



Mains Practice Question

Climate change is one of the biggest challenges which humankind is facing right now. While several mitigations and adaptation methods have been researched, scientists have high hopes from geoengineering that include Carbon Dioxide removal and reflecting sunlight back into space. The Elders, an independent group of global leaders founded by Nelson Mandela, is pursuing a framework for working of geo-engineering at the international level. However, several ethical issues have been identified with geoengineering which include the following:

- a. It would be morally unacceptable to use geoengineering, in any form, as a replacement for cutting greenhouse gas emissions. To do so would impose unacceptably large risks and costs on vulnerable people and future generations.
- b. Whether the positive and negative impacts of any geoengineering could be fairly distributed (issue of the distributive justice).
- c. How should decisions of geoengineering be made (issue of procedural justice)?

In this context, critically analyze the issues identified by the ethicists.

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Approach

- Highlight some geo-engineering measures.
- Highlights pros and cons with respect to risk and cost to vulnerable and future generations.
- Highlight how distributive justice can be subverted or ensured.
- Highlight how procedural justice could be subverted or ensured.

Introduction

Several geo-engineering methods have been proposed to combat climate change like

- **Surface based:** growing of high albedo crops, using insulating blanket or artificial snow
- **Atmosphere based:** marine cloud brightening, reflective aerosols
- **Space based:** space mirrors to reflect solar radiations
- Other methods such as Carbon Capture, Ocean Fertilization etc.

Body

a) Argument for risk and cost imposed on vulnerable and future generations

- Such measures only seek to further change the climate for human comfort and do not address the underlying fundamental cause of greenhouse gas emissions. This would only push the problem into the future.
- Projects like solar mirrors in space would require large financial resources and highly skilled manpower. This would **divert finite resources** from tackling current challenges like poverty, basic rights and necessities as mentioned in Sustainable Development Goals (SDGs) increasing risk

of survival for vulnerables.

- Such measures don't have proven results. There could be an **equal chance of backfiring** resulting in a more complex and deteriorated environment in future.

Argument for going forward with such measures without risking vulnerables and future

- Such measures can bring results in a short time. This would allow nations to fulfill the goal of tackling climate change and focus on the resolution of other problems.
- It is not necessary to go for big projects like solar radiation mirroring. Measures like ocean fertilization, carbon capture via. Afforestation, carbon sequestration will tackle climate change, create new economic opportunities, provide for more resources and sustainable lifestyle solutions.

b) There would be certain positive and negative effects due to adoption of such measures as had been the case of economic led development process and resultant fossil fuel burning. It's important how such impacts would be distributed among nations and social groups.

Case of no fair distribution of the impacts

- As rich classes and nations would have capability to absorb negative impacts while monetising positive ones, the other sections would always get adversely affected due to their inability and vulnerability to face negative consequences, as is the case of the current climate mitigation process.

Case of Fair distribution

- As these measures would require global and democratic means to operationalize, hence, the process would itself imbibe concern of such distributive justice as has been the case of UNFCCC's (United Nations Framework Convention on Climate Change) equal but differentiated responsibilities.

c) There would be a debate between taking quick decisions through a centralised decision making with few and with more human and financial resources having say or decentralized and democratic processes by involving everyone.

Former models may suppress concerns of those not in effective power leading in the future to bear unnecessary costs like the case of island nations in UNFCCC. Thus, **there is a need for a democratic governance process for a procedural justice. Some of the** principles as highlighted by Oxford University for such measures are as following::

- Geoengineering to be regulated as public good
- Public participation in decision making
- Transparency and Accountability
- Impact assessments and governance structure before implementation.

Conclusion

These issues highlight the need to make such processes ethical and morally sound. Imbibing such principles would lead to good for largest with harm being distributed equally and proportionally.