

The Indian patent regime and its clash with the U.S. norms

(GS Paper 3, Science and Tech)

Why in news?

- The **U.S. Trade Representative (USTR)** said in its recent report that India was one of the most challenging major economies as far as IP protection and enforcement is concerned.
- It has decided to **retain India on its Priority Watch List along with six other countries-** Argentina, Chile, China, Indonesia, Russia and Venezuela.
- Among the issues raised in the report are concerns about **what can be patented, waiting times for obtaining patents, reporting requirements, and data safety.**

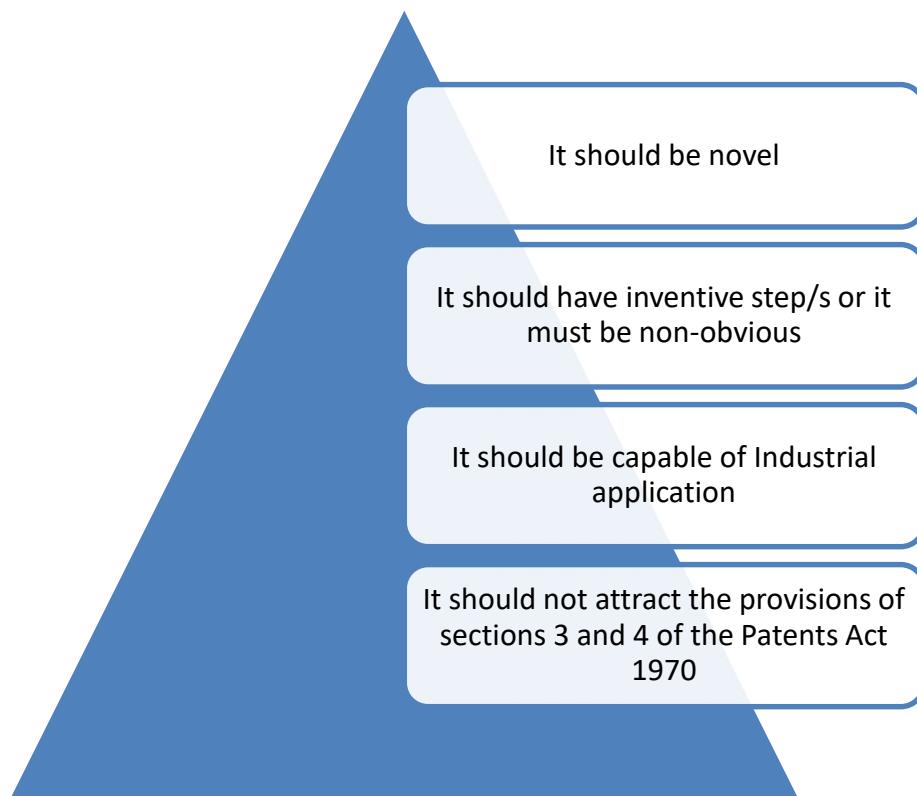
Review by Parliamentary Standing Committee in 2021:

- India had undertaken an intellectual property review exercise in 2021, where a Parliamentary Standing Committee examined the subject taking into account the views of the Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry; Confederation of Indian Industry (CII); Department of Pharmaceuticals, Ministry of Chemicals & Fertilizers; Department of Agriculture Research and Education, Ministry of Agriculture and Farmers' Welfare and Federation of Indian Chambers of Commerce and Industry (FICCI), as well as various legal associates.
- The Committee also undertook a study visit and interacted with various stakeholders and representatives from the Maharashtra and Goa State governments.

Indian patent regime:

- A **patent is an exclusive set of rights granted for an invention**, which may be a product or process that provides a new way of doing something or offers a new technical solution to a problem.

The Indian Patent Act of 1970 governs Indian patents. Under the act, patents are granted if the invention fulfils the following criteria:



India, a signatory to TRIPS & IPR related conventions:

- India has gradually aligned itself with international regimes pertaining to intellectual property rights. It became a party to the **Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement** following its membership to the World Trade Organization on January 1, 1995. Following this, it amended its internal patent laws to comply with TRIPS, most notably in 2005, when it introduced pharmaceutical product patents into the legislation.
- India is also a signatory to several IPR related conventions, including the **Berne Convention**, which governs copyright, the **Budapest Treaty**, the **Paris Convention for the Protection of Industrial Property**, and the **Patent Cooperation Treaty (PCT)**, all of which govern various patent-related matters.

Patents for pharmaceutical products in India:

- An interesting point is that the original Indian Patents Act did not grant patent protection to pharmaceutical products to ensure that medicines were available to the masses at a low price. This was based on the recommendations of a 1959 commission chaired by the jurist Rajagopala Ayyangar, so as to minimize if not eliminate the abuses to which a system of patent monopoly is capable of being put.”
- Patent protection of pharmaceuticals were re-introduced after the 2005 amendment to comply with TRIPS.

The challenges raised by USTR:

- In its India section, the Special 301 report highlighted a range of issues in domains ranging from copyright and piracy to trademark counterfeiting and trade secrets, saying that India “remained one of the world’s most challenging major economies with respect to protection and enforcement of IP.”
- The issue of **narrow patentability criteria was again raised in relation to Section 3(d) of the Patent Act**, with the report saying that in the pharmaceutical sector, the United States “continued to monitor the restriction on patent-eligible subject matter in Section 3(d) of the Indian Patents Act and its impacts.”

The Indian stance on narrow patentability:

- One of the main points of contention between India and the U.S. has been **Article 3(d) of the Indian Patent Act**.
- Section 3 deals with what does not qualify as an invention under the Act, and Section 3(d) in particular excludes “the mere discovery of a new form of a known substance which does not result in the enhancement of the known efficacy of that substance or the mere discovery of any new property or new use for a known substance or of the mere use of a known process, machine or apparatus unless such known process results in a new product or employs at least one new reactant” from being eligible for protection under patent law.
- The Parliamentary Standing Committee addressed this as well, which pointed out that the section “acts as a safeguard against frivolous inventions in accordance with the flexibility provided in the TRIPS agreement”.
- **Section 3(d) prevents what is known as “evergreening” of patents.**

Parliamentary Committee on “evergreening” of patents:

- According to the Committee’s report, Section 3(d) allows for “generic competition by patenting only novel and genuine inventions.”
- The Committee also refers to the seminal judgement in the case Novartis vs. Union of India, which upheld the validity of section 3(d). In this case, pharmaceutical company Novartis filed a patent for the final form of cancer drug Gleevec, which was challenged in the Supreme Court.
- The Supreme Court held that Gleevec was merely a beta crystalline form of a known drug, namely, imatinib mesylate, and did not differ significantly in properties with regard to efficacy. Hence, it could not be patented in India.

TRIPS, the Doha Declaration and public health exemptions

- The judgement also says that the section complies with the TRIPS agreement and the Doha Declaration.
- The Doha Declaration on the TRIPS Agreement and Public Health was adopted on November 14, 2001, by the WTO member states. This declaration recognises the “gravity of public health problems affecting developing and least developed nations” and stresses the need for TRIPS to be part of the wider national and international action to address these problems.

- Saying that the TRIPS agreement “does not and should not prevent members from taking measures to protect public health,” the declaration points out that the agreement “can and should be interpreted and implemented in a manner supportive of WTO members’ right to protect public health and, in particular, to promote access to medicines for all.”
- These flexibilities include the right to grant compulsory licenses and the grounds for such licenses, the right to determine what “constitutes a national emergency or other circumstances of extreme urgency, including public health crises” and the right to establish its own regime for the exhaustion of intellectual property rights.
- Compulsory licenses can be invoked by a state in public interest, allowing companies apart from the patent owner to produce a patented product without consent.

Resolve through bilateral dialogue:

- The Parliamentary Standing Committee argued that the provision was the catalyst for genuine innovations, preventing frivolous successive patents. It appreciated the fact that through Section 3(d), “India strives to balance the international patent obligations and its commitments to protect and promote socio-economic welfare and public health.”
- It indicated that India should resolve its differences with the U.S. regarding the disqualification of incremental inventions through bilateral dialogue.
- Recently, India, TRIPS and issues related to the global patent regime became relevant after India and several other countries sought a temporary waiver of certain provisions of the TRIPS agreement to deal with the COVID-19 pandemic. Waiving these rights was sought to promote manufacturing of vaccines, therapeutics, and equipment to deal with the pandemic.

Issues pertaining to courts:

- The USTR report too highlighted issues relating to judicial delays. The 2015 Commercial Courts Act offered an opportunity to reduce these delays and increase expertise but only a limited number of courts have benefited under the Act. Jurisdictional challenges are reducing the courts’ effectiveness, according to rights holders, and courts are also suffering due to inadequate resources and training.
- Moreover, the **abolishing of the Intellectual Property Appellate Board (IPAB)**, resulting in the redirection of courts has “created uncertainty around adjudication of IP cases and copyright royalty rate setting,” says the report.
- The Standing Committee too has expressed that the abolition of IPAB under Tribunals Reforms (Rationalisation and Conditions of Service) Ordinance, 2021 should be reconsidered in wake of its pivotal role in the adjudication of IPR appeals and cases.
- It recommends that rather than being abolished it should be empowered and strengthened with more structural autonomy, infrastructural, and administrative reforms, while also ensuring that the required officials and staff are appointed in a timely way.

Way Forward:

- U.S. and India will continue to engage on IP matters, the report says, especially through the Trade Policy Forum’s Intellectual Property Working Group.

When can a Rajya Sabha vote be rejected?

(GS Paper 2, Indian Constitution)

Why in news?

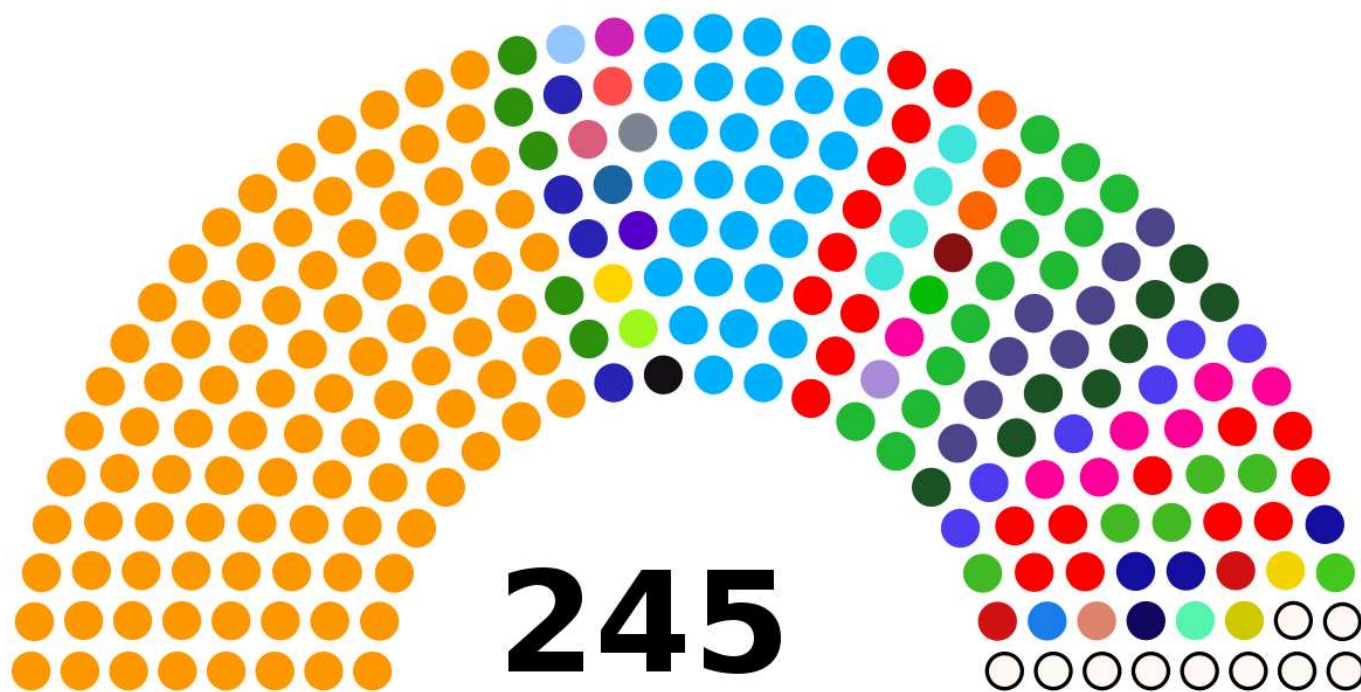
- Elections for 57 Rajya Sabha seats across 15 states **is on the cards**. With as many as 41 candidates having already been declared elected unopposed, the contest is on for 16 seats in four states — Maharashtra, Rajasthan, Haryana and Karnataka.

How Rajya Sabha Members are elected?

Members of the Rajya Sabha are elected through single transferable votes via an open ballot.

- Members of a state’s Legislative Assembly vote in the Rajya Sabha elections in what is called proportional representation with the single transferable vote (STV) system. Each MLA’s vote is counted only once.

- There have been multiple instances in the past where the votes of MPs and MLAs have been rejected due to violation of rules.



When the Election Commission turned to Article 324?

- In 2017, with the high-stakes Rajya Sabha election in Gujarat touching a nerve-racking finishing, the counting was delayed in three seats after the Congress asked the Election Commission (EC) to reject the votes of two of its rebels, who allegedly showed their ballot papers to unauthorised persons in the polling booth in Gandhinagar.
- Later, the EC disqualified two votes by Congress MLAs that were in favour of the BJP. The commission's order was made after the Congress petitioned it saying the two MLAs showed their votes to a BJP agent and therefore, stood invalid.
- The commission had invoked its constitutional powers to overrule the returning officer, who had declared the votes valid, and by doing so maintained the panel's neutrality.
- The **commission turned to Article 324** of the Constitution, which gives the **panel unprecedented powers to hold free-and-fair polls in situations not covered by the Representation of People's Act**, the law governing the election process in India.

How can votes be rejected in an open ballot system?

- **Open ballot voting applies in elections to Council of States only.** Every political party which has MLAs can appoint an authorised agent to verify whom its members have voted for.
- In 2016, Randeep Surjewala's vote was rejected after he showed it to another MLA instead of his party's authorised agent. Surjewala was an MLA in the 2016 Rajya Sabha elections in Haryana.

Can an authorised agent represent two parties simultaneously?

- No. The spirit behind Rule 39AA of the Conduct of Elections Rules, 1961 is that MLAs belonging to a political party shall show their ballot papers (after marking their vote) to the authorised agent of that party only and not to the authorised agent of other parties. As such, the same person cannot be appointed as the authorised agent of more than one party.

Can an MLA or minister be appointed as an authorized agent?

- There is no such restriction imposed by the EC in elections to the Council of States and State Legislative Council by MLAs.

Can an Independent MLA show his marked ballot paper to the authorised agent of any party?

- No, Independent MLAs are required to insert the marked ballot paper in the ballot box without showing the marked ballot to any agent.

What action is taken by the Presiding Officer/Returning Officer in case an elector belonging to a political party refuses to show his/her marked ballot paper to the authorised agent?

- In such a case, the ballot paper issued to the elector will be taken back by the Presiding Officer, or a polling officer under the direction of the Presiding Officer, and the ballot paper will be kept in a separate envelope after recording on the reverse side of the ballot paper “Cancelled-voting procedure violates”.
- A provision in sub-rules (6) to (8) of rule 39A of the Conduct of Elections Rules, 1961, shall apply in such cases.
- According to the EC, if the elector drops the ballot paper in the box without showing it to the authorised agent, then at the time of counting, the RO should first separate this concerned ballot paper and it shall not be counted.

Can votes be rejected if a ballot paper is marked with another pen?

- Yes, in the ballot paper, a MLA has to mark his or her choice of candidates by ranking them and they also have to use a special pen provided by the EC. If they use any other pen, or if their ballot papers remain incomplete, the vote would be regarded as invalid.
- In 2016, the EC directed the Haryana Police to register an FIR on the complaint of senior lawyer R K Anand against the Returning Officer for allowing the use of an unauthorised pen for voting in the Rajya Sabha election. The Congress party had alleged this was a deliberate fraud to make the party’s votes invalid.

India rebuts Environment Performance Index 2022 findings

(GS Paper 3, Environment)

Why in news?

- After being ranked at the bottom of the Environment Performance Index (EPI), India has rebutted the findings of the analysis saying its indicators are ‘extrapolated’ and based on ‘unfounded assumptions’.

ENVIRONMENT PERFORMANCE INDEX

NEIGHBOURHOOD: WHERE INDIA STANDS

Afghanistan	81	Pakistan	176
Sri Lanka	132	Bangladesh	177
China	160	India	180
Nepal	162		



TOP 5: Denmark, UK, Finland, Malta, Sweden

SOME KEY INDICATORS, AND INDIA

■ Biodiversity	179	■ Green House Gas emissions	171
■ Protected Areas	177	■ Biodiversity habitat index	170
■ Species Protection Index	175	■ PM 2.5	174
■ Air Quality	179	■ Waste management	151
■ Climate Policy	165		
■ Ecosystem vitality	178		

About Environment Performance Index (EPI):

- The EPI is an analysis by researchers of Yale and Columbia University which provides a data-driven summary of the state of sustainability around the world.
- Using 40 performance indicators across 11 issue categories, the EPI ranks 180 countries on climate change performance, environmental health and ecosystem vitality. These indicators provide a gauge at a national scale of how close the countries are to established environmental policy targets.

EPI Index 2022 findings:

- The United States placed at the 20th spot of the 22 wealthy democracies in the global west and 43rd overall.
- The lowest scores went to India (18.9), Myanmar (19.4), Vietnam (20.1), Bangladesh (23.1) and Pakistan (24.6).
- Most low-scoring countries are those that have prioritized economic growth over sustainability, or those that are struggling with civil unrest and other crises.
- India, with increasingly dangerous air quality and rapidly rising greenhouse gas emissions, falls to the bottom of rankings for the first time, the report read. China is placed 161st, with an overall EPI score of 28.4.

Index on India:

- India ranked at the bottom with a total score of 18.9, while Denmark was the top scorer as the world's most sustainable country.
- India is now ranked **last in a list of 180 countries** compared to 168th in 2020, having prioritised, per the report, "economic growth over environmental sustainability".
- It has been **ranked poorly across 40 indicators divided into 11 categories**—climate change mitigation, air quality, waste management, water and sanitation, heavy metals, biodiversity and habitat, ecosystem services, fisheries, agriculture, acid rain, and water resources.

Objections raised by India:

- Rejecting the findings, the environment ministry, said that India has already achieved the target of 40 percent of installed electricity capacity from non- fossil fuel-based sources.
- The government has also said that the effect of policies to reduce emissions like increase in renewables use, electric vehicles, creation of carbon sinks, etc, in the coming years should have been taken into account while assigning ranks on emissions by 2050. The EPI authors say only the current showing matters.

Projected GHG Emissions levels in 2050:

- Noting that the EPI has a new indicator in the Climate Policy objective which is 'Projected GHG Emissions levels in 2050', the Indian ministry said that 'it is computed based on average rate of change in emission of the last 10 years instead of modelling that takes into account a longer time period, extent of renewable energy capacity and use, additional carbon sinks, energy efficiency etc. of respective countries.'
- It said that **both forests and wetlands of the country** are crucial carbon sinks which **have not been factored in while computing the projected GHG emissions** trajectory up to 2050 given by EPI 2022.
- The principle of equity is given very low weightage in the form of the indicators like GHG emission per capita and GHG emission intensity trend.
- The **CBDR-RC** (Common But Differentiated Responsibilities and Respective Capabilities) principle **is also barely reflected in the composition of the index**.
- The indicators on water quality, water use efficiency, waste generation per capita which are closely linked to sustainable consumption and production are not included in the Index. The Index emphasizes the extent of Protected Areas rather than the quality of protection that they afford.

Biodiversity Indices:

- Management Effectiveness Evaluation of Protected areas and eco-sensitive regions is not factored into the computation of Biodiversity Indices.
- Again, the index computes extent of ecosystems but not their condition or productivity. Efforts must be made to include metrics that truly capture ecosystem productivity such that regulatory, provisioning as well as cultural services provided by various ecosystems like forests, wetlands, croplands are assessed and reflected in performance.

- It also pointed out that indicators like agro-biodiversity, soil health, food loss and waste are not included even though they are important for developing countries with large agrarian populations.
- India is party to Paris Agreement and has given a goal of NET ZERO by 2070 and hence comparing it to countries with projected 2050 emissions level in 2050 equal to or below zero receiving the maximum score is against the principle of Equity as enshrined in CBDR-RC.

Conclusion:

- The message embedded in India's poor score on net zero ambitions is that the developing world must pay for the sins of the developed world. Indeed, appropriate climate responsibility would mean developed nations adopting net zero targets for much earlier than 2050.

Real cures for water woes in Bundelkhand region

Context:

- The Bundelkhand region is spread over 13 districts of Central India in two states (Uttar Pradesh and Madhya Pradesh).
- Resolving water shortages in numerous villages and towns has been the most discussed development challenge in recent years.



Aspects:

- This has involved two aspects: **construction of large or medium dams** on the one hand and **undertaking decentralized, small-scale water conservation work** on the other hand.
- However, the balance of resource availability has favoured big projects, even though the performance of several has been much below expectation and has involved the displacement of people as well as other serious adverse effects.

Scrapping of the Ken-Betwa Link:

- In more recent times, this debate has been reflected most in terms of arguing for a **scrapping of the massive water-transfer project, the Ken-Betwa Link**, and using the huge funds allocated to it for small-scale water conservation work, including water harvesting, increasing forest cover and improving pastures and grasslands.
- The debate has also intensified on whether over 2.3 million trees which are threatened by the Ken Betwa Link project can be saved.

Shortcoming of Ken Betwa Link project:

- The Central Empowered Committee of the Supreme Court had presented a strong critique of several aspects of this project.
- Several independent experts have also criticised the threat to many villagers as well as to the Panna Tiger Reserve. Additionally, the **lack of clear evidence that surplus water still exists** in the Ken to divert it to the Betwa has been questioned.
- It is clear to those involved with water issues that if Ken-Betwa project funds are instead spent on small-scale water conservation and rainwater harvesting projects, apart from repairing and improving existing traditional water systems, as well as on increasing green cover in various ways, it will make a huge contribution to resolving the water crisis of Bundelkhand.

Reasons for water crisis in Bundelkhand:

- In the past, the **water crisis in Bundelkhand has been attributed to deforestation, mismanagement and wrong priorities** and not necessarily to inherent water shortage. It is important to remember that: Bundelkhand normally receives about 900 to 1000 mm. annual rainfall.
- Bundelkhand **has a network of seven major rivers** – Chambal, Sind, Betwa, Dhansan, Ken, Tons and Yamuna, and ten smaller rivers – Pahuj, Paisuni, Baghein, Sonar, Vyarma, Mahuar, Urmil, Lakheri, Jamni, Bina, and their numerous tributaries.
- This region had also been rich in traditional water collection sources.
- The **rainfall is capricious and erratic in amount, pattern, intensity and distribution**. Extreme deviations from the normal are quite common. **About 90 per cent of the total rainfall is received during four months, July to September**. The high intensity of rain hardly leaves any time for the water to infiltrate into the soil, and the deforestation has left little scope to capture the rainwater and transport it to ground-water levels.
- Among the regions to the south of the Himalayan Foothills, **Bundelkhand has a larger share of rocky formation with slopy terrain**. Because of the Vindhyan plateaus flanked by high steep cliffs, this region has an unusually **high rate of water run-off gushing towards the north**, creating deep gorges and rapids. This has meant greater problems of water retention.

Keeping in view these factors, the following solutions could work better for Bundelkhand:

Revival of Traditional Water Sources:

- In recent decades many traditional sources of water have suffered from neglect. Adequate resources should be made available for repair, cleaning and maintenance of traditional water sources.
- Notably, the **reservoirs constructed at the foothills by the Chandelas** between the ninth and thirteenth centuries and **by the Bundelas later**, are still existing, partially fulfilling the need for irrigation and even drinking water in their respective areas.
- All these reservoirs seem to have been scientifically designed with the provision of spillways for surplus water. Some reservoirs are found to have been connected with canals which were used as recharging sources for the downstream irrigation wells and/or for irrigating the fields directly.
- In addition, **check dams, weirs, barrages, wells, step-wells (bavdis) and artesian wells** were constructed. Bundelkhand has, thus, a glorious tradition of reservoirs, tanks, ponds, wells, which have gone into disuse in certain parts of the region. Adequate efforts should be made to protect the traditional water sources and their catchment areas, whenever possible.

New Water-Harvesting Work:

- **Learning from the traditional well-constructed structures** which have lasted for so long, new tanks, check dams, field ponds and wells need to be created where feasible.

- In Patha or plateau areas, there is good scope for creating low-cost drinking water sources by tapping small natural springs and creating small well-like structures around them to keep the water clean.
- Contour bunding on gently sloping terrain.
- **Construction of several water ponds** with each of them being at least 8 meters deep. The surface area of each pond can vary from a tenth of a hectare to one or two hectares. They should be so located that each has a catchment area fifty to a hundred times its surface area.
- A depth of eight meters is necessary since the average evaporation over the Bundelkhand area is two to three meters of water per year. Water from some of these tanks can be pumped into deep wells as a method of recharging groundwater.
- Individual houses or **housing complexes should have underground, cement-lined “reservoirs”** into which the rainwater falling on the roofs of the buildings and the open spaces around them can be led through suitable closed pipes or channels.
- **Shallow broad area percolation tanks should be used.** Due to the heaviness of our rainfall, it is less penetrating in proportion to quantity than in those countries where much of it falls in a state of fine division. The rate of penetration over Bun- the delkhand area is likely to be 10 to 15 per cent of the monsoon rainfalls. Hence the need for special efforts to increase the groundwater recharge.

Protect Forests, Plant More Trees:

- As forests of this region have been badly depleted in recent years, there is a clear need to protect whatever is left and to plant many more trees.
- **A massive effort for afforestation of the hills** can be successful only with the close involvement of people.
- **Mixed indigenous species should be planted**, trying to mimic natural local forests as much as possible.
- **Development of grasslands, as sources of fodder for cattle** is necessary to prevent cattle grazing in the slopes of the hills. Grasslands, apart from providing fodder and contributing to the success of afforestation of hills, will help to soak of the rain and recharging groundwater.

Making use of Mangal Turbine:

- A farmer scientist of Bundelkhand Mangal Singh had invented the Mangal Turbine to provide a means of lifting water from streams without using diesel or electricity.
- The Maithani Committee appointed by the Rural Development Ministry, Government of India, as well as several officials and independent experts have praised this invention.
- Although this has wider relevance, as it was invented in the special conditions of Bundelkhand, its relevance is particularly high for the region.

Way Forward:

- If proper priorities are decided and adequate attention is given to these aspects, water scarcity can be tackled effectively and there is no real need for implementing costly and dubious projects like the Ken-Betwa Link.