

Effect of the reduction of artificial groundwater recharge through abandoned rice paddies at Mid stream area of Shira river and its surrounding area caused by 2016 Kumamoto earthquake to the local groundwater resources

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Because of the intensive groundwater use, Kumamoto area have settled more than 100 monitoring wells to cover over 30 years for its sustainable management. Those monitoring results show the long term decreasing tendencies of the groundwater level and as the drastic countermeasure for this, the artificial groundwater recharge through abandoned paddies of the Mid stream area of Shira river, where is known as relatively high recharge possibility by their hydrogeological condition, has been started from 2004 by the cooperational activities of the local governments and agricultural societies. Kumamoto Earthquake 2016 has severely damaged the paddies, farm lands, and irrigation channels of this area and the artificial groundwater recharge has decreased down to 30 %. In the year 2017, the damage has well recovered mostly and the artificial recharge comes back almost 90 % level. This temporal decrease of artificial recharge should reflect to the local groundwater resources if we carefully check the groundwater monitoring data in the recent 2-3 years which cover before and after the earthquake.

Keywords: 2016 Kumamoto Earthquake, artificial water ponding through abandoned rice paddies, artificial groundwater recharges