

DAILY PT POINTERS

10th June, 2024



The Hindu-Polity and Governance(GSII)-Page 10

Is it time for proportional representation

Which are the countries which follow proportional representation in their electoral democracies? Will it work in a large and diverse country like India? What is mixed member proportional representation?

EXPLAINER

Rangarajan R.

The story so far:

The results of the Lok Sabha elections were declared last week. The ruling National Democratic Alliance (NDA) has won 293 seats with a 43.3% vote share while the Opposition bloc INDIA (including Trinamool Congress) has secured 234 seats with a 41.6% vote share. Other regional parties and independents polled around 15% but ended up with only 16 seats in total.

What is first past the post system?

We follow the First Past the Post System (FPTP) in our elections to the Lok Sabha and Legislative Assemblies. Under this system, the candidate who polls more than any other in a constituency is declared elected. This is the system that is followed for elections in democracies like the U.S., the U.K. and Canada. The primary advantage of the FPTP system is that it is simple and the most feasible method in a large country like India. Secondly, FPTP provides greater stability to the executive in our parliamentary

An alternative seat-sharing mechanism

A Proportional Representation (PR) system ensures representation of all parties based on their vote share. The most commonly used PR system is the 'party list PR' where voters vote for the party, and the parties get seats in proportion to their vote share.

Table 1: The results of the 2014 and 2019 general elections

Political party (predominant State)	2014		2019	
	% of votes	No. of seats	% of votes	No. of seats
Bharatiya Janata Party (All India)	31%	282	37.3%	303
Indian National Congress (All India)	19.3%	44	19.9%	52
Bahujan Samaj Party (BJSP) (Uttar Pradesh)	4.1%	0	3.6%	10
Samajwadi Party (Uttar Pradesh)	3.4%	5	2.6%	5
Trinamool Congress (West Bengal)	2.8%	34	4.1%	22
All India Anna Dravida Munnetra Kazhagam (AIADMK) (Tamil Nadu)	3.3%	37	1.6%	1
Dravida Munnetra Kazhagam (DMK) (Tamil Nadu)	1.7%	0	2.3%	24
Telugu Desam Party (Andhra Pradesh)	2.6%	16	2%	3
YSR Congress Party (Andhra Pradesh)	2.6%	9	2.5%	22
Shiv Sena (Maharashtra)	1.9%	18	2.1%	18
Biju Janata Dal (BJD) (Odisha)	1.1%	20	1.7%	12
All other parties/independents	24.6%	78	20.9%	71
Total	100%	543	100%	543

Note: The conversion of vote share to seats is calculated at each State/UT level and aggregated. It is an overall calculation without the exclusion of smaller parties based on any threshold. 3,000+ seats have been added to the PR.



Election fervour: Supporters of the Samajwadi party celebrate after the counting of votes for the Lok Sabha elections, in Lucknow on June 4. GETTY IMAGES

Table 2: If the PR system is applied for the 2024 election

Political formation	% of votes	Actual number of seats	Seats as per PR
National Democratic Alliance (NDA)	43.3%	293*	243
INDIA bloc	41.6%	234	225
Others/independents	15.1%	16	75
Total	100%	543	543

THE GIST

The First Past the Post System (FPTP) is followed in our elections to the Lok Sabha and Legislative Assemblies. Under this system, the candidate who polls more than any other in a constituency is declared elected.

In order to maintain balance between stability and proportionate representation, the system of Mixed Member Proportional Representation (MMPR) can be considered. Under this system, there is one candidate who is elected through the FPT system from each territorial constituency. There are also additional seats that are filled based on various parties' percentage of votes.

The law commission in its 170th report, 'Reform of the electoral laws' (1999), had recommended the introduction

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- The issue with FPTP is that it may result in over or under representation of political parties when compared to their vote share

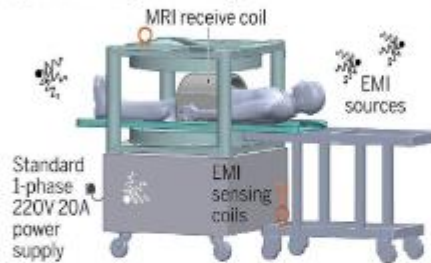
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Low-cost MRI machine can improve access to diagnostics in India

A new MRI machine design could drastically lower the cost of scans. It is portable and relatively light-weight, doesn't need cumbersome shielding, and can be plugged into standard wall sockets. In India, such machines can be used for preliminary tests, help doctors responding to accidents, and in paediatric settings

Sneha Khedkar

Low-power low-maintenance simplified 0.05 Tesla MRI scanner (No RF and magnet shielding)



Scientists have designed a magnetic resonance imaging (MRI) scanner for costs a fraction of existing machines, setting the stage for improving access to this widely used diagnostic tool.

An MRI helps visualise minute details in the human body, with which doctors can diagnose disorders and select treatments for the brain, the heart, various cancers, and orthopaedic conditions.

These scanners work by using strong magnetic fields, measured in units called Tesla (T), and radio waves to generate images of internal organs. The strength of these magnets, both at clinical MRI setups range between 1.5 T and 3 T — or increase stronger than the typical magnetic field in a magnet on the Sun.

Around 50-times cheaper

This portability life-saving medical technology would be accessible to most of the population, especially in low- and middle-income countries like India because of the country's high costs and the infrastructure required to handle such a powerful magnet. This includes shielding the room that houses the machine to contain the effects of strong magnets when they heat up during operation, as the electric power required to operate the scanner.

"A 1 T MRI machine can cost anywhere between 3 and 10 crore rupees," Mahal Murugan, an interventional radiology consultant with several hospitals in India, said. "And that's just the machine. There are additional infrastructure costs."

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The research group wrote that their machine was also low-noise during operation, meaning it could be used with

patients lying in the accident site. Healthcare providers can then decide whether the patient can be safely transferred to a hospital and/or which mode of transport would be most suitable.

tissue damage as small as 1 mm whereas the smallest damage detectable at 0.05 T is 4 mm.

To compensate for lower detail, the team used a deep-learning algorithm. Trained on data from high-resolution images of human organs, it helped reduce background noise and obtain sharper images.

They tested their setup with 30 healthy adult volunteers and obtained clear images of brain tissue, spinal cord, cardiovascular tract, the liver, kidneys, and the spleen. They could also visualise details in the lungs and the heart, and knee structures such as cartilage. They found that the image quality of the 0.05-T machine compared with AI produced was comparable to that of images obtained from a 3T machine.

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'Get basic things done'
According to both Dr. Narayan and Dr. Murugan, using a lower-power magnet also has the advantage of preventing metal items such as oxygen cylinders, wheelchairs, and stretchers from being pulled into the MRI machine. This is a persistent risk around conventional machines. Although such items are now, they do take place, and it can harm both the patient and the machine.

An MRI machine with low strength magnets may generate fewer artifacts due to implants or prostheses in the final image, such artifacts have been known to mislead doctors about the original anatomy of the tissue. Dr. Narayan said, "Many of these objects are made of titanium, which is paramagnetic, i.e., weakly affected by a magnetic field."

Dr. Murugan added that prostheses can't be scanned in current MRI machines. And "what happens to prostheses in the low-strength machines still remains to be seen."

He added that the new design will need to be tested in other centres; the data in the current study was from only one "piece of the image quality is not very good," he added. "If we can manage this in small places and get basic things done, then this will make a difference."

He also shared a budget named *Frontier Science Journal*.



THE GIST

This article is available because of the high cost and infrastructure required. This includes shielding the room that houses the machine to contain the effects of strong magnets, and the electric power required to operate the scanner.

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- Scientists have designed a magnetic resonance imaging (MRI) scanner that costs a fraction of existing machines, setting the stage for improving access to this widely used diagnostic tool.
- A MRI helps visualise minute details in the human body, with which doctors can diagnose disorders and select treatments for the brain, the heart, various cancers, and orthopaedic conditions.
- These scanners work by using strong magnetic fields, measured in units called tesla (T), and radio waves to generate images of internal organs.
- A new MRI machine design could drastically lower the cost of scans.
- It is portable and relatively light-weight, doesn't need cumbersome shielding, and can be plugged into standard wall sockets. In India, such machines can be used for preliminary tests, help doctors responding to accidents, and in paediatric settings

HEADLINES OF THE DAY

The Hindu : _GS 2-Health

States told to act on social media groups, sites trading organs

S. Vijay Kumar
CHENNAI

The Union government has issued an alert to all States/ Union Territories about websites and social media groups that are involved in illegal trading of human organs, and sought stringent action against them.

According to official sources, the Ministry of Health and Family Welfare has specifically referred to certain websites/social media groups offering a lot of money for kidneys and other organs.

In a communication, the Directorate General of Health Services said it had come to know that certain websites and social media posts were promoting, and offering, organ-trading in violation of the provisions of Transplantation of Human Organ and Tissue Act (THOTA), 1994.

In one post, published in the name of a popular



Sources say the Centre's alert referred to websites offering a lot of money for organs.

jects, and the States have the power to appoint an appropriate authority under the THOTA to deal with commercial activities/organ trafficking, the communication, which was addressed to Principal Health Secretaries, said, "Keeping in view of the gravity of the matter, you are requested to take steps to prevent and control organ trafficking and have a system in place to monitor the

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- The National Organ and Tissue Transplant Organization had been set up pursuant to a mandate given to the Centre to establish a network for organ procurement, and distribution, and for maintaining a national registry.
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Indian Express- GS 2/Welfare Schemes (Page 1)

On Cabinet table: Approval of 2 crore PM Awaas Gramin houses with more assistance

HARIKISHAN SHARMA
NEW DELHI, JUNE 9

AS PART of its first 100-day agenda, the newly formed NDA government is likely to approve 2 crore additional houses under the Pradhan Mantri Awaas Yojana-Gramin (PMAY-G) with higher assistance per benefici-

ary. *The Indian Express* has learnt.

Each beneficiary gets funds up to ₹1.2 lakh in the plains and ₹1.30 lakh in hilly states, difficult areas, and tribal and backward districts under the Integrated Action Plan (IAP). It is also learnt that the Centre may increase the assistance provided to the beneficiary under the PMAY-G by

CONTINUED ON PAGE 4

- In order to achieve the target of “Housing for All” in rural areas, the Ministry of Rural Development is implementing Pradhan Mantri Awaas Yojana- Gramin (PMAY-G) with effect from 1st April 2016 to provide assistance to eligible rural households with an overall target to construct 2.95 crore pucca houses with basic amenities.
- Under PMAY-G, beneficiaries are provided financial Assistance of Rs.1.20 lakh in plain areas and Rs.1.30 lakh in hilly States (including North-eastern States and UTs of Jammu & Kashmir and Ladakh), difficult areas and Integrated Action Plan (IAP) districts.
- Additional assistance of Rs.12,000/- is extended for construction of toilets.

Indian Express –Defense(GSIII)-Page 14

Agnipath scheme: why it was introduced, the opposition to it

AMRITA NAYAK DUTTA
NEW DELHI, JUNE 9

BOTH JD(U) AND Chirag Paswan's LJP(RV) have called for a review of the Agnipath scheme, even as they seem set to be crucial alliance partners to the BJP in the new Lok Sabha.

The scheme for military recruitment has faced opposition from political parties and Armed Forces veterans alike, since it was introduced by the BJP-led government in 2022. During the recent Lok Sabha elections, it became a key campaign issue in states such as Punjab, Haryana, Himachal Pradesh, Uttar Pradesh, Bihar and Rajasthan, where the Armed Forces remain a sought-after employer.

**EXPLAINED
POLICY**

What is the Agnipath scheme?

Agnipath is aimed at recruiting personnel below officer ranks – soldiers, airmen, and sailors who are not commissioned officers – to the Indian Armed Forces for a period of four years. At the end of this tenure,

upto 25% of these recruits, the so called 'Agniveers', can join the services on a permanent commission (another 15 years), subject to merit and organisational requirements.

Aspirants between the ages of 17.5 years and 23 years (up from 21 years initially) are eligible to apply. At present, all sailors, airmen, and soldiers, except the technical cadre of the medical branch, are recruited to the services under the scheme.

In the Army, two batches of 40,000 Agniveers have completed training and are under posting. A third batch of 20,000 began training in November 2023. In the Navy, three batches of 7,385 Agniveers have completed training. In the IAF, 4,955 Agniveers have completed training.

How are Agniveers different from soldiers with permanent commission?

Agniveers draw a basic salary of Rs 30,000-Rs 40,000 per month, and are entitled to other risk and hardship allowances.

They contribute 30% of their monthly emoluments to the Seva Nidhi fund, which



Candidates at the First Army Agniveer Recruitment Rally in Ludhiana. File

of disability, an Agniveer gets upto Rs 44 lakh as compensation.

Unlike soldiers in regular service, Agniveers do not draw pensions post-retirement. Only the 25% of Agniveers who get absorbed into the forces after four years will receive pensionary benefits, although the initial four years of service will not be considered for retirement benefits.

This is the biggest change that Agnipath has brought in, which will lead to a considerable cut in the defence pension bill – a major concern for governments for many years.

Why was Agnipath introduced?

Apart from the unsaid intention of reducing the Armed Forces' wage and pension bill, the government has argued that the scheme will ensure the forces' "youthful profile". Defence Minister Rajnath Singh said in January 2023 that "Agnipath is a game changer for the Armed Forces... [and] make them 'youthful, high-tech and ultra-modern'".

When the scheme was brought in, the average age in the Armed Forces was 32 years, which Agnipath will bring down to 26 years,

according to Defence Ministry calculations.

The government has also said after the completion of their service, Agniveers will contribute to the civil society "through their education, skill, discipline and other qualities".

Lt Gen Anil Puri, additional secretary, Department of Military Affairs, had said during the scheme's announcement that the government will help rehabilitate soldiers who leave the services after four years, and provide them with skill certificates and bridge courses.

Why has the scheme come under criticism?

Critics say that the scheme creates a "lesser" cadre of soldiers, who work on the same tasks as those with full commission, but with lesser pay, benefits, and prospects.

A day before Punjab and Himachal Pradesh went to polls on June 1, Congress leader Rahul Gandhi wrote an open letter to President Droupadi Murmu. "I write to you... with an appeal to provide justice to Agniveers, who lay down their lives in service to the nation. The discrimination in the nature and extent of benefits accorded to the families of our slain Agniveers, compared to regular soldiers warrants your urgent attention," he wrote.

On the ground, lesser benefits and a shorter tenure has caused significant disaffection among those who see military recruitment as a path to economic stability and upward mobility. Multiple parties, including the Congress, AAP, BJP, and Samajwadi Party have called for the scheme to be scrapped. Others have asked for a rethink.

Is the government willing to roll back the scheme?

Recently, the government indicated that it is willing to alter the scheme if required, but without compromising on the Armed Forces' youthful profile. The Indian Express reported last month that the Forces are carrying out internal assessments on Agnipath's impact, based on which they will make recommendations to the government on possible changes.

All three services are learnt to have submitted their observations to the Department of Military Affairs.

- The Government had launched Agnipath scheme on June 15, 2022 to recruit both male and female aspirants into 'below the officer's rank' cadre of the three services for a period of four years as Agniveers.
- Candidates between the age group of 17.5 to 21 years are eligible to apply for the scheme. These Agniveers would undergo optimised basic military training and specialised trade training followed by up-skilling courses, as required.

HEADLINES OF THE DAY

PIB:GS 3-Environment

Ministry of New and Renewable Energy

Solar Energy Corporation of India issues RfS for selection of Green Ammonia Producers under SIGHT Programme of the National Green Hydrogen Mission (NGHM)

Competitive Bidding initiated for total available capacity of 5.39 Lakh MT/annum of Green Ammonia intended for production and supply

Posted On: 08 JUN 2024 8:00PM by PIB Delhi



- India has taken a crucial step towards demand creation of Green Hydrogen and its derivatives in the country. Solar Energy Corporation of India (SECI) has issued **Request for Selection (RfS)** for Selection of Green Ammonia Producers for the production of Green Ammonia in India through cost based competitive bidding under **Mode 2A** of Strategic Interventions for Green Hydrogen Transition (SIGHT) Programme of the National Green Hydrogen Mission being implemented by the Ministry of New & Renewable Energy (MNRE).

Do you know ?

- The National Green Hydrogen Mission was launched on 4th January 2023 with an outlay of Rs. 19,744 crores up to FY 2029-30. It will contribute to India's goal to become *Aatmanirbhar* (self-reliant) through clean energy and serve as an inspiration for the global clean energy transition. The Mission will lead to **significant decarbonization** of the economy, **reduced dependence** on fossil fuel imports, and enable India to assume technology and market leadership in Green Hydrogen.