Graph model for conflict resolution, a game theoretic based approach is used to analyze the ongoing conflict in Ichinose community (Fig.1). In order to resolve their problems mainly three main players, i.e., local community, private company and local government are identified in this decision-making process. The conflict arose when the private company refused the local government’s order to clear rocks and debris from the site due to devastated landslides. Three different phases of the conflict are analyzed in order to understand why the confrontation occurred and how the disputes evolve over time. Sensitivity analysis is also performed to assess the robustness of the stability results. The equilibria help to manifest the possible solution scenario in this game. It is recommended that the effective communication, player’s capability are essential factors which can help to move the situation in a better way.