

**Influence of Settlements on Land Use and Vegetation in the
Rangelands of Northeastern Ethiopia:
Application of Aerial Photographic Technique***

Diress T Alemu¹, Kassim O. Farah² and Dickson M. Nyariki²

¹Mekelle University College, P.O. Box 231, Mekelle, Ethiopia

²Department of Range Management, University of Nairobi, P.O. Box 29053, Nairobi, Kenya

KEYWORDS Sub-Saharan Africa. Ethiopia. Pastoral Production. Settlements. Flood Recession Cultivation. Aerial Photography

ABSTRACT Population pressure through settlements and encroachment of cultivation into pastoral prime grazing lands in arid and semi-arid areas of Africa have resulted in the reduction of natural vegetation cover, in turn transforming land use systems. This study was carried out to investigate changes in vegetation resources in relation to land use changes due to population pressure and the effect of time, in north-eastern Ethiopia. The methods employed involved the interpretation of aerial photographs, taken at two points in time – 1964 and 1994 – and field survey. Results revealed that significant changes have occurred in land use and vegetation types over the 30 years. Changes in land use, mainly in the form of flood recession cultivation, have apparently caused changes in vegetation structure. Based on these findings, it is recommended that research and development should strive to protect the existing grazing lands from settlements and encroaching cultivation.