
SCIENCE 4 (REAL) SUSTAINABILITY

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A game was created by two Physics graduates – Sarah Jones & Emma Tebbs - evolving out of the one originally created in 2007 on the S4S project, but this one uses the real issues of sustainability among the communities of Tugen people who live around Lake Bogoria, Kenya, as a result of a two-week design workshop with community members in August 2008. The game is based upon the ancient African game of Mancala (or Bao in East Africa), which is itself possibly the oldest game in the world, played in pits in the ground. The Sustainability Game is played on a board, with circles representing eight resources instead of pits (e.g. water, livestock, wildlife, wetlands) and seeds representing the amount of resources a player can exploit. The roll of a dice simulates the climate conditions each year under which the players must make decisions about how to allocate their resources and how many to use (eat, drink etc). A film was made about the game at the time of the Workshops.

1. BACKGROUND

The issue, which has been discussed for 2 years, is how to teach undergraduates sustainability. This has now been tackled by the development of the 1st year Module 'Sustainable Futures' (an iScience module but open to all and potentially a 'Leicester Award' for non-Physics students); the game is now part of that.

2. PROJECT AIMS AND OBJECTIVES

To produce a sustainability game based upon a real-life community and environment

3. PROJECT OUTCOMES AND ACHIEVEMENTS

The game was completed, and boards designed by a Kenyan schoolboy who helped at the Workshops. It has now been used in the teaching of Sustainable Futures as the second part of my (David Harper's) contribution, teaching how ecology must underpin sustainability.

4. EVALUATION

Twenty students have played this game in the Module. Part of their assignments (due in end February) are evaluating the learning outcomes from this, so a final report will complete this section.

5. CONTINUATION OF THE PROJECT

The game will continue to be a part of the Module. It will also contribute to the training of students who select the 2/3rd year iScience Module "Sustainable Livelihoods" which is a practical field course addressing the same issues at Bogoria in April of each year. The first module was run with 7 students in April 2008 and the second is planned for April 2009.

6. DISSEMINATION

I am currently working with Dr Tim Barker, who managed the original S4S project, to write the whole sequence up for publication in a peer-reviewed journal. The details of the game and the film about how to play it, is on the iScience Blackboard website for Sustainable Futures and can be provided to members of the TEF Board.

ACKNOWLEDGEMENTS

This was not possible without the collaboration of the communities around Lake Bogoria National Reserve, Kenya, the approval of Koibatek and Baringo County Councils and the local Chiefs of the area.