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BACKGROUND GUIDE: Sustainable Development of Megacities

READ TO DISCOVER:
1. What is a megacity?
2. Why are these cities growing?
3. How does population growth change the natural environment?

DESCRIPTION OF THE COMMITTEE

Established in 1972, the United Nations Environment Programme (UNEP) serves as the UN’s primary organ of environmental education and awareness. UNEP promotes the sustainable development of the environment by encouraging cooperation between entities of the UN, international organizations, national governments, non-governmental organizations, the private sector, and civil society. UNEP reviews national and international environmental policies, assesses the global environmental situation and provides guidance in the drafting or setting of environmental policies. It is based in Africa, a reflection of its commitment to assess the environmental issues that face developing nations.

The UNEP Governing Council has 59 members who serve four-year terms. Member states are elected by the General Assembly and are selected to represent each region of the world. The Governing Council gathers annually at the Global Ministerial Environment Forum to address important environmental concerns. It may also come together in special sessions.

Nongovernmental organization (NGO): organization not belonging to or associated with any government.
STATEMENT OF THE PROBLEM

For most of history, humans have lived in small towns and villages. However, in modern times, world population continues to quickly increase, and more people are living in cities in a process called urbanization.

According to UN HABITAT, most people now live in cities, and some of these cities are growing at amazing rates. When a city’s population increases, its size often increases too. Societies and governments have trouble providing resources like housing, electricity, and clean water to cities with such fast, continuous growth.

The greatest amount of urbanization is now happening in less wealthy countries called developing countries. In some cities, the population can grow to extreme levels. These cities are called megacities, and often have populations of over ten million people.

Cities this large pose a danger to the natural environment, with humans consuming resources at constantly rising rates. Megacities struggle to maintain sustainable development: the use of resources to satisfy current needs without endangering future generations.

HISTORY OF THE PROBLEM

In the 20th century, the world population grew at rates far greater than before. Much of this growth occurred in developing countries, where access to things like food, clean drinking water, education and health care were already limited. These needs, along with roads, electricity and other services are called infrastructure. Rising populations limited people’s access to jobs and education. As a result, many people moved to cities in search of work and opportunity, creating megacities in places like India, Mexico, China, Pakistan and Brazil.

In developing countries, this urbanization made already limited resources even harder to find, and put a strain on the existing infrastructure. When cities became overcrowded, people began living in run-down areas with poor housing and security called slums. As cities grew, the existing resources and infrastructure could not support the growing population of people moving to and being born in cities.
In 1982, the World Commission on Environment and Development published the Brundtland Report, advocating a policy of sustainable development.

Sustainability became popular with governments, promoting the idea of meeting the needs of individuals without harming the natural environments and the ecosystems around cities.

While the idea of sustainable development gained attention in the 1980s and 90s, people’s ability to live sustainably is becoming more difficult, especially in cities. Studies by the UN Population Division suggest that population will reach about 9.1 billion people by the middle of the century. The Population Division predicts that by 2030, about five billion people will live in cities.

As populations grow, cities become more attractive to those with limited opportunities. However, as cities grow, infrastructure becomes strained and cities become dangerous both to people and the natural environment. This is exactly what has been happening in cities around the world in the last 50 years, and the trend is continuing at an even faster pace.

**DISCUSSION OF THE PROBLEM**

**Structure and infrastructure**

The way a megacity is structured can have a serious impact on environmental sustainability. Megacities often start out as a relatively small urban area, which grows outward from the middle. As the population grows, so does the amount of land the city takes up. This is called urban sprawl. Areas affected by sprawl have lower population densities—fewer people living in a set amount of space. This urban sprawl creates a bigger, less dense city —meaning it paves over more of the natural landscape.

**CRITICAL THINKING:**

How might this issue affect both rich and poor nations?

What types of human activity damage the environment? Why might the damage be worse in a megacity?

**TERMS & CONCEPTS**

- **ecosystem**: the system of interaction between living beings and their natural environment.
- **urban sprawl**: the uncontrolled expansion of cities.
- **population density**: measurement of the average amount of people living in a certain area.
The infrastructure needed to support people living in urban sprawl can be especially bad for the environment. In order for people to move around in low-density sprawl, megacities often depend on highways or other transportation systems that create a lot of pollution. Delivering resources like water and electricity to urban sprawl requires more energy (and causes more pollution) than delivering resources to more dense, compact urban areas.

Water pipes, electric grids, power generators and transportation systems—all kinds of infrastructure—must be made efficient in order to conserve energy, cost and resources.

Preventing urban sprawl and encouraging well-planned cities may promote sustainable development, but no matter what the size or density, cities still produce a lot of pollution and require many resources.

**Pollution, resources, and the environment**

Air, water, soil, noise, and light pollution are all problems facing megacities. Buildings and transportation infrastructure replace green spaces. Urban transport is a major contributor to air pollution in megacities. It is estimated that seventy percent of urban dwellers will be exposed to more pollution than is safe for humans. Even people and ecosystems far away are impacted by city pollution.

**Environmental degradation** is a central issue in sustainable development. Environmental degradation occurs when natural resources are used up faster than the earth is able to replenish them. In the course of development, if natural resources (including trees, clean water, soil nutrients and fresh air) are consumed faster than the rate at which they are replenished, the development is not sustainable—eventually the development will be unable to support human populations. In megacities, resources are being used at unsustainable rates.

UN HABITAT has predicted that water shortages may soon occur in developing nations. These nations often lack the infrastructure to deliver potable water to city dwellers, and the problem is getting worse. The main reasons for this urban water crisis are the rapid urban population growth and increased pollution. Urban
population is growing by 170,000 people per day in developing countries. About two million tons of human waste, and a huge amount of untreated waste from industries, goes into urban water supplies every day. About half of all the clean water in the developing world is wasted or lost. When people don’t have access to clean water, they can get very sick and die.

**Sustainable alternatives**

Scientists, engineers and city planners are brainstorming ways to help cities grow in sustainable ways. One idea is saving ground space by building infrastructure underground. This can leave land clear for more compact building and might even reduce pollution. For example, putting energy infrastructure – like power lines and stations – underground can actually help conserve the energy needed to deliver it to homes and businesses, because underground areas need less cooling.

Energy conservation is an important aspect of sustainable development of megacities. Using less energy can allow the environment to replenish itself, or at least reduce the speed that humans are using up natural energy resources. Additionally, conserving energy can reduce the amount of waste cities produce. Better waste management can reduce the costs of collecting and transporting waste. Underground solid waste removal systems might be a good alternative.

Pollution and poor infrastructure are not the only problems facing megacities. Sometimes, city governments cannot develop fast or efficiently enough to keep up with population growth. With little control over outlying populations, governments cannot ensure people are living in environmentally sustainable ways. Other times, infrastructure does not run properly because governments are corrupt or poor.

Often, people are simply unaware of the need to promote environmental sustainability. Perhaps the most important way to achieve the sustainable development of megacities is to raise awareness about environmental concerns and what can be done to achieve sustainability. In fact, the UN has declared that this is the “Decade of Education for Sustainable Development.”

“Poverty eradication, changing unsustainable patterns of production and consumption and protecting and managing the natural resource base of economic and social development are overarching objectives of, and essential requirements for, sustainable development.”

- Johannesburg Plan of Implementation
CURRENT SITUATION

Cities around the world, especially in developing countries, are still growing at amazing rates. The UN and the international community continue to work hard to protect the environment while helping people enjoy their basic needs and human rights, like food, clean water, safety, and shelter.

The Johannesburg Plan still guides the activity of UN agencies working in sustainable development, and successive agreements have been formed in more specific areas, but none for megacities in particular.

The UN and its different organizations continue to work with researchers and scientists to understand the impact of human activity, population growth, and urbanization.

To continue their commitment to sustainable policies in cities and countries, many UN agencies are active in helping cities share information and ideas with one another, as well as setting up education plans to help residents understand their impact on the environment. In many countries, education is a key part of influencing individual lifestyles and collective policies. UN HABITAT is currently very active in this area, making environmental research free to developing countries and sponsoring education programs.

PAST INTERNATIONAL ACTION

To help manage more sustainable cities, the UN created the Sustainable Cities Programme (SCP), a joint UN-HABITAT/UNEP organization formed in the early 1990s. SCP works in over 30 countries, helping city authorities with urban environmental planning and sustainable urban management. In 1996, over 250 representatives from 75 cities and 20 nations met in Istanbul and created the Urban Environment Agenda, or the Istanbul Manifesto. This document called for the improvement of environmental information and technical expertise, the improvement of environmental strategies, and the implementation of environmental policies. To help make this happen, delegates met in South Africa in 2002, where a Plan of Implementation was created. The Plan recognizes the need to include women and other minority groups, promote better government practices, and enhance security.
RECOMMENDATIONS FOR FORMULATING A RESOLUTION

Delegates must carefully consider their country’s and region’s needs and balance the desire for growth with concern for the environment.

DELEGATES MUST CONSIDER:

- The role megacities will play in the future, as both the most populous areas on earth and as economic centers;
- How megacities impact the health of individuals and the environment;
- How environmental damage like water and air pollution can have an international effect;
- How the international community can encourage city governments and national governments to adopt forms of development that are sustainable, particularly those of developing countries; and
- The importance of fairness, good government and education in creating sustainable policies.
- And options such as cooperation with NGOs, business, the exchange of technical experts, or international education initiatives.

Questions to Consider:

1. Is your country a developing country? How does urbanization affect your country’s natural environment?
2. What does your country believe the international community can do to address the issue of megacities and sustainable development?
3. How does your country suggest countries come together to plan better cities and help renew old one? What role do richer countries play?
4. What are the types of roles NGOs and business have in helping build a more sustainable future in rapidly growing cities?

RESEARCH SITES:

Here is a video from National Geographic that shows everyday life in the world’s largest city, Mumbai. This video will give you a great picture of a megacity’s infrastructure.

- MEGACITIES: Mumbai:
  http://www.youtube.com/watch?v=mH5BxR1drA4
This short film gives us a brief glimpse of what more sustainable cities may look like in the future.

- **Future of Connected and Sustainable Cities:**
  http://www.youtube.com/watch?v=ordsxEwMfxc

This is the official website of the United Nations Environment Programme.

- **United Nations Environment Programme:**
  http://www.unep.org/

Understanding past international action is key, and looking at the Johannesburg Plan will help you create a resolution.

- **The Johannesburg Plan:**

The Istanbul Manifesto came before the Johannesburg Plan and will also be very important in understanding the issue.

- **The Istanbul Manifesto:**

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