Many of us may know Dubai as a holiday destination. But what do we really know about the desert ecosystem in this part of the United Arab Emirates? I'm here in one of the world's largest hot deserts - the Arabian Desert. It's located between about 12 to 34 degrees north of the equator and it occupies most of the Arabian Peninsula.

Hot, arid deserts like this are found on almost every continent. They cover around one-fifth of the Earth's land area and are home to one-sixth of the world's population, with almost 1.2 billion people inhabiting them.

The world's largest hot desert is the Sahara and it's almost as big as the United States of America! But did you know there are also cold deserts, like the Arctic and Antarctic? The common feature with all deserts is that they're extremely dry, or arid. The rainfall is less than 250mm a year and many deserts have hardly any rain
fall.

Average summer temperatures here in the Arabian Desert are around 40C, but they can soar as high as 50 degrees in the daytime and drop as low as 0 degrees at night. It's these conditions which make it very difficult for plants to flourish. However, some do, like ghaf trees, salt bushes and this species of able.

Plants in arid environments tend to have short growing cycles, often only lasting a couple of days. Other plants will flourish when near an oasis and this is due to the presence of water. An oasis is an isolated area of water that's formed either from a sub-surface stream, or an aquifer that is trapped in the sand above impermeable bedrock. Occasional rainfall will keep this water source topped up.

At first glance the desert environment might look barren and uninhabitable. But in between the sand dunes is a hidden world of wildlife that flourishes due to a very special set of amazing adaptations.

One of the most active forms of wildlife are invertebrates - like locusts, scorpions and dung beetles.

The nocturnal Arabian death scorpion has adapted to it's environment: it doesn't drink, but instead it absorbs moisture from the small insects that it eats. It avoids

daylight sun to conserve this moisture. It's exoskeleton is hard to crush and this helps to prevent moisture loss. It burrows in the sand and hides under rocks to protect itself and to stalk it's prey. And in times when food is scarce it can slow down its metabolism and limit the amount of oxygen it takes in. Because of this it can survive on only one or two insects a year. I would be starving!

This desert is also home to the fennec fox, which has adapted to survive the heat. It's the smallest fox in the world and it hunts from dusk until dawn. Its big ears help to cool its blood down and fur on its feet help to protect it from the hot sand. Its sand-coloured fur also provides camouflage and its small, pointed nose reduces water loss.

Camels are known as the 'ships of the desert' and they are made for this environment. They have two sets of eyelashes to protect their eyes from the sand, nostrils that they can close, humps to store fat, thick leathery pads at the bottom of their feet, and long legs - the list of adaptations is endless! Even their poo can be used as fuel for fires!

So who are the humans that can survive in these desert conditions? Bedouin people live a semi-nomadic lifestyle, moving around with their animals - grazing, foraging and searching for water. They herd and eat sheep, goats and the occasional camel.

Traditionally they would wear a thobe - which is a long white shirt-dress, a white headdress called a ghutra - which is held down by a rope, called an agal. This is to protect them from the sun and sandstorms.

People, plants and animals have adapted and learnt to live in this arid environment and there are certainly no shortages of creatures here. In fact, Alex, I think that could be a scorpion on your camera, just there! No! No! No! Come back! I was only joking!