

[JJ] Evening Poster | H (Human Geosciences) | H-GG Geography

[H-GG01] Use, change, management of natural resources and environment: Interdisciplinary perspectives

convener: Takahisa Furuichi (Graduate School of Agriculture, Hokkaido University), Toru Sasaki (Miyagi University of Education), Gen Ueda (一橋大学・大学院社会学研究科, 共同), Yoshinori OTSUKI (Institute of Geography, Graduate School of Science, Tohoku University)

Sun. May 20, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)

(Language of the session is Japanese and English with no priority.) In this session, the situation and history of use, changes and management of natural resources and environment from various regions under diverse socio-economic and natural conditions are reported. Findings from local-scale fieldwork and feedbacks on their methodology and/or research concepts are particularly encouraged to be shared and discussed. A variety of research topics are covered through both human-ecological and earth-scientific perspectives, including local knowledge of natural resources and environment, environmental and climatic history, environmental geography, environmental degradation through resource use and/or management, effects of climate change, related socio-economic changes and adaptation for livelihood security, political ecology, and issues for overcoming gaps in linking between local and broader-scale (national, regional and global) studies.

[HGG01-P06] Natural Resources in Semi-arid Pastoral Area, Central Kenya: Change of Plant Production during Past 30 Years

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Keywords: Kenya, semi-arid area, pastoral area (grazing area), gully erosion, NDVI

This study makes tries to make clear plant production during the past decades and its relationship with physical and/or social environmental changes in a semi-arid pastoral area. The investigated area, the Il Polei sub-location (N 0°21'56" ; E 37°04'32") in the Laikipia North sub-county, central Kenya, has an altitude of 1,750 to 1,850 m. According to previous literatures, a mean annual rainfall at the Mukogodo Station, close to the study area, is 362 and/or 371 mm; tree coverage is extremely low, which comprises sparse woods and shrub consisting mainly of Acacia genus. The area is underlain by Proterozoic gneiss, migmatite, quartzite, and schist, belonging to the Mozambique Belt, and geomorphologically, inselberg-pediment systems are regionally identifiable with widespread distribution of pediplain. This area continues to be subjected to remarkable soil erosion since ca. 2 ka.

Most inhabitants are pastoral Maasai peoples, who have maintained livelihood under group ranch system, and it is reported that grazing pressure is gradually elevated. In addition, people recently associated cooperative organizations based on several group ranches, and engaged in the control of sand harvesting, which reacts the increase of construction demands in urban areas.

In this study, NDVI in the hot dry season (DEC-FEB) acquired from Landsat-5 TM and 7 ETM+ is used as the indicator of plant production. This value decreases 0.14 during DEC/1984 to FEB/2017, and this main cause will be discussed.