



Tropentag, September 16-18, 2015, Berlin, Germany

“Management of land use systems for enhanced food security:  
conflicts, controversies and resolutions”

## Land Use Changes and its Implication for Food Security and Sustainability in Northern Ghana

EILEEN BOGWEH NCHANJI<sup>1</sup>, IMOGEN BELLWOOD-HOWARD<sup>1</sup>, NIKOLAUS SCHAREIKA<sup>1</sup>, RÜDIGER GLASER<sup>2</sup>, AXEL W. DRESCHER<sup>2</sup>, TAKEMORE CHAGOMOKA<sup>2</sup>, JOHANNES SCHLESINGER<sup>2</sup>

<sup>1</sup>*Georg-August-Universität Göttingen, Inst. of Social and Cultural Anthropology, Germany*

<sup>2</sup>*University of Freiburg, Dept. of Environmental Social Sciences and Geography; Physical Geography, Germany*

### Abstract

Urban and peri-urban agriculture are dynamic niche activities that take advantage of urban connectivity and a complex socio-political environment. It has been advocated by many researchers as a means to improve food security. Vegetable production, a strand of urban agriculture, doubles as a source of food and income for many urban dwellers, especially women and migrants. It takes place in open spaces, backyards and irrigation sites where there are water bodies like streams, broken gutters, drains, dug-outs and wells. A mixed-methods study was carried out for fourteen months to assess the sustainability of vegetable gardening in dry season open space farming sites in Tamale, northern Ghana. The study used the Food and Agricultural Organisation's international framework for evaluating sustainable land management. In addition, changes between 2008 and 2014 in the spatial area of the vegetable sites were measured. The study found that vegetable production was viable but not sustainable. Urban poverty and climate variability has prompted an increase in the cultivation of highly profitable vegetables like cabbage and lettuce, providing income to farmers. Sixty percent of such fresh vegetables in Tamale are provided by open space farmers, and their increased availability has diversified urban diets and increased food and nutritional security. However, many such more newly introduced vegetables are eaten raw, and are sometimes irrigated with waste water. This, and the use of pesticides in high dosages, poses health hazards. A growth in industrial activities has reduced the area of open space used by urban agriculture by 3.9% between 2008 and 2014. Farmers attempt to cope with this by cultivating along electrical power lines, on public property, and on undeveloped private land. Some are moving their production sites to the peri-urban fringes. Urban and peri-urban vegetable production in Tamale is thus viable, but a lot more must be done for it to be sustainable.

**Keywords:** Food security, northern Ghana, open space, spatial change, sustainability, vegetable production