## Question:

Water shortage is one of the major problems that environmental scientists are faced with. Describe one of the solutions to this problem.

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**Answer 1**

Today most people have running water in their homes. They use it to water their gardens, wash their cars, fill their swimming pools and baths and have long showers without thinking that there could be an end to the supply.

It is true that we live in a country where it rains such a lot that we do not have to worry about it so much, but it is only going to get worse. Last summer, there was a ban on using hose pipes in the gardens, and some day soon the water board will introduce water cuts.

The surface of our planet is two thirds water, of which 97% is sea water, which we cannot drink. Another 2% is frozen solid in the polar ice caps. So we only have a little bit of fresh water, about 12,600 cubic kilometres, scattered unevenly around the globe, for drinking, bathing, watering and cooking.

Farmers also use a lot of fresh water – about 70% and industry uses about 25% of the fresh water. As well as using a lot of water, the farmers and the factories are also polluting it by putting pesticides and waste products in the rivers and oceans. People in third world countries often let their sewage water go directly in the rivers and seas too, which contaminates their fresh water even more. A lot of people get sick and die because they use polluted drinking water. Local governments need to address these problems.

Environmental scientists are working hard to provide everybody with clean drinking water. Some countries are considering providing fresh water for their people by melting the ice in the polar caps. This is expensive and not very safe because scientists still do not know how you can move icebergs without them melting in the wrong place.

We need to be aware that as our winters get milder and our summers hotter, the amount of water available to us will get less. We all need to try to save water as much as possible and not wait for the scientists to invent ways of 'making' drinking water for us.

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**Answer 2**

Many of the environmental problems in the world today are the effect of an increasing human population on finite natural resources.

One of the biggest problems which environmental science faces is that of diminishing water resources. This is a world-wide problem, but while a shortage of fresh water in

most Western countries causes merely inconvenience (such as hosepipe bans), vast areas of the world which depend on subsistence agriculture suffer catastrophic famines when the rains fail. This has caused scientists and government agencies to seek ways of increasing the availability of this precious resource, such as desalination plants, canals for moving water to where it is needed and cutting down our use of water.

One of the most radical solutions that has been proposed is the towing of icebergs from Antarctica to arid countries. This would involve the wrapping in cloth or plastic of large icebergs from Antarctica, tying the bergs to powerful tugboats by strong ropes and towing them to areas which are largely desert.

While this plan may have some potential, there are certain practical problems which must first be solved. The most immediate is the expense. According to current estimates, it would cost between £40 and £90 million to tow a single100-million-ton iceberg from Antarctica to the coast of, for example, Saudi Arabia.

There is also the danger that the iceberg could melt en route. Scientists are still unable to predict whether an iceberg can be adequately insulated to survive such a long journey.

A further problem could result from the breaking up of the iceberg. It is not possible to predict accurately what effects a huge block of ice floating off an arid coast would have on the local climate and eco-systems. It could drastically change the weather along the coast and also threaten the survival of the fish population.

Although all these factors are important, by far the most dangerous consequence of this solution to the problem of water shortage could be the speeding up of the melting of the polar ice-caps. This itself has the potential to cause huge environmental disasters.

Thus there are still many financial, technical, and environmental problems which must be addressed by both environmental science and governments before the solution considered here can become a reality.