

New Zealand Future Problem Solving – Qualifying Problem - 2001

WATER

JUNIOR DIVISION

It is now 35 years since the small state of Urden was created by the United Nations in the Sahara Desert. Now, in 2068, Urden boasts a population of over 12 million people. Urden was established as a trial in an area of harsh desert where water was the extremely scarce. However, complicated new technology such as artificial cloud seeding was developed and hydro-regeneration was installed in the climate-controlled domes that harness the sun's energy. Within only a few years tiny sections of the desert were beginning to bloom; the scorching heat reduced a little by the permanent cloud cover, and the humidity generated by the vast hydro-regeneration plants provided a sustainable water supply. All grey water is recycled into the external irrigation systems.

Urden began as a combined group of people from many countries, mostly in Africa. The initial domed city was completed by 2031 and the first 500,000 inhabitants of Urden, selected for their skills and value to the community moved in.

Many were African farmers and labourers, given a chance to escape from the harsh environment of the surrounding countries. Others were U.N. scientists and technicians, who maintained the high tech equipment and monitored the experiment. Urden became a place of many cultures, and people tried to communicate effectively and to work together to make the experiment work. Its progress has been watched with enormous interest by the rest of the world, especially as water has become a huge international issue. Australia is hoping to develop a similar scheme as more and more of its land becomes desert.

To many, Urden seems like the answer to a prayer. The technology works in the harsh conditions, and with people working together the almost impossible has been achieved. However, the situation is not problem free. The cost of 'good' water has risen to the extent that many of the world's poor can not afford it so large numbers of poor people from nearby countries where water is rationed are flocking to Urden. There have been several sabotage attempts and vandalism in the outer limits of Urden and the authorities fear for the safety of the water supply.

Other water-impooverished countries are demanding the same type of assistance from the wealthier western world, but the enormous costs of Urden's establishment make it impossible to repeat this experiment. Some unusual dietary deficiencies have surfaced as the second and third generation of children have grown; the irrigated desert soil has some mineral deficiencies, which means the crops grown as a staple diet are not providing the trace elements the body needs. The cost of supplements is high, and many of the 12 million Urdenese are very low-income earners. It has become obvious that the current water making technology will be unable to supply the needs of the community with its bulging population so further options are being considered, including piping water from the Niger River in nearby Mali which is keen to sell the water although they are facing the issue of over-use and shared ownership and pollution by other countries further upstream. Another option being investigated is buying water from the newly rich and powerful water exporting countries of New Zealand or Papua/New Guinea.

By 2075 Urden is expected to be able to cope on its own. Foreign aid will stop and many of the highly skilled foreign volunteers will return home. While there is a surplus of crops grown, and Urden is making enough money to keep the economy healthy, the continued supply of safe water is the highest priority.

Use your problem-solving skills as a team to explore the challenges, problems and issues faced by Urden now and in the future and assist them to develop a plan of action to be implemented over the next seven years that will enable them to face the future without foreign aid by 2075.