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Kodaikanal Lake: India’s Artificial Hill Lake

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Kodaikanal Lake: India’s Artificial Hill Lake

Kodaikanal Lake looks like part of the hills, but people made it. A Collector dammed a marshy hollow in 1863. This lesson covers who built it, where it sits, how big it is, and how to spot it in an exam.

Must know: who built the lake, and where it is

1 Who built Kodaikanal Lake, and how?

Kodaikanal Lake was created in 1863. Tamil Nadu Tourism names the builder as Sir Vere Henry Levinge, Collector of Madurai. The survey says he had retired and settled in Kodaikanal.

What was there before the lake?

The site was a marshy hollow. Three streams flowed into it. A rapid assessment survey by the Tamil Nadu Department of Environment says an earthen dam was built there. The dam held the water back and the lake formed behind it.



Kodaikanal Lake with its boathouse and boats. Photo: Yukesh, public domain, via Wikimedia Commons (File:Kodaikanal-lake.jpg, commons.wikimedia.org/wiki/File:Kodaikanal-lake.jpg). Resized. It replaces an older photo by Kreativeart, CC BY-SA 4.0 (File:Kodaikanal Lake (Princess of Hill stations), Tamil Nadu, India.jpg, on Commons).

Is the lake natural?

No. A natural lake forms without a builder. Kodaikanal Lake began with a human decision to build a bund.

What else did Levinge do?

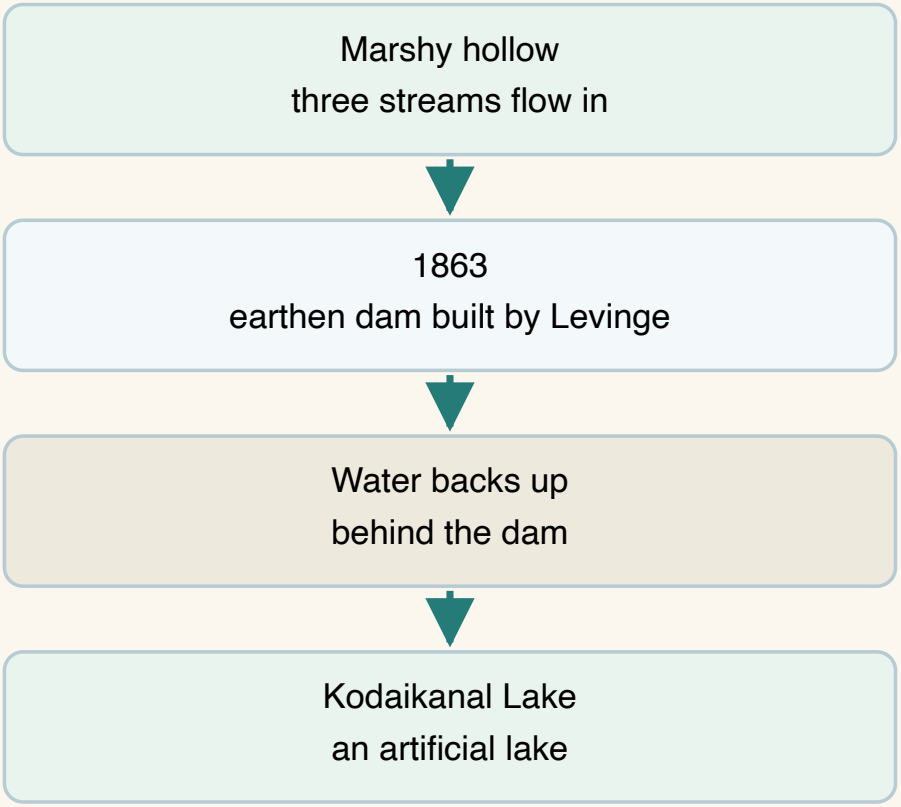
The survey says he stocked the lake with fish. It adds that he brought the first boat from Tuticorin. The same survey says he had retired and settled in Kodaikanal.

What are the four facts to remember?

- 01 Built in 1863, by damming a marshy hollow.
- 02 Built by Sir Vere Henry Levinge, Collector of Madurai.
- 03 Sits in the Palani Hills, part of the Western Ghats in Tamil Nadu.
- 04 Star-shaped, with four points, but made by people and not by nature.

Quick check 1. Kodaikanal Lake was made by building a dam across a marshy hollow fed by three streams. *(True or False?)*

See answer ↓



A human-made lake, step by step. Original explanatory diagram.

Sources: tamilnadutourism.tn.gov.in; prod-qt-images.s3.amazonaws.com

2 Where is Kodaikanal Lake?

The lake lies in the town of Kodaikanal. The town is in Dindigul district of Tamil Nadu. It sits in the Palani Hills, part of the Western Ghats. The survey places the lake at about 10°14′ N and 77°28′ E.

How high is it?

Sources give different heights. The survey gives 2,133 metres for the town and 2,285 metres for the lake. The Dindigul district website says 7,200 feet, which is about 2,195 metres. All agree on one point. The lake is above 2,000 metres.

What is the climate like?

The survey gives an average rainfall of 165 cm a year. The heaviest rain falls between October and December. Summer is mild, with a maximum near 19.8 °C and a minimum near 11.3 °C.

Why call it a hill-station lake?

The survey calls Kodaikanal the “Princess of Hill Stations”. It says the lake forms the heart of the resort. The Dindigul district site also notes the Kodaikanal Solar Observatory, set up in 1899.

Which hill range is it?

It is the Palani Hills. The Dindigul district site places the town in the upper Palani Hills of the Western Ghats. It is not in the Nilgiri Hills.

> **Quick check 2.** Kodaikanal Lake lies in the Nilgiri Hills. *(True or False?)* See answer ↓

Sources: prod-qt-images.s3.amazonaws.com; dindigul.nic.in

3 What are the lake's shape and size?

The lake is star-shaped. Tamil Nadu Tourism calls it a star-shaped lake. The survey calls it starfish-shaped, with four points. Learn “star-shaped” for exams.

How big is it?

The survey puts the area at about 24 to 26 hectares. It also gives about 65 acres. The perimeter is about 4.8 km. The numbers differ a little by page. Sources round or measure differently.

How deep is it?

Pages disagree on depth. Tamil Nadu Tourism says 3 metres. The survey lists a maximum depth of 10 metres in one place and 11.5 metres in another. It gives an average of about 2 metres. Do not memorise a single depth.

Where does the water come from?

Rainfall is the main source. The survey calls it a freshwater lake. The hills around it are its watershed. A watershed is the land that drains into a water body.

Where does the water go?

The outflow from the lake forms a waterfall of about 180 feet. This is the Silver Cascade. The survey places it 8 km downstream of the outlet.

> **Quick check 3.** The lake's star shape was cut by a river over thousands of years. *(True or False?)* See answer ↓

Sources: tamilnadutourism.tn.gov.in; prod-qt-images.s3.amazonaws.com; kodaikanaltourism.co.in

4 How do you spot Kodaikanal Lake among other lakes?

Exam questions often list four lakes and ask for the artificial one. Knowing the other three makes the choice easy.

What are the other three lakes?

- Kolleru, Andhra Pradesh: A 2006 Supreme Court judgment says it lies between the deltas of the Krishna and Godavari. The judgment is annexed to a National Green Tribunal filing. It recites a 1999 Andhra Pradesh notification, which gives natural geological formation as its reasoning. The Ramsar factsheet lists it as a Ramsar site, designated on 19 August 2002.
- Nainital, Uttarakhand: NCERT lists it among India's important freshwater lakes. A Geological Survey of India paper says the lake basin lies close to the Main Boundary Fault, a regional tectonic feature.
- Renuka, Himachal Pradesh: It is in Sirmaur district. The Ramsar factsheet lists it as a freshwater lake and marshes, designated on 8 November 2005. Its area is 20 hectares.

How do you tell a built lake from a natural one?

Ask one question. Did someone build a dam or bund to hold the water? If yes, the lake is human-made. Kodaikanal Lake began that way. NCERT gives Guru Gobind Sagar, behind the Bhakra Nangal dam, as another lake made by a dam.

How did UPSC test this?

The official 2018 key lists A for Q77. This lesson did not open the question paper, so it does not give the option text.

(Source: UPSC CSP 2018 answer key.)

Quick check 4. Nainital Lake, like Kodaikanal Lake, was made by building a dam. *(True or False?)* See answer ↓

How do they differ?

Kodaikanal: dam across a hollow (1863)

Kolleru: between Krishna and Godavari deltas

Nainital: near the Main Boundary Fault (GSI)

Renuka: Ramsar freshwater lake

Only Kodaikanal is described here as built by a dam. Original explanatory diagram.

Sources: giz.de; greentribunal.gov.in; web.archive.org; media.geolsoc.org.uk; upsc.gov.in

Good to know: boating, wildlife and threats

5 How did boating and tourism begin at the lake?

Levinge brought the first boat from Tuticorin. Boating then grew in steps. Learn the three dates in order.

What are the key dates?

- 1890: a boat club was formed.
- 1910: a new boathouse was built.
- 1932: the boat service was opened to the public and tourists.

The survey's fact table gives 1929 for the start of boating. Its history section gives 1932 for public boating. Use 1932 for the public service.

What is on the lake today?

Visitors use rowing and pedal boats. Tamil Nadu Tourism says there is a Kodaikanal Boat Club. The survey names two boating clubs. These are the Kodaikanal Boat Club and the Tamil Nadu Tourism Development Corporation club.

What events bring crowds?

The survey says a boat pageant and a flower show are held during the summer festival.

Sources: prod-qt-images.s3.amazonaws.com; tamilnadutourism.tn.gov.in

6 What lives in and around the lake?

The survey lists the plants and animals it found. It lists birds, fish and water plants among the lake's inhabitants.

Which animals are named?

- Birds: moorhen, common kingfisher, pond heron and large pied wagtail.
- Fish: danio, rasbora, mosquito fish and rosy barb.
- Insects: the pond skater.

Which plants are named?

The survey names the blue water lily and hydrilla.

What about the hills around?

Tamil Nadu Tourism says the kurinji blooms once in 12 years in the lake's catchment. A catchment is the land that drains into the lake.

Sources: prod-qt-images.s3.amazonaws.com

Great to know: threats, and why the numbers differ

7 Why is the lake in trouble?

A 2009 survey by the Tamil Nadu Department of Environment warns that tourists endanger hill-station lakes and the life that depends on them. It names three causes.

What are the three threats?

- Unrestricted tourism, with plastic and glass bottles found on the shores.
- Damaged fibreglass boats left in the lake.
- Cattle grazing around the lake.

Fibreglass does not break down easily. It stays in the water for a long time. The survey says that, owing to continued silting, several hill-station lakes have lost capacity to hold water.

What did the water tests find?

The team took samples at four sites and three depths. These were the surface, the middle and the bottom. Dissolved oxygen, or DO, is the oxygen in the water. Below 5 mg/l, aquatic life is under stress.

The survey text says the bottom layer varied from 2.4 to 4.8 mg/l. Its Table 4 lists a bottom minimum of 2.1 mg/l. Down To Earth also reports 2.4 mg/l at the bottom and 3.5 mg/l in the middle layer in 2009.

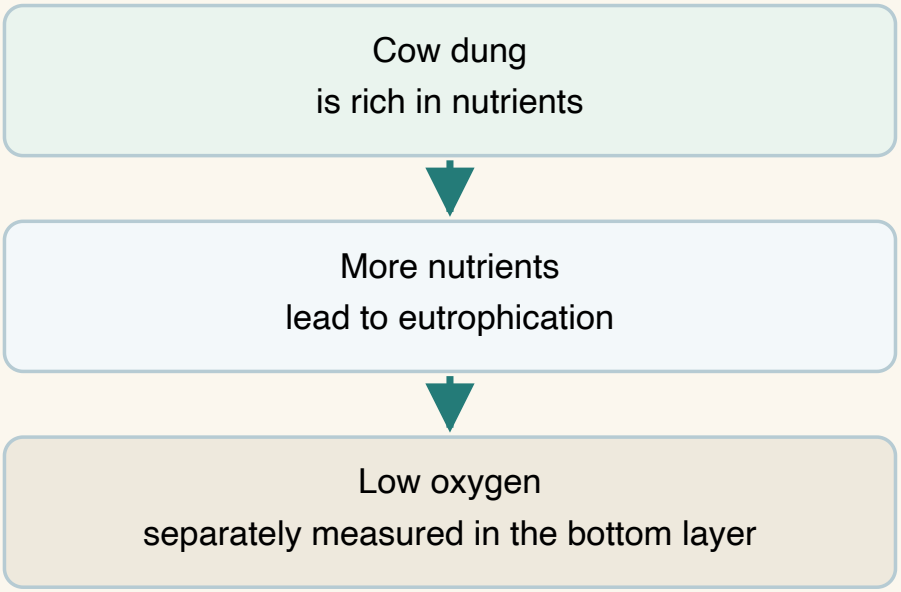
What is BOD, and why does it matter?

BOD is biochemical oxygen demand. It is the oxygen used by microbes to break down waste. A high BOD means organic pollution. The survey measured 11 to 14.62 mg/l. It says the high BOD may be due to runoff from a nearby sewage outlet, leaf fall and urine of domestic animals.

What is eutrophication?

Cow dung is rich in nutrients, says the survey. An increase in nutrients leads to eutrophication.

Quick check 5. Dissolved oxygen below 5 mg/l is a sign of a healthy lake. *(True or False?)* See answer ↓



One chain of cause and effect. Original explanatory diagram.

Sources: prod-qt-images.s3.amazonaws.com; downtoearth.org.in

8 Why do sources give different numbers for the lake?

You will see different heights, areas and depths for the same lake. This is a reading skill, not a flaw in your notes.

Which numbers differ?

- Height: 2,133 m, 2,285 m or 7,200 ft.
- Area: about 24 ha, about 26 ha or about 65 acres.
- Depth: 3 m, 10 m or 11.5 m.

- Boating start: 1929 or 1932 in two parts of one report.

Why might they differ?

Sources measure different things. One may give the town and another the lake. The survey itself warns of silting. No source here ties the depth figures to silt, so treat that as a possible reason only.

How should you answer an exam question?

Use three steps. Match the idea first: built in 1863 by a Collector. Then match the shape: star. Last, ignore decimals unless the question names its source.

What stays the same in every source?

The sources opened for this lesson agree on the key facts. The lake was built, it is star-shaped, and it lies in the Palani Hills of Tamil Nadu. ENVIS and Tamil Nadu Tourism both give 1863.

Sources: prod-qt-images.s3.amazonaws.com; tamilnadutourism.tn.gov.in; dindigul.nic.in

Review the feedback after each answer. The understanding-check score lasts for this page session.

Reset the checks when you want another attempt. This score is separate from the Native Practice score below.

Questions to think through

Why does one fact, the dam, decide whether a lake is artificial?

A lake held back by a bund exists because someone built it. Kodaikanal began with a bund across a marshy hollow.

Why is the hill range easy to confuse?

Kodaikanal is a famous hill station with a lake at its centre. Kodaikanal is in the Palani Hills.

What does the survey link to the lake's low oxygen?

The survey says cow dung is rich in nutrients. It says more nutrients lead to eutrophication. It separately measured low oxygen in the bottom layer.

Why can two sources give different depths for the same lake?

They may measure different points or different years. The survey says silting has reduced the mean depth of several hill-station lakes. No source ties these depth figures to silt. Learn the big facts and treat decimals with care.

Practice MCQs

1. Which one of the following is an artificial lake?

A. Nainital (Uttarakhand)

B. Renuka (Himachal Pradesh)

C. Kodaikanal (Tamil Nadu)

D. Kolleru (Andhra Pradesh)

See answer ↓

2. In what year, and by whom, was Kodaikanal Lake created?

A. It has existed naturally for centuries

B. 1901, by a British tea company

C. 1863, by the Collector of Madurai

D. 1947, at Indian independence

See answer ↓

3. Kodaikanal Lake lies in which hill range?

A. Nilgiri Hills

B. Palani Hills

C. Anamalai Hills

D. Cardamom Hills

See answer ↓

4. How was Kodaikanal Lake formed?

A. By a glacier scooping out a basin

B. By an earthen dam across a marshy hollow fed by three streams

C. By tectonic movement that formed a depression

D. By a river leaving an old loop

See answer ↓

5. From which port was the first boat brought to Kodaikanal Lake?

A. Chennai

B. Mangalore

C. Tuticorin

D. Kochi

See answer ↓

6. The overflow from Kodaikanal Lake forms which waterfall, about 180 feet high?

A. Jog Falls

B. Athirappilly Falls

C. Hogenakkal Falls

D. Silver Cascade

See answer ↓

7. Which of these did a 2009 Tamil Nadu ENVIS survey of Kodaikanal Lake name as a threat to hill-station lakes?

A. Large-scale sand mining in the lake bed

B. Salt water entering from the sea

C. Damaged fibreglass boats left in the lake

D. Release of water from a hydropower dam

See answer ↓

8. Kolleru Lake in Andhra Pradesh lies between the deltas of which two rivers?

A. Godavari and Penna

B. Krishna and Godavari

C. Krishna and Pennar

D. Godavari and Mahanadi

See answer ↓

Answer Key

1. **C.** Kodaikanal Lake was made in 1863 by damming a marshy hollow. An NGT filing quotes a 2006 Supreme Court judgment that recites a 1999 notification. That notification gives natural geological formation as its reasoning for Kolleru. Nainital's lake basin lies close to the Main Boundary Fault. ↑ Q1
2. **C.** Kodaikanal Lake was created in 1863 under Sir Vere Henry Levinge, Collector of Madurai. A dam across a marshy hollow formed the lake. It is not a natural lake. ↑ Q2
3. **B.** Kodaikanal lies in the Palani Hills of the Western Ghats, in Dindigul district. The survey says the north-western Palani range is the lake's main watershed. ↑ Q3
4. **B.** An earthen dam was built in a marshy hollow where three streams flowed. The water backed up behind it. This makes the lake human-made, not natural. ↑ Q4
5. **C.** Levinge brought the first boat from Tuticorin. He had also stocked the lake with fish. Boating then grew through a boat club formed in 1890. ↑ Q5
6. **D.** The outflow from the lake forms the Silver Cascade. The survey says it is about 180 feet high and 8 km downstream of the lake outlet. The other three are famous falls elsewhere. ↑ Q6
7. **C.** The survey named three threats to hill-station lakes. These were unrestricted tourism, damaged fibreglass boats left in the lake, and cattle grazing. Fibreglass does not break down easily, so it stays in the water. ↑ Q7
8. **B.** The 2006 Supreme Court judgment, annexed to a National Green Tribunal filing, places Kolleru between the deltas of the Krishna and Godavari. It recites a 1999 notification. That notification gives natural geological formation as its reasoning for Kolleru. ↑ Q8

Quick-check answers

1. **True.** The survey says an earthen dam was built in a marshy hollow where three streams flowed. ↑ 1
2. **False.** It lies in the Palani Hills of the Western Ghats, in Dindigul district. ↑ 2
3. **False.** The lake was built in 1863. A river did not cut it. People dammed a marshy hollow. ↑ 3

4. **False.** NCERT lists Nainital among India's freshwater lakes. A Geological Survey of India paper says its basin lies close to the Main Boundary Fault. Kodaikanal is the artificial one. ↑ 4
5. **False.** Below 5 mg/l, aquatic life is under stress. The survey text gives the bottom layer as 2.4 to 4.8 mg/l. ↑ 5

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