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THE PAST
UNDERSTAND
THE PRESENT
SHAPE
THE FUTURE

STD 8

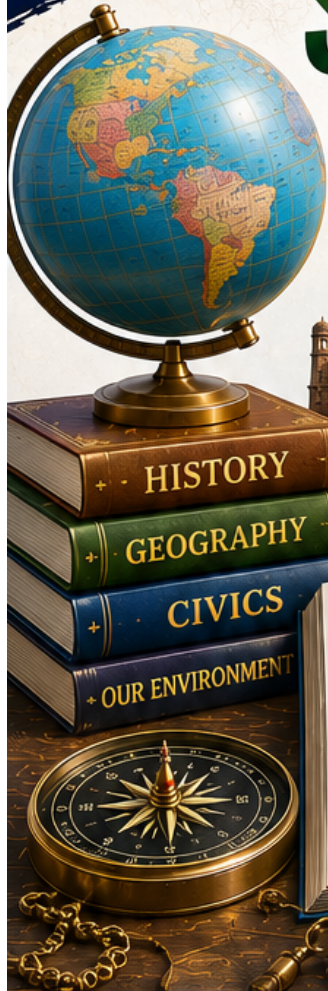
SOCIAL SCIENCE

PRACTICE WORKSHEETS

BASED ON NCERT | COMPETENCY-BASED LEARNING

Explore • Understand • Connect

-  CONCEPT BUILDER WORKSHEETS
-  MAP-BASED PRACTICE
-  CASE STUDY QUESTIONS
-  COMPETENCY-BASED QUESTIONS
-  HIGHER ORDER THINKING SKILLS (HOTS)
-  ANSWER KEY INCLUDED



HISTORY

- How, When and Where
- From Trade to Territory
- Ruling the Countryside
- Tribals, Dikus and the Vision of a Golden Age
- When People Rebel
- Colonialism and the Countryside
- Civilising the 'Native', Educating the Nation
- Women, Caste and Reform
- The Making of the National Movement: 1870s – 1947

Importance:

Helps us understand events, people and ideas that shaped our society and nation.



GEOGRAPHY

- Resources
- Land, Soil, Water, Natural Vegetation and Wildlife Resources
- Agriculture
- Industries
- Human Resources

Importance:

Helps us understand our planet, its resources and how to use them wisely for a sustainable future.



CIVICS

- The Indian Constitution
- Understanding Secularism
- Parliament and the Making of Laws
- Judiciary

Importance:

Helps us become responsible citizens who respect rights, follow rules and participate in democratic values.



SOCIETY & ENVIRONMENT

- Understanding Marginalisation
- Confronting Marginalisation
- Public Facilities
- Law and Social Justice
- Sustainable Development

Importance:

Encourages empathy, respect for diversity and responsible use of environment for a better world.

LEARNING OUTCOMES



GLOBAL AWARENESS



HISTORICAL THINKING



MAP READING SKILLS



RESPONSIBLE CITIZENSHIP



CRITICAL THINKING



SOCIAL UNDERSTANDING

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STD 8 — SOCIAL SCIENCE

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CHAPTER 1

Natural Resources and Their Use

Concept Builder • Concept Mastery • Exam Mastery • Answer Key

CBSE Class 8 — Social Science

Exploring Society: India and Beyond — Part 1

Chapter 1: Natural Resources and Their Use

A Three-Worksheet Learning Journey

Worksheet 1 – Concept Builder (Easy to Moderate)
Worksheet 2 – Concept Mastery (Moderate)
Worksheet 3 – Exam Mastery (Moderate to Advanced)
Followed by a Comprehensive Answer Key

Worksheet 1 — Concept Builder

Chapter: Chapter 1: Natural Resources and Their Use

Learning Objective: To build strong conceptual understanding of natural resources, their categories, and the principles of renewability before moving to higher-order application.		
Maximum Marks: 25	Estimated Time: 40 minutes	
Name: _____	Class/Section: _____	Date: _____

Section A: Multiple Choice Questions

Tick (✓) the correct option.

- An entity from Nature becomes a 'resource' only when it is: [1]
 - Found underground
 - Technologically accessible, economically feasible to exploit, and culturally acceptable
 - Owned by the government
 - Available only in developed countries
- Which of the following is a non-renewable resource? [1]
 - Sunlight
 - Wind
 - Petroleum
 - Timber
- The 'natural resource curse' refers to a situation where: [1]
 - A country has no natural resources at all
 - Resource-rich regions fail to convert resources into higher economic prosperity
 - Natural resources are cursed by ancient communities
 - Renewable resources run out permanently
- Which river's water-sharing dispute involves Karnataka, Tamil Nadu, Kerala and Puducherry? [1]
 - Brahmaputra
 - Godavari
 - Kaveri
 - Yamuna
- A mature tree produces approximately how many litres of oxygen per day? [1]
 - 50 litres
 - 150 litres
 - 275 litres
 - 500 litres

Section B: Fill in the Blanks

- _____ is the process of returning something to its original healthy state after it has been degraded or damaged. [1]
- The _____ system enabled merchants to transfer funds across political boundaries without physically carrying currency. [1]

8. India's coal reserves are estimated to last approximately _____ years at current rates of use. [1]
9. In _____ (year), Sikkim became a 100 per cent organic state. [1]
10. The International Solar Alliance was launched jointly by India and _____. [1]

Section C: Match the Following

Column A	Column B
1. Coal and petroleum	(a) Ancient Indian science of plant care
2. Solar and wind energy	(b) Punjab crisis after the Green Revolution
3. Overexploited groundwater	(c) Non-renewable resources
4. Cement production	(d) Renewable resources
5. Vrikṣhāyurveda	(e) A highly polluting industry

Write your matched pairs: 1-____ 2-____ 3-____ 4-____ 5-____

Section D: True or False

11. Renewable resources can never become scarce, no matter how they are used. [1]
12. Ecosystem services are the benefits humans receive from Nature's inherent functions. [1]
13. India has generally avoided the 'natural resource curse' by investing in industries that add value to its resources. [1]
14. Groundwater in most Indian states is being extracted faster than it is replenished. [1]
15. The hundi system was a form of ancient Indian currency made of gold. [1]

Section E: One-Word / Very Short Answers

16. Name the term used for the decline in the variety of life on Earth. [1]
17. Name the traditional Indian offering of water made to Sūrya, the sun-god. [1]
18. Name the type of fish whose population declined rapidly due to commercial overfishing. [1]
19. Name the state that faced a severe groundwater crisis after the Green Revolution. [1]
20. Name one metal that is classified as a non-renewable resource. [1]

Section F: Define the Following Terms

(1 mark each)

21. Define: Natural resources [1]
22. Define: Renewable resources [1]
23. Define: Ecosystem services [1]

Section G: Very Short Answer Questions

(2 marks each)

24. State two conditions that must be met before an element of Nature is considered a 'resource'. [2]

25. Give one example each of a resource essential for life, a resource for materials, and a resource for energy. [2]

Section H: Basic Short Answer Questions

(3 marks each)

26. Explain, with an example, the difference between restoration and regeneration in Nature. [3]

27. List three renewable resources and state the condition necessary for them to remain renewable. [3]

Section I: Simple Competency-Based Question

(3 marks)

28. Your neighbourhood municipality plans to set up rainwater harvesting pits in every home. Explain how this simple step helps in the 'restoration and regeneration' of a natural resource. [3]

Worksheet 2 — Concept Mastery

Chapter: Chapter 1: Natural Resources and Their Use

Learning Objective: To develop deeper understanding, reasoning, and application skills by analysing causes, effects, comparisons, and real-life cases related to natural resources.		
Maximum Marks: 30	Estimated Time: 50 minutes	
Name: _____	Class/Section: _____	Date: _____

Section A: Concept-Based Multiple Choice Questions

- Which combination of factors is most responsible for glaciers melting faster than precipitation can replace them? [1]
 - Solar energy alone
 - Fossil fuel-driven industrialisation and deforestation
 - Traditional farming practices
 - The hundi system of trade
- The main reason cities are predicted to 'run out' of groundwater soon is: [1]
 - Rainfall has stopped completely
 - Extraction consistently exceeds the rate of natural replenishment
 - Groundwater is being exported to other countries
 - Groundwater naturally evaporates faster in cities
- Which statement best explains why the Green Revolution created a long-term sustainability problem in Punjab? [1]
 - It reduced the use of chemical fertilisers
 - It relied on high-yielding varieties needing more water, extracted using free/subsidised power
 - It banned the cultivation of wheat and paddy
 - It shifted farmers entirely to organic methods
- The 'paradox of plenty' is best illustrated when: [1]
 - A resource-poor nation becomes wealthy through trade
 - A resource-rich region fails to develop industries that add value to its resources
 - A country runs out of non-renewable resources
 - Renewable resources are shared fairly between neighbouring states

Section B: Assertion-Style Reasoning Questions

Read each pair of statements. Write whether Statement II correctly explains Statement I, and justify your answer in 1-2 lines.

- Statement I: Groundwater is considered a renewable resource. Statement II: Groundwater is replenished naturally through rainfall and infiltration, but only if extraction does not exceed this rate. [2]

-
- Statement I: India has largely avoided the natural resource curse. Statement II: India has invested in developing industries that convert raw natural resources into higher-value products. [2]

7. Statement I: Cement is considered one of the most polluting industries. Statement II: Cement production releases fine dust that damages lungs, reduces plant yields, and pollutes soil and water. [2]

8. Statement I: Nature's resources are unevenly distributed. Statement II: This uneven distribution has no effect on trade, settlement patterns, or international relations. [2]

Section C: Explain Why

(2 marks each)

9. Explain why petroleum found deep under the ocean may not always qualify as a 'resource'. [2]

10. Explain why traditional communities regulated fishing during the spawning season. [2]

Section D: Differentiate Between

(3 marks each)

12. Differentiate between renewable and non-renewable resources with one example each. [3]

13. Differentiate between ecosystem functions and ecosystem services, using a forest as an example. [3]

Section E: Compare and Contrast

(4 marks)

14. Compare the short-term benefits and the long-term consequences of the Green Revolution in Punjab, as reflected in the chapter. [4]

Section F: Cause and Effect

(2 marks each)

15. State one cause and one effect of the 'over-exploitation' of groundwater in Punjab. [2]

16. State one cause and one effect of industrial waste being discharged untreated into rivers. [2]

Section G: Case-Based Question

(4 marks)

17. Read the case and answer the questions that follow:

Pema's family farm in Sikkim faced declining yields and mounting debts from expensive chemical inputs. When the state government promoted organic farming, the family switched to compost and natural pest repellents such as neem and garlic, and grew multiple crops through the year. Yields dropped initially but recovered after about five years, and Sikkim became a 100% organic state in 2016, with rising incomes and returning biodiversity.

(i) Why did yields drop initially after the family switched to organic farming?

(ii) Identify two benefits Sikkim gained from becoming a fully organic state.

(iii) What does this case suggest about the trade-off between short-term and long-term gains in resource use?

Section H: Competency-Based Questions

(3 marks each)

18. A cement factory near your town is releasing untreated dust into the air. As an informed citizen, suggest three ways this could be addressed, using ideas from the chapter (regulation, alternatives, technology). [3]

19. Study the concept of 'stewardship' described in the chapter. Suggest two everyday actions a Class 8 student can take to practise stewardship of natural resources. [3]

Section I: HOTS (Higher Order Thinking Skills)

(3 marks each)

20. "Having abundant natural resources does not guarantee economic prosperity." Critically evaluate this statement using the concept of the 'natural resource curse'. [3]

21. If groundwater extraction in a region continues at the current rate for the next 20 years, predict two consequences for its residents and suggest one policy solution. [3]

Section J: Short and Long Answer Questions

(3-5 marks)

22. Describe, with examples, how temples historically functioned as centres of economic activity in relation to natural resources and trade. (3 marks) [3]

23. "Nature works in cycles where there is no waste." Explain this statement with reference to a forest ecosystem, and describe how human industrial activity disrupts this cycle. (5 marks) [5]

Worksheet 3 — Exam Mastery

Chapter: Chapter 1: Natural Resources and Their Use

Learning Objective: To simulate a real school examination and prepare students to score maximum marks through challenging, integrated, and analytical questions.		
Maximum Marks: 35	Estimated Time: 60 minutes	
Name: _____	Class/Section: _____	Date: _____

Section A: Challenging Multiple Choice Questions

- Which of the following best explains why groundwater, though technically renewable, is behaving like a non-renewable resource in parts of India today? [1]
 - Groundwater no longer exists in nature
 - Extraction rates far exceed natural replenishment rates in many states
 - Groundwater has been declared a non-renewable resource by law
 - Rainfall patterns have permanently stopped in India
- Which pair correctly matches a natural resource category with an example? [1]
 - Resource for materials — sunlight
 - Resource essential for life — marble
 - Resource for energy — wind
 - Resource for materials — air
- The Central Pollution Control Board's guidelines for cement factories are an example of: [1]
 - A ban on cement production
 - Regulatory stewardship to minimise industrial pollution
 - A trade agreement between states
 - A method of increasing cement demand
- Which statement about the International Solar Alliance is correct? [1]
 - It was launched by India and the USA in 1998
 - It is a coalition of sunshine-rich countries promoting solar power, launched by India and France in 2015
 - It focuses exclusively on coal-based energy
 - It was discontinued after five years
- Which of these is NOT a traditional practice supporting sustainable resource use mentioned in the chapter? [1]
 - Regulating fishing during the spawning season
 - Use of cow dung and natural fertilisers
 - Continuous over-pumping of groundwater using free power
 - Traditional water harvesting and rejuvenation of ponds and tanks
- The primary reason the Punjab groundwater map (June 2022) shows large 'red zones' (20-40m and >40m depth) is: [1]
 - Excessive rainfall in those districts
 - Decades of high extraction for water-intensive HYV wheat and paddy cultivation
 - Deliberate government withdrawal of water for export

(D) Natural desertification unrelated to farming

Section B: Mixed Competency Questions

(2 marks each)

7. A city council must choose between two water-supply investments: (a) large dams far from the city, or (b) reviving local traditional ponds and tanks. Using ideas of stewardship from the chapter, justify which approach better supports long-term sustainability. [2]

8. Identify one non-renewable resource you personally use every day and suggest a renewable substitute mentioned in the chapter. [2]

Section C: Source-Based Question

(5 marks)

"Concerned social scientists are clear on what we need to do: we must move toward a regenerative economy, an economy that operates in harmony with nature, repurposing used resources, minimizing waste, and replenishing depleted resources. We must return to the innate wisdom of nature herself, the ultimate regenerator and recycler of all resources."

— Christiana Figueres and Tom Rivett-Carnac, 'The Future We Choose'

(i) What does the term 'regenerative economy' mean, based on the passage? (1)

(ii) Identify two practices described in the chapter that reflect the idea of a 'regenerative economy'. (2)

(iii) According to the passage, what should humans learn from Nature? Relate this to one example from the chapter. (2)

Section D: Case-Study Question

(5 marks)

The Depth to Water Level Map of Punjab (June 2022) shows that districts such as Sangrur, Barnala, Patiala and Ludhiana fall in the 'over 20 metres' to 'over 40 metres' depth zones, while districts like Fazilka and Muktsar in the south-west show much shallower water levels (0-5 metres). Almost 80% of Punjab's area has been classified as 'over-exploited'.

(i) What does 'over-exploited' mean in the context of groundwater? (1)

(ii) Suggest two reasons why water levels might differ between districts like Sangrur and Fazilka. (2)

(iii) Recommend two long-term strategies the state government could adopt to reverse this trend. (2)

Section E: Analytical Questions

(3 marks each)

9. Analyse how the criteria of 'technological accessibility, economic feasibility, and cultural acceptability' together determine whether something becomes a usable resource. Illustrate with one example of your own. [3]

10. Analyse the relationship between uneven distribution of natural resources and international conflict, using at least one example from the chapter. [3]

Section F: Long Answer Questions

(5 marks each)

11. Describe the causes and consequences of the groundwater crisis in Punjab, and evaluate the steps that can restore ecological balance. [5]

12. "Sustaining life on Earth requires responsible and wise use of natural resources." Discuss this statement with reference to both renewable and non-renewable resources, using at least three examples from the chapter. [5]

Section G: Higher Order Thinking Skills (HOTS)

(3 marks each)

13. Evaluate whether India's investment in renewable energy (e.g., the International Solar Alliance, solar parks in Rajasthan) is sufficient to counter the risks of over-reliance on non-renewable resources. Justify your view. [3]

14. "Nature does not pay attention to political boundaries." Justify this statement using two examples of resource-sharing challenges from the chapter, and suggest how such tensions may be resolved. [3]

Section H: Integrated Chapter Questions

(4 marks each)

15. Using the concept of 'lokasangraha' (wellbeing of all) from the Bhagavad Gītā as mentioned in the chapter, explain how this ancient idea could guide modern policies on natural resource management. [4]

16. Trace the journey of a piece of cotton cloth from Nature to a finished product, identifying at each stage whether it involves a resource essential for life, a resource for materials, or a resource for energy. [4]

Section I: Revision Questions

(2 marks each — covering the entire chapter)

17. List any two categories used to classify natural resources based on their use. [2]

18. Name two traditional Indian systems/practices mentioned in the chapter that support sustainable resource use. [2]

19. What is 'biodiversity loss', and what human actions contribute to it according to the chapter? [2]

20. Why is soil considered both a resource essential for life and vulnerable to degradation? [2]

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COMPREHENSIVE ANSWER KEY

Chapter 1: Natural Resources and Their Use

Worksheet 1 — Concept Builder: Answers

Section A — MCQs

1. (B) Technologically accessible, economically feasible to exploit, and culturally acceptable
2. (C) Petroleum
3. (B) Resource-rich regions fail to convert resources into higher economic prosperity
4. (C) Kaveri
5. (C) 275 litres

Section B — Fill in the Blanks

6. Restoration
7. Hundi
8. 50 years
9. 2016
10. France

Section C — Match the Following

- . 1-(c) 2-(d) 3-(b) 4-(e) 5-(a)

Section D — True/False

11. False — renewable resources can become scarce/non-renewable if used faster than they regenerate.
12. True
13. True
14. True
15. False — a hundi was a written instruction for payment, not a form of currency.

Section E — One-Word/VSA

16. Biodiversity loss
17. Arghyam
18. Tuna
19. Punjab
20. Any one: iron / copper / gold

Section F — Definitions

21. Materials and substances that occur in Nature and are valuable to humans.
22. Resources that can restore and regenerate themselves over time if used sustainably (e.g., sunlight, wind, water, timber).
23. Benefits that humans receive from Nature's inherent ecosystem functions, e.g., clean water from a forest that naturally filters it.

Section G-I — Short/Competency Answers (Marking Points)

24. Two conditions for an entity to become a 'resource':

- It must be technologically accessible.
- Its exploitation must be economically feasible and culturally acceptable.

25. Examples:

- Essential for life — water/air/food.
- For materials — wood/marble/metal ores.
- For energy — coal/sunlight/flowing water.

26. Restoration vs regeneration:

- Restoration: returning something to its original healthy state after damage (e.g., a cut on skin healing, a forest recovering after a wildfire).
- Regeneration: Nature's ability to create new life and conditions for thriving (e.g., new trees growing from fallen ones, enriching soil).

27. Renewable resources and their condition:

- Examples: solar energy, wind energy, flowing water, forest timber.
- Condition: the natural rhythm of restoration and regeneration must not be disturbed by over-extraction.

28. Marking points:

- Rainwater harvesting allows groundwater to be replenished naturally.
- It restores the water table depleted by extraction.
- It supports long-term water security for the community (regeneration).

Worksheet 2 — Concept Mastery: Answers**Section A — Concept MCQs**

1. (B) Fossil fuel-driven industrialisation and deforestation
2. (B) Extraction consistently exceeds the rate of natural replenishment
3. (B) It relied on high-yielding varieties needing more water, extracted using free/subsidised power
4. (B) A resource-rich region fails to develop industries that add value to its resources

Section B — Assertion-Style Reasoning

5. Statement II correctly explains Statement I — groundwater is renewable only when extraction stays within the natural replenishment rate; excessive extraction can effectively make it non-renewable.
6. Statement II correctly explains Statement I — investment in value-adding industries is precisely how India avoided the resource curse.
7. Statement II correctly explains Statement I — the specific pollution effects described justify why cement is classified as highly polluting.
8. Statement II does NOT correctly explain/contradicts Statement I — uneven distribution does significantly affect trade, settlement and international relations.

Section C — Explain Why

9. Because access requires suitable technology and economically feasible extraction cost; if extraction is too costly or technologically impossible, it does not qualify as a usable resource despite being present.
10. To allow the fish population to breed and recover, maintaining the long-term availability of fish stocks (a renewable resource) instead of depleting them.

Section D — Differentiate Between**12. Renewable vs non-renewable:**

- Renewable resources can restore/regenerate over time if sustainably used, e.g., solar energy, timber.

- Non-renewable resources form over very long geological periods and cannot be replenished at the rate of use, e.g., coal, petroleum, metal ores.

13. Ecosystem functions vs ecosystem services:

- Ecosystem functions are Nature's inherent processes, e.g., a forest filtering water and preventing soil erosion.
- Ecosystem services are the human benefits derived from those functions, e.g., clean water, protected farmland, pollinated crops.

Section E — Compare and Contrast (Marking Points)

14. Green Revolution — short-term benefit vs long-term cost:

- Short-term: increased wheat/paddy yields, India became self-sufficient in food, farmers' incomes rose initially.
- Long-term: severe groundwater depletion (water table down to ~30m in large areas), health hazards from pesticide/fertiliser chemicals in groundwater, soil degradation, and long recovery time needed.

Section F — Cause and Effect

15. Cause: shift to water-intensive HYV crops plus free/subsidised power leading to over-pumping. Effect: groundwater level dropped to inaccessible depths (~30m), raising extraction costs and causing scarcity.

16. Cause: industries discharge waste that cannot decay naturally. Effect: rivers become poisonous and unable to support life, disrupting Nature's restoration cycle.

Section G — Case-Based (Marking Points)

17. Sikkim organic farming case:

- (i) Yields dropped initially because the soil needed time to recover from years of chemical fertiliser/pesticide use before natural fertility could be restored.
- (ii) Benefits: local biodiversity flourished (return of beneficial insects/birds), increased tourism, farmers' incomes grew by about 20%, and premium prices for organic produce (any two).
- (iii) It shows that sustainable practices may involve short-term losses but yield greater long-term ecological and economic benefits — a trade-off worth making for lasting stewardship.

Section H — Competency-Based (Marking Points)

18. Suggestions may include:

- Advocate for enforcement of Central Pollution Control Board guidelines for cement factories.
- Encourage the use of alternative, less-polluting materials (mud, plant-based, recycled plastic).
- Support adoption of dust-control/filtering technology at the factory (any three reasoned points accepted).

19. Everyday stewardship actions (accept any two reasoned answers):

- Reduce wasteful use of water and electricity at home.
- Support/participate in tree plantation or water-harvesting drives.
- Avoid single-use plastic and support recycling.

Section I — HOTS (Marking Points)

20. Evaluation should include:

- Resource abundance alone does not create wealth; it requires technology, skills, governance and industries to add value.
- Countries/regions that fail to build such capacity may remain economically weak despite resource wealth ('paradox of plenty').
- India's example of investing in industries shows how the curse can be avoided.

21. Predicted consequences and solution:

- Consequences: water scarcity affecting drinking water/agriculture; rising extraction costs and possible land subsidence.

- Solution: strict regulation of extraction combined with water harvesting/recharge programmes (accept other reasoned solutions).

Section J — Short/Long Answers (Marking Points)

22. Temples as economic centres:

- Ruling classes donated land and wealth (dāna) to temples.
- Temple managers developed irrigation systems, tanks, and pilgrim accommodations.
- Temples provided merchants with credit and funded internal and maritime trade.

23. Nature's cycle vs industrial disruption:

- In a forest, fallen trees decompose with the help of bacteria, fungi and insects, enriching the soil for new growth — a continuous, waste-free cycle.
- Industrial waste, however, often cannot decay naturally and is discharged into rivers, disturbing this cycle and making water bodies unable to support life.
- This shows human activity can break Nature's inherent regenerative balance unless waste is managed responsibly.

Worksheet 3 — Exam Mastery: Answers

Section A — Challenging MCQs

1. (B) Extraction rates far exceed natural replenishment rates in many states
2. (C) Resource for energy — wind
3. (B) Regulatory stewardship to minimise industrial pollution
4. (B) It is a coalition of sunshine-rich countries promoting solar power, launched by India and France in 2015
5. (C) Continuous over-pumping of groundwater using free power
6. (B) Decades of high extraction for water-intensive HYV wheat and paddy cultivation

Section B — Mixed Competency (Marking Points)

7. Marking points:

- Reviving local ponds/tanks aligns with 'stewardship' — it works with Nature's own restorative cycles and recharges the local water table.
 - Large distant dams may displace communities and disrupt ecosystems; local traditional systems are more sustainable and community-managed.
8. Any reasoned example, e.g., petrol/diesel (non-renewable) → solar/electric-vehicle power (renewable substitute).

Section C — Source-Based (Marking Points)

(i-iii). Marking points:

- (i) An economy that repurposes used resources, minimises waste, and replenishes depleted resources instead of depleting Nature.
- (ii) Examples: organic farming in Sikkim; traditional water harvesting and pond rejuvenation; regulated/seasonal fishing practices; use of natural fertilisers (any two).
- (iii) Humans should learn Nature's 'wisdom' of restoration and regeneration — e.g., the forest cycle where fallen trees enrich soil for new growth, which industries should try to emulate by minimising waste.

Section D — Case-Study (Marking Points)

(i-iii). Marking points:

- (i) 'Over-exploited' means water is being drawn at a rate greater than the rate at which it can be naturally restored/rejuvenated.

- (ii) Reasons may include: differences in cropping patterns/water-intensive crops, differences in rainfall/canal irrigation access, differences in extent of groundwater pumping for irrigation (any two reasoned points).
- (iii) Strategies: promote crop diversification away from water-intensive paddy, regulate free power for pumping, invest in water harvesting and canal-based irrigation (any two reasoned points).

Section E — Analytical (Marking Points)

9. Marking points:

- All three criteria must be met together: technology to access it, economic feasibility to extract/use it, and cultural acceptability of exploiting it.
- Example: a sacred grove's trees may be technologically and economically usable as timber, but cultural/religious restrictions prevent their exploitation, so they are not treated as a resource.

10. Marking points:

- Since resources are unevenly distributed, countries/regions with scarce resources may seek control over resource-rich areas, leading to tension or conflict.
- Example from chapter: international disputes over shared river waters (e.g., Brahmaputra) or the general statement that 'many wars have been fought to gain control over natural resources'.

Section F — Long Answers (Marking Points)

11. Punjab groundwater crisis — causes, consequences, solutions:

- Causes: shift to water-intensive HYV wheat/paddy in the 1960s; free/subsidised power causing over-pumping; chemical fertiliser/pesticide use.
- Consequences: nearly 80% of Punjab classified as 'over-exploited'; water table inaccessible up to ~30m in places; groundwater contaminated with agro-chemicals causing health hazards.
- Solutions: crop diversification, regulated power/water pricing, traditional water harvesting, rejuvenation of ponds/tanks, reduced chemical input use (any reasoned combination).

12. Responsible use of renewable and non-renewable resources:

- Renewable: e.g., solar/wind energy and timber must be used within their capacity to regenerate (International Solar Alliance, solar parks in Rajasthan).
- Non-renewable: e.g., coal and petroleum should be used judiciously since reserves (~50 years for coal) cannot be replenished; transition to renewable substitutes is necessary.
- Overall discussion should link responsible use to stewardship, restoration, and regeneration as described in the chapter.

Section G — HOTS (Marking Points)

13. Evaluation should cover:

- Positive: India's solar initiatives (International Solar Alliance, Bhadla Solar Park) show real progress toward renewable energy leadership.
- Limitation: overall energy demand is still rising fast and coal remains a major source; continued and accelerated investment is needed.
- Balanced conclusion: progress is meaningful but not yet sufficient alone; must be paired with judicious use of non-renewables.

14. Marking points:

- Example 1: sharing of Kaveri river water among Karnataka, Tamil Nadu, Kerala and Puducherry required negotiation.
- Example 2: shared international rivers such as the Brahmaputra create cross-border resource tensions.
- Resolution: negotiation, deft management, and international/inter-state agreements (as noted in the chapter).

Section H — Integrated Questions (Marking Points)

15. Lokasangraha and resource policy:

- Lokasangraha means transcending personal desire and acting for the wellbeing of all.
- Applied to resource policy: individuals, industries and governments would prioritise collective/long-term wellbeing over short-term private profit, e.g., regulating over-extraction for the common good.

16. Cotton cloth journey (illustrative, accept reasoned equivalents):

- Cotton plant grown using soil, water, sunlight — resource essential for life stage.
- Cotton fibre harvested and spun into thread/cloth — resource for materials stage.
- Machines in textile mills powered by electricity (from coal/renewables) — resource for energy stage.

Section I — Revision Questions

17. Any two: resources essential for life, resources for materials, resources for energy (also acceptable: renewable and non-renewable).

18. Any two: Vṛikṣhāyurveda, traditional water harvesting, regulated/seasonal fishing, use of natural fertilisers/cow dung, multi-cropping.

19. Biodiversity loss is the decline in the variety of life on Earth; caused by pollution, irresponsible resource use, and climate change, among other human actions.

20. Soil is essential for life as it grows the food we eat, but improper use of chemical fertilisers/pesticides and unsustainable farming can degrade it, reducing its long-term fertility.