

# India 2022: Non-Traditional Security Threats

## *Climate, Environmental and Meteorological Dislocation*

As part of a project on India's non-traditional security threats, the Observer Research Foundation is generating a series of scenarios on the basis of answers to this questionnaire. You are invited to provide your judgmental response to questions given below that will help construct those scenarios.

This survey is divided into three key themes:

- ✚ **Environmental Dislocations:** What sorts environmental, geological, topographical, and meteorological contingencies and trends exist? What is the likelihood of their manifestation?
- ✚ **Climate Change & Environmental Disasters:** What is the likelihood of 'global warming'? What will be the regional, domestic, and international implications of anthropogenic climate change?
- ✚ **Technology:** What sorts of technologies might affect these developments?

*Your answers will remain anonymous. Please answer only those questions about which you feel comfortable. Leaving a section blank is an acceptable answer. We kindly request that you give your personal views and not those of the organization you are affiliated with.*

Please enter the following details so that we may send you the results:

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Organization: \_\_\_\_\_

Primary area of expertise: \_\_\_\_\_

Please complete the survey, save the document, and mail, fax, or email it to:

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**Section A: Environmental Dislocations**

1. Please prioritize the following according to their scale/magnitude of impact in South Asia (*1 = lowest impact, 12 = highest impact*)

- a. Earthquakes (fault lines) \_\_\_\_\_
- b. Flooding \_\_\_\_\_
- c. Coastlines (tidal waves, tsunamis, salination) \_\_\_\_\_
- d. Droughts & Desertification \_\_\_\_\_
- e. River behavior \_\_\_\_\_
  - i. Diversions & linkages \_\_\_\_\_
  - ii. Recession \_\_\_\_\_
- f. Wetlands & Forest Degradation & Deforestation \_\_\_\_\_
- g. Volcanoes \_\_\_\_\_
- h. Wildfires \_\_\_\_\_
- i. Meteors & space-based contingencies \_\_\_\_\_
- j. Resource extraction \_\_\_\_\_
  - i. Strip mining \_\_\_\_\_
- k. Wildlife and Ecosystems degradation \_\_\_\_\_
- l. Other \_\_\_\_\_

2. Why have you made this decision for the top *four* highest impact contingencies?

3. Please prioritize the following according to their probability/likelihood in South Asia (1 = least likely, 12 = most likely)

- a. Earthquakes (fault lines) \_\_\_\_\_
- b. Flooding \_\_\_\_\_
- c. Coastlines (tidal waves, tsunamis, salination) \_\_\_\_\_
- d. Droughts & Desertification \_\_\_\_\_
- e. River behavior \_\_\_\_\_
  - i. Diversions & linkages \_\_\_\_\_
  - ii. Recession \_\_\_\_\_
- f. Wetlands & Forest Degradation & Deforestation \_\_\_\_\_
- g. Volcanoes \_\_\_\_\_
- h. Wildfires \_\_\_\_\_
- i. Meteors & space-based contingencies \_\_\_\_\_
- j. Resource extraction \_\_\_\_\_
  - i. Strip mining \_\_\_\_\_
- k. Wildlife and Ecosystems degradation \_\_\_\_\_
- l. Other \_\_\_\_\_

4. Why have you made this decision for the top *three* most likely contingencies?

5. What will be the most consequential environmental contingencies in the next decade for South Asia? (*I.e. most probable and highest impact*).

- a. Earthquakes (fault lines) \_\_\_\_\_
- b. Flooding \_\_\_\_\_
- c. Coastlines (tidal waves, tsunamis, salination) \_\_\_\_\_
- d. Droughts & Desertification \_\_\_\_\_
- e. River behavior
  - i. Diversions & linkages \_\_\_\_\_
  - ii. Recession \_\_\_\_\_
- f. Wetlands & Forest Degradation & Deforestation \_\_\_\_\_
- g. Volcanoes \_\_\_\_\_
- h. Wildfires \_\_\_\_\_
- i. Meteors & space-based contingencies \_\_\_\_\_
- j. Resource extraction \_\_\_\_\_
  - i. Strip mining \_\_\_\_\_
- k. Wildlife and Ecosystems degradation \_\_\_\_\_
- l. Other \_\_\_\_\_

6. Why have you made these choices?

## Section B: Climate Change & Environmental Disasters

### 1. Global Warming

1. What is the likelihood for global rise in temperatures into the future?  
\_\_\_\_\_ degrees by \_\_\_\_\_ date
2. What will be the likely rise in global temperature to 2022?  
\_\_\_\_\_
3. Is this figure for 2022 different for South Asia?
  - i. No, it is the same
  - ii. Yes, the figure for South Asia will be \_\_\_\_\_
4. What is the likelihood of icecaps (i.e. glaciers in Antarctica, Greenland, and the North Pole) melting?  
\_\_\_\_\_
5. What is the likelihood of icecaps (i.e. glaciers in Antarctica, Greenland, and the North Pole) melting to 2022? What percent will melt by then?  
\_\_\_\_\_ percent by 2022

### 2. Regional Implications of Climate Change

1. Please complete the projection: *Himalayan glaciers will recede to \_\_\_\_\_% of their current size by \_\_\_\_\_*
2. If at all, by how much will Himalayan glaciers recede by 2022?
3. What is the likelihood of the salination of Indian coastlines as a result of a rise in sea levels by 2022? How far will they recede? Why do you say this?
4. What is the likelihood of increased intensity and frequency of the following in South Asia? Where will they occur?
  - i. Typhoons
  - ii. Hurricanes

iii. Tornados

iv. Other tropical storms: \_\_\_\_\_

5. What areas of South Asia will be greatest hit by desertification?

6. In what areas of South Asia will drought be most consequential?

7. To what extent are these regional contingencies the effect of climate change?

3. Domestic implications of climate change

1. In which regions of South Asia, and India in particular, will the following effects on land occur?

i. Desertification of land:

ii. Salination of land:





4. International Implications of Climate Change

1. What are some of the key regional implications of climate change?

2. How likely is Chinese diversion of Himalayan Waters? Why?

3. To what degree would this affect South Asia (over other regions like Central Asia and Southeast Asia)?

4. To what degree would this Chinese diversion implicate:

i. The Indus River System

ii. The Brahmaputra River System

iii. The Ganges River System

5. How would climate change affect
  - i. Indus River water supply

- ii. Water supply to and in Bangladesh

- iii. Nepali river waters

- iv. Land loss in Bangladesh

5. What are some of the *inter*-regional implications of climate change (i.e. South Asia-Middle East; South Asia-Central Asia; Asia-Europe; etc)?

### **Section C: Technologies**

1. In the wake of climate change and environmental management, geoengineering, cloud-seeding and other methods to directly interfere with weather patterns have become prominent. What are some of these technologies and their purposes?

