WHAT CAN GO WRONG AND WHAT ARE THE CONSEQUENT EFFECTS ?

- External conditions can affect the quality of the river water, such as drought conditions, floods, pollution from different landuse activities and over-exploitation.
- The consequence of drinking bacteriologically contaminated water is an increased incidence of gastro-enteritis and other water-borne diseases such as cholera, typically with diarrhoea and fever.
- Chemical contaminants, depending on the dose and type of contaminant, can cause negative health effects, which may occur either immediately or many years later.

HOW WILL YOU KNOW?

- A **monitoring programme** for the total domestic water supply delivery route will enable you to constantly assess the water quality data.
- Analysing all substances in each sample, can be very expensive. Therefore you must **focus on specific substances** under certain circumstances, e.g.:
  - ✓ During **flood** conditions, the focus for monitoring the water must be on **bacteriological** pollution.
  - ✓ For **river** water sampling, the focus must be on general substances and prominent symptoms of affected water will be **taste and odour**.
  - ✓ If a source is suspected of being contaminated by **industrial** pollution then the focus should be placed on **toxic substances.**

WHAT TO DO?

- After thorough sampling, analyses and class assessment, the following general guide can be used:
  - ✓ Water within the **Blue** and **Green** classes can be used without concern.
  - ✓ Water within the **Yellow** class must be used with caution.
  - ✓ Water in the **Red** class may only be used under emergency situations if no other water source is available – only for short-term use.
  - ✓ Water in the **Purple** class may not be used at all.
- When assessing the fitness of water, abstracted from a river, for use, the following options can also be considered:
  - ✓ Assess whether water from different sources can be mixed to achieve the required quality.
  - ✓ Make use of emergency treatment options or change the treatment process to cater for problem substances.
  - ✓ If a pollution source can be identified, address the problem at the source.
  - ✓ Assess whether other sources are available for use such as groundwater sources and/or carting water with tankers from an uncontaminated source.

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