Environmental Engineering. Unit 2. **SURNAME NAME GROUP**

Population. Environment. Resources.

Task 1. Match the terms from Column A with the corresponding terms from Column B to create meaningful phrases.

1. exponential	a) consumption
2. family	b) strains
3. birth	c) capacities
4. production	d) control
5. high	e) population growth
6. carrying	f) planning
7. huge	g) collapse
8. rising	h) demand

Task 2. Fill in the gaps with the phrases from TASK 1.

1. _____ on infrastructure can result from rapid population growth in urban areas.
2. _____ can occur when demand exceeds the capacity to supply goods and services.
3. _____is a significant challenge for many developing countries.
4. _____programs aim to empower individuals to make informed choices about their reproductive health.
5. _____methods help regulate population growth and promote family well-being.
6. _____for certain products often leads to increased production and economic growth.
7. _____patterns are putting pressure on natural resources and the environment.
8. Understanding _____is essential for sustainable resource management.
9.

Task 3. Solve a puzzle. Use words from the unit.

Across:

A sudden and complete failure or breakdown. _____ 8 letters

The act of using up goods or resources. _____ 11 letters

The desire or need for a particular product or service. _____ 6 letters

The practice of controlling the number of children in a family and the intervals between their births. _____ 2 words

Down:

A rapid increase in the size or quantity of something, especially when it doubles repeatedly over time. _____ 2 words

The maximum population size of a species that the environment can sustain indefinitely, given the available resources. _____ 2 words

A significant burden or pressure placed on something. _____ 2 words

Import - To bring goods or services into a country from abroad. _____ 7 letters

Task 4. Match the questions 1-7 with the answers a- g.

1. _____***What is the purpose of birth control methods?***
2. _____***What happens when there is high demand for certain products?***
3. _____***What can result from production collapses?***
4. _____***Why is understanding carrying capacities important?***
5. _____***What are some consequences of huge strains on infrastructure?***
6. _____***How does rising consumption impact natural resources and the environment?***
7. _____***What challenges does exponential population growth pose?***

a) *It often leads to increased production and economic growth as businesses strive to meet consumer needs.*
b) *It can result in congestion, inadequate services, and challenges in meeting the needs of a growing population.*
c) *It poses challenges such as increased demand for resources, strain on infrastructure, and environmental degradation.*
d) *They help regulate population growth by allowing individuals to control the timing and number of children they have.*
e) *It is essential for sustainable resource management to ensure that natural resources are not overexploited or depleted.*
f) *It puts pressure on natural resources and the environment, leading to resource depletion, pollution, and habitat destruction.*
g) *They occur when demand exceeds the capacity to supply goods and services, leading to economic disruptions and shortages.*

Task 5. Read the text and decide if the statements TRUE or FALSE.

How does the growing global population and increasing consumption affect biodiversity? Reversing biodiversity loss.

Since the middle of the 20th Century, the human population has grown dramatically from around 2.6 billion to reach 7.8 billion in 2021. Housing and feeding so many people has accelerated the destruction of natural habitats, while higher levels of consumption, particularly in some richer

parts of the world, have also increased the exploitation of natural resources and led to growing levels of pollution.

Perhaps the greatest threat to biodiversity from a growing population is from the rapidly increasing per capita consumption. There has been an unprecedented increase in consumption, with about 10% of the world's population in the G7 countries consuming 40% of the Earth's biological productivity. Increasing levels of meat consumption, for example, have required more land for livestock while burgeoning water use has increased the risk of drought in some regions. Similar patterns can be seen in the demand for other natural resources.

As human populations have grown, habitat destruction such as deforestation also increases to make way for agricultural land. Between 1962 and 2017, it is estimated that 340 million hectares of new croplands were created globally and 470 million hectares – around half the area of China - of natural ecosystem were converted into pastures.

Urban sprawl, along with the associated transport infrastructure, can radically transform habitats, increase pollution, raise ambient temperatures and increase the risk of non-native species being introduced by human movements.

While the International Union for Conservation of Nature predicts that the numbers of threatened species is likely to increase rapidly in regions where human population growth rates are high, the demands of consumers also impact biodiversity in areas far away. International trade is reported to be responsible for 30% of global species threats and one study found that 17% of total biodiversity loss occurs due to the commodities that are produced for export to other parts of the world – largely the rich, industrialised nations.

With global population expected to reach 10.9 billion by the end of the century, the impact that humans have on biodiversity is expected to accelerate unless steps are taken to reduce consumption and modify our current global food system. In particular the people of the poorer lower and middle income countries will also wish to increase their consumption over the coming decades in order to raise their standards of living. The richer industrialised countries will need to take steps to reduce their high levels of consumption to compensate for this.

1. Human population growth has remained relatively stable since the middle of the 20th century.
2. Higher levels of consumption have led to decreased exploitation of natural resources.
3. The majority of global consumption comes from G7 countries, comprising about 10% of the world's population.
4. Urban sprawl has no impact on habitat transformation or pollution.
5. Thirty percent of the dangers to species worldwide are reportedly caused by international trade.
6. With an increasing global population comes a predicted acceleration of human effect on biodiversity.
7. Rich, industrialized nations are not responsible for biodiversity loss in other parts of the world.