WHAT CAN GO WRONG AND WHAT ARE THE CONSEQUENT EFFECTS ?

Typical problems will be:

- **Inadequate funds or resources**, which can lead to improper operation of the treatment works.
- **Over-fluoridation** can cause brittle bone disease, where your bones can break under mild stress, and mottled teeth. **Under-dosing** of chlorine may result in inadequate disinfection of the water, with an increase in incidences of diarrhoeal diseases.
- **Change in raw water quality** may result in deterioration of the quality of the supplied water.
- **Floods** may both change the quality of the available water, as well as cause possible physical damage to the treatment works.
- **Droughts** may cause deterioration in the supplied water quality, as well as a reduction in the quantity of available water. Water abstracted from the bottom of a dam tends to be of poorer quality.

HOW WILL YOU KNOW?

- **Water analysis** will reveal deterioration in the aesthetic, bacteriological and chemical quality of the supplied water.
- The effects of a power failure are either an **interruption in the water supply** or **deterioration in the quality** of the water if the water is gravity fed through the system.
- **Discoloration of the teeth** occurs where fluoride is ingested during the tooth formative years in concentrations in excess of the optimum health level. Fluoride has no taste, colour or smell and cannot be detected aesthetically even at toxic concentrations.
- In the event of over-dosing with chlorine, the water will have a **strong bleach-like smell and taste**. In the event of under-dosing there will be no bleach smell or taste at all and there is potentially an **increased risk of diarrhoeal disease**.
- During floods deterioration in bacteriological water quality will be noticed. The increase in turbidity will cause **blocked filters**.
- During drought conditions, the **salinity** might **increase**. There may also be **deterioration in bacteriological quality** due to, e.g. leaking sewage pipes with less dilution in the water source.

References: DWAF (2002). Quality of domestic water supplies. Volume 5: Management Guide. WRC No. TT 162/01, pp. 34 and 35.