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Population Growth on the Environment: A Short Review

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ABSTRACT

Population and environment are two closely related factors. The development of one factor is related to the development of another factor, namely: The change of the population has a positive or negative impact on the environment and a sustainable or unsustainable development environment resources also have the opposite effect in human society by both sides. Especially in the current socio-economic development trend, the above relationship is shown more clearly. Vietnam is a developing country with very rapid population growth, accompanied by an increase in environmental pollution to an alarming level, especially in the two largest cities of the country, Hanoi and Ho Chi Minh City. From the field survey, this study shows the effects of population growth on environmental issues such as air pollution, water pollution, destruction of forest resources, increased land use, etc.; since then, it is recommended to limit the population growth and use the resources (not renewable) appropriately for sustainable development in the future.

1. Introduction

Just The population explosion not only creates pressure on resources but also is a link that leads to the process of exploitation that depletes that resource quickly. The concept of the reciprocal relationship between population and environmental conditions is complex, diverse, and contains many variables.

The environment is an important and decisive issue in the development and evolution of mankind. In the dialectical relationship between population and development, environmental issues cannot be separated. Population growth, economic development increase living standards, and depletion of resources, environmental degradation, land loss, deforestation, desertification as a result of population growth. The UNICEF's report has written: "From another perspective, metabolic rates can be seen as the "material footprint", etc. These metabolic rates are more than one order of magnitude different for different countries, etc. While global resource use has increased eightfold during the course of the 20th century, etc. average resource use per capita merely doubled" [1]. UNICEF takes a somewhat contradictory attitude to population and environment. On the one hand, the report states: "A major driver of the overall increase in raw material extraction and use is population numbers. The world's, and each country's, material use is tightly coupled to the number of inhabitants". Further, the report goes on to suggest that resource use and population may in fact actually be negatively correlated, stating: "It appears that densely populated areas and regions, for the same standard of living and material comfort, need fewer resources per capita (than less densely populated areas)" [2].

Despite the impossibility of decoupling the population from sustainability concerns but the issue of population growth has gained a certain "political charge" [3]. Population growth is shunned in the politically correct academic circles, with critics arguing that we do not have a global overpopulation issue, but a global issue of overpopulation of just the highly privileged and exploitative minority, and that population growth is used as a scapegoat by the rich over-consuming elites [4]. Population and environment are two closely related factors. The development of one factor is related to the development of the other: The fluctuation of the population has positive or negative impacts on the sustainable or unsustainable development of the environment and resources. It also the opposite effect in human society by both sides. Especially in the trend of socio-economic development today, the above relationship is more clearly shown [5].

According to data published by the Central Population and Housing Census Steering Committee at a national online conference announcing the preliminary results of the 2009 Population and Housing Census: calculated By 0:00 on April 1, 2019, Vietnam's population reached 96,998,984 people, becoming the 15th most populous country in the world, ranking 3rd in Southeast Asia after Indonesia and the Philippines [6]. The census results of 2019 also show that Vietnam is a country with a high population density compared to other countries in the world and the region. In 2019, the national population density reached 290 people/km², an increase of 31 people/km² compared to 2009. The two cities with the highest population density in the country are Hanoi (2,398 people/km²) and Ho Chi Minh City (4,363 people/km²) [6]. The population density of these two socio-economic centers is 10 times higher than that of the whole country [7].

To consider the relationship between population growth and the environment, this study begins with a short review of the theories for understanding the population and the environment. Then, it proceeds to provide a state-of-the-art review of studies that have examined population dynamics and their relationship to the following environmental issue areas: land-cover change and deforestation; the proliferation of waste; pollution of water resources; air pollution and noise, and climate change.

2. Research Methods

This study employs both quantitative and qualitative methodologies for data collection, analysis and representation to approach the aims of the research. Therefore, a mixed-method approach has been adopted in the study involving observation, survey questionnaires and in-depth interviews with the state management agencies on population and environment. The main data is obtained from the analyses of Vietnam's population situation, a practical survey on the relationship between the pressures of population increase on the environment (mainly here are negative impacts). The secondary data is mostly from literature on the demographic characteristics of each region in the country, which is concentrated in the two largest cities of Vietnam, which are Hanoi and Ho Chi Minh City.

Due to the differences in the background of respondents and purposes for information collection about the relationship between the pressures of population increase on the environment, a set of different questionnaires were designed for this study. These questionnaires include ones for leaders of the state management agencies on population and environment, researcher's population and environmental activists. People living in Vietnamese cities have been polluted, particularly Hanoi and Ho Chi Minh City. The study focuses on these three target groups since they are the most important stakeholders concerning population and environmental issues. There are two main parts of these questionnaires: closed questions and open-ended questions. In these questionnaires, stakeholders are asked about their knowledge, experience, and opinion on the impact of population increase on the environment.

To determine the pressure of population growth on the environment, this study builds on the DPSIR (Dynamics - Pressure - Status - Impact - Response) model. The dynamics (D) are population growth, socio-economic development, urban and rural development, etc. These developments have increased the exploitation and use of natural resources increase environmental pollution emissions and can cause environmental risks and incidents that create great pressure (P) to change the current state of the environment. The environmental status (S) is assessed through basic parameters of environmental components such as soil, water, and air; problems with land use, land degradation, and pollution; forest degradation and biodiversity; waste generation and solid waste collection and treatment rates ... environmental pollution and degradation will adversely impact (I) the quality of the surrounding environment, affecting the community health and economic and social damage. Response (R) is integrated solutions to effectively manage, prevent, and reduce pollution, improve the quality of the environment such as relevant policies, laws, institutions, and

mitigation actions. , environmental pollution management and control activities to achieve the environmental protection objectives.

3. Literature Review

Malthus (1798), in “essay on the principle of population” states that the population increases exponentially and the food only increases arithmetic progression. It is this that directly limits the availability of resources, and in turn, these resources directly affect population growth. Thus, there is a conflict between the population increase and the fertility of the land, that is, there is a conflict between the population and the problems of resources and environment [8]. The Malthusian theory (1798) was formulated before the agricultural revolution, assuming that the productivity of environmental resources such as land was fixed [8].

Population and environment relations are considered in a holistic context that includes social, cultural, institutional and political factors. In fact, there have been many studies in this direction. Bilborrow (1992) developed an intermediary framework to understand the impact of population growth on land use and agricultural production in rural Latin America [9]. The framework takes into account socio-economic conditions such as poverty, government policy, and defined market demand: population growth leads to technological changes in agriculture, land degradation or migration.

According to Jolly, C.L (1991), in the relationship between population and the environment is affected by the development process [10]. It is important to point out that the development trends have created regions and localities that are dependent on others. For example, the exploitation and export of natural resources to production centers. Usually, in less developed regions, there is a tendency to exploit and export raw materials, leading to exhaustion of natural resources. On the contrary, in relatively developed areas, the environment is polluted by an increase in waste during production. In addition, this “dependency” also includes the field of technology, where less developed ones possess more backward technology. The “dependent-view” emphasizes that in developing countries, international economic and political fundamentals play an overwhelming role in shaping both demographic factors such as population growth as well as environmental degradation. This approach shows that the main problems of the global environment (depletion of the ozone layer, greenhouse effect, accumulation of toxic waste and loss of biodiversity) are the direct results of this “dependency” [11]. In developing countries, the trend of these models is now increasing rapidly, which is the reason that worsens the negative impact on the environment.

At the global level, research has found that the two major drivers of humanity’s ecological footprint are population and consumption [12], so we provide a brief introduction to these the status and trends.

The environmental impact of world population growth can be described by a general formula:

$$I = C.P.E$$

In which:

C is the increase in resource consumption per capita;

P is the absolute increase in the world population;

E is the increase in the environmental impact of an exploited resource unit by the human.

The negative effects of current population growth in the world are manifested in the following aspects:

Great pressure on the natural resources and the earth's environment due to overexploitation of resources for housing needs, food production, food, industrial production, etc. According to FAO (2019), the world's grain use in 2020 is expected to exceed 2.708 million tons, an increase of 1% from the previous year, with an increase in the use of rice and wheat faster than corn [13].

Generating concentrated waste sources that exceed the biodegradability of the natural environment in urban areas, agricultural and industrial production areas. According to statistics of the Ministry of Construction of Vietnam (2019), each year, the total domestic solid waste of Vietnam is nearly 16 million tons. The daily amount of plastic waste is estimated at nearly 18 thousand tons and is among the top 5 countries discharging waste into the sea, with an amount of about 1.8 million tons per year [14].

The disparity in population growth rate between industrialized and developing countries is increasing, leading to poverty in developing countries and excess consumption in industrialized countries. Increasing disparities between urban and rural areas, between industrialized countries and underdeveloped countries, lead to migration in all forms.

The increase in urban population and the creation of large cities - megacities put the urban environment at risk of serious degradation. The supply of clean water, houses, and trees cannot meet population development. Environmental pollution, air, and water increase. Air pollution in the two biggest cities of Vietnam, Hanoi and Ho Chi Minh City in 2019, proved that point.

4. Research Results

Population Growth Causes Air Pollution

Air pollution is currently a common concern of global society. Because it is considered a leading factor causing serious impacts on the environment and public health [15] According to information from the World Health Organization [16], air pollution causes premature death for about 4.2 million people worldwide. Of these, 91% of the population belongs to poor and populous countries in Southeast Asia and the Western Pacific. A report published by the Global Alliance on Health and Pollution (2019) shows that more than 71,300 people have died from the environmental pollution in Vietnam. More than 50,000 people died from air pollution, in 2017, the latest year for which we have this data. Thus, in terms of pollution deaths, Vietnam ranks fourth in the Western Pacific region, behind only China (1.8 million), the Philippines (86,650 people), and Japan (82,046 people) [16].

The current heaviest air pollution two cities in Vietnam is Hanoi and Ho Chi Minh City, especially the fine dust pollution, which has recently reached an alarming level. "The main reason is still emissions from traffic, first of all, motor vehicle" [17]. Due to the rapid population growth, as there is no

alternative public transport vehicle, people mainly use private transport vehicles (mainly motorbikes and cars). Hanoi now has over 7.5 million transport vehicles (motorcycles, trucks, buses, cars) [18]. The amount of fuel consumed increases rapidly (Table 1). Each such vehicle emits very toxic gas dust, most of which is fine dust, i.e. less than 2.5 microns. But there are two types of vehicle emissions that few people pay close attention to. The first is the particles directly emitted by vehicles, less than 2.5 microns, even less than 1 micron, mostly particles from the engine, incomplete combustion should emit, including very toxic particles, such as black carbon, which Vietnamese call soot, especially from diesel [17].

Table 1. Gas and oil consumption volume in the period 2015 – 2019 at Ho Chi Minh City (unit of calculation: m³)

Type of fuel used	2015	2016	2017	2018	2019
Gasoline of all kinds	3.530.298	3.596.507	3.582.529	3.687.417	4.160.437
Diesel of all kinds	3.773.924	3.525.356	3.328.293	3.909.982	5.002.386
Mazut of all kinds	671.475	449.647	404.333	418.625	489.335
Oil	81.914	57.056	47.204	45.577	53.906
Flying fuel	844.073	671.608	1.054.995	1.197.892	1.478.138

(Source: Ho Chi Minh City Environmental Status Report: 2016 – 2019)

Table 2. Gas and oil consumption volume in the period 2015 – 2019 at Hanoi (unit of calculation: m³)

Type of fuel used	2015	2016	2017	2018	2019
Gasoline of all kinds	3.131.147	3.124.291	3.263.230	3.337.863	4.097.003
Diesel of all kinds	3.674.009	3.609.023	3.762.001	3.897.037	4.900.736
Mazut of all kinds	557.891	563.978	521.079	496.029	501.745
Oil	88.359	79.026	59.027	52.083	55.974
Flying fuel	7778.902	898.567	997.904	1.074.992	1.609.431

(Source: Hanoi Environmental Status Report: 2016 – 2019)

Besides, when the car runs, the tires wear out and from there emit other particles, then dust on the road, there is fine dust still follow the car. But what few people noticed, that it is emits very toxic gases, including NO₂, or NO_x, SO₂, CO and organic, easily volatile organic gases, including benzene. Benzene is an additive that people put into gasoline, instead of lead (now banned), and is also a carcinogen. Large amounts of benzene in the air can be dangerous [17]. Those toxic gases are a huge part emitted by transport vehicles

[19]. The problem is that these gases, after a while spreading in the atmosphere, become particles. The particles are mostly very small, most are under 1 micron, and they are called secondary particles [17]. Those particles are a huge part of fine dust particles, more dangerous because the finer, it goes deeper (into the body), leaving more toxins in the lungs”.

Population growth leads to an increase in the use of ingredients for daily activities. The sum of fuel used shows that the fuel used for the burning process includes: firewood, FO oil, DO oil, coal, gas, rice husks, sawdust, cashew shell, and kerosene. Fuel used for burning activities is mainly firewood (accounting for 68%), followed by FO oil and coal. The remaining fuels are used very little (Figure 1).

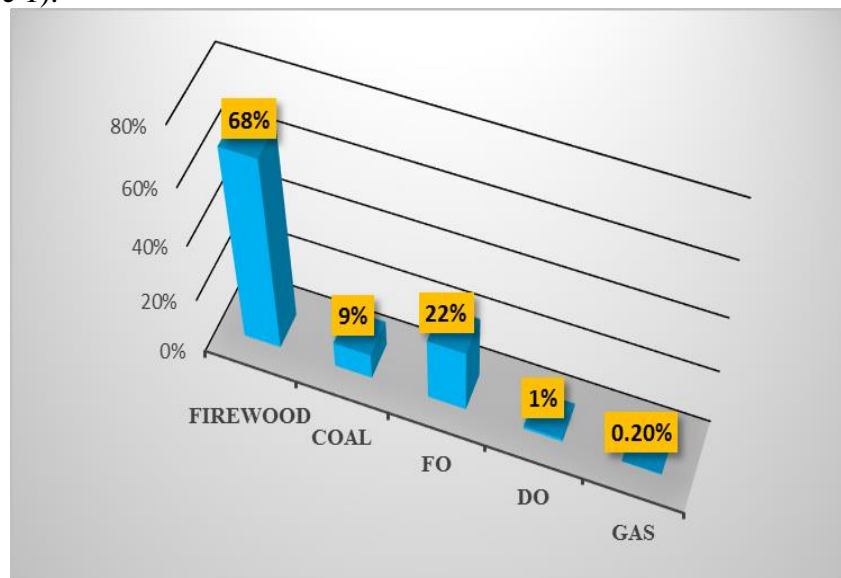


Figure 1. Proportion of fuel used in daily activities (Source: Ministry of Natural Resources and Environment, 2019)

In addition to motorized vehicles, air pollution in Hanoi and Ho Chi Minh City also comes from many other factors, such as burning honeycomb coal which people use a lot [17, 19]. In Hanoi, people still often use honeycomb coal to boil and cook. When burning (honeycomb coal) emits a relatively large amount of fly ash and causes many very unpleasant and toxic odors. In addition to means of transport, burning honeycomb coal, Vietnamese have a habit of burning votive paper on holidays, New Year, full moon, the first day of the month, funerals, etc. In Vietnam, this is very common around temples and pagoda. According to incomplete statistics of the media, in Vietnam, an average of about 50,000 tons of votive papers are used annually, Hanoi alone has spent around VND 400 billion on burning votive papers. If burning the votive paper was previously considered as a symbolic act, up to now each family has to spend 30-50 thousand VND/ceremony. With a rich family, shopping is from a few hundred thousand to tens of millions VND, even more than normal. These are the types of dust caused by biomass burning and greatly affects air quality [17, 19].

Population Growth Increases the Amount of Waste

Global waste could grow by 70 percent by 2050 as urbanization and population's rise [15] with South Asia and Sub-Saharan Africa set to generate the biggest increase in rubbish. Countries could reap economic and environmental benefits by better collecting, recycling and disposing of trash, according to a report, which calculated that a third of the world's waste is instead dumped openly, with no treatment. "If we don't take any action it could have quite significant implications for health, productivity, environment, livelihoods" [16]. The rise in rubbish will outstrip population growth, reaching 3.4 billion tons by 2050 from around 2 billion tons in 2016 [15].

As the world's population size has grown, waste generation has increased rapidly. This has had a significant effect on humanity, wildlife, and the environment. As a result, governments have tried to replace traditional disposal methods, which result in pollution, with sustainable alternatives. Recycling rates keep increasing, yet projections indicate that we will soon be producing more waste than ever before.

According to the census results (2019), Vietnam has more than 96.2 million people, the average annual growth rate in the past 10 years is 1.14%. Along with the population growth, each year, the total amount of domestic solid waste of the whole country is nearly 16 million tons. The daily amount of plastic waste is estimated at nearly 18 thousand tons, with an amount of about 1.8 million tons per year and is among the top 5 countries discharging waste into the sea [14].

With the current pace of using plastic appliances and plastic bags, Vietnam is classified in the country as having twice the amount of plastic waste compared to low-income countries [15]. Plastic waste in the ocean will destroy the natural environment, negatively affecting the lives of aquatic products and seafood. On land, plastic waste is found in many places (tourist areas, industrial parks, traditional market areas, etc.) and causes serious impacts on human health and life. Worth mentioning, the amount of plastic waste and plastic bags in our country accounts for about 8% to 12% of domestic solid waste, but only 27% of which is recycled. Vietnam is also facing the risk of becoming a global dumping site with a 200% increase in plastic waste over the past year [14]. Also according to the Vietnam Ministry of Natural Resources and Environment (2019), along with the increase in population, plastic consumption per capita in Vietnam has increased sharply from 3.8 kg per year to 41.3 kg per person between 1990 and 2018.

The use of persistent plastic bags and plastic products, especially disposable plastic items, has left unpredictable consequences for the environment. Recent studies [5, 17] show that, on average, the complete decomposition of the plastic bags and plastic waste takes hundreds, even to for thousands of years. Plastic waste is very much on the bottom of the ocean and will become a food poison to poison marine creatures.

One-time use of plastic appliances and plastic bags is the main reason leading to the rapid increase in plastic waste. According to a statistic issued by the Ministry of Natural Resources and Environment of Vietnam (2018), in Vietnam, each household uses about 1kg of plastic bags in a month; Hanoi and

Ho Chi Minh City average of emitting waste into the environment every day are about 80 tons of plastic waste. Every day Hanoi generates 4,000 to 5,000 tons of waste, of which plastic waste accounts for 7-8%. In particular, the number of plastic bags discharged into the environment has been increasing year by year.

Although Vietnam has many solid waste treatment technologies, such as using gas from landfills to generate electricity, direct ordinary burning, and fluidized bed burning, etc, but up to now, in most localities, the treatment of domestic waste in the common form is landfill, accounting for over 70%, and manual burning accounts for 28% [14]. Out of 660 landfills of more than 1-hectare size, only 120 landfills are hygienic. Landfills in cities are always overloaded, constantly the risk of water and air pollution. Mr. Bui Van Quan, Chairman of People's Committee of Tan Linh Commune, Ba Vi district, Hanoi City (2019) - where Nam Son landfill is located, said that there are 7 districts and towns transferring garbage to this area. On average, each day there are over 100 tons and the reported treatment is only 30%, 70% are buried and burned manually, causing serious environmental pollution.

Population Growth Leads to Deforestation and and Overlay of Green Tree

During the last two decades, agricultural expansion, logging, developing the wood processing industry, and other human activities caused the deforestation of more than 120,000 square kilometers each year. In contrast, an area only one-tenth that size was regained due to reforestation efforts and natural re-growth [13]. This is the continuation of a historical process that has left the world with less than half of its original forests. While population growth and density are unquestionably related to forest cover trends, there is no simple way to describe or predict that association. Not surprisingly, the relationship is as complex as the regional and cultural variations in human societies and the changes in those societies over time.

Vietnam is a tropical country with most of the area is mountainous terrain (accounting for 3/4 of the territory). According to the Ministry of Agriculture and Rural Development's 2018 Forest Status Announcement Decision, as of December 31, 2018, Vietnam's forested area is 14,491,295 ha. In which, there is 10,255,525 ha of the natural forest; 4,235,770 ha of plantation forest. The area of forest land eligible for national coverage is 13,785,642 ha, and the coverage ratio is 41.65%. Vietnam is also a marine country, so there are rich and diverse mangrove systems; there are 29 provinces and cities nationwide with coastal land and mangroves from Quang Ninh province to Kien Giang province. Currently, the total area of mangroves in Vietnam is about 200,000 ha [20]. With this area, Vietnam ranks first among the countries with mangrove forests worldwide.

Today, in Vietnam, due to the rapidly increasing population, the increasing demand for resources has put pressure on natural resources in general and forest resources in particular. Currently, the area of natural forests is declining due to weak forest management and protection. It is this that causes natural disasters to increase in both magnitude and frequency. According to the General Department of Forestry (2018) [20], in just over 5 years (from 2012 to

2017), the natural forest area has been lost due to illegal deforestation accounting for 11%, the remaining 89% is due to the conversion of forest use purpose in the approved projects. As of September 2017, the deforested area was 155.68 hectares and 5364.85 hectares of burnt forest.

With the population growth and rapid urbanization, the land fund for green trees is rapidly shrinking. Compared with the standards and regulations, the percentage of land for green trees is still very low. In two big cities, in Hanoi and Ho Chi Minh City, this figure is only about 2m²/person, not up to the standard, and only 1/10 of the greenery target of advanced cities in the world [20].

For example, according to city Green Park planning. Ho Chi Minh City to 2020 with a vision to 2025, the greenery target in the inner city area is 2.4m² / person, in the extended inner city area is 7.1m²/person, and in the suburbs is 12m²/person. However, the density of public green trees in the area has not reached 2m²/person, lower than the prescribed standard. Comparing the density of trees in Hanoi and Ho Chi Minh City with some major cities in the world shows that clearly (Table 3) [21, 22].

Table 3. Area of trees per capita in Hanoi and Ho Chi Minh City with and some cities in the world

Numerical order	City	Green area (m ² /person)	Comparison (% compared to Hanoi)	Comparison (% compared to Ho Chi Minh City)
1	Hanoi Vietnam)	4,6	100	
2	Ho Chi Minh City (Vietnam)	2,4		100
3	Paris (France)	10,0	217,4	416,7
4	Moscow (Russia)	26,0	565,2	1,083,3
5	Washington (United States)	40,0	869,5	1,666,7
6	Nanjing (China)	22,0	473,9	916,7
8	Guilin (China)	11,0	239,1	458,3

Population Growth with Excessive Use of Water and the Increase of Wastewater

Hanoi and Ho Chi Minh City are two regions with high economic growth and a large population. Therefore, the demand for water is increasing rapidly. According to the water demand norm of the Ministry of Construction, the average amount of domestic water used by each citizen in urban areas is about 180 liters/day, the amount of wastewater is estimated to be 100% of the total amount of domestic water. The estimated domestic water demand Ho Chi Minh City and wastewater in recent years is as follows (Table 4) [21]:

Table 4. Estimated domestic water demand and wastewater of Ho Chi Minh City

Numerical order	Year	Population ^[21]	Demand for water (m ³ /day and night)	Wastewater (m ³ /day and night)
1	2015	8.247.829	1.366.225	1.366.225
5	2019	8.993.082	1.480.392	1.484.609

Through the above statistics shows. Population growth will lead to an increase in water demand leading to increased wastewater flow, which puts great pressure on the collection and treatment of generated wastewater.

The method of calculating the number of pollutants in domestic wastewater is calculated by the formula:

$$E = \text{Emission factor} \times \text{Calculated value}$$

In which:

- E: The amount of emission load tons/day.
- Emission coefficient: Human pollution coefficient (g/person day and night)
- Calculated value: city population over the years.

According to Vietnam construction standards (TCXDVN) 51: 2008 [23], the pollution coefficient daily put into the environment by each person (when domestic wastewater has not been treated) is presented in Table 5.

Table 5. Coefficient of pollution put into the environment by each daily living person

Numerical order	Pollutant	Coefficient (g/person/day and night)
1	BOD5	30 – 35
2	Suspended solids (SS)	60-65
3	Ammonium (N-NH ₄)	8
4	Phosphate (P ₂ O ₅)	3,3
5	Chlorine (Cl ⁻)	10
6	Surfactants	2-2,5

Based on the above pollution coefficients and the total population of Ho Chi Minh City, the discharge amount of pollutants generated from domestic wastewater is presented in the following Table 6 [21]:

Table 6. Discharge of pollutants in domestic wastewater

Numerical order	Pollutant	Coefficient (g/person/day and night)
1	BOD5	30 – 35
2	Suspended solids (SS)	60-65
3	Ammonium (N-NH ₄)	8
4	Phosphate (P ₂ O ₅)	3,3
5	Chlorine (Cl ⁻)	10
6	Surfactants	2-2,5

The results of calculating pollutant load in domestic wastewater show that, along with the population growth, the amount of pollutants also increases, causing increased pressure on the environment. The population is large and rapidly increasing, so the demand for residential and productive land is increasing. The process of urbanization changes the land use structure in a negative direction. The area of arable land decreased due to an increase in the need for land for housing, schools, hospitals, and other public facilities. The forest area is increasingly narrowed because people burn forests for cultivation land, exploit forests, cut forests indiscriminately, and cannot be controlled. This has potential risks: the soil is eroded in mountainous areas, saline intrusion, sand-filled in coastal plains. The loss of tropical forests, changing climate, shrinking biological resources threaten sustainable development. The population growth also puts pressure on water supply, increasing demand for natural resources and inevitably increasing the generation of wastewater, solid waste into the environment.

Table 7. Forecast of water supply-demand, the amount of wastewater and domestic waste generated by population growth in Ho Chi Minh City

Numerical order	Pollutant	Coefficient (g/person/day and night)
1	BOD5	30 – 35
2	Suspended solids (SS)	60-65
3	Ammonium (N-NH ₄)	8
4	Phosphate (P ₂ O ₅)	3,3
5	Chlorine (Cl ⁻)	10
6	Surfactants	2-2,5

Some Issues Discussed

To ensure survival and development, human beings must constantly promote the production activities of material improvement to apply to the requirements of society; therefore, whether unintentionally or intentionally, people constantly impact the environment through the exploitation and use of natural resources, economic development, and the removal of substrates into the environment. The impact of the residential environment was given by Paul Ehrlich and Johnidren in 1971 in the form of the following expression:

$$I = P.A.T$$

In which:

I: Environmental impact of coefficients.

P: Population size.

A: Per capita resource usage.

T: The environmental impact of work using art.

In the above expression, the impact of the environmental population depends on the population, the per capita use of natural resources, and the technology in response to the environment, meaning that the more advanced the technology, the less or less environment.

Thus, the focus activities of the natural growth of the population can be mainly demonstrated through the overexploitation of natural resources, the depletion of natural resources, the increasing variety of quality environment, making the habitat degraded rapidly. Status and severity of environmental pollution and ongoing attacks that threaten the lives of people and ecosystems in many parts of the earth. It is the growing disparity in living standards between water development companies and developing countries between urban and rural areas within each country that has led to widespread migration of sites in many forms. The supply of clean water, housing, trees, etc. does not promptly respond to the market population growth that is more and more exacerbated than the environmental pollution in cities, especially big cities in countries developing

Population, environment, and development are increasingly seen as a system of strategic organic relations between countries as well as globally. The goal of a better life, with a high standard of living, health care, and development opportunities are set not only for the present generation but for generations to come. The goal that needs to be done is through a combination of policies set by the state.

Vietnam is one of the developing countries, in the years of “Đổi mới”, although the economic growth rate has reached a fairly high level, the natural growth rate of the population is still high the amount of living environment is still decreasing day by day. To well solve the relationship between population growth, economic development, and environmental protection, is required

We have to use a combination of many different solutions at the same time: Education, law, administration, economy, etc. The problem is to choose which priority solution. In fact, effective solutions need to be prioritized to best deal with the relationship between population growth, economic development, and environmental protection in Vietnam today, which are financial solutions main; because, using financial solutions allows us to eradicate the relationship

between population growth, economic development, and environmental protection.

5. Conclusion

The environmental crisis is rapidly accelerating, yet much of society and academia still ignores or denies that a key driver is an overpopulation [24]. The population explosion not only creates pressure on resources but also links the mining processes that deplete them quickly. The concept of the reciprocal relationship between population and environmental conditions is complex, diverse and contains many variables. The environment is an important and decisive issue in the development and evolution of mankind.

In the dialectical relationship between population and development, environmental issues cannot be separated. Population growth, economic development increase living standards, and depletion of resources, environmental degradation, land loss, deforestation, desertification as a result of population growth. The UNICEF report wrote: “The world’s population growth has added to the seriousness of our planet’s ability to protect life” [25]. Vietnam’s big cities are facing enormous pressure from population growth, in which, environmental pollution is becoming more and more serious. This is something we need to discuss and act on. The population is not the only key problem humanity faces, and we have here only touched on its terrible twin – overconsumption. However, the two are entwined and must be solved concurrently. However, while much of society and academia continue to ignore the key driver of overpopulation, we believe any chance of reaching an ecologically sustainable future is vanishingly small.

Is it time for us to choose one of two possibilities: the large population or the prosperity and security of man? The basic element of socio-economic growth and development is the human resource, which always associates the population change in both quantity and quality. The goal of development is ultimately to improve the quality of life and meet the increasing needs of people. That goal can only be achieved when population size, population growth rate, population distribution and human resources are really appropriate and positively impact development.

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