

## ENVIRONMENT & DISASTER MANAGEMENT

Time Allowed: 3 hrs.

Max. Marks: 250

Q.	Marks	Instructions to Candidate
1.		<ul style="list-style-type: none"><li>• There are 20 questions.</li><li>• All questions are compulsory.</li><li>• The number of marks carried by a question is indicated against it.</li><li>• Answers to questions no. 1 to 10 should be in 150 words, whereas answers to questions no. 11 to 20 should be in 250 words.</li><li>• Keep the word limit indicated in the questions in mind.</li><li>• Answers must be written within the space provided.</li><li>• Any page or portion of the page left blank in the Question-cum-Answer Booklet must be clearly struck off.</li></ul>
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20.		

87

Name s shivaraman

Roll No. 41659

Mobile No. \_\_\_\_\_

Date 2/12/24 ✓

Signature \_\_\_\_\_

1. Invigilator Signature \_\_\_\_\_

2. Invigilator Signature \_\_\_\_\_

# REMARKS

**GS SCORE**  
GS MAINS TEST SERIES 2021

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Please write the question number in this space.  
कृपया इस स्थान में प्रश्न संख्या के अंकन करना सुनिश्चित करें।

# UPSC

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( Specimen Answer Booklet - For Practice Purpose Only)

उम्मीदवारों को इस दस्तावेज़ में नहीं लिखना चाहिए।  
Candidates must not write on this margin

decision A

1) Climate change according to IPCC is the greatest challenge faced by humanity in the 21<sup>st</sup> century.

It has multidimensional impact on health, economy, society etc.

add how it is driving poverty,

Quote findings of UN report

(122 millions by 2030)

## Climate change and poverty

### ① Posit Negatives

→ Unsustainable agriculture  
└ extreme climate  
└ variable weather

→ losses it will lead to poverty & desertise

→ Increased migration  
└ submergence of coasts  
└ ~~lack~~ Economic distress.

\* articulate properly, represent systematically

→ Increase in health expenditure  
└ newer pathogens due to glacier thawing.





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कृपया इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

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don't explain properly, write in complete sentence.  
don't write in haphazard manner.

→ Poverty & distress due to loss of infrastructure.  
↳ Due to adverse climate  
Eg: cyclones.  
↳ Lowered productivity due to heat stress & health.

② Positive Impacts  
→ Thawing of poles.  
↳ Access to new critical minerals  
↳ Opening of new sea routes.  
→ Development of new spinoff technology, rise in employment

⊂ \* suggest measures

The adverse impact due to climate change on poverty is many times more than the positives.  
↳ The poor are the most vulner-  
-able.

Q2 1/2



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उम्मीदवारों को  
इस सीमा में  
जहाँ लिखा  
गया है  
Candidates  
must not  
write on this  
margin

2) Protection and conservation of  
natural resources is a part of  
Indian constitution under art 48.

+ add feature

in implementation

of laws ⇒ SC  
in picture

Supreme Court as a protector  
of constitutional framework has  
contributed in many ways to the  
environmental cause.

## Supreme Court and Conservation

\* articulate  
with  
specific case  
judgements

1) by order to declare all the  
elephants corridors as eco-  
sensitive zones under EPA-1986

2) Support to the creation of  
National Green Tribunal for  
speedy resolution of 'green' cases.

3) Banning of highways passing  
through protected areas at night.



Signature

Please do not write anything except the question number in the space  
कृपया इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

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4) looking into minerals & mines act and related conservation issues, use of art 142 to suspend the act.

Article with specific cases. Judgement

5) Order to create special authority to control / manage air pollution, stubble burning around Delhi.

6) Jadgil committee report on Western ghats was studied by the supreme court to direct appropriate actions.

give long term solution for addressing loopholes in laws.

Thus SC has intervened in multiple instances to the conservation cause.

04





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write anything except  
the question number  
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कृपया इस स्थान  
में प्रश्न संख्या को  
अतिरिक्त कुछ  
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उम्मीदवारों को  
इस हार्जिन में  
कोई लिखना  
नाहिए।  
Candidates  
must not  
write on this  
margin

3) Wildlife tourism has become  
an important component of  
Indian service sector in recent  
times.

It mainly includes the exhibition  
of wild animals in their natural  
habitat.

## Advantages

- ① Boost to local economy.  
→ employment generation among  
the local population.
- ② Increased investment towards  
wildlife conservation.
- ③ Use of local knowledge.  
↳ scope of generating intellec-  
tual property rights.



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कृपया इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

# UPSC

उम्मीदवारों को प्रश्न संख्या के अतिरिक्त कुछ नहीं लिखना चाहिए।  
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write imp points like opportunities to local tribes, reduce poaching

- ④ gain in foreign exchange.
- ⑤ Rise in Indian soft power.  
- Image as a conservation hub
- ⑥ Impact on the environment  
Portals.

## Disadvantages

\* good analysis

- ① Encroachment into forest for infrastructure for tourists  
+ Roads, rest houses etc.
- ② Possible stress among wildlife due to novel noises.
- ③ Destruction of pristine environment
- ④ Possible fragmentation due to infrastructure.
- ⑤ Rise in human wildlife conflict.
- ⑥ Displacement of tribes & forest dwellers.

The development in ecotourism should be based on minimal intrusive actions for it to be sustainable.

Q12



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write anything inside  
the question number  
in this space!  
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नहीं लिखना  
चाहिए।  
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must not  
write on this  
margin

\* 4) ~~The~~ loss in biodiversity has  
been growing at a rapid rate  
since ~~the~~ second half of 20<sup>th</sup>  
century according to IUCN.

## Anthropogenic impact on Biodiversity

- 1) Loss of habitat of many species.
- 2) Change in local weather  
conditions - loss of smaller /  
insect species.
- 3) Decrease in faunal diversity  
due to forest destruction and  
plantations
- 4) Unregulated use of forest  
resources - Eg Bark, Timber etc
- 5) Indiscriminate poaching  
of larger species Eg: Elephants  
Rhinos, Tigers etc

\* articulate  
with biodiversity  
holoforets  
( Himalaya  
W. Ghats)

\* write in  
specific context



(Please do not write anything except the question number in this space)

कृपया इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

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⑥ Loss of trees and resultant land degradation has reduced biodiversity eg: due to slash & burn agriculture in North east.

### Conservation Strategies

- 1) According to Madgil & Kaslurwangan Committee majority of watersheds should be declared as protected zone.
- 2) Stringent EIA norms for hotspots
- 3) Empowering locals in sustainable management of forest eg: community forest reserves.

\* write specific points regarding mining activities shutting of TPPs in eco sensitive zones, etc

Most of the Aichi biodiversity targets for 2020 have remained unachieved due to poor implementation of policies

03



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कृपया प्रश्न संख्या के अंदर कुछ भी न लिखें।

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Candidates must not write on this margin

+ add about SBM.

5) With rising Urbanization, Solid waste management is a central issue to ensure sustainable growth & development.

Swachh Bharat Mission  
& Solid Waste Management

\* stick to demand of question, assess the performance of SBM.

- 1) Solid waste management was included in the urban component of SBM.
- 2) Rise in competitive federalism through Swachh Bharat Survekshan i.e. rating of cities according to solid waste management infra & cleanliness  
⇒ Indore has emerged as model town.





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कृपया इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

# UPSC

उम्मीदवारों को इस स्थान में उत्तर लिखना नहीं चाहिए।  
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- ③ Inclusion of citizens in the crusade against solid waste.  
→ Regulations for domestic segregation of wastes  
→ Rating of municipal services.
- ④ Contributions of data for the formation of guidelines  
Eg: Plastic waste mgmt. guidelines 2016.
- ⑤ Devolution of funds to local authorities under the mission
- ⑥ Development of a cadre of professionals for waste management.
- ⑦ formalization of waste collection

Swachh Bharat mission has had dual effects - both on water & sanitation and solid waste management.

*Handwritten note in red:*  
You don't have to discuss etc features etc achievements etc and document.



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कृपया इस स्थान  
में प्रश्न संख्या के  
अतिरिक्त कुछ  
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इस स्थान पर  
कोई लिखना  
नाहिए।  
Candidates  
must not  
write on this  
margin

6) Landslides are the results of  
mass transfer under gravity  
along slopes.

\*  
articulate  
properly

→ Highly localized events and  
difficult to predict.

## Reasons for landslides

- 1) deforestation, intensive grazing along slopes.
- 2) Increase in localized rainfall due to climate change.
- 3) Development on slopes eg,  
Uttarakhand.
- 4) Unplanned settlements in  
earthquake prone areas.

\*  
briefly  
elaborate,  
don't just  
mention

\*  
give examples  
of places



Please don't write anything else in the question number in the space.  
कृपया इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

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संक्षेप में उत्तर दें।  
प्रश्न संख्या के अतिरिक्त इस स्थान में लिखें नहीं।  
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## Measures taken

- 1) landslide zone mapping
- 2) stringent EIA norms on high altitude regions with gradient
- 3) intensive afforestation under green India mission & Bonn challenge.
- 4) Rise in focus on landscape & watershed approach to development.
- 5) Use of traditional knowledge on terrace farming.
- 6) Use of soil conservation techniques  
Eg: contour bunding, mulching etc.

good points

substantial with examples

\* diverse measures taken by Govt in this regard

With increase in adverse climate events, sustainable development should be used to avoid landslides.

03 1/3



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write anything inside  
the question booklet  
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कृपया इस स्थान  
में प्रश्न पत्र में  
किसी भी चीज  
न लिखें।

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कोई लिखावट  
चाहिए  
Candidates  
must not  
write on this  
margin

7)

Disaster risk reduction involves  
the ~~the~~ limitation of adverse  
impacts of disasters.

This is done through mitigation  
and adaptation strategies.

Need for DRR in  
Poverty Alleviation Policy

(i) Sustaining the achievements  
of poverty reduction even  
after disasters.

(ii) scope for development of  
new skills for DRR, supporting  
economy.

(iii) Development of capacity  
to build back better after  
disaster to get back on growth  
direction

Need intro

\*  
Analyse these  
points

\* discuss  
why disaster  
management  
needs to be  
integrated with  
Poverty Alleviation  
programmes



Please do not write anything except the question number in this space.  
कृपया इस स्थान में केवल प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

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Candidates must not write on this margin

- (iv) Scope for increased investment and standard of living.
- (v) Psychological confidence among the poor in risk prone zones.  
→ better economic performance.

## Aim of DRR

- (i) Development of Mitigation strategies  
Eg: Hazard zone mapping prior to infrastructure development
- (ii) setting up institution for adaptation
- (iii) Development of local capacity for relief & rehabilitation.

need to elaborate

Thus DRR is central for the growth in standards of living among the poor to be permanent.

The Sendai framework provides guidelines for DRR efforts.

give long term solution in conclusion

03/12



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सही संख्या  
में लिखना  
प्राप्त है।  
Candidates  
must not  
write on this  
margin

8) With growing demand for energy, India has been focusing on renewables and at the same time balancing Hydro-Thermal energy mix.

\* Can be improved

\* write about H-T energy mix.

Hydro-Thermal Balance:  
Reasons

why H-T energy mix is used? address.

eg) Cheaper, seasonal loads are balanced, etc

- (i) growing global commitments to reduce pollution through thermal power.
- (ii) Recent stand of government declaring large hydro power as renewable resource.
- (iii) Risk in hydro power potential with rising global temperatures.
- (iv) Increasing investments towards Dam building & management.





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Eg: Dam Rehabilitation program under World bank (DRIP)

(V) Fluctuation in coal availability in global markets.

Environment conservation  
- Hydropower Development

(i) Red Drizzle Reduction in development efforts in himalayan miners.

(ii) Use of watershed approach in dam location planning

(iii) Shift towards renewable small scale dams eg (25 MW capacity)

(iv) New rehabilitation & resettlement policy - with higher power to gram Sabha for decision on development

(Thus there has been a recent shift in perspective of Hydropower development.)

+ add about CAMPA, CAT, etc.

+ improve



02/12



(Please do not write anything other than the question in this space)  
कृपया इस स्थान पर प्रश्न या उत्तर के अतिरिक्त कुछ न लिखें।

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9) Introduction

Issues with post crisis management.

- (i) Low development of local capacity for swift relief action.
- (ii) Involvement of multiple agencies under multiple commands.  
Lack of coordination.  
Eg: state police, Armed forces, NDRF etc.
- (iii) Low development / maintenance of communication lines.
- (iv) Delay in resource mobilization → centralized control of funds for relief.
- (v) Lower development of quality infrastructures - Roads, Shelters etc.

disaster post crisis management  
→ Relief, Response, Rehab, etc



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उत्तरों में  
प्रश्नों की  
सीमाओं  
में  
Candidates  
must not  
write on this  
margin

प्रश्नों की सीमा  
अधिकतम  
प्रश्नों की सीमा  
(प्रश्नों की सीमा)  
कृपया इस सीमा  
के अंदर उत्तर लिखें  
अधिकतम सीमा  
के अंदर।

## Suggestions

- (i) Adherence to Sundar framework,  
- local capacity development  
to build back better.
- (ii) Regular maintenance of shelter  
communication lines
- (iii) Periodic drills in disaster  
prone areas
- (iv) Ingerside command &  
control under state disaster  
management authority for  
crisis management.
- (v) Decentralization of funds at  
municipal levels for faster action.

\*  
good analysis

Thus disaster management  
should be a continuous  
effort, learning process to act  
efficiently during crisis.

03



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उत्तरों में  
प्रश्नों में  
दिए गए  
शब्दों  
में  
उत्तर  
लिखें।  
Candidates  
must not  
write on this  
margin

10)

Requirements for  
disaster management  
in Coastal areas.

i) Regulated development - Adherence  
to CRZ norms.

ii) Non structural efforts:

- Better forecasting & warning system
- Improvement in modes of communication.

(iii) Structural requirements

- All weather roads
- cyclone / flood shelters
- Development & Maintenance of stormwater drainage.

(iv) Environmental efforts

- Development of mangroves belt.

articulate under  
all phases of  
disaster management  
cycle.

Prevention,  
Mitigation,  
preparedness  
etc



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सही मात्रा में  
लेखना  
Candidates  
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margin

- Development of natural reservoirs to mitigate floods
- Watershed based development to avoid construction in low lying areas.

(V) Human based : Improvement in capacity to manage disasters.

## Practical difficulties faced

- (i) Large population in coastal towns, unplanned development
- (ii) Low solid waste management facilities
- (iii) Outdated communication & forecasting systems.
- (iv) Low resource availability for disaster efforts.

Recent increase in urban floods in Chennai, Mumbai etc have increased disaster focus.

add more imp points like lack of funds with states, insurance, et

analyse the impact

suggest remedial conclusion

how it is an issue explain



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कृपया इस स्थान  
में केवल प्रश्नों के  
अंकितक संख्या  
लिखें।

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इस अंतरिक्ष में  
कोई लिखना  
नाहीं।  
Candidates  
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write on this  
margin

## Section B

11)

\* Improve

\* write about  
mining sector  
in India

Nation Green Tribunal and the  
department of mines have recently  
proposed regulations to ensure occupa-  
tional safety in mines.

### Occupational Hazards

(i) Structural Safety:

- Unregulated mines with  
unscientific tunneling can  
cause collapse.

\* Good points

(ii) Flooding of mines:

\* add few examples  
of places.

- Mining operations during  
monsoons can flood the  
shaft mining zones.





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Candidates must not write on this margin.

(iii) Threat of carbon Monoxide Poisoning

- Use of unscientific methods to measure 'CO' concentration in tunnels eg: Use of Birds
- Sudden deaths in mines

explain  
have CO poisoning will lead to this mention

(iv) Particulate matter :

- Unsafe protective equipment like masks - Occurrence of silicosis

(v) Unregulated Rathole mining

in North eastern states :

- Chances of asphyxiation

(vi) Use of child labour in rathole mines - due to

small body size - higher vulnerability to adverse conditions

good analysis



Please do not write anything on the question paper in the space  
कुछ भी न लिखें  
प्रश्न पत्र पर  
अतिरिक्त कुछ  
न लिखें।

# UPSC

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उम्मीदवारों को  
इस स्थिति में  
परी लिखना  
चाहिए।  
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must not  
write on this  
margin

## Institutional Mechanisms

*good sample*  
→ Labour codes on occupational safety - 2020

*Analyse w.r.t demand of question*  
→ Higher power to gram sabha under Panchayat extension to scheduled area act 2019 (PESA)

*good*  
→ Formation of District mineral foundation to rehabilitate & protect people.

→ Minerals & Mines (Amendment) act 2015 - provides for new methods for calculation of compensation.

*01*  
Thus in a rapidly economic developing economy mining is crucial & these institutions are important for protect



Please do not write anything except the question number in this space  
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12) Plastic pollution has been the central topic in conservation of marine life in IPCC Special Report on Oceans.

'great Pacific garbage patch', is location within the pacific gyre.

It is a stable region with constant accumulation of plastic.

## Necessity for locating plastic Pollution

( content of marine pollution )

- (i) Affecting marine biodiversity
- (ii) Economic & nutritional impact on humans due to marine pollution
  - (a) decrease in marine population
  - (b) Biological magnification

misaddressed of  
\* discuss the reasons for growing Pacific Garbage patch

how explain





Please do not write anything outside the question number in this space.  
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(iii) Effect on Carbon capture

- Boost in global warming.

(iv) Possible rise in sea surface temperature leading to

adverse cyclone formation.

(v) Slowing down of ocean currents :

This may cause heat imbalance in various regions of earth.

## Actions to reduce Pollution

(i) Banning of micro plastics (< 5mm) → elaborate which organics?

(ii) strict solid waste management policies → like? quite international initiatives in this regard





प्रश्न का उत्तर  
अधिकतम 150 शब्दों में  
देना है।  
कुछ इस स्थान  
में प्रश्न संख्या के  
अतिरिक्त कुछ  
न लिखें।

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अतिरिक्त  
कुछ न लिखें।  
Candidates  
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write on this  
margin

(iii) Identification of point & non  
point sources of plastic pollution

(iv) Adherence to international  
initiatives and declaration.

Eg:-> London declaration  
-> Marpol initiative by  
International maritime  
organization.

(v) Cleaning and beautification  
of beaches - Eg: Blue flag  
initiative

\* Good  
\* nic example

\* nic example

The recent guidelines on plastic  
waste management in India  
are a step forward in reducing  
plastic pollution.

\* write in  
international  
context

OS/19



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# UPSC

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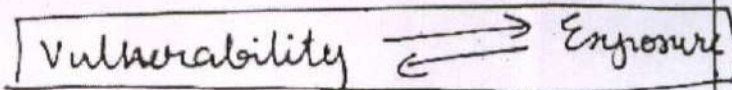
उम्मीदवारों को इस कॉलम में नहीं लिखना चाहिए।  
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13) Disaster risk management is the process of both 'mitigation' and 'Adaptation to' disasters

good introduction

Disaster risk management ⇒

Reducing both exposure & vulnerability to disasters



Risk Management as a specialized subject

good

\*underline imp. keywords

→ The specialized nature is so due to its multidimensional-ity.

Risk management is an integrated study.



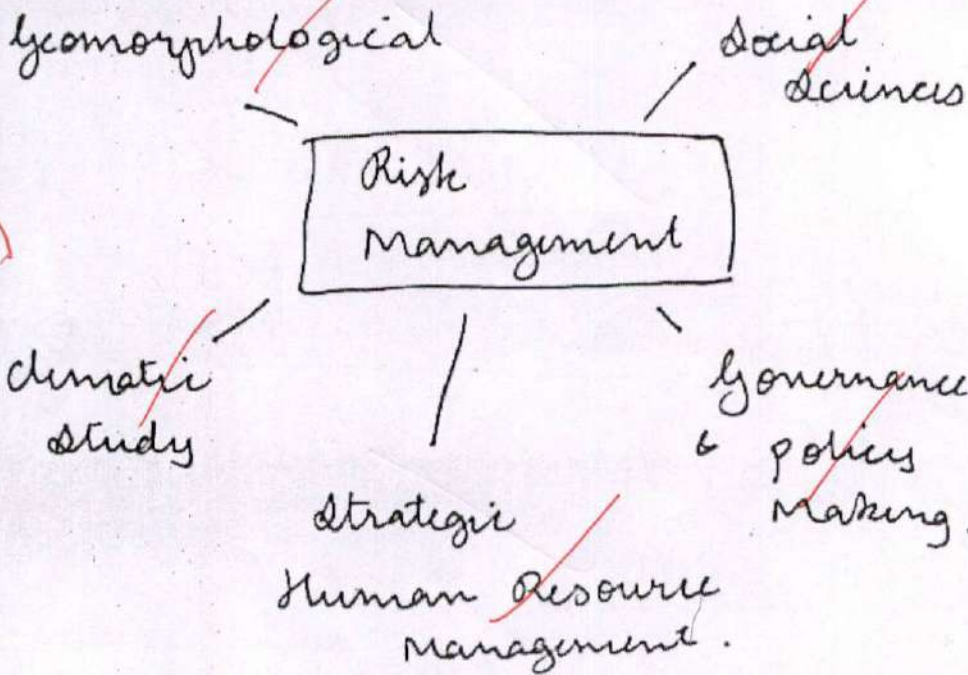


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उम्मीदवारों को इस सीट पर केवल प्रश्न संख्या लिखनी है।  
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This combination of diverse requirements makes risk management a specialized subject.

## Significance of India's Disaster Management Plan

- (i) Adherence to Sendai framework (2015) requirements.
- (ii) Creation of specialized institutions at central & state & district levels.



पिछले साल  
के प्रश्नों को  
देखें।  
कृपया इस भाग  
में प्रश्न पत्र का  
अधिकतम प्रयोग  
कर लें।

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कोई लिखना  
नहीं है।  
Candidates  
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write on this  
margin

- (ii) Community capacity develop-  
-ment.
- (iii) Adaptive structures eg:  
cyclone shelters.
- (iv) Resilience in construction,  
economic activities Eg climate  
resilient crops.
- (v) Mobilization of funds for  
mitigation & adaptation
- (vi) International cooperation  
- Coalition for disaster  
resilient infrastructure.
- (vii) Developing plan - to  
Build back better (BBB)

\*  
describes the  
5 thematic  
areas of Action  
of Sendai framework  
  
\* explain how  
NDMP and Sendai  
framework are  
aligned.

Disaster management of plan  
has helped reduce losses to life  
& property.



OS<sub>2</sub>



(Please do not write anything except the question number in this space)  
कृपया इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

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उम्मीदवारों को इस कॉपी में नहीं लिखना चाहिए।  
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14)

Vulnerabilities are the factors which increase the risk, on exposure to disasters.

Exposure + Vulnerability = Risk

(i.e.) Low vulnerability can reduce the risk significantly.

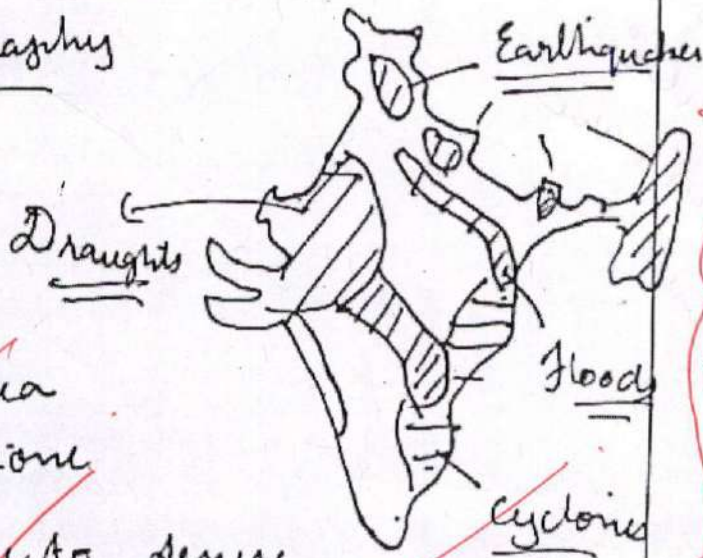
## Indias Key disaster vulnerability

(i) Multiple / varied disasters based on geography

According to NDMA

12% of land area - Flood prone

60% - Moderate to severe Earthquake prone



(i) can be improved.

(ii) draw in standard map form.

Fig?

Good + add about NDMA address entire question in entire

nicey addressed



Please do not write anything above the question number in this space!  
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\* good points  
↓  
explain  
how these are potential vulnerabilities

- (i) Low infrastructural development
- (ii) Lack of coordination between management agencies.
- (iv) Poverty and low capabilities with local communities.
- (v) High impact of climate change due to tropical location
- (vi) Rapid & Urbanization and unplanned structures.

## Effectiveness of NDMA

good

- (i) Creation of specialized agencies  
Eg: National Institute of Disaster management, National disaster Response force.





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Candidates must not write on this margin.

\* good points

(ii) suggest to state and district disaster management authority

briefly elaborate

(iii) Proactiveness : Issue of guidelines for various disasters

(iv) Focus on data collection

Eg : Hazard zone mapping

\* discuss few challenges in NDMA, suggest few measures

"throw far" keyword

Thus Disaster management act 2005 and NDMA have been crucial in reducing the risks & in recent times.

But there is scope for improvement in

(i) Better forecast, use of tech

(ii) Monitoring of plan implementa - evaluation etc.

OS/12





Please read  
the question  
carefully  
in the margin  
कृपया इस स्थान  
में प्रश्न पत्र के  
अर्थों को ध्यान  
से पढ़ें।

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वही लिखना  
चाहिए।  
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write on this  
margin

15) Disaster management act 2005  
and Sendai framework for disaster  
risk reduction (2015) have  
laid major emphasis on - the  
role of local community in  
disaster management.

\*  
Can be improved,  
addresses  
question's  
statement in  
intro.

## Importance of local communities

- good points
- (i) first to respond in any  
situation - reducing casualties
  - (ii) sharing of crucial resources  
such as food, medicines.
  - (iii) Mitigation of impact through  
local drills in disaster prone  
areas. Eg Koraput region of  
Odisha



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न लिखें।

# UPSC

उम्मीदवारों को  
इस कॉलम में  
कोई लिखावट  
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(iv) Rapid transmission in forecasts  
and communication of risks

(v) Analysis and assessment of  
local risks, vulnerabilities and  
gaps in disaster mitigation

(vi) Development initiatives for  
skills in disaster response  
through state support

(vii) Cooperation with armed  
forces in rescue and relief  
operations

[Eg:] 1) Idukki landslides - 2020

→  faster response in debris  
removal by local people  
- saving of toll lines

(ii) Local Youth group support to



10-5-21

(Please do not write anything except the question number in this space)  
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# UPSC

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*good examples*

to NDRF in rescue & relief  
in Patna Patna floods

(iii) Chennai floods 2021 :

Local support groups involvement  
in distribution of food, medicines

Thus a bottom up approach  
to the planning in disasters  
management is found to be  
the most useful in recent times

07





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write anything except  
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कृपया इस स्थान  
में प्रश्न संख्या के  
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कोई लिखना  
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16

Ramsar convention provides a broad definition for wetlands which includes both manmade and natural ~~regions~~ locations with water.

Though the <sup>artificial</sup> ~~natural~~ wetlands in India have increased in the form of flood irrigation area, there has been a drastic reduction in natural wetlands.

## Reasons

(i) Exploitation of water resources  
in Agriculture & Industries

(ii) High pollution of Wetlands  
Eg: Loklatz lake Marignur

give example

good





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write anything above  
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कृपया इस स्थान  
में प्रश्न संख्या के  
अतिरिक्त कुछ  
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इन हाँगा में  
कोई लिखना  
नाहिए।  
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(iii) Climate variability, droughts

Eg: Reduction in water level,  
pollution in Koladeo wetlands,  
Rajasthan

Write full sentence

(iv) Unplanned development and  
encroachment of low lying  
areas. eg: Urban floods in  
Choi Chumai

Substantiated with findings of any report eg)

WISA  $\Rightarrow$  8%

of Indira wetland within urban sprawl

(v) Poor watershed management  
leading to erosion of soil,  
siltation in wetlands.

## Steps to be taken

(i) Declaration of wetlands as  
legal entities eg: Lakes in  
Chandigarh

how this will help? write





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कृपया इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

# UPSC

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- (ii) ~~Bad~~ Planning based on topography and orientation of watershed
- (iii) Monitoring of sources of pollution
- (iv) Involving of local communities in wetland protection
- (v) Declaration as ecosensitive zones and EPA-1986
- (vi) Regular maintenance

\* need to elaborate  
\* don't just mention, explain

### Initiatives taken by courts

- (i) Guidelines by ~~NOT~~ to declare wetlands as ecosensitive zones.
- (ii) Punjab & Haryana highcourt ruling on Chandigarh lake.

add about judgements  
Registration HC  
No construction zone  
Kam lake HC

The ecological importance of wetlands make them critical to human wellbeing

emphove

OSR



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अतिरिक्त कुछ  
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इस खंड में  
सही स्थान  
पर लिख  
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17

Desertification is the process involving degradation of land, reduced productivity and reduction in precipitation in a region.

\* discuss about extent of desertification in India

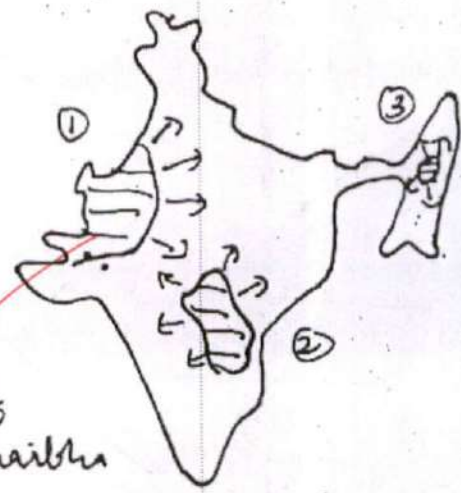
## Desertification in India

### ① Location

→ Regions around the great Indian desert

→ Shrub forests of telangana, Vidharba, Cholanagpur

→ North eastern regions due to high deforestation, forest fires & rain erosion.



\* quote source

## Reasons





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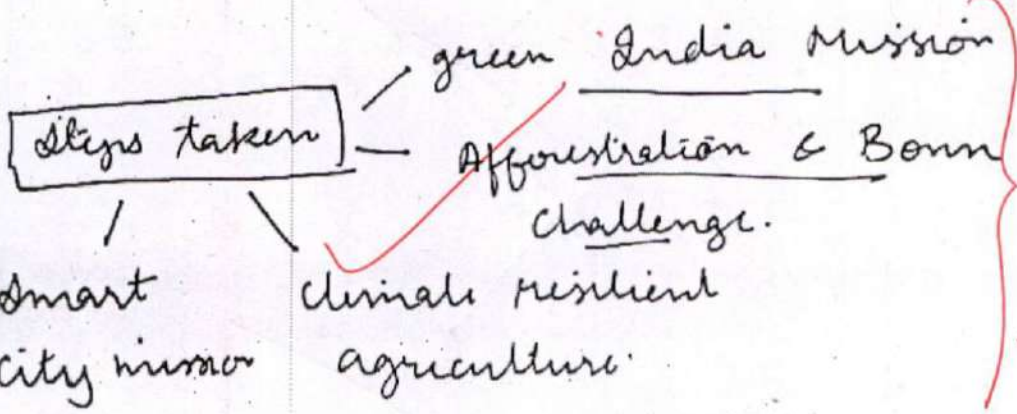
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\*  
elaborate

- (i) Rapid deforestation
- (ii) Soil erosion due to high grazing & deforestation.
- (iii) Poor agricultural practices
  - Flood irrigation
  - High use of inorganic chemicals.
- (iv) Poor watershed management, unplanned development.



\*  
nicely addressed

## Role played by UN CCD

good

- (i) Sharing of global best practices
- Eg: green belt of Africa's Sahel region.





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write anything inside  
the question number  
or this space!  
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में प्रश्न संख्या के  
अभितिक कुछ  
न लिखें।

# UPSC

111

उम्मीदवारों को  
इस कॉपी में  
कोई लिखावट  
नाहीं।  
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must not  
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(ii) Sharing of tools & techniques  
to manage desertification

\*  
nice  
point

(iii) Eg: [Eg]: 'sandbox' in Delhi  
convention

elaborate

(iii) Mobilizing international  
finance

(iv) Developing collective affore-  
station targets

Drawbacks - No monitoring  
Mechanism  
Poor Enforcement.  
Low resource Mobilization

\*  
better  
representation  
required

Affects economic development in  
Least developed nations

\* need to  
elaborate  
these  
points

This UNCCD has been central  
to the coordination in  
responses towards desertification

emphove

05/19



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18

Himalayan Ecosystem is known as the third pole of earth due to high concentration of glaciers. It has multidimensional uses.

## Uses of Himalayan Ecosystem

- (i) Perpetual Flow of Himalayan to rivers throughout the year.
- (ii) High albedo, decrease in heat buildup in the region.
- (iii) Climatic influences: blocking the flow of cold winds from central Asia.
- (iv) Access to diverse fauna - Chir, Pine, Deodar etc - Use in medicinal, industrial purposes.



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write anything inside  
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कोई लिखना  
नाहीं।  
Candidates  
must not  
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margin

(V) concentration of coniferous forests - carbon capture & sequestration

(V) support to biodiversity.

(VI) Boosting local economy through tourism.

(VII) Hydroelectric Potential.

## Fragility of Himalayan Ecosystems

(i) Young fold mountains :

constant upward folding

(ii) Unconsolidated surface - high

landslides

(iii) Higher slope compared to peninsular hills.

(IV) Sensitive to climate change

Eg: faster glacier melting

Compared to poles (IPCC)



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Candidates must not write on this margin

(V) Presence of multiple glacial lakes - Risk of outbursts.

(VI) Himalayan regions are most prone to cloudbursts due to high altitude.  
Eg: Kedarnath floods.

\* discuss measures taken to reduce the vulnerability

Thus the geographic and climatic vulnerabilities should be taken to make sustainable development plans.

Nature based solutions should be provided as prescribed by fifth adaptation goal report (UNEP)

04 1/2



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in this space!  
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में प्रश्न संख्या को  
अतिरिक्त कुछ  
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(19) In the COP 26 Summit India  
has declared its target of 50%  
of energy requirements to be  
met through renewable sources

\* discuss  
recent developments  
in solar energy production  
in India

by 2036.

Factors which could reduce  
energy imports

(i) Boost to solar energy by the  
government

- Production linked incentives  
for solar panels.
- Critical minerals mission  
to source raw material
- Increase in resource  
mobilization through Inter-  
national Solar Alliance

(ii) Increase in global renewable  
investments through Paris Agreement



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कृपया इस स्थान  
में प्रश्न संख्या के  
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न लिखें।

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(ii) Decrease in overall cost / unit  
of solar energy due to  
mass production

Eg: Ultra Mega Solar parks  
in Rajasthan & Gujarat.

(iii) Growing climatic consciousness  
of people, high degree of  
pollution in Delhi / NCR.

(iv) Commitment by the state  
in COP 26.

## Opposing factors

(i) Poor capacity utilization.

(ii) Cheaper cost of thermal power.

(iii) Large no. of coal fire plants.

(iv) Administrative will is low.

\*  
how these  
factors will  
reduce imports?  
explain

\*  
explain  
these  
points



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Thus with support of industry Civil society & Administrative will, there can be significant drop in oil import bill in India by 2030.

Targets of National Solarmission

→ Write specifically on targets, eg:- 300000 MW solar power by 2022.

Indigenous production & Assembling of solar Panels

Reduction in cost of solar energy

Support to both Decentralized & grid connected solar power

\* articulate properly on objectives and targets

→ Mandatory use of solar Power through Purchase obligation

Due to the above factors solar mission has been central to National action Plan on climate



05



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संघीयता को इस प्रश्न में नहीं लिखना चाहिए।  
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20

\* can be improved, give definition of EIA.

Environment impact assessment has been an important component of environmental justice in India.  
It has been introduced under Environment protection act 1986

## Procedure of EIA

\* misly addressed

- 1) Screening of projects - Need for EIA.  
↓
- 2) Scoping - Type of assessment required  
↓
- 3) Baseline data collection of Environment { either seasonal or annual data collected }
- ↓
- 4) Assessment of Impact & mitigation { use of third Party }  
Plan report by project proponent.



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इस स्थान में  
नहीं लिखना  
चाहिए  
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5) Inviting  
public opinion  
by ~~district~~ authorities  
↓  
Recent  
reduction  
in time  
period }

\*  
nicely addressed  
all steps covered

6) Appraisal by expert  
committee appointed by MoEFCC  
↓

7) Approval, plan for monitoring  
and reporting of development  
at regular intervals

## Role of Health Impact Assessment

- \*  
briefly explain  
on these  
points -
- (i) Support in informed opinion  
by people, informed consent.
  - (ii) Deciding rehabilitation / compensa-  
-tion for people.
  - iii) Cancellation of projects in case  
of adverse impacts.



# UPSC

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## Role of Public Participation

- x ↓ explain briefly on these points*
- (i) Help in protection of Ecosystem
  - (ii) Deep knowledge of Environment & possible adverse effects.
  - (iii) Opinion on socio-cultural / factors related to the region.

*good example*

Eg: Kondh tribe of Niyangiri hills - opposition to Vedanta industry.

The recent amendments to EIA,  
resulting in relaxations to  
the provisions on baseline data  
collection & public participation  
may have adverse impact on  
the environment

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