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Domestic Pollution in Rural Areas

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On account of domestic pollution in rural areas was one of the important non-point source pollution in recent years, rural environmental issues had received more attention than before. Due to the lack of appropriate technologies for pollution control in villages and towns, various problems had arisen in the treatment of villages and towns, or they had invested too much in the centralized treatment of cities, or they had left pollution emissions causing more serious environmental hazards. In view of the problem of environmental pollution in rural areas, we carried out investigations and studies in Domestic Pollution.

Like industrial and agricultural activities, urban life can generate significant amounts of pollutants, and is one of the major pollution sources leading to the degradation of ecosystems. Adequate control of domestic pollution is thus required to safeguard the public health and urban life quality. Broadly, domestic pollution includes domestic sewage and solid wastes. Because of the similarity of human's life, the characteristics of municipal pollution share the same pattern, though the generated amounts and compositions can be varied between different countries and regions.

177



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Domestic Pollution is the pollution caused to the earth by domestic use. · Sewage originating primarily from kitchen, bathroom, and laundry sources. · Waste from food preparation, dishwashing, garbage, toilets, baths, showers, and sinks, etc. Sewage is the term used for wastewater that often contains faeces, urine and laundry waste. Sewage disposal is a major problem in developing countries as many people in these areas don't have access to sanitary conditions and clean water. Untreated sewage water in areas without access to sanitary conditions can contaminate the water, which can result with diseases. Domestic sewage contains a wide variety of dissolved and suspended pollutants. The main organic materials are food and vegetable wastes. Plant nutrients come from chemical soaps, washing powders, etc. Domestic sewage is also very likely to contain disease-causing bacteria, which can travel on any waste. The various substances that we use for keeping our houses clean add to water pollution because they contain harmful chemicals. Many detergents and washing powders have phosphates which are used to soften the water, and do many more things. These and other chemicals contained in washing powders affect the health of all forms of life in the water. Bathers are at increased risk of catching any illness from bacteria and viruses in the sewage effluent. Shellfish breath water through their gills, but have to strain to trap microscopic plants and animals for food. If the water was contaminated with disease-causing bacteria, these could be consumed as food by shellfish. When eaten raw or somewhat cooked, these shellfish can make people sick. Certain fish in contaminated waters can develop high levels of toxic substances. When these foods are taken in frequently over a lifetime, they may increase the risk of unwanted health effects. Detergents can cause liver and kidney damage, while sewage water carries diseases that may be extremely harmful to the human body, and all of the sea life around the area. Domestic water pollution is produced by the discharge of domestic sludge containing organic substances and soaps. These substances generally pour into superficial river flows but sometimes reach aquifers. It's possible to reduce waste water pollution thanks to purification. Discharges are channelled from sewers to treatment stations to abate pollutants before discharging water into rivers and seas. These purification systems, though, aren't always into force and, moreover, even where discharges are gathered and channelled can occur breaks or inefficiencies of septic pits, pipes or treatment

178



plants that cause leakage of polluted water. Also phytopurification, which uses specific plants that work as biological filters capable of reducing polluting substances, can be employed to abate pollutants present in waste water. Like industrial and agricultural activities, urban life can generate significant amounts of pollutants, and is one of the major pollution sources leading to the degradation of ecosystems. Adequate control of domestic pollution is thus required to safeguard the public health and urban life quality. Broadly, domestic pollution includes domestic sewage and solid wastes. Because of the similarity of human life, the characteristics of municipal pollution share the same pattern, though the generated amounts and compositions can be varied between different countries and regions. Strategies for controlling domestic pollution have been quite successful in developed countries, yet are facing considerable economic constraints in developing countries. Over decades' application, both disposal standards and control technologies of domestic pollution have been well developed. Although there are a substantial number of technologies available for reducing pollution loads from domestic pollution, the emphasis is now largely shifting from "end-of-pipe" treatment to integrated management of urban environmental system. This has thereafter promoted the application of treated wastewater reuses and the application of the three "R" principles in municipal waste management, i.e., reduction, reuse and recycle before final disposal. Broadly, technologies for removing pollutants from wastewater mainly include physical, chemical, and biological treatment processes. For the control of solid wastes the mainstream technologies include landfill, incineration and composting.

First, existing health systems posed a greater health risk. Whether flush toilets or traditional aqua privies, most of the pathogens which were still present due to the non-decomposing of the faeces used in the farmland, would get into the food recycle chain through the water cycle and the crops possibly. Second, dry toilets were instead by flushing toilets would increase the use of flushing water. With the increase of rural centralized water supply, the number of flush toilets had also increased. Inquiring about the survey, some of the tenants had the intention to build a new flushing toilet. Sewage treatment methods were discharging straightly stream after a simple septic tank.



The effluent quality was not compliance which caused pollution in surface water or groundwater. Third, water pollution caused by organic waste. Organic waste included septic tank waste, kitchen waste and other paper waste. Organic waste dumping, pollutants run into groundwater or surface water with surface runoff, was an important source of eutrophication of water. Fourth, the relevant laws and regulations were not sound and the management system is not perfect.

Sewage can be subdivided into black water and grey water. Black water sewage is the stuff that comes out of toilets. Its contents may include faeces, urine, paper, condoms, tampons and water and any other material that people find convenient to flush down toilets. Grey water, on the other hand, consists of the out flow from wash basins, baths, kitchen, washing machines and sinks. The contents of gray water may include food remains, oil, detergents, dirt and water. All of the disposal sewage directly or indirectly gives the effects to environment.

When toxic substances enter a body of water, they will be dissolved, become suspended in water or get deposited on the bed of the water body. The resulting water pollution causes the quality of the water to deteriorate and affects aquatic ecosystems. Pollutants can also seep down and effect groundwater deposits. Almost all of sewage and industrial wastes are discharged into the rivers. Because of this, pollutants enter groundwater, rivers, and other water bodies. Such water, which ultimately ends up in our households, is often highly contaminated and can carry disease-causing microbes.

Domestic sewage contains a wide variety of dissolved and suspended impurities. It amounts to a very small fraction of the sewage by weight, but it is large by volume and contains impurities such as organic materials and plant nutrients that tend to rot. The main organic materials are food and vegetable wastes. Plant nutrients come from chemical soaps, washing powders and others. Domestic sewage is also very likely to contain disease-causing microbes. The various substances that we use for keeping our houses clean add to water pollution because they contain harmful chemicals.



According to GESAMP (2001), contamination of the coastal marine environment by sewage leads to significant numbers of infectious diseases linked to bathing and swimming in marine waters and to the consumption of seafood. Human exposures to toxins associated with algae blooms also impose significant risks. Besides that, the risk does not come from direct contact of polluted water only. It is also comes from affected fish. Shellfish strain water through their gills to trap microscopic plants and animals for food. If the water was contaminated with disease-causing bacteria, these could be consumed as food by shellfish.

When eaten raw or partially cooked, these shellfish can make people sick. Certain fish in contaminated waters can accumulate high levels of toxic substances. When these foods are consumed frequently over a lifetime, they may increase the consumers' risk of adverse health effects. Detergents can cause liver and kidney damage, while sewage water carries diseases such as Giardiasis, Amoebic dysentery and Cholera. Moreover, most illnesses are caused by pathogens, which are biological/infectious agents that cause diseases or illnesses.

They cause a wide variety of acute illnesses including diarrhoea, cholera, dysentery, typhoid, and hepatitis A. Pathogenic bacteria can survive in the sea from a few days to several weeks; viruses can survive in water, fish or shellfish for several months while the hepatitis virus can remain viable in the sea for over a year (GESAMP 2001). Depending on its source and collection methods, sewage may also contain a range of chemicals and specialized wastes including industrial chemicals, nutrients such as nitrates and phosphates, heavy metals, pharmaceuticals, medical wastes and oils and greases.

In rural areas, with the characteristics of large area and scattered living, poor public infrastructure and low economic level, pollution control should abandon the thinking mode of end-processing and be based on sustainable development, circular economy, source reduction and overall process control. Demonstration projects reduced the difficulty of sewage treatment by the ecological sanitation toilet water and reducing faecal pollution to ensure the low-cost sewage economy of small wetlands.



The use of waste collection reduced waste volume and transportation costs. The investment of the overall project was low, the operating cost less, and the environmental benefit obviously made it worth promoting in rural areas.

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