## Water pollution in vietnam



Hanoi, Vietnam is Facing the Threats from Water Pollution With the rapid growth of industrialization in urban cities, the water around them is getting more and more polluted. One time I casually crossed by To Lich River, one of the big rivers in the capital Hanoi, behind the industrial zone. The river water there was polluted seriously and smelt really fetid. A lot of small fishes and other sea creatures were dead and floating on the surface of the river. I was thinking about how people could live near such a polluted environment and eat those poison fishes. They might be in danger.

I then stopped thinking and went away because that smell made me nauseated. That was the ordeal. However, the rapid growth of industrialization is not the only cause that leads to water pollution in Hanoi; climate changes and using old-dated technology to treat water also impact significantly on the quality of water. Water pollution has left huge problems in Hanoi. Above all, it affects heath negatively because the polluted water sources may produce an increase in disease such as respiratory diseases, water-borne diseases and intestinal sickness among people who live near that polluted environment.

Yet, it also affects other economic activities such as agriculture, aquatic sports, fishery and tourism; and threatens the ecosystem. If water pollution gets more serious in the future, it is going to affect the development of economy and society. So, my motivation for doing this research is that I want people to be aware of how serious this issue in Hanoi by presenting some problems regarding to water pollution that Hanoi; besides, I also present some programs or solutions, both effectively and ineffectively, which Hanoi

authorities has carried out. First of all, Hanoi is big city with the rapid growth of industrialization.

However, this growth has produced a big problem concerning water pollution. Hanoi is listed among ten cities in the world with the highest level of water pollution (" Health and Environment: Vietnam to Spend" par. 4). The problem is showed clearly in the article " Assessment of Heavy Metal Pollution in River Water of Hanoi, Vietnam Using Multivariate analyses" written by Kikuchi et al. According to the authors, high concentrations of several toxic heavy metals such as Cd, As, Cu, Zn, Pb are detected in the water of Nhue River and one of its tributaries, the To Lich River, in Hanoi.

It is caused by untreated domestic and industrial wastewater discharged into the rivers from the factories of mechanical engineering, rubber, soap, tobacco, paper and metal located along these rivers. Relating to the problem that I stated above, another researcher claims that Hanoi is facing the threat of arsenic pollution originated from underground water, rivers water, ponds water and lakes water. The concentrations of arsenic in the river significantly exceeded the Vietnamese drinking water standard for arsenic (Bang et al 466).

According to "Rural people provided with water filters to prevent arsenic poisoning", up to 21 percent of Vietnams population are exposed to arsenic in drinking water at a level above the acceptable 10ppb (or 0. 01mg of arsenic per liter) recommended by the World Health Organization. Water containing arsenic at high level would cause many serious disease including skin cancer, liver cancer, lung cancer, inborn deformities. Besides

industrialization, climate change is also one of the causes resulting in water pollution.

According to "Seminar seeks solutions", the elements of climate changes are changes in temperature, water flows, the transformation of pollutant at catchments and rising sea levels. These changes affect the water quality significantly. To cope with this problem, "Hanoi, December 23 (VNA) The Ministry of Natural Resources and Environment on December 23 held a seminar discussing climate changes impacts on water resources in Vietnam and measures to reduce water pollution and maintain aquatic ecosystems" ("Seminar seeks solutions" par. 1). Dr.

Dang Thi Lan Huong from the Department of Water Resources Management states "Vietnam should consider recommendations issued by the US in its global climate change research programs to timely deal with climate changes impacts on water resources" (qtd in "Seminar" par. 3). According to Huong, the country should creates water management policies so as to use water resources effectively and efficiently and should study methods to treat and reuse wastewater and desalinize sea water along with improving a legal framework for water management and distribution.

Water pollution doesn't only happen in urban centers, but also happens in craft villages in Hanoi. The main cause leading to water pollution in craft villages is that traditional craft villages still currently use old-fashioned technology, causing water pollution and harm the human health. The water around there has been seriously polluted. "The latest survey by the Hanoi University of Technology showed that 100% of the samples of wastewater

from craft villages have excessive contents of toxic chemicals than the permitted levels" (" Health and Environment Vietnam Hanoi" par. 11).

In the craft villages, the number of people with serious diseases like cancer has risen in recent years. The city has carried out a lot of big projects on water treatment system for craft villages with the capacity of 10, 000-12, 000 cubic meters per day (" Heath and Environment Vietnam Hanoi" par. 7). Yet, to deal with this problem, "Professor Dr Dang Kim Chi, Chair of the Vietnam Association for Environment Protection, stressed that local authorities should program craft villages development and demand to strictly follow the environment protection rules, rather than gathering strength on settling consequences" (qtd. n " Health and Environment Vietnam Hanoi" par. 8). Also, Hanoi planned to carry out 35 from now until 2015 period for solving water pollution problem in craft villages in Hanoi. Nevertheless, those are not still proper solutions so far. Water pollution problems solving has still been a big guestion in craft villages to Hanoi authorities. To deal with arsenic pollution, " some communes of northern Ha Nam province have been provided with free-of-charge water filters to reduce the risk of arsenic poisoning for the local population" (" Rural people").

The filters are set up to remove toxicants and retain useful mineral. The project was processed by "The National Centre for Safe Water and Environmental Hygiene with the assistance from the United Nations Children Fund (UNICEF) in coordination with the HCTH Ltd. Co, a Swiss invested company in Vietnam specializing in water treatment technologies" (Rural people). That helps reduce significant amount of arsenic in water. The same

problems concerning water pollution have also happened in other cities in Vietnam. The authorities have attempted to fix those problems.

In Quang Nam, a province in the middle of Vietnam, a seminar was held on March 25, 2009 in support of water pollution control project ("Seminar seeks to improve" par. 1). The project would be implemented in the central Quang Nam and some provinces in the North. The project spent 330, 000 USD to carry out with funding assistance from World Banks Institutional Development Fund (WBIDF). Environmental experts presented the important role of the media and local communities in support of water pollution control in Vietnam. Another solution for water pollution control is the cooperation with another country.

According to "Vietnam, Mexico to raise cooperation in land management, water resources", Ministers of the Environment and Natural Resources of Vietnam and Mexico had a meeting on the sidelines of United Nation Climate Change Conference, held in Mexico. During the meeting, both minister agreed that this cooperation between two countries would contribute to international efforts in managing water resources, protecting the environment and decreasing negative impacts of global climate changes ("Vietnam, Mexico" par. 2).

Another cooperative project concerning water pollution control was created by the Ho Chi Minh City University of Technology (HCMUT), Thailand-based Asian Institute of Technology (AIT) and the Institute National des Sciences Appliques (INSA) in France (" Vietnam has potential" par. 3). This project focused on developing local technical and research skills to promote

membrane-based wastewater reuse activities in the country. The principle in membrane technology is the forced selective passage of solute or solvents through special membranes, resulting in separation of individual constituents in the influent.

This project was coordinated by local authorities and nation government authorities and gave good results with treated water in some industrial zone in the South. The above studies show that Hanoi as well as other cities in Vietnam is facing serious threats from the polluted water sources caused by industrialization, old-dated technologies and climate changes. Among above causes, industrialization is the leading cause of water pollution. The factories which located along rivers have discharged untreated industrial wastewater into the rivers.

It creates the high level of water pollution by heavy metal and arsenic, which affect health negatively. Moreover, the traditional craft villages still currently use old-fashioned technologies to treat wastewater. The elements of climate changes such as changes in temperature, water flows and rising sea levels affect the water quality significantly. Water pollution has left huge problems. It affects health negatively by causing many serious disease including respiratory disease, water-borne disease, intestinal sickness, skin cancer, liver cancer and lung cancer.

In addition, it threatens the ecosystem and other economic activities such as agriculture, aquatic sports, fishery and tourism. Vietnam authorities have attempted to find out the solutions to solve these problems. Vietnam carried out a lot of projects in coordination with foreign companies such as Swiss

invested company to specialize in water treatment technologies with funding assistance from UNICEF. Another project was created by HCMUT, AIT, INSA in France. Vietnam also received funding assistance from WBIDF.

Furthermore, Vietnam cooperated with Mexico in managing water resources and decreasing negative impacts of global climate changes. However, those solutions are not enough to decrease the level of water pollution significantly. In my opinion, needs to make more efforts on solving this problem by reinforcing and revising Law on Environmental Protection and Development. These laws should restrict the industrial factories from discharging untreated wastewater into rivers.

Besides, the government should establish many environment agencies in each provinces and cities to control and solve environmental problems. Work Cited Bang, Sunbaek, et al. "Contamination of groundwater and risk assessment for arsenic exposure in Ha Nam province, Vietnam."

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