

**“6LoWPAN Enabled Automated System for
Treatment of Effluent Water from Textile Industries
using Wireless Sensor Network”**

Project Report

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Chapter-1

INTRODUCTION

"Water can live very well without people, but we people can only live for 3 days without water." This quotation contains the whole truth about the importance of water as the most essential form of nourishment for all forms of life. But humanity treats water as if it were an infinite resource. Only around 3% of the total amount of water available in the world is fresh water. Most of this is only available in the form of ice or subterranean water which cannot be exploited by us so that all in all, only around 0.2% of all the water in the world can be used for day to day life. Water cannot be reproduced.

The human body is $\frac{2}{3}$ water, and this fact alone shows just how important water is for us. Without water there would be no people, no animals and no plants. To maintain all bodily functions, a human needs up to 3 liters/5 pints of fluids a day. Unlike hunger, which a human can survive for several weeks as the body possesses sufficient reserves of fat, a lack of water will lead to certain death after a period of 3 days as the human body cannot retain any reserves of water.

Humanity has been aware of this fact for thousands of years. In ancient Rome, for example, contamination of water was still seen as one of the greatest crimes. In the industrialized countries, for example, daily water consumption per head is between 150 and 300 liters/33-66 gallons. And of this only around 2% is used for drinking or cooking. The rest goes to perform the domestic activities. Industry consumes large quantity of water and up to 400 metric tons of water is used, for example, just to produce one metric ton of steel.

Almost every day we hear or read in the media that experts fear that there will be water shortages in the near future or we learn how many diseases have their origin in poor water quality. Chemicals, fertilizers, air pollution etc. are the reasons why water has lost its power of self-regeneration today. In earlier times water still had this power of vitalizing the whole organism. Today, the emphasis seems to be more on putting so many chemicals (chlorides) into the water that it presents – at least from a scientific point of view - "no risk to health."