

# THE INDEPENDENT



An artist's impression of the planned 'evolutionary gardens' near Riyadh in Saudi Arabia. They will be five times the size of the Eden Project biodomes near St Austell in Cornwall, right

## Saudis to build their own version of Eden Project

By Steve Connor  
Science Editor

### The ages of plant life preserved

A series of botanical landscapes that go back in evolutionary time are to be built in the desert of Saudi Arabia as part of an ambitious project to design the world's biggest indoor gardens.

British architects and scientists are to act as advisers on the project to erect two giant crescent-shaped enclosures which will be five times the size of the Eden Project's famous transparent domes in Cornwall.

The environments of the enclosed spaces will be strictly regulated to ensure that the temperature and humidity are optimum for the growth of plants that will span the entire history of botanical life from 400 million years ago until the present day.

Visitors to the site, located just outside Saudi Arabia's capital, Riyadh, will be able, in effect, to walk back through time and witness the evolutionary changes and adaptations that have created the mosses, ferns, lichens, trees and flowering plants of today.

The project's designers have promised the structure will use the minimum of energy to keep it cool in the 45C heat of the desert. Sources of renewable energy such as combined heat and power, as well as solar and wind energy, will be fully exploited, they pledged.

In addition, evaporation from the site will be kept to a minimum so that the water demands of the giant greenhouses will be kept to a minimum. Dirty "grey" water will be recycled wherever possible, they said.

"This is a ground-breaking project which draws to-

gether some of the best minds in sustainable construction, historical botany, ecology and design," said Nick Sweet, project director at Barton Willmore, the designers. "We wanted to use the scheme to tell the story of a single piece of land through time. It might be a desert now, but there was a time when rivers flowed here and forests grew," Mr Sweet added.

Each of the five indoor gardens will represent a particular epoch in botanical time. It will start with the Devonian period, when some of the first plants evolved 400 million years ago - such as the mosses, ferns and liverworts. Next comes the Carboniferous garden - a tropical wetland swamp forest of about 300 million years ago. Any known species that have since become extinct will be represented by models painted a ghostly grey.

Other periods include the Jurassic (142 million to 206 million years ago) and Cretaceous (65 million to 142 million years ago) - when dinosaurs roamed the Earth

- as well as the Cenozoic (65 million to the present) and the Pliocene (3.5 million to 1.2 million years ago).

A final garden, called the Garden of Choices, will attempt to explain what may happen to the Earth in the future as a result of the different possible scenarios resulting from human activity. Visitors can follow two paths. The "do nothing" path will lead to a dead-end, while the other path widens out into a range of botanical possibilities.

The central crescents at the heart of the structure, which is to be named the King Abdulrah International Gardens, will tower 40 metres (130ft) above the desert and will be the largest Teflon construction in the world.

Paul Kendrick, a palaeobotanist at the Natural History Museum in London, who is acting as a scientific adviser to the project, said the aim was to educate visitors about the botanical changes that have occurred over 400 million years in a desert region that has experienced dramatic climate change over the eons.

■ **DEVONIAN**  
(400 million years ago)  
The origin of multicellular plants, comprising mosses and liverworts

■ **CARBONIFEROUS**  
(300 million years ago)  
Swamps and peat-filled wetlands, leading to coal-bearing seams

■ **JURASSIC**  
(206 to 142 million years ago)  
Lush woodlands where dinosaurs roamed

■ **CRETACEOUS**  
(142 million to 65 million years ago)  
Origin of flowering plants. Now account for 80 per cent of species

■ **CENOZOIC**  
(65 million years ago to the present)  
Vast array of varieties, evolving with pollinators

■ **PLIOCENE**  
(3.5 million years ago)  
Acacia and aquatic plants suited to wetlands

