the way to the headwater of Mangde Chhu carried out field inspection and data gathering at this debris covered glacier. In this presentation, we will show the aspects of such phenomenon, in relation with weather condition at the time and some prolonged problems in the future in such a glacier.

If one is to study clearly and in detail, such a glacier, methods like geophysical studies along the moraines are very much required to be carried out in order to rule out the presence of ice-core as well as big water bodies/ponds under the debris-covered glacier. With the present situation of global climate change, should there be a flash flood from this area, it could have a devastating impact downstream considering its large coverage (D-type glacier area).