

## SUMMARY

The textile industry in the RSA ("the Industry") comprises a group of related industrial operations which use various natural and synthetic fibres as the raw materials to produce a wide variety of end-products, ranging from processed fibres to woven materials to finished garments or piece goods. This guide is addressed primarily at the sector of the industry which uses water extensively in its processing operations.

Most of the field data collected is from the Western Cape area, although major textile plants in the Eastern Cape and Natal have also been surveyed. The data obtained has been correlated with other data available on water intake and effluent generation in the Industry, as referenced in the text.

Overall, water intake by the Industry is estimated to be around  $30 \times 10^6 \text{ m}^3/\text{a}$ , of which 70 to 80% is returned as industrial effluent.

Specific water intake (SWI) was found to vary from 95 to 400  $\ell/\text{kg}$  of material processed. The wide range in SWI values observed is partly due to the diverse nature of the Industry, for example in terms of the types and proportions of different fibres processed, but also reflects a relative lack of water efficiency at some factories compared to others with similar processing operations. The latter factor indicates that significant reductions in water intake and improvements in water management can be achieved within the Industry.

Specific pollution load (SPL) values were found to vary considerably depending on the type of processing involved, which in turn is affected by the material handled and the type of equipment employed. In general, the waste waters from the Industry have high salinity and range widely in terms of pH values, and, in some cases, have high heavy metal concentrations, colour and (relatively non-biodegradable) organic content.

The strategic approach consequently recommended for reducing overall SWI and SPL values in the Industry is for individual factories to implement water-saving and pollution-reducing measures, using their individual SWI and SPL values as targets against which to measure improvement. Generally applicable measures for reducing water use (i.e. improving water efficiency), for reducing pollutant loads at source, and for providing on-site pretreatment of the effluents arising, are identified in the Guide. These measures should be implemented selectively on a site-specific basis to further the strategic approach indicated above.