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CUET · SOCIOLOGY · CLASS XI · CODE 326

Environment and Society

CUET unit: Environment and Society (Understanding Society, Class XI)

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📌 Snapshot

- All societies have an ecological basis; environment and society interact two ways — nature shapes society, and society reshapes nature.
- Introduces the key concepts of **ecology**, **human action**, **social environments**, **social organisation**, **social values and norms**, and **risk societies**.
- Surveys major environmental problems and risks — resource depletion, pollution, global warming, GMOs, and disasters (Bhopal 1984, tsunami 2004).
- Shows that **environmental problems are also social problems** — they are linked to social inequality, property relations, and power; introduces **social ecology** (Murray Bookchin).
- Discusses **sustainable development** (Brundtland Report, 1987) and the UN's 17 Global Goals (SDGs, 169 targets) as a response to ecological crisis.

📖 Detailed Notes

2.1 Core concepts

Every material thing in modern life is produced by drawing on natural resources — wood for the chair, iron for nails, glue and varnish from chemical industries, electricity from coal, hydro or nuclear sources, diesel for transport. A chair's "journey" from a forest tree to the school classroom passes through loggers, carpenters, supervisors, managers, transporters, traders and procurement officials, each of whom draws on further chains of nature-derived inputs (NCERT §intro, p. 49–50). The foundational claim: "all societies have an ecological basis" — there is no human social activity that does not depend on the biophysical world.

Ecology is "the web of physical and biological systems and processes of which humans are one element" (NCERT §intro, p. 50). Mountains, rivers, plains, oceans, flora and fauna are part of ecology, and the ecology of any particular place is further shaped by its geography and hydrology — desert ecologies are adapted to scanty rainfall, rocky soils and extreme temperatures, while floodplain ecologies are adapted to silt deposition and seasonal inundation. The everyday distinction between "society" and "nature" dissolves — humans are not external observers of ecology but one constitutive element within it.

Human action modifies ecology. What appears to be a natural feature of the environment — aridity in a region, the flood-proneness of a river, the species composition of a forest — is "often produced by human intervention" (NCERT §human action, p. 51). Deforestation in the upper catchment of a river raises its flood-proneness; climate change brought about by global warming is another instance of "the widespread impact of human activity on nature". Over time it becomes difficult to separate natural from human factors in ecological change. The Activity 1 box on p. 51 makes this concrete: the Ridge forest in Delhi was planted by the British around 1915 (its dominant species Prosopis juliflora was introduced from South America); the grassy chaurs of Corbett National Park were once agricultural fields cleared by relocating villages.

Built and agricultural environments. Agricultural farms with their soil-water conservation works, cultivated plants, domesticated animals, fertilisers and pesticides, and built cities of concrete, cement, brick, stone, glass and tar, are clearly human transformations of nature (NCERT §social environments, p. 51). **Social environments** "emerge from the interaction between biophysical ecology and human interventions" — a two-way process where nature shapes society and society reshapes nature. The fertile silt of the Indo-Gangetic floodplain enables intensive agriculture, dense population, and complex hierarchical states; the Rajasthan desert supports only pastoralists who must move with their livestock in search of fodder (NCERT p. 51–52).

Capitalism and nature. The social organisation of capitalism has shaped nature globally. The private automobile is a capitalist commodity that causes air pollution, traffic congestion, wars over oil and global warming. The cotton mills of Lancashire fed on plantations established in the Americas, which in turn drove the West African slave trade and the industrial soot of British cities (NCERT §capitalism, p. 52–53). A single economic system thus links a chain of ecological transformations across continents.

Social organisation. Property relations decide who can use what natural resources. State ownership of forests, private ownership of land and water, or common-property regimes all distribute access differently. Landless labourers and women experience scarcity more acutely — in rural India women fetch fuel and water but do not control these resources, so they bear the brunt of fuelwood shortages and water depletion even though decision-making lies elsewhere (NCERT §social organisation, p. 53).

Social values and norms. Capitalist values commodify nature — a river is reduced to a profit-loss calculation in a water-sale contract. Socialist values led to seizure and redistribution of land. Religious values lead some groups to protect sacred groves while others may claim divine sanction to alter nature (NCERT §values, p. 53). The nature-nurture debate (whether human traits are innate or environmentally shaped) and reminds students that the 18th-century revolutions challenged claims that women or Blacks were "naturally" less able. **Colonialism and environmental knowledge** are also linked — colonial regimes compiled geology, geography, botany, zoology, forestry and hydraulic-engineering knowledge to extract resources for imperial powers (NCERT p. 54).

Risk society. Modern societies use complex industrial technologies whose effects they do not fully grasp — Chernobyl (nuclear), Bhopal (industrial), Mad Cow disease (food chain) are all instances (NCERT §risk society, p. 54). The Bhopal box on pp. 54–55 records that on the night of 3 December 1984, methyl isocyanate (MIC) leaked from a Union Carbide pesticide factory in Bhopal — about 4,000 people were killed and 200,000 permanently disabled. Warnings from a 1982 Rapat article, the employees' union, US experts and the Department of Environment had been ignored; the plant lacked a computerised early warning system and emergency evacuation procedures.

Major environmental problems. These fall into (A) resource depletion — groundwater in Punjab, Haryana, UP; topsoil loss; biodiversity crisis (the tiger); (B) pollution — air (indoor chulhas killed about 3.3 million people in 2012, outdoor pollution another 2.6 million, totalling 7 million or one in eight global deaths), water, and noise; (C) global warming — greenhouse gases melting polar ice and raising sea levels; (D) GMOs — Bt cotton and the risk of sterile seeds making farmers dependent on corporate seed suppliers; (E) natural and man-made disasters — Bhopal 1984 and the Indian Ocean tsunami 2004 (NCERT §A–E, p. 55–59).

Environmental problems are social problems. Environmental problems are simultaneously social problems because they are driven by social inequality, property relations and power. The Kutch example shows rich farmers tapping deep groundwater with diesel pumps while poor villagers' shallow wells dry up; large dams and protected areas are often justified in the name of a "public interest" that in fact serves dominant class interests (NCERT §social problems, p. 59). **Social ecology** — the school of thought founded by **Murray Bookchin** at the Institute for Social Ecology — argues that ecological problems arise from deep-seated social problems and cannot be resolved without dealing with society itself (NCERT box, p. 60).

Sustainable development is the normative response. The Brundtland Report (October 1987) defined it as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". It rests on two key ideas: the concept of **needs** (priority to the world's poor) and the idea of **limitations** imposed by technology and social organisation (NCERT §SD, p. 60). The UN's 17 Sustainable Development Goals with 169 targets were adopted by 193 member states in 2015; Secretary-General Ban Ki-moon's slogan — "there can be no Plan B, because there is no Planet B" — captures the urgency (NCERT p. 61). Two contemporary illustrations: P. Sainath's investigation of farmer suicides in Andhra Pradesh, Karnataka and Maharashtra, which traced the deaths to a fusion of environmental factors (pest resistance, depleted aquifers) and economic factors (liberalisation, costly inputs, moneylenders); and Amita Baviskar's account of urban land and water conflicts where migrants are forced onto public land and evicted to make way for malls and multiplexes (NCERT pp. 61–62).

2.2 Definitions to memorise

Term	Definition	Page
Ecology	The web of physical and biological systems and processes of which humans are one element	50
Human action	Human intervention that modifies ecological features (e.g., deforestation-induced floods, global warming)	51
Social environment	Environment that emerges from the two-way interaction between biophysical ecology and human interventions	51
Social organisation	Property relations and division of labour that determine how and by whom natural resources can be used	53
Social values and norms	Shared ideas of right/wrong about nature — capitalist commodification, socialist redistribution, religious sanctity	53
Risk society	A society using complex technologies and products it does not fully understand (Chernobyl, Bhopal, Mad Cow)	54
Social ecology	School of thought (Bookchin) holding that ecological problems arise from social problems — property and production relations shape environment	59–60
Sustainable development	Development that meets present needs without compromising future generations' ability to meet their own needs (Brundtland, 1987)	60
Brundtland Report	Our Common Future (1987), report of the World Commission on Environment and Development	60
SDGs	17 Sustainable Development Goals with 169 targets, adopted by 193 UN member states (2015)	61
Hydrology	Science of water and its flows; broad structure of water resources in a region	63
Deforestation	Loss of forest area due to cutting trees or land-use change, usually for cultivation	63
Emissions	Waste gases given off by a human-initiated process, usually from industries or vehicles	63
Effluents	Waste materials in fluid form produced from industrial processes	63
Aquifers	Natural underground formations where water gets stored	63
Monoculture	Reduction of plant life in a locality/region to a single variety	63
Greenhouse gases	Gases (CO2, methane, etc.) that trap solar heat and produce global warming	57
GMO	Genetically Modified Organism produced by altering DNA — e.g., Bt cotton	58
MIC		54

Term	Definition	Page
	Methyl isocyanate — toxic gas leaked at Union Carbide, Bhopal, 3 Dec 1984	
Biodiversity	Variety of life forms in a region; declining due to habitat loss and monoculture	56
Sacred grove	Patch of forest protected on religious grounds by local communities	53
Catchment	Area drained by a river system; deforestation in upper catchment causes floods downstream	51
Pastoralism	Livelihood based on moving with livestock in search of fodder, e.g., Rajasthan desert	52

2.3 Diagrams / processes to remember

- Photographs of **A dam** and **A small dam** illustrate human alteration of river ecology (p. 52).
- Photograph of **Deforestation** showing logged tree stumps — links to biodiversity loss (p. 56).
- Photograph of **Industrial Pollution** with smoking chimneys — illustrates emissions sources (p. 57).
- Photograph of a farmer **spraying pesticide in a brinjal field** — links to water pollution and farmer-health hazards (p. 58).
- Box on **Bhopal Industrial Disaster** detailing the chronology, warnings ignored, and corporate-political nexus (p. 54–55).
- Box quoting **Murray Bookchin** on social ecology defining ecological problems as rooted in social problems (p. 60).
- The two-way "nature ↔ society" arrow at the heart of the social-environment concept (p. 51): biophysical ecology → social form (Indo-Gangetic floodplain → dense agrarian state); and social organisation → reshaped ecology (capitalism → global warming).
- The capitalism-and-ecology causal chain: Lancashire cotton mills → American plantations → African slave trade → British urban pollution (p. 52–53).
- The "resource flow" tracing exercise — chair → wood/iron/glue → forest → logger → carpenter → transporter → school (p. 49–50). Reading this diagrammatically helps in MCQs that ask for "best example of an ecological basis of society".
- The five-fold typology of environmental problems (A resource depletion, B pollution, C global warming, D GMOs, E disasters) on pp. 55–59 should be memorised as a list — NTA loves asking which item is NOT in the typology.

- The Brundtland-to-SDG chain: 1987 Our Common Future → "needs + limitations" definition → 2015 17 Goals & 169 targets → 193 member states → Ban Ki-moon slogan (pp. 60–61).

2.4 Common confusions / NTA trap points

- **Ecology vs. environment:** Ecology is the web of physical and biological systems of which humans are part — not merely "surroundings". NTA may juxtapose "natural surroundings" vs. NCERT's definition.
- **Sustainable development source:** It comes from the **Brundtland Report (October 1987)**. NTA often plants "Stockholm Conference 1972" or "Rio Summit 1992" as distractors — both real events, but not the source of this specific definition.
- **Bhopal disaster facts:** Date is **3 December 1984**, gas is **methyl isocyanate (MIC)**, company is **Union Carbide**, **~4,000 killed**, **~200,000 disabled**. Common traps: "methyl isocyanide" (a different chemical), 1985 (wrong year), Dow Chemical (the post-merger owner, not the 1984 owner).
- **SDGs vs. targets: 17 Goals with 169 targets**, adopted by **193 UN member states**. NTA may swap the numbers — 17/169 (correct) vs. 169/17 (wrong) or invent a target count like 150.
- **Indoor vs. outdoor air pollution deaths (2012, WHO): 3.3 million indoor**, **2.6 million outdoor**, total **~7 million** — about one in eight global deaths. The trap is to swap indoor and outdoor figures.
- **Social ecology = Murray Bookchin** (Institute for Social Ecology). Common distractors: Brundtland (sustainable development), Baviskar (urban ecology research), Sainath (farmer suicides journalism).
- **Risk society** refers to societies relying on technologies whose consequences are not fully understood (Bhopal, Chernobyl, Mad Cow) — students sometimes confuse this with Beck's broader theoretical concept; NCERT keeps the meaning concrete.
- **Two senses of social environment:** It is NOT just the built city; it also includes agricultural landscapes and even "natural"-looking spaces that have been humanly altered.
- **Capitalism's ecological footprint chain (Lancashire–Americas–Africa)** is sometimes presented as merely "British industrialisation" — NTA may test the chain's transcontinental reach.

2.5 Thinkers / theories table

Name	Concept	Key Idea	NCERT page
Murray Bookchin	Social ecology	Ecological problems arise from deep-seated social problems;	60

Name	Concept	Key Idea	NCERT page
		cannot be resolved without dealing with society	
Gro Harlem Brundtland	Sustainable development	Development meeting present needs without compromising future generations' ability to meet theirs	60
Ban Ki-moon	"No Planet B"	UN Secretary-General quoted on the urgency of the 17 SDGs	61
Karl Marx (implied)	Capitalism's commodification of nature	The social organisation of capitalism shapes global ecology (private auto, Lancashire mills)	52–53
Amita Baviskar	Urban ecology / land conflict	Urban poor evicted from public land for malls and multiplexes; land, air and water are contested urban resources	62
P. Sainath	Farmer suicides	Cotton farmer suicides in AP, Karnataka, Maharashtra fuse environmental (aquifers, pests) and economic (liberalisation, debt) factors	61–62
Rachel Carson (background)	Pesticide critique	Cited in Indian context via DDT and pesticide-water pollution discussions	58
World Commission on Environment and Development	Brundtland Report	Our Common Future (Oct 1987) — author institution of the sustainable-development definition	60
Mahatma Gandhi (implied tradition)	"Earth provides enough for everyone's need"	Sustainable-development discussion echoes Gandhian critique of unlimited wants (chapter-aligned context)	60
Verrier Elwin (cross-chapter reference)	Tribal–environment link	Protectionist view of tribal–forest relationship — recalled in resource-depletion discussion	56
Anthony Giddens / Ulrich Beck (background)	Risk society	Modern societies using complex technologies whose effects are not fully grasped (Chernobyl, Bhopal)	54
WHO (institutional)	Air pollution deaths data	3.3 m indoor + 2.6 m outdoor deaths in 2012 — one in eight global deaths	57

🎯 Practice MCQs

📊 PYQ Alignment

This chapter is a steady contributor to CUET Sociology — typically 4–6 MCQs per year, with predictable factual questions on the Brundtland definition of sustainable development, the Bhopal disaster (date, gas, company), and conceptual questions on ecology, social environments, risk society, and social ecology. Match-the-following and Assertion-Reason items are common, often pairing concepts (ecology / human action / social ecology) with their definitions or pairing environmental problems with the social groups most affected. The 17/169/193 SDG triplet, the indoor/outdoor air-pollution numbers, and the Murray Bookchin attribution are perennial NTA favourites.

CUET 2024 — Actual PYQs from this chapter

Q.44 (CUET 2024) Which of the following refers to sustainable development?

- A) Development ignoring environmental concerns B) Development meeting present needs without harming future generations C) Rapid industrial growth D) Urban expansion Tests: Brundtland Commission definition of sustainable development. Answer: Not in extracted key