ECI reduces VVPAT-based EVM audits

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Context

The Election Commission of India has been criticised for making the audit of Electronic Voting Machines (EVMs) through Voter Verified Paper Audit Trail (VVPAT) seem insignificant and for being unclear about the process.

VVPAT-based Audit of EVMs: Critique

Statistical Sampling

- The current uniform sample size is being criticised for violating the tenets of statistical sampling that prescribe the use of five EVMs per Assembly constituency, which occurs due to large margins of error.
- Statistical and mathematical interest in more nicely and accurately must be done for the sample size determination in VVPAT-based audit.

Transparency

- The ECI is accused by CEC for a presumed lack of transparency in defining the EVM population for sampling and its decision in case of disagreement between voter-verifiable paper audit trail and the EVM.

- Among the biggest critics are those that are calling for ECI to disclose its population definition methodology and the rules for handling possible mismatch.

Arbitrary Sample Sizes

- One critique is often heard when mentioning ECI approach is that the method is arbitrary and the sample size does not guarantee accuracy. Some ask why not "25% samples" or "50% samples" which they believe leads to better accuracy.
- Some experts hold the view that it would be more scientifically justified to use actual sample size formula rather than arbitrarily set percentage which might not be statistically valid.

Manual Counting

- There is a need to have a manual count of all VVPAT voter slips by 100% in the cases where EVM figures show something else than the number of votes which are indicated by VVPAT copies.
- The contract is that any one instance that is unreliable should cause a full manual recheck in order to ensure the results of the election are correct.

Challenges

- The lack of clarity in the ECI's method undermines the credibility of the VVPAT audit and raises concerns about the fairness of elections.
- Using the hypergeometric distribution model ensures that the sample size chosen is statistically valid and accurate.
- Dividing larger states into smaller regions for sampling purposes balances statistical accuracy with practicality, making the audit process more manageable.

VVPAT

- The Voter Verifiable Paper Audit Trail (VVPAT) is a forthcoming system which is independent, and on the paper slip that is printed on every time you cast your vote, displays the name of the candidate you have selected for voting along with their party symbol.
- This slip, which is one of the greatest features of an incorporation, will be easily visible to you through a clear window and will provide you with the confirmation that your vote was accurately keyed and stored securely in a compartment as it is within the VVPAT unit.
- The VVPAT should accomplish two main goals: it should be transparent and accountable.
- It becomes the evidence of your assigned vote, which can be taken as the token of value during the disputes or theirs out of the election.

Conclusion

The debate on fixing the VVPAT-based audit of EVMs in India is ongoing, with various stakeholders presenting different viewpoints on how to improve the process. The focus

remains on ensuring that the electoral process is transparent, accurate, and trustworthy, with the ECI's methodologies and decision-making processes being key areas of concern. The ultimate goal is to maintain voter confidence in the electoral system by ensuring that every vote is accurately counted and verified.

Source: The Hindu

Also Read: SC Alerts EC on VVPAT Count

UPSC Mains Practice Question

Q.Discuss the effectiveness and challenges of implementing VVPAT-based audits in ensuring electoral transparency and integrity. Evaluate the current audit methodologies, their strengths, and limitations, and propose reforms to enhance the credibility of the electoral process.