Most of tropical glaciers exist in Andes, these glaciers have been exposed to influence of climate change. In Bolivia, runoff from glaciers has been used as water resources, however drying up is feared because of glacier decrease and concentration of population to big cities, La Paz and El Alto. We planned to estimate amount of snow/ice melt as water supply from glaciers with use of a one-dimensional snow-cover model. The model can calculate profiles of snow temperature, density and water content as well as snowmelt and energy exchange between the atmosphere and snow surface. The number of the snow-layer in the model depends on snow depth. This study is carried out by GRANDE (Glacier Retreat impact Assessment and National policy DEvelopment) project supported by JST/JICA, SATREPS (Science and Technology Research Partnership for Sustainable Development). We present preliminary results and introduce the outline of the project.