

HARAMATA

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Roofs without timber
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Building houses without wood

Most houses in the Sahel are made from wood and other biomass. The use of woody resources as a construction material is an important, though poorly understood, factor in the declining availability of wood. To construct a flat roof, tree trunks are needed to support the lighter cross beams, which hold up twigs and matting on which the final layers of earth are laid. Similarly, straw roofs must use branches, bark and even roots. It has become increasingly difficult to get good beams, such as those from the doum or ronian palm. Prices have risen greatly, such wood resources are very distant, and what remains of such woodland is rapidly degrading. As a result, people are using wood of much lower quality, which must be replaced far more rapidly, putting even further pressure on resources.....

The Woodless Construction Programme, jointly undertaken by Development Workshop and IUCN, is trying to develop an alternative system of building which will reduce pressure on tree cover, while being easily handled by local people. The aim is not only to shift away from use of wood, but also to rely on resources that are available locally. The walls are made of earth mixed with straw, the arched roofs from earth bricks (banco) made by hand using a similar mould.

Building on the last ten years' experience in Niger and Mali, the current programme of work involves training and extension of such methods. There now exist numerous buildings constructed using these methods, in Niger and Mali, some big, others small, and fulfilling a variety of functions. Many of these have been built by masons trained through the programme, but without any further technical or financial support. The challenge for the next five year programme is to see how best to speed up and enlarge

this process of training and adoption over a much larger area.

Training of local trainers is a central part of the programme, in order to develop a core group of very experienced builders who transmit these skills to their compatriots. Currently, there are two training sessions held each year, each taking around 30 builders for a period of 8 weeks. Dealing initially with the principles underlying the construction of such buildings, and a series of practical exercises, the session ends with the construction of a complete building, the masons working in pairs. The cost of these



Photo: Development Workshop

Vault under construction: the shape is marked up on the end walls and guide strings aid accurate laying.

buildings are covered by local people who commission them and pay for the associated costs of materials, unskilled labour, and finishing off. Such buildings demonstrate what can be done using these methods and help create a market for woodless construction methods.

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