Abstract  Water covers about 70% of the Earth's surface whereas 0.002% of the water is available for human consumption. Contaminated water is the main source of infectious diseases (e.g. *Amoebiasis* and *Malaria*, *Cholera*, *Dysentery*, *Paratyphoid Fever*, *Typhoid*, *Jaundice*). The WHO reports that one sixth of the world’s population (1.1 billion people) does not have access to safe water. Water pollutions that come from industry, agriculture or households, returns negatively back to the environment. Chemical wastes (e.g. Arsenic, Fluorides, Lead, Nitrates, Pesticides, Petro-chemicals) in the water have negative effect on living organism in water and subsequently on our health. The effects of water pollution are varied and depend on chemicals kinds that dumped and their locations (urban areas are highly polluted). Pollutants such as lead and cadmium are consumed by tiny animals. Later, the food chain continues to be disrupted at all higher levels. Several countries sought to regulate the discharges of pollutants in the water to minimize pollution and contamination through various treatments. In this review, we are going to explain the main source of water pollution to promote sustainable use of water. Moreover, ensuring the highest protection of water from all hazardous chemicals.

Keywords  Source of pollution, Water pollutant, Hazardous chemicals, Infectious diseases

1. Introduction

Water pollution occurs when undesirable effluents disperse in a water system and so water quality change. Water pollution divided into three main sources, natural Sources: include thermal and acid effluents from volcanic areas and are not common on the earth, domestic sources that are primarily sewage and laundry wastes and generated in houses, apartments, and other dwellings. In rural and some suburban areas, domestic wastes are handled at the individual residence and enter the environment through the soil either in partially treated or untreated fashion. In urban areas, domestic wastes are collocated in sewage pipes and transmitted to control location either for treatment or discharge into a watercourse without treatment (This considered as the major potential source of water pollution). Urban sewage since they handled by established government agencies, they can usually be effectively controlled (Boyd and Tucker, 2012). Industrial wastes vary from industry to industry and from location to location. Some industries generate wastes high in organic matter, and these wastes can usually handled by methods similar to those used for domestic wastes, such industries include dairy and food-processing plants, meat-packing houses. Other industries, however, generate wastes that are low in organic matter but high in toxic chemicals such as metals, acids or alkalis. These include chemical plants, mining facilities, and textile mills (Nesaratnam, 2014, Williams et al., 2015).

2. Type of Pollutants

There are many types of pollutants such as Oxygen demanding wastes; disease-causing agents; plant nutrients; organic chemicals; inorganic chemicals; sediments; radioactive substances and heat. In most situations, the waste treated is a mixture of the preceding types of pollutants, thus greatly complicating treatment and control procedures (Nesaratnam, 2014).

Algae and Water Pollution

A serious problem in many lakes and reservoirs used as sources of water is the growth of algae. Algae are undesirable because they cause bad odors and flavors in water and may produce toxic materials of potential danger to human. Algal growth favored by warm water temperatures, high sunlight, adequate a source of nutrients especially nitrates phosphates and carbon dioxide. Therefore, algal growth is most common in summer and is rare in winter. Occasionally, in late summer and early fall, algal growth may be so heavy that water resembles pea soup. This condition called an algal bloom (Palmer, 1980; Laliberte et al., 1994; Kamarudin et al., 2015). When algae float to the surface and drift into backwaters where they become concentrated. Bacteria attack and decompose them.