

(1)

Environmental Science

FPSC Past Paper

Q: Write a short note on the following.

(a) CDM: Clean Development Mechanism

The Clean Development Mechanism (CDM) is a market-based approach under the Kyoto Protocol. It is aimed at reducing greenhouse gas emissions. It is established in 1997, enables developed countries (Annex 1 countries) to invest in emission reduction projects in developing countries and earn certified emission reduction (CER) credits. These credits can be traded or used to meet emission reduction targets.

"The Clean Development Mechanism is a powerful tool for sustainable development. It offers developing countries an opportunity to grow their economies while reducing greenhouse gas emissions."

Kofi Annan
(Former UN Secretary General)

Key Features of Clean Development Mechanism (CDM):

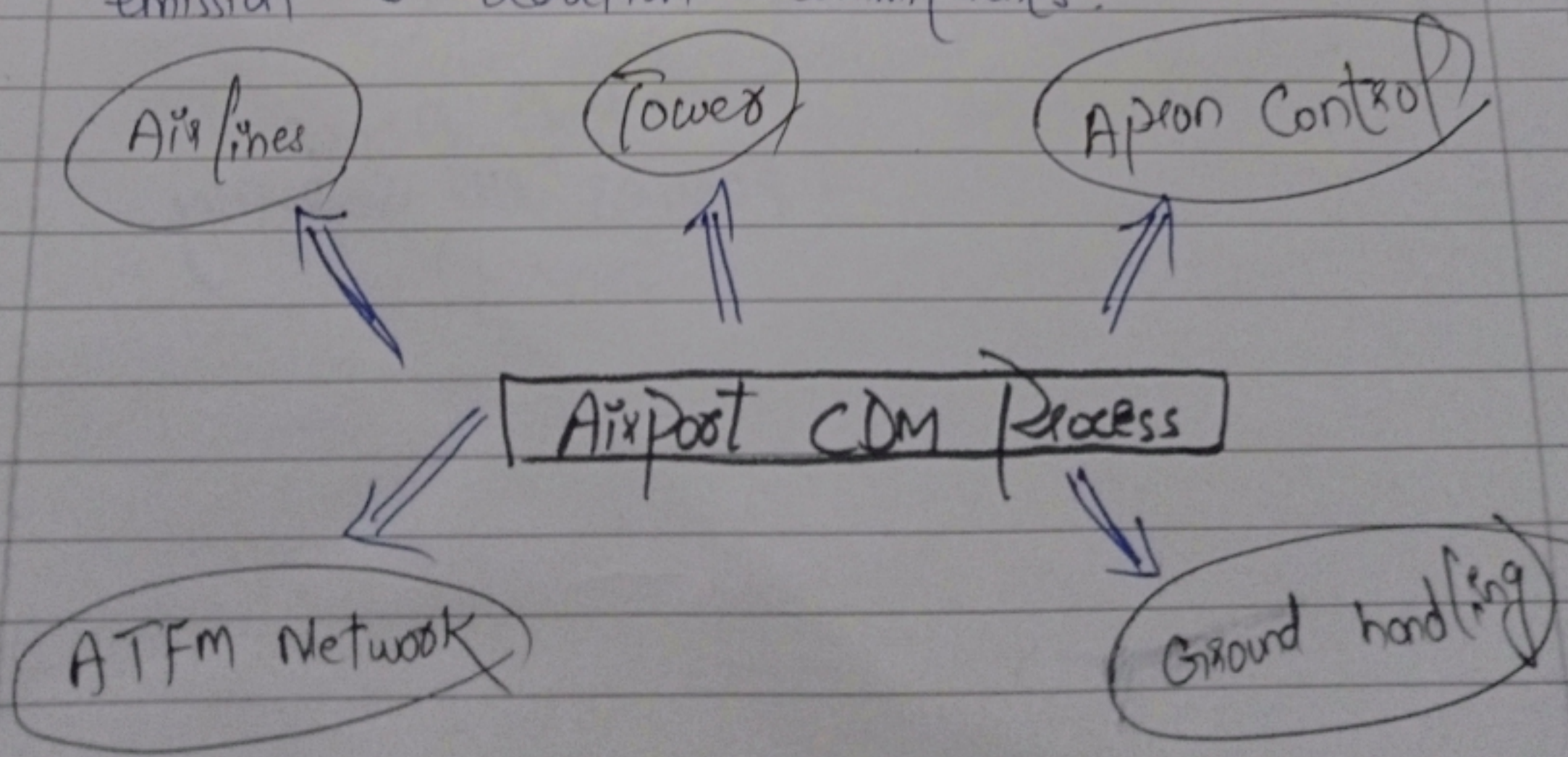
1. Purpose and Framework of CDM:

CDM was established under the Kyoto Protocol to help developed countries meet their emission reduction targets by investing in projects that reduce greenhouse gas emissions in developing countries.

The CDM was established in 1997 under Article 12 of the Kyoto Protocol, a global treaty that committed industrialized countries to reduce their greenhouse gas emissions.

2. Certified Emission Reductions (CERs):

It is a projects under CDM to generate CERs which are carbon credits that can be traded in international carbon markets or used by developed countries to meet their emission reduction commitments.



3. Benefits for Developing Countries

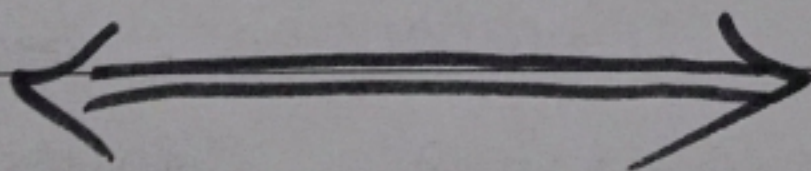
CDM brings technology transfers, foreign investment and sustainable development benefits to developing countries while helping them to reduce emissions and improve environmental quality.

"CDM turns climate action into a win-win for both the planet and developing economies".

4. Global Climate Cooperation:

CDM facilitates international cooperation by enabling developed countries to invest in emission reduction projects abroad, thereby contributing to global climate change mitigating efforts.

"The CDM became fully operational in 2001, after the Marrakech Accords were adopted, providing detailed rules for the mechanism's implementation".



(b) Causes of Desertification:

Desertification is the process by which fertile land becomes degraded into arid or desert-like conditions due to factors like

- i- Deforestation
- ii- Overgrazing
- iii- Climate Change
- iv- Unsustainable Agricultural Practices

i- Deforestation:

The removal of trees and vegetation disrupts the water cycle and reduces soil stability making land more vulnerable to erosion and degradation.

"Deforestation is changing our climate, harming people and the natural world. We must and can reverse this trend"

Jane Goodall

ii- Overgrazing:

Excessive grazing by livestock removes vegetation cover which protects the soil. This leads to soil compaction, reduced water infiltration and accelerated erosion.

"Overgrazing has reduced vegetation cover by up to 80% significantly impacting local ecosystems and biodiversity"

iii- Unsustainable Agricultural Practices:

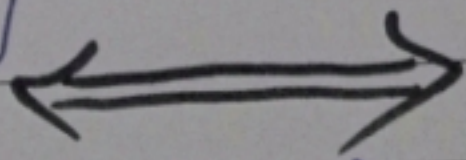
Unsustainable Agricultural Practices, such as over use of chemical fertilizers, intensive farming, monoculture and improper irrigation techniques deplete soil nutrients, increase salinity and cause land degradation. These practices accelerate and contribute significantly to desertification and environmental decline.

iv- Climate Change:

Climate change, is the process in which increased temperatures, prolonged droughts, and irregular rainfall patterns to accelerate soil degradation and reduce vegetation contributing to desertification.

"The climate crisis is not a political issue, it is a moral and spiritual challenge to all of humanity" (Al Gore)

Effective combat against desertification demands a holistic approach that integrates sustainable practices, climate action and restoration efforts to preserve land and support global ecosystems.



THE END