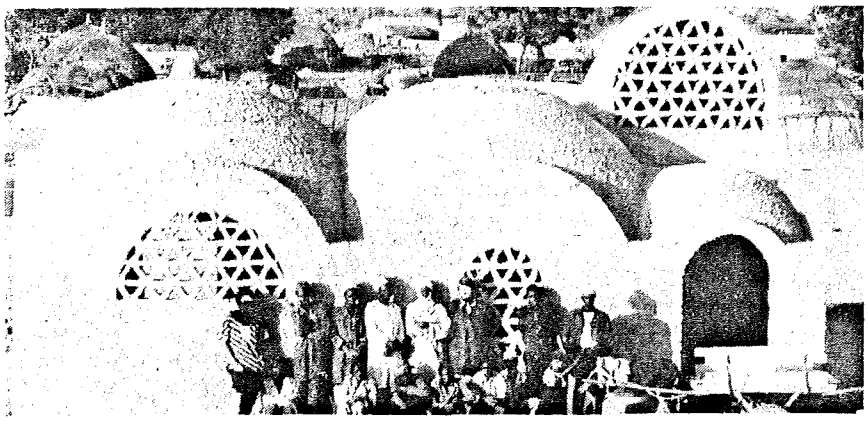

Photo : Alan Cain

NIGER

Mud, glorious mud

Maribel Gonzales outlines the astounding success of age-old Egyptian construction in helping solve the Sahel's housing crisis.

MAALAM is a skilled craftsperson, one of the best village builders in the Chikal district of southern Niger. His sinewy fingers can identify the strongest wood and can easily find flaws in the smooth surface of hand-rubbed mud walls.

He has been building houses, good strong houses, for more than 40 years. So long that he needs no plans to build a 'shigefa' – a traditional rectangular, two-roomed house with a flat timber roof. And the beehive-shaped 'kudandan' with its dome-shaped thatch roof and circular mud walls is almost second nature.

Yet now he was leaning back, listening respectfully to a stranger telling him about his craft. The visitor's hands were pink and delicate. The young foreigner was talking about a new way of constructing domed buildings without wooden supports.

Maalam could barely contain himself. Only when the aid worker finished did the old builder stroke his thin moustache and say: 'This seems to me impossible'.

Today, nearly ten years later, Malaam is no longer a sceptic. He has become an outspoken advocate of the new mud-brick, vault-and-dome construction. 'At first we didn't believe the buildings would last,' he says. 'Now we see with our own eyes that the technique works.'

In fact the technique has worked for centuries: village builders in Egypt and Iran have been constructing mud-brick domed buildings without wooden supports for at least a thousand years.

The method is simple and cheap – mud, water and some simple equipment are all that are needed. And in Third World countries where trees are a disappearing commodity that's an important plus. In Niger, for example, only 12 per cent of the land is fertile. The rest belongs to the expanding desert of the Sahel. Any effort to save precious timber is crucial.

This unique south-to-south technology transfer was conceived by two Canadian agencies: Development Workshop (a decentralized group of planners and architects keenly interested in Third World housing problems) and ISAID (Institute for the Study and Application of Integrated Development). But the real inspiration was Hassan Fathy, an Egyptian architect who championed Nubian vault-and-dome technology in the 1940s as an indigenous solution for housing Egypt's poor.

Despite the project's obvious potential the North African building techniques were slow to take off. The main culprit was old-fashioned economics. Only ten builders in total had been trained so labour costs remained high. It was still cheaper to build traditional structures using expensive local timber. Even so, by 1986 15 woodless, mud-brick buildings had been erected – and several of the newly trained masons, including Maalam, had also built homes in their own villages.

Then an unexpected chance to prove the dome technology arose in northern Niger. Intrigued by the environmental benefits of the woodless buildings, the International Union for the Conservation of Nature and the World Wildlife Fund requested ISAID's help in constructing their project headquarters in Iferouane – in the desert-like Air mountains several hundred miles north of Chikal. An eight-room office complex, storehouses and outbuildings were built. Dozens of local masons were trained during construction. The building stood as a double symbol. It not only protected scarce tree-cover but also, according to the World Wildlife Fund's Niger representative, 'put development in the hands of the people'.

Central to the success of the Iferouane project was Peter Tunley, a blond Englishman wrinkled by years in the African sun, who has a passionate belief in appropriate building methods. He is fluent in the local Hausa and lives in Iferouane. This makes him uniquely placed to listen to local preferences about the shape of doors and windows or to worries about how mud brick will stand up to torrential rain.

Now demand for information about the new building method is spiralling. The hope is that the lessons learned can be creatively applied in Mali and Chad and that the adobe alternative will eventually fill the gap left by disappearing natural resources. Only time – and many similar efforts – will tell.

The shape
A GLOBAL

BRAZIL

People power

Lawrence Altrows reports on the fight for control of the world's third largest city.

SÃO PAULO, South America's largest city, is also one of the fastest growing in the world. Like Mexico City and Tokyo, the only two cities on earth that are bigger, it is on a scale which is truly staggering for those of us from 'normal' cities. São Paulo is driven ever outward and upwards by the engine of economic growth that throbs at its centre.

The badges of the mega-city are everywhere. The air is saturated with ethanol gasoline pollution. The main streets are clogged with a perpetual traffic jam. High-rise buildings shoot upwards like the mercury in a thermometer on a hot Brazilian summer afternoon. But it's the scale of it all that overwhelms. In São Paulo there is not one high-rise area but several, punctuated every so often by plush low-density areas like Jardim where the mansions of the wealthy crouch behind the thick masonry of security walls.

Paulista, the city's principal financial avenue, is a canyon through which a stream of near-stagnant traffic inches its way between precipitous walls of 30-storey Brazilian banks. Here you find the motor and the contradictions of the world's eighth-largest economy. The modernity of the financial centre is dramatically set off against some of the worst slums on the continent – home to more than 10 per cent of São Paulo's people.

Over 50 per cent of the city's 12.5 million people have migrated from the impoverished north-east of Brazil. It's an old story: poor people either squeezed out by the expansion of large-scale agriculture or fleeing poverty and starvation. They squeezed their way into the cracks of the city through settling in the backyards of family members already there, illegally subdividing already minute plots or simply invading land and squatting there.

Not surprisingly these poor areas or *favelas* have been largely ignored by all levels of government. During the long night of military dictatorship that stretched from the 1960s to the 1980s any protest by *favela* residents was met by police batons and the arrest of 'subversives'. As a result one of the world's wealthiest cities provides services for the poor that barely enable them to survive.