

A monthly features service about science, technology, and development

IDRC-F197e

SCIENCE WORLD

(a collection of development-oriented science news briefs that may be used as a column, or as separate items)

MUD, GLORIOUS MUD

(approx. 200 words)

Mud is the most neglected building material in the world, despite the fact that more than half the people of the developing countries live in houses that use mud in one way or another.

According to Depthnews Science Service, the world needs to build 500 million houses in the next 20 years. A United Nations report notes that as many as 7 out of 10 homes in the rural areas of developing countries are currently so unsuitable for human habitation as to require replacement of major alteration.

Why mud? Well, it's cheap, easy to use and readily available. Mud buildings are well suited to the hot climates of developing countries. They are cooler in summer and warmer in winter than buildings made of concrete — which is expensive and often has to be imported. In 1975 the developing countries spent more than US\$1 billion on cement imports.

Mud is also long-lasting, despite what its detractors say. There are 1000-year-old mud buildings in the Middle East, and in Peru the cathedral at Lima is the world's largest mud structure. The technology for mud construction has been around for 6000 years, now modern research is looking at ways of making mud an even better building material by adding anything from asphalt to boiled banana stems.

.../2

NUTS FOR BURNING

(approx. 200 words)

Scientists in the Philippines are investigating a recently rediscovered source of energy that grows on trees, according to the Centre for Science and the Environment.

The tree in question is called *Pittosporum Resiniferum* Hems, but is locally known as the petroleum nut tree – because the nuts that it produces twice yearly smell, and burn, like petroleum. A kilogram of nuts gives about 70 grams of oil when pressed. The oil contains hydrocarbons which are rarely found in nature, and burns with a smoky flame at a temperature of about 300 degrees C.

The nuts are so flammable that, even when freshly picked, they can be lighted with a single match. The government's Bureau of Plant Industry (BPI) is coordinating a major five-year research programme that will include setting up experimental plantations in various parts of the country.

Surprisingly, the properties of the petroleum nut have been known since the early 1900s, and it was even used by occupying Japanese forces during the war. But with modernization and the growth of the electrical grid, the villagers who once used it almost forgot it.

"The plant will not solve the energy crisis," says Dr. Lydia Crisostomo, of BPI, "But we must plant this tree wherever we can, as it will make a contribution to solving the rural energy problem."

TEA FOR TRAVELLING

(approx. 220 words)

Sri Lanka is justifiably famous for its tea, which is one of its major exports. But getting that tea to tea drinkers around the globe has become a costly problem for the island's exporters.

.../3

The traditional plywood tea chest is expensive. Almost US\$10 million was spent in 1980 to import plywood, and that met little more than half the need. Worse, the quality of the wood has deteriorated, and buyers complain of chests arriving damaged, and of tea contaminated with wood slivers and nails.

Spillage during the voyage runs as high as six percent, which, in theory, could cost the exporters more than US\$30 million a year.

The solution to the tea transportation problem could be a new packaging system introduced by Industrad, of Colombo. It is based on an extra-strong, re-usable, collapsible, waterproof carton of corrugated fibreboard. Stacked in unit loads of 20 cartons, secured on pallets with nylon straps, loaded in containers in tens, the cartons carry the tea safely – as witness the recent arrival at the London tea auctions of 12,000 cases of Sri Lanka's finest, and not a single case damaged.

Because they are collapsible, the cartons can be returned, 65 of them strapped on the same pallet, or used for other purposes. The traditional wood tea chest, on the other hand, is simply burned, a great waste of precious timber.

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Jan/Feb 1982