Polls & the environment

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A SUSTAINABLE future needs a sustainable environment. In 2023, recorded temperatures reached unprecedented heights, underscoring the global warming trend. These circumstances are increasingly attracting the world's attention to environment-friendly practices.

Such an approach includes electoral procedures. Numerous countries have embraced electronic voting systems, which began to take shape in the late 20th and early 21st centuries. Countries like Brazil, Canada, and Australia were pioneers in adopting EVS on a significant scale. However, it was India that had a profound impact in the global context. In 1999, electronic voting machines were used on a limited scale during the Lok Sabha elections. By 2004, they had become the primary mode of voting nationwide. In fact, India's adoption of EVMs inspired other nations, especially in the developing world.

However, Pakistan still relies on traditional ballot paper-based elections. The national discourse on transitioning from traditional ballot paper to EVS involves various reasons, primarily convenience and efficiency. Unfortunately, the environmental impact stemming from the production of ballot papers is often overlooked.

Transitioning to EVMs is an urgent need.

The production of ballot papers necessitates the extraction of raw material, predominantly from trees. Producing one tonne of paper through a chemical pulping process requires wood from 24 mature trees which are around 12 metres tall with a diameter of approximately 15 to 20 centimetres. So, the massive scale of the Feb 8 election with 128 million voters had significant environmental implications.

Compared to 2018, the 2024 election saw an 18 per cent increase in ballots from 220m to 260m, requiring 2,170 tonnes of paper against the 800 tonnes needed in 2018, a 171pc rise. Consequently, tree loss soared from 19,200 to 52,080. If felled trees aren't mature, the demand is even more, signalling a greater depletion of forests.

The environmental impact of elections extends beyond ballot paper production, including campaign material with unique symbols for each PTI candidate. The 2024 election likely depleted around 0.1m trees, perhaps more if we consider immature trees. Paper imports also strain the economy and foreign reserves, adding to the economic challenge.

The repercussions of felling trees includes the loss of ecosystems. Factors such as biodiversity, carbon

sequestration, oxygen generation, and water cycle regulation are affected. Estimating the economic loss of a tree is complex, especially in Pakistan, where empirical data is lacking. However, across the border, the Indian supreme court, in a case involving the felling of 356 trees, valued a single tree at Indian Rs10,000,000 (one crore). Using this benchmark, the estimated loss from felling 52,080 trees during elections would be around Rs1,760 billion — 2.1pc of GDP. Factoring in campaign materials' environmental impact, akin to ballot paper production, this figure could increase to about 4.2pc.

Dr T.M. Das offers a comprehensive tree valuation formula, estimating the benefits of a mature tree of over 50 years at $193,250, covering oxygen provision, soil erosion reduction, pollution mitigation, and animal habitat. Factoring in these benefits, lost trees for ballot paper production would be worth approximately Rs2.8 trillion, around 3.32pc of GDP. If campaign materials' environmental impact is factored in, it could rise to 6.64pc.

Ballot paper production is resource-intensive and requires significant amounts of water, energy, and chemicals. Transporting ballot papers contributes to air pollution. Disposing of them, whether through incineration or landfill, poses environmental challenges. The ecological toll persists beyond elections. Overall, the environmental impact of the electoral process could amount to approximately 10pc of GDP.

Transitioning to EVS is then an urgent need. Its implementation nationwide would cost around Rs25bn — 19pc higher than the cost of the 2018 polls (Rs21bn) but 48pc lower than the allocated budget (Rs48bn) of the Feb 8 election.

It is unnecessary to hold nationwide elections in a single day. Adopting a staggered approach would decrease the need for EVMs, thereby cutting costs. It would be good to stage elections in phases, starting with Punjab and gradually extending the process to the other provinces. Additionally, using EVMs entails a one-time expense. The machines would go beyond electoral use, adding to their value proposition.

EVS bring their own set of challenges, including concerns of cybersecurity and access. However, robust security measures can address these issues. The environmental benefits of transitioning to EVS outweigh the potential drawbacks, especially in a country like Pakistan that faces severe environmental problems.

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