Independent research

Research Question: What are Indonesia’s largest environmental problems and what are some methods to help sustain out country?

Indonesia faces a variety of environmental problems, including deforestation, air and water pollution, and loss of biodiversity. The country is home to a large portion of the world's tropical rainforests, and these forests are being rapidly cleared for logging, agriculture, and palm oil production. The destruction of these forests not only destroys habitat for many species, but also contributes to climate change. Indonesia is also a major producer of greenhouse gasses, primarily from deforestation and peatland destruction. Air pollution, particularly in urban areas, is also a significant problem in Indonesia, caused by both industrial activities and vehicle emissions. Additionally, the country's rivers and coastal waters are heavily polluted, largely as a result of industrial and agricultural activities, as well as poor waste management.

1. Deforestation and habitat loss: Indonesia is home to some of the world's most biodiverse rainforests, but these forests are being rapidly cleared for logging, agriculture, and palm oil production. This destruction not only destroys habitat for many species, but it also contributes to climate change by releasing carbon stored in the trees and soil. Additionally, the loss of natural habitats can also lead to a decline in biodiversity, as many species are adapted to specific types of forests or other ecosystems.
   1. It is impossible for us humans to completely erase deforestation from our lives as the natural resources our rainforests provide are too valuable to lose, therefore, ways that could prevent deforestation could be government regulations on tree cutting. The sole purpose of the regulation is to give a set quota or limit to how much trees can be harvested. Another way that deforestation could be reduced is to make sure replantation and reclamation is done after cutting down trees, with the regulation as well. This method would not be effective without the regulation of limiting tree cutting as trees would also take much time to grow back to its original state.
2. Air pollution: Indonesia has some of the highest levels of air pollution in Southeast Asia, with particulate matter and sulfur dioxide levels often surpassing World Health Organization guidelines. The main sources of air pollution are vehicle emissions, industrial activities, and forest fires. The air pollution has negative impacts on human health and also on the environment.
   1. Reducing vehicle emissions: One of the major sources of air pollution in Indonesia is vehicle emissions. This can be addressed by implementing stricter emissions standards for vehicles, as well as promoting the use of cleaner forms of transportation, such as electric vehicles and public transportation.
   2. Improving industrial practices: Many industrial activities in Indonesia also contribute to air pollution. This can be reduced by implementing stricter regulations on industrial emissions and encouraging the use of cleaner technologies and production methods.
   3. Forest fires control: Forest and peatland fires are a major source of air pollution in Indonesia, particularly during the dry season. Controlling these fires can be accomplished through better land-use planning, fire prevention and management efforts, and law enforcement to prevent illegal burning.
   4. Waste management: Improper waste management can also contribute to air pollution, as garbage and other waste materials can release pollutants when they are burned or decompose. Improving waste management practices, such as increasing recycling and composting, can help reduce air pollution.
   5. Raising awareness and public education: Raising awareness about the impacts of air pollution and encouraging individuals to take actions to reduce their own emissions can also be an effective way to decrease air pollution.
   6. Implementing stricter regulations: Governments and local authorities have to implement stricter regulations to reduce the emissions of pollutants and enforce the regulations.
3. Water pollution: Many of Indonesia's rivers and coastal waters are heavily polluted, largely as a result of industrial and agricultural activities, as well as poor waste management. The pollution affects the marine life and also affects the fishing industry.
   1. Improving waste management: Improper waste management is a major contributor to water pollution in Indonesia. Improving waste management practices, such as increasing recycling and composting, and properly treating sewage before discharge can help reduce water pollution.
   2. Regulating industrial activities: Many industrial activities in Indonesia also contribute to water pollution. Regulating industrial discharge, monitoring compliance with regulations, and enforcing penalties for non-compliance can help reduce water pollution.
   3. Agriculture: Runoff from agricultural activities, such as the use of pesticides and fertilizers, can also contribute to water pollution. Encouraging farmers to adopt sustainable agricultural practices, such as conservation tillage and integrated pest management, can help reduce water pollution.
   4. Mining: The mining industry also contributes to water pollution in Indonesia. Regulating mining activities, monitoring compliance with regulations, and enforcing penalties for non-compliance can help reduce water pollution.
   5. Promoting conservation and restoration: Conservation and restoration of wetlands, rivers, and other natural water bodies can help to reduce water pollution by improving water quality and reducing the amount of pollutants flowing into these bodies of water.
   6. Community participation: Community participation is crucial in water pollution control. Communities can be educated and empowered to monitor and report water pollution, and to take action to prevent it.
   7. Strict regulations: Governments and local authorities have to implement strict regulations on the discharge of pollutants and enforce the regulations.
4. Loss of biodiversity: Indonesia is home to a wide variety of unique and endangered species, but many of these species are under threat from habitat destruction, hunting, and illegal trade. The loss of biodiversity can also have negative impacts on ecosystem functioning and human livelihoods.
   1. Protecting natural habitats: One of the main drivers of biodiversity loss in Indonesia is habitat destruction. Protecting natural habitats, such as forests, wetlands, and coral reefs, can help to reduce the loss of biodiversity. This can be done through the creation of protected areas, such as national parks, and the strict enforcement of laws and regulations that prohibit the destruction of these habitats.
   2. Regulating hunting and trade: Hunting and trade of endangered species are also major drivers of biodiversity loss in Indonesia. Regulating hunting and trade, and enforcing penalties for non-compliance, can help to reduce the loss of biodiversity.
   3. Sustainable land-use planning: Land-use planning can play a critical role in reducing biodiversity loss by ensuring that development projects are sited and designed in ways that minimize impacts on natural habitats and endangered species.
   4. Community-based conservation: Community-based conservation efforts can be effective in reducing biodiversity loss by involving local communities in conservation activities and providing them with incentives to protect natural resources.
   5. Reforestation and habitat restoration: Reforestation and habitat restoration can help to restore habitats for endangered species and reduce the loss of biodiversity.

Ultimately, proceeding with the methods that are stated above would not make such an impact without high ranking officials, the government, wealthy individuals and wealthy companies. This is due to the fact that all these changes will require time, money and consistency for it to work. These methods would not be effective if only a few people volunteered to help, this must be a policy or a law that the government ment imposes to the industries and companies that are emitting more pollution into our world. Consistency is also crucial to make a change as it will be easily forgotten if not forced upon us.