



- Title:** Design of Sustainable Relief Housing in Ethiopia: An Implementation of Cradle to Cradle Design in Earthbag Construction
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- Abstract:** Problem statement: Urbanization in Ethiopia resulted in urban poverty and homelessness. In this study, a sustainable relief housing prototype that aided in sheltering homeless citizens was designed. To avoid repeating errors in urban development such as unsustainable resource consumption, it was necessary to look beyond traditional construction materials and methods. Approach: This design applied cradle to cradle design model to the earthbag construction technique and developed a prototype for sustainable relief housing in Ethiopia. Results: Based on environmental and human health, all materials selected for construction were naturally occurring and could safely return to nature after use. Structural design maximized natural energy use and housing and interior design considered the local culture in Ethiopia. Conclusion: With locally available materials, inexpensive construction, maintenance and use, this design provided affordable shelter for the Ethiopian people. Material selection ensured the most effective use of material resources, no synthetic material and toxin deposition and the best indoor air quality for human health. Using earthbags rather than wood for the structure, this housing design helped prevent deforestation and the resulting desertification in Ethiopia.