Restoring Kerala's Natural Infrastructure

What is the issue?

\n\n

\n
- Kerala's post-flood reconstruction programme named 'the creation of new Kerala' requires rebuilding of manmade infrastructure.
\n
- But restoration of ‘natural infrastructure’ lost due to human interventions is equally pivotal to ensuring Kerala’s future security.
\n

\n\n

How is Kerala's natural infrastructure at present?

\n\n

\n
- **Forest cover** - When united Kerala was created in 1957, 36% of it’s land area constituted forests, which was reduced to 12% by 1990.
\n
- The Kerala Government's 2016 Economic Survey claimed that it had 19,230 sq.km of forests - around 50% of the total land area.
\n
- But out of the above, only 1,523 sq.km is classified as ‘dense’ forests, which is only 3.9% of the State’s land area.
\n
- Kerala is an ecologically fragile State where 75% of the land has a gradient of above 20%.
\n
- So the loss of dense forest cover of this magnitude is an invitation to disaster.
\n
- **Riverbeds** - Excessive sand mining, to feed constructions, has led to reduction in the water absorption/retention capacity of the river beds.
\n
- Based on sand audits conducted in 14 major rivers, it is found that sand extraction is up to 85 times in excess of the sand deposition.
\n
- **River basins** - The entire land mass of Kerala is the catchment area or

drainage basin of its 44 rivers and their 900 tributaries.
\n
- Many tributaries have been done to death and thousands of flood paths consisting of small streams, rivulets, etc., have been levelled for construction.
\n
- **Wetland** - Though not strictly classified as wetland, the once extensive network of 7.6 lakh hectares of paddy fields have played flood plains' role in Kerala.
\n
- About 80% of this has been levelled or converted for construction and commercial cultivation, and only 1.9 lakh hectares remain.
\n
- After 1980, uncontrolled tourism development has also contributed to this disruption.
\n

\n\n

How did forest destruction evolve?

\n\n

\n
- **Colonialism** - Major ecological destruction began in Kerala during the British colonial period, especially after the industrial revolution.
\n
- Notably, colonialism was also a period of 'green imperialism'.
\n
- Since the beginning of the 19th century, there have been attempts to clear forests.
\n
- **Plantations** - Forest clearance was in line with establishing commercial plantations of coffee, cinchona and tea.
\n
- Thus began the massive destruction of these structures called by the Madhav Gadgil Committee as 'water towers' of the Southern-Western Ghats.
\n
- In the beginning of the 20th century, rubber arrived in Kerala and spread like a parasite through the low-lying areas of the Western Ghats and the midlands.
\n
- Rubber also contributed to forest and biodiversity loss across Kerala, occupying 28% of the cropped area in the State today.
\n
- **Migration** - There was large-scale internal migration from coastal and

midland areas to the Western Ghats in Kerala.
\n
- Beginning in the first half of the 20th century and lasting till 1980, this also contributed to forest destruction.
\n
- This was widespread in the Idukki region of Travancore and Wayanad region of Malabar.
\n
- **Urbanisation** - The state witnessed rapid urbanisation and is today a suburban or 'rurban' (rural + urban = rurban) State.
\n
- Urbanisation made major demands on resources for construction and infrastructure projects.
\n
- **Stone quarries** - The explosion of stone quarries in the State after 1980 has been phenomenal.
\n
- Today, Kerala has over 5,000 quarries, out of which over 2,000 are in the Western Ghats.
\n
- **Hydro-power** - Yet another factor contributing to forest destruction is the over-dependence on hydro-power.
\n
- Out of the 58 small and big dams in Kerala, 35 are hydro-electric projects.
\n
- Together, they have contributed to destruction of over 350 sq.km of evergreen forests in the reservoir area alone.
\n
- Three major rivers have over a dozen dams each, which have altered the riverine ecosystem in many ways.
\n
- Besides, in many dams commissioned before 1971, the reservoir capacity has been significantly reduced due to silting.
\n
- So in extreme rain events, they are unable to hold water as per their designed capacity.
\n

\n\n

How can ecological restoration happen?

\n\n

\n
- The first crucial step would be the adoption of the Madhav Gadgil Committee

report and its implementation.
\n
- Kerala desperately needs a River Restoration Authority to rejuvenate the network of 44 rivers and their 900 tributaries, rivulets and countless streams.
\n
- In those rivers, a 'mining holiday' should be declared till the sandy riverbeds of about 12 feet each is restored in the respective rivers.
\n
- Sand obtained by de-silting of the dams could replace the quantity lost during this mining holiday. Pit mining should be totally banned.
\n
- 'Bar skimming', wherein every year only the surface two feet of the sandy riverbed is allowed to be removed manually should be legally mandated.
\n
- Currently, mining is done using earth-removing machines and jet pumps.
\n
- Restoration of the riverside flood plains lost to encroachment should be taken up.
\n
- This should be coupled with establishment of 'bio-shields' using local plant species, instead of cement and stone construction on the edges.
\n
- Equally important is the protection and preservation of Kerala's wetlands.
\n
- The programme to revive thousands of village ponds should be expanded to cover restoration of inland streams, canals and rivulets lost to human intervention.
\n
- Ecological restoration cannot prevent the recurrence of extreme rain events but can certainly ameliorate their impacts considerably.
\n

\n\n

\n\n

Source: BusinessLine

\n

SHANKAR IAS PARLIAMENT
Information is Empowering