

# CONTENTS

1. Introduction
2. Rubble-Stone Foundations
3. Alternate Low Concrete Slabs
4. Timber Lattice Frame
5. Sandbags
6. Openings & Lintels
7. Sand bag wall Drawings & Details
8. Wall Plastering
9. Built Examples
10. Engineers Drawings
11. Appendix – Eco Friendly Timber Treatments

# 1. INTRODUCTION

This document describes a generic Sand Bag Building System that makes use of a timber ladder frame and was first developed as an instruction manual for a project for new Staff housing at Twinstreams Environmental Centre in Mtunzini on the northern coast of Kwa-Zulu Natal. The project was completed in 2004. This project and it's innovative building system went on to win the Africa Sustainable Building Best Practice Award for residential projects in 2004\*. In response to using the only locally available materials at hand, sand and timber, a new building system was developed for the project that could largely involve the local unskilled labour force.

This document has since been developed to provide a more generic guide to aid the further use of this building system. For interest sake, examples of additional projects, including those built by others making use of earlier editions of this document have also been included in this updated edition and those who make successful use of this system are encouraged to contact the author so as to help build a data base of successfully completed projects.

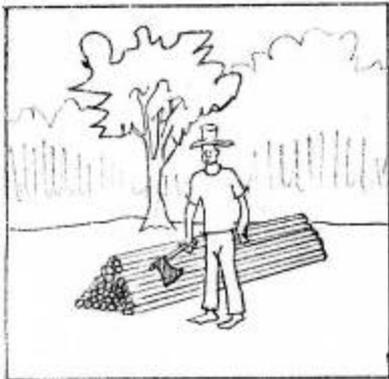
The sand bag building system proposed makes it possible for anyone to build his or her own house. Most of the material can be scavenged free of charge and are simple to assemble. No electricity is required at the construction site and only basic tools and equipment are required. Once complete the walls are solid and offer a high degree of thermal and acoustic quality.

\* For further detail refer to:

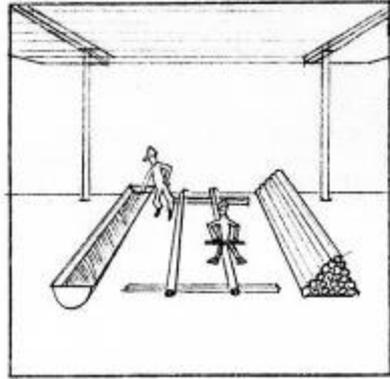
<http://www.ecodesignarchitects.co.za/downloads/BestPractice2003.pdf>

## Micro-enterprise Opportunities

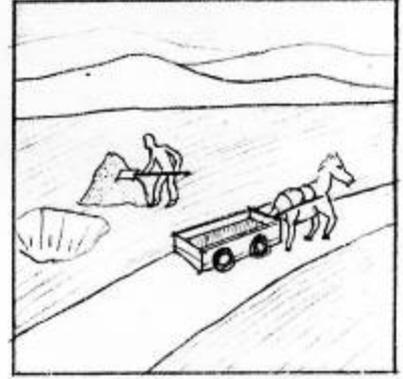
This building system offers a number of micro-enterprise opportunities:



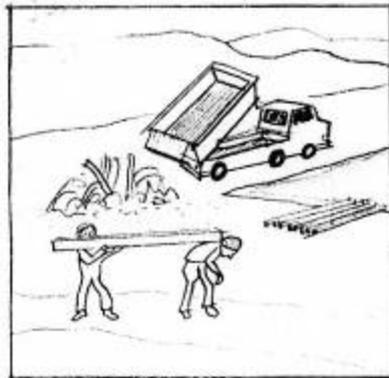
Community agro-forestry



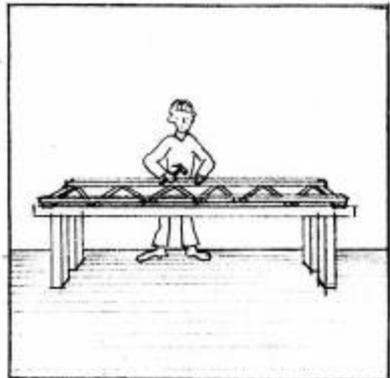
Eco-Friendly timber treatment



Sand/soil collection



Recycling Scrap timbers



Timber ladder manufacture



Bag manufacture