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Q17

What characteristics can be assigned to monsoon climate that succeeds in feeding more than 50 percent of the world population residing in Monsoon Asia? (250 words).

UPSC Civil Services Mains 2017 · GS I · 15 marks · Women, Population and Urbanisation

Role of women and women's organization, population and associated issues, poverty and developmental issues, urbanization, their problems and their remedies.

Core demand of the question

- Assign the climatic characteristics of the monsoon that let Monsoon Asia feed more than half of the world's people
- Tie rain rhythm, heat, soils, and rice-wheat systems to that demographic fact, and note risk

Revision summary

Monsoon Asia's climate is a seasonal wind reversal with concentrated summer rain and a long frost-free season.

Mountains lift moisture and feed alluvial plains.

Wet-rice and double cropping yield high calories per hectare, supporting huge populations.

Warm seas and ENSO make the rain generous but variable.

Irrigation and flood management are part of the climate's human success, not extras.

Introduction

Monsoon Asia-from India and China through mainland and island South-East Asia-holds more than half of humanity on a relatively small share of the Earth's land. The monsoon climate's seasonal rain, long warm growing season, and **wet-rice ecology** make that density possible. The same rhythm also brings flood, drought, and a narrow margin when the monsoon fails.

Body**Core climatic characteristics**

- A seasonal reversal of wind, tied to land-sea heating and the shift of the ITCZ, brings concentrated summer rain after a hot pre-monsoon, which is the opposite of a year-round mid-latitude drizzle.
- High insolation at low latitudes plus a long frost-free season allow rice, and in the north a rice-wheat or rice-rabi sequence, so one plot can yield more than one harvest.
- Orography-the Himalaya, Western Ghats, Arakan, and Annam ranges-lifts moist air and creates wet windward belts and rain-shadow interiors, which still support irrigation from the wet side's rivers.
- Warm seas (Bay of Bengal, South China Sea) supply moisture; El Niño-Southern Oscillation and the Indian Ocean Dipole add year-to-year swings, which is a built-in characteristic, not an accident.

- A dry winter in much of South Asia allows ripening, storage, and a second crop where irrigation or residual moisture exists; East and South-East Asia's rice calendars use similar wet-dry pulses.

How those traits feed a huge population

- Wet-rice on alluvium and volcanic soils (Ganga, Red River, Chao Phraya, Java) gives high calories per hectare and supports nucleated villages and labour-intensive agriculture.
- Multiple cropping, canal and tank irrigation that extend the monsoon, and later groundwater have pushed carrying capacity far above rain-fed millet belts.
- Rivers fed by monsoon rain and Himalayan snowmelt irrigate plains that are also transport corridors, so food and people move together.
- Fisheries in flooded rice and deltas add protein; the climate that grows paddy also grows people.

Risks that come with the same climate

- Breaks, late onset, and excess rain mean flood and drought can hit the same region in one decade; more than half the world lives on a climate that is generous but unreliable.
- Climate change, glacier loss, and groundwater mining now stress the old match between monsoon and population.

Way forward for the answer

- Name reversal, summer concentration, heat, orography, and double cropping, then say wet-rice alluvium is why Monsoon Asia can feed so many-if water is stored and shared.

Flow diagram

Land-sea heat ITCZ -> Seasonal rain reversal
Himalaya Ghats ranges -> Seasonal rain reversal
Seasonal rain reversal -> Wet-rice alluvium
Long warm season -> Multiple cropping
Wet-rice alluvium -> High calories high density
Multiple cropping -> High calories high density
ENSO flood drought -> Risk to that feeding

Conclusion

The monsoon climate combines a hot long growing season with a sharp summer rain pulse, orographic rivers, and wet-rice soils. Those characteristics, not chance, let Monsoon Asia support more than half of the world's people. The same pulse demands irrigation, flood room, and climate adaptation, or the demographic success becomes a food risk.

Facts & figures

ITCZ shift

Seasonal march of the Intertropical Convergence Zone that helps lock summer rain onto Monsoon Asia.

Wet-rice ecology

High-yield calorie system on flooded alluvium that historically supported dense settlement from the Ganga to Java.

Himalayan barrier

Orographic wall that concentrates monsoon rain on the plains and stores snowmelt for later irrigation.

ENSO / IOD

Ocean-atmosphere oscillations that cause monsoon drought or excess and thus food-price risk.

Rice-wheat system

Indo-Gangetic double crop that uses monsoon kharif rice and irrigated rabi wheat to raise carrying capacity.

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