



Assessment of Runoff Generation Processes on Hillslope Scale in semi-arid Environments of Northern Tanzania

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Semi-arid environments such as in Northern Tanzania are characterized by a variety of degradation processes due to long dry periods and short but intensive rainfall events. Especially at the end of dry periods the landscape is characterized by a poor vegetation cover and low infiltration rates. Thus, first precipitation events generate high surface runoff rates. To assess the terrain hydrological characteristics and overland flow generation dynamics we conducted hydrological measurements with Permeameters as well as Hood Infiltrometers

Moreover, we tested a new minimal-invasive automatic Surface Runoff Detector (aSRD) for the measurement of surface runoff height on different slope positions. The precipitation input to the slope system was measured with high temporal resolution from a close by digital weather station. The study shows that, with minimal invasive techniques, also in difficult environments such as in northern Tanzania detailed results on runoff generation dynamics and related sediment transport can be derived.