

# **Modelling Early Food Production in the Mid-Holocene of the Eastern Sahara. A Sustainable Rural Livelihood Approach**

Thesis submitted by: Andie Byrnes  
For the degree of: Doctor of Philosophy (Ph.D.)  
First supervisor: Professor Dorian Fuller  
Second supervisor: Doctor Andrew Reid

The Institute of Archaeology, University College London (UCL)

## **Declaration:**

I, Andie Byrnes, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

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## **Abstract**

The thesis employs an approach adapted from the Sustainable Rural Livelihoods (SRL) model, which was pioneered in development economics. The model provides both descriptive and explanatory components. The purpose of the research is to determine whether the SRL approach can improve the handling of archaeological data and its interpretation. It has been tested in four case studies focusing on early food production in marginal areas of the mid-Holocene eastern Sahara. It assesses how livelihoods were practiced in terms of risk and sustainability. A strength of the SRL approach is that it incorporates the belief that all aspects of a livelihood should be allocated equal value, including economic, ecological, human wellbeing and social assets. In particular it provides the opportunity to evaluate a qualitative model to improve an understanding of the variables that might have influenced livelihood strategies in prehistory. Ethnographic data has been employed to inform an understanding of the risks and opportunities confronting populations living in arid and semi-arid environments. In the penultimate chapter the thesis compares the findings from the four case studies to test the value of the SRL model for drawing inferences about risk, opportunity and sustainability in arid and semi-arid environments. Whilst the research is not problem-orientated it does identify gaps in current research with a view to recommending new research priorities.

## **Impact Statement**

The Sustainable Rural Livelihood approach is derived from problem-orientated development economics but this thesis assesses it in terms of its value to academic archaeology. Within archaeology the research has two possible applications: 1) in the design of field archaeology projects that seek to prioritise data collection and 2) in the field of data analysis and interpretation after excavations have taken place. To test the value of the latter, I plan to publish the SRL approach online, together with all four case studies, to engage in discussion with researchers who have expertise in these areas, to measure the value of the approach and to refine it. The same methodology could be applied usefully to ethnographic research, following an analysis of its potential role in ethnographic theoretical approaches. Looking beyond academic applications, it would be interesting to apply the model to studies of small communities impacted by heritage tourism, where it could be used not merely to assess impacts but to devise solutions to some of the more pressing problems being experienced. I am currently using the model as a methodology for assessing information about the socio-economic context of long distance maritime trade in the 19<sup>th</sup> Century. This is a minor part of a bigger project but should measure the value of the SRL approach in historical periods. This project will be published online when the project is complete and an assessment of the value of the SRL approach will be published as an appendix at that time. Although I have not yet investigated the possibilities of the SRL approach as a collaborative tool, I would hope that it will be possible to work with others to investigate other potential uses for the SRL model.

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