

**“Global Water Security”**  
**Professor Roger Falconer**  
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He reviewed the findings of several recent reports on the world's water situation. Only about 3% of the water is fresh and more than 70% of this is locked in as ice. Water is essential for health, energy, industry and food production and predictions of a doubling of the world's population by 2050 will create increasing demands for water. However it is clear that even current levels of consumption are barely sustainable. Climate change is adding to the problem by putting many areas under increasing water stress either through flooding and contamination of aquifers or drought. This is particularly true in underdeveloped countries where over 80% of water usage is for food production.

The growing demands for water together with climate change have the potential for creating tensions between countries which could lead to conflicts.

There are no easy solutions: desalination is widely used in areas of low rainfall but this also creates problems. About 60% of the world's desalination plants are in the Gulf and the resulting increased salinity of the coastal waters makes them unable to support fish.

He described the concept of a water footprint which attempts to quantify the total amount of water needed to produce energy, food crops and domestic items such as clothes. He gave some startling examples such as the equivalent of 26 baths of water to produce a steak and more than 73 baths for a pair of jeans. Water conservation, storage/transport and improved industrial processes will all help but there needs to be greater education and awareness of the water issue. Some companies are beginning to address their water usage but Professor Falconer believes that the water footprint is at least as important as that of carbon.

*Given on Wednesday 8<sup>th</sup> February 1012 at the Royal Agricultural College*