

BASIC CASE INFO



Inspiring Initiative: Harvesting
Drinking Water in North East Brazil

Land: Brazil

Land degradation: Water degradation

Initiative by: Articulação do Semi-Árido Brasileiro

Initiative supported by: Instituto Sertão



Building One Million Water Cisterns



PHOTO: EDUARDO QUEIROGA.

A SIMPLE AND EFFECTIVE TECHNOLOGY

The system was originally designed by a local mason in the 1960s. Underground cisterns, which are constructed in situ by local artisans, are built to store the water that falls on rooftops during the rainy season. The cisterns consist of curved cement plates, made using simple wooden frames and then sunk about 2/3rds of their height into the ground. After the walls have set a cement plaster floor is laid, the protruding walls are protected with rammed earth and plaster and the tank is crowned with a cement roof. On average the tanks store 16,000 litres - enough to ensure cooking and drinking water for a family of five for up to eight months.



DRAWING: CARLOS MACHADO.

SETTING THE INITIATIVE

Some 11% of Brazil (almost 900,000 sq. km) - mostly in the North East of the country - is semi arid. These areas, with a rainfall of between 600-1200mm p.a., are home to some 12 million rural dwellers who have no means of storing this rainfall to meet their domestic water needs. During the dry season - or when the rains fail - these families must rely on either trucked-in water or on stagnant, poor quality water dredged from the bottom of dams. Diarrhoea, caused by drinking contaminated water is responsible for one in four child mortalities in the region. Ten years ago at the 3rd Conference of the Parties of the Convention to Combat Desertification (held in Recife, Brazil) a group of civil society organisations came together to form the Articulação do Semi-Árido Brasileiro ASA (the Coalition of the Semi-Arid Regions of Brazil) and adopted the goal of guaranteeing access to safe water for rural households. Based on the experience of some member organizations ASA began a pilot project of building cement water cisterns.

Between 2001 and 2003 the programme grew from a pilot scheme to one that is now mainstreamed. At the last count (July 2009) nearly a quarter of a million water cisterns had been constructed in north-eastern Brazil, at an average cost of \$900 per unit. These cisterns have improved the health of more than a million people and reduced the labour burden of women - who previously had to trek long distances in search of water. In addition they have reduced the dependence of these families on local landowners and politicians, who use access to water as a means of securing patronage, and the cost of trucking in water.

MAKING THE DIFFERENCE

The simplicity of the design, and the participatory approach, in which local craftsmen are trained in building the cisterns and families trained in their maintenance, are key elements in the success of the project. To date around 5,000 local builders have been trained in cistern-construction, thereby adding to the local skills base and earning capacity. But perhaps the major key to the success of the project has been the involvement of a wide range of stakeholders. The ASA is an umbrella organisation involving some 800 CSOs (ranging from faith-based groups to trade unions and rural workers associations) and as such has a large outreach. In addition the ASA has built strong links with national government, which has made a ten year commitment to funding the scheme; with local authorities, which manage the training aspects and select beneficiaries; and with the private sector, with the Brazilian Federation of Banks providing financial and administrative assistance. Such extensive co-operation has created the necessary political conditions, particularly transparency and efficiency, to enable its continued implementation - a factor that is equally as important as the simplicity of the technology and the continued flow of funds for raw materials, training and administration.