

CONSTITUTION AND POLITY**Efficiency and quota in promotions — what Supreme Court has said**

The order by a two-Judge bench of Justices D Y Chandrachud and U U Lalit held that a Karnataka statute allowing for reservation in promotions of SCs/STs is valid — the court had, in September 2018, held there was no need to revisit the M Nagaraj case (2006) which spoke of quantifiable data being necessary to decide on reservation.

Background

- In agitations and annoyance among Dalits and Scheduled Tribes about the “next stage” in the debate over quotas, reservations in promotions have been a big bone of contention.
- While the Central government has maintained it is now in favour of reservations in promotions, the Supreme Court had, in a series of orders over the years, verged on the conservative.

Latest order

- The order by a two-Judge bench of Justices D Y Chandrachud and U U Lalit upheld a Karnataka statute, allowing for reservations in promotion.
- The order stated that inclusive development, and not meritocracy, that were key to ensuring meaningful and substantive equality.

Balancing Merit and Social justice

- Details of order – The Order said: “.. A ‘meritorious’ candidate is not merely one who is ‘talented’ or ‘successful’, but also one whose appointment fulfils the constitutional goals of uplifting members of the SCs and STs, and ensuring a diverse and representative administration.”
- Article 335 – Article 335 of the Constitution states that the “claims of the members of the Scheduled Castes and the Scheduled Tribes shall be taken into consideration, consistently with the maintenance of efficiency of administration, in the making of appointments to services and posts in connection with the affairs of the Union or of a State”.
- Forming a well-governed society – Since inclusion is inseparable from a well-governed society, there is, in our view, no antithesis between maintaining the efficiency of administration and considering the claims of the SCs and STs to appointments to services and posts in connection with the affairs of the Union or of a State.”
- No reduction in efficiency by reservations – The Constitution does not define what the framers meant by the phrase efficiency of administration. Article 335 cannot be construed on the basis of a stereotypical assumption that roster-point promotees drawn from the SCs and STs are not efficient or that efficiency is reduced by appointing them.”
- No abstract criteria for measuring efficiency – The benchmark for the efficiency of administration is not some disembodied, abstract ideal measured by the performance of a qualified open category candidate,” the judges said.
- Definition of efficiency – Efficiency of administration in the affairs of the Union or of a State must be defined in an inclusive sense, where diverse segments of society find representation as a true aspiration of governance by and for the people. If, as we hold, the Constitution mandates realisation of substantive equality in the engagement of the fundamental rights with the directive principles, inclusion together with the recognition of the plurality and diversity of the nation constitutes a valid constitutional basis for defining efficiency.

Conclusion

- Our benchmarks will define our outcomes.
- Efficiency not by exclusion – If this benchmark of efficiency is grounded in exclusion, it will produce a pattern of governance which is skewed against the marginalised.
- Root in equal access – If this benchmark of efficiency is grounded in equal access, our outcomes will reflect the commitment of the Constitution to produce just social order.
- Otherwise, our past will haunt the inability of our society to move away from being deeply unequal to one which is founded on liberty and fraternity.”

Vacation Bench of Supreme Court

Recently Hon’ble Supreme Court has notified its annual summer holiday from May 13, and listed the judges who will occupy the Vacation Benches for hearing urgent matters during this period.

Vacation Bench

- A Vacation Bench of the Supreme Court is a special bench constituted by the Chief Justice of India.

- The court takes two long vacations each year, the summer and winter breaks, but is technically not fully closed during these periods.
- Litigants can still approach the Supreme Court and, if the court decides that the plea is an “urgent matter”, the Vacation Bench hears the case on its merits.
- While there is no specific definition as to what an “urgent matter” is.
- During vacations the court generally admits writs related to habeas corpus, certiorari, prohibition and quo warranto matters for enforcement of any fundamental right.

Legal Provisions for Vacation Bench

- Under Rule 6 of Order II of The Supreme Court rules, 2013 the CJI has nominated the Division Benches for hearing of urgent miscellaneous matters and regular hearing matters during the summer vacation for the period.
- The rule reads that CJI may appoint one or more Judges to hear during summer vacation or winter holidays all matters of an urgent nature which under these rules may be heard by a Judge sitting singly.
- And, whenever necessary, he may likewise appoint a Division Court for the hearing of urgent cases during the vacation which require to be heard by a Bench of Judges.

Which else can appoint vacation bench?

- The High Courts and trial courts too have Vacation Benches to hear urgent matters under their jurisdiction.

ENVIRONMENT- CONSERVATION, BIO-DIVERSITY AND ISSUES**Arsenic bio-remediation using two soil bacteria**

Using two indigenous strains of bacterium isolated from arsenic-contaminated field, researchers from CSIR-National Botanical Research Institute (CSIR-NBRI) and the University of Lucknow have shown that arsenic can be effectively removed from contaminated soil with the help of microbes.

Arsenic bioremediation

- The strains are named as *Bacillus flexus* and *Acinetobacter junii*.
- Several studies have pointed out that using arsenic-contaminated water for agricultural purposes can lead to increased concentration of arsenic in fruits and grains, proving toxic to humans.
- The researchers studied the two bacteria under different concentrations of arsenate and arsenite, the toxic forms of heavy metal.
- Arsenic treatment did not stunt or delay the growth of both the bacterial strains.
- This is higher than previously reported arsenic tolerant bacteria and so were regarded as hyper-tolerant strains.
- Further gene detection studies pointed out that both the bacteria have a special *ars C* gene, which aids in arsenic detoxification.

Promotes plant growth

- The bacterial strains were further scrutinised to understand if they can help in plant growth too. In studies carried out in the lab, both the bacteria were able to solubilise phosphorus.
- Phosphate solubilising bacteria have been reported to increase phytoavailability of phosphate, thus facilitating plant growth.
- These two bacterial strains were also found to produce siderophores and ACC deaminase enzyme.
- Siderophore increase the bioavailability of iron and other metal ions in polluted soil environment and ACC deaminase is a well known plant growth promoting enzyme.
- These bacteria can live symbiotically in the roots of plants in arsenic-contaminated soils and help them uptake the required nutrients without causing toxicity.

Basel Convention

Nations agreed to add plastic to the Basel Convention, a treaty that regulates movement of hazardous materials from one country to another, in order to combat the dangerous effects of plastic pollution around the world.

Amending the Basel Convention

- Parties to the Basel Convention have reached agreement on a legally-binding, globally-reaching mechanism for managing plastic waste.
- The Geneva meeting amended the 1989 Basel Convention on the control of hazardous wastes to include plastic waste in a legally-binding framework.

- The new amendment would empower developing countries to refuse “dumping plastic waste” by others.
- The resolution means contaminated and most mixes of plastic wastes will require prior consent from receiving countries before they are traded, with the exceptions of mixes of PE, PP and PET.
- For far too long, developed countries like the U.S. and Canada have been exporting their mixed toxic plastic wastes to developing Asian countries claiming it would be recycled in the receiving country.

What is Basel Convention?

- The Basel Convention stands for the Control of Transboundary Movements of Hazardous Wastes and Their Disposal.
- It is an international treaty that was designed to reduce the movements of hazardous waste between nations, and specifically to prevent transfer of hazardous waste from developed to less developed countries (LDCs).
- It aims to assist LDCs in environmentally sound management of the hazardous and other wastes they generate.
- The Convention was opened for signature on 22 March 1989, and entered into force on 5 May 1992.
- As of October 2018, 186 states and the EU are parties to the Convention. Haiti and the United States have signed the Convention but not ratified it.
- It does not, however, address the movement of radioactive waste.
- The Convention is also intended to minimize the amount and toxicity of wastes generated, to ensure their environmentally sound management.

Why such move?

- Instead, much of this contaminated mixed waste cannot be recycled and is instead dumped or burned, or finds its way into the ocean.
- Plastic waste pollution has reached “epidemic proportions” with an estimated 100 million tonnes of plastic now found in the oceans.
- Even though the U.S. and a few others have not signed the accord, they cannot ship plastic waste to countries that are on board with the deal.
- Much of the contaminated mixed waste cannot be recycled and is instead dumped or burned.

Ban on two chemicals

- The meeting also undertook to eliminate two toxic chemical groups — Dicofol and Perfluorooctanoic Acid, plus related compounds.
- The latter has been used in a wide variety of industrial and domestic applications, including non-stick cookware and food processing equipment, as well as carpets, paper and paints.

SCIENCE AND TECHNOLOGY- EVERYDAY SCIENCE, SPACE, NUCLEAR, DEFENCE ETC**Project MANAV: Human Atlas Initiative**

For the first time, Indian scientists will be mapping every single tissue of the human body to have deeper understanding of the roles of tissues and cells linked to various diseases. Department of Biotechnology (DBT) launched MANAV: Human Atlas Initiative towards improving knowledge on human physiology.

MANAV: Human Atlas Initiative

- It is a project funded by DBT, which aims at creating a database network of all tissues in the human body from the available scientific literature.
- It is a project that involves scientific skill development for annotation, science outreach along with handling big data.
- It will involve gaining better biological insights through physiological and molecular mapping, develop disease models through predictive computing and have a holistic analysis and finally drug discovery.
- The student community, who will be the backbone on assimilating the information, will be trained and imparted with skills to perform annotation and curation of information that will ultimately form the online network.
- DBT has invested funds shared between two institutions in Pune – National Centre for Cell Science (NCCS) and Indian Institute of Science, Education and Research (IISER), Pune.
- Besides, Persistent Systems Limited has co-funded the project and is developing the platform.

Who can participate in this project?

- The project can be signed up by students who are in their final year graduation and above.
- Students from the fields of biochemistry, biotechnology, microbiology, botany, zoology, bioinformatics, health sciences, systems biologists, pharmacologists and data sciences can associate with this project.
- Even participants having a science background but not necessarily involved in active scientific research can be part of this network.
- The MANAV team has encouraged colleges and universities to register as teams and work in this project.
- Initially, DBT will accommodate colleges that operate the DBT Star College scheme to register for this Human Atlas programme. There is no restriction on the time period set for student participation.

How has the project been designed?

- Once registered, the student groups will be assigned research papers or literature to be read in a time-bound manner.
- They will be given training to perform annotation and curation activities using the specialised tools developed for this project.
- Student groups, led by either by the HoDs or any senior researcher at the colleges, will be evaluated from time to time and their annotations will be reviewed by the trainer scientists, hailing from NCCS, IISER and other senior scientists from the team.
- Presently, there are workshops organised to impart training to the teacher community who can then lead the student groups for this project.
- Students will be issued certificates for their contributions based on the levels of expertise attained in annotation and for their acquired skills.
- Initially, the project will focus on curating information revolving skin tissues.

Utility of the project

- The aim of the project remains to understand and capture the human physiology in two stages – in a normal stage and while in a disease stage.
- Such a database on individual tissues, once ready, can come handy in tracing the causes of a disease, understanding specific pathways and ultimately decode the body's disease stage linked to tissues and cells.
- The teams will also study any potent elements or molecules that have never been used in the form of drugs, to target the specific cells or tissues.

Importance

- So far, researchers and students have had little or no expertise in reading scientific literature and develop or build further information on the same.
- This platform will impart key skills to the student community to read classified scientific literature, in this case, on individual tissue-basis, and perform annotation and curation.
- Since all the information generated will pass through multiple levels of reviews, it will be an Atlas or a reliable collection on human body tissues.
- This collated data can be useful for both future researchers and parallelly, to the clinicians and drug developers, who finally handle human bodies in disease conditions.

QUOTE OF THE DAY

Two Pains in life: Pain of Hard Work, Pain of Regret.