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THE ECONOMIC & ENVIRONMENTAL COST OF ELECTION 2024

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Highlights

- The overall economy of the General Election 2024 surpasses PKR 1013 billion, equating to approximately 1.18 percent of the annual GDP.
- The environmental footprint of the General Election 2024 is estimated to account for approximately 6.64 percent of the annual GDP. This estimation considers the environmental benefits forfeited due to the utilization of trees for producing ballot papers and campaign materials. Factoring in all associated elements, the overall impact could escalate to approximately 10 percent of GDP.

An overview of General Election 2024

It is an undeniable reality that our reliance on technology for elections lags even in the 21st century, largely due to the 37.7 percent illiteracy in Pakistan . Given the prevalence of high illiteracy rates in the country, symbols serve as a straightforward means to facilitate voting. Consequently, while ballot papers include candidate names, they also feature corresponding symbols. This allows voters to easily identify their preferred choice by placing a stamp on the corresponding symbol, underscoring the heightened significance of visual cues for recognition.

The 2024 electoral process in Pakistan also rely on a ballot paper-based system. This election involves 128 million voters. This necessitated the production of at least 256 million ballot papers for both national and provincial assemblies. As a result, the Election Commission of Pakistan (ECP) printed 260 million watermarked ballot papers for the General Election (GE) 2024. This marks a significant increase of 40 million additional ballot papers compared to the previous GE-2018, which had a count of 220 million, owing to the rise in registered voters from 106 million to 128 million.

A single ballot paper usually contain a long list of options for voters in Pakistan as election process typically involves thousands of candidates and dozens of political parties and symbols. In GE-2024, 17,816 candidates from 150 political parties and as an independent candidates contested. Hence, a total of 150 symbols had been assigned to political parties and another 174 symbols were allotted to independent candidates.

In 2018, the creation of special watermarked ballot papers (220 million) required 800 tons of paper, whereas this year's printing for 260 million ballot papers has utilized a total of 2,170 tons of paper. A notable surge of 171 percent in paper consumption for the production of ballot papers is due to the rise in the number of candidates across different constituencies.

To facilitate such a large-scale electoral process, a significant administration and associated costs are indispensable. For the GE-2024, the ECP designated 90,675 polling stations. Among these, 41,403 were combined stations, with 25,320 allocated for male voters and 23,952 for female voters. The distribution of polling stations across provinces included 50,944 stations in Punjab, 19,006 in Sindh, 15,697 in Khyber Pakhtunkhwa, and 5,028 in Baluchistan. Additionally, a total of 276,398 polling booths were set up, comprising 147,552 for male voters and 128,846 for female voters. According to FAFEN initial report approximately 1.1 million polling staff members were employed to facilitate the election process effectively.

[1] https://mofept.gov.pk/ProjectDetail/NjQ4ZTg2NjItOWM2NC00Y2IxLTkzMDgtMjU2OTFhMjA4NzNh

The Electionomy: Economic Cost General Election 2024

The total expenditure for the GE-2024 were estimated to be Rs. 48 billion, as approved by the government in the previous budget. There might be a supplementary grant allocated if deemed necessary. Over the past four elections, the overall cost has escalated significantly, soaring from 1.8 billion (in the General Election of 2008) to a staggering 48 billion (in the General Election of 2024). This increase is notable considering the rise in the number of voters from 81 million to 128 million, reflecting a growth of approximately 58 percent. However, when examining the expenditure per voter, there has been a substantial surge from Rs. 22 to Rs. 373 per voter, indicating a colossal increase of 1596 percent, the most convincing reason for this might be the inflationary burden but this increase is even bigger than that (See figure 1).

In comparison to the previous general election 2018, the increase in the number of voters is approximately 21 percent, rising from 106 million to 128 million. Concurrently, the government's per voter expenditure has also risen by around 90 percent, climbing from Rs. 198 to Rs. 373. It's worth noting that these estimations do not include expenses incurred by the provincial governments.

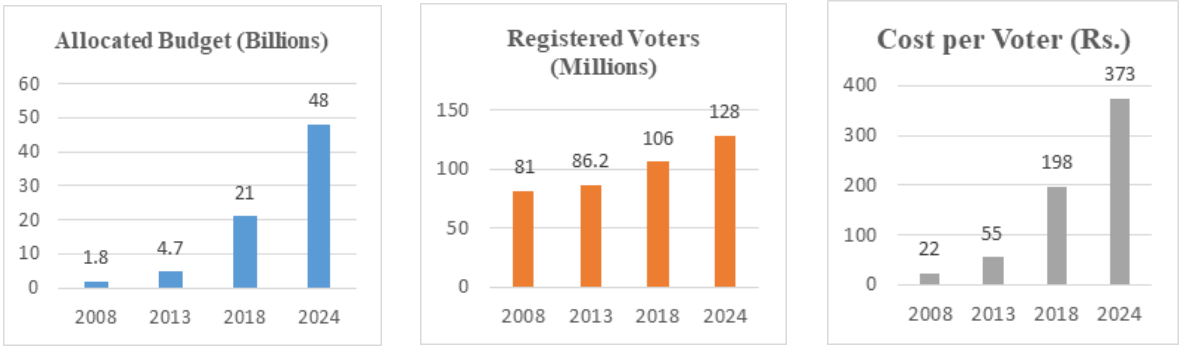
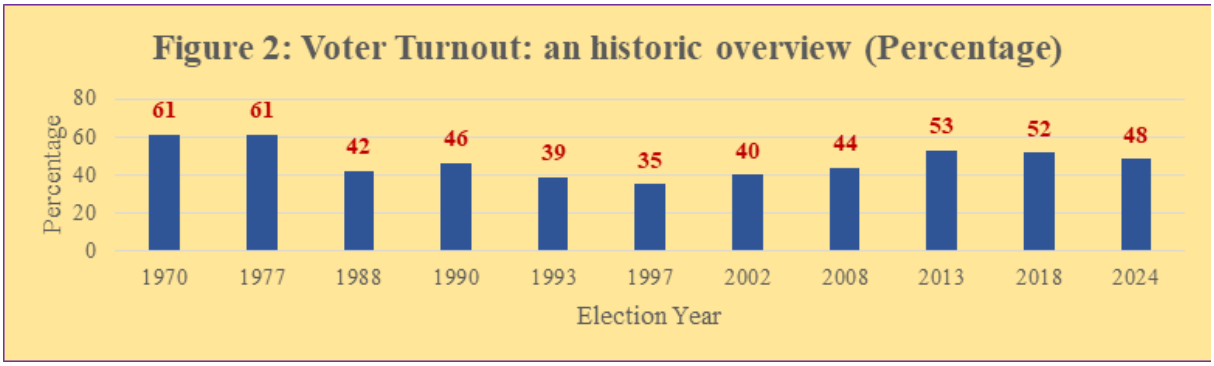


Figure 1: The Administrative Cost of General Elections

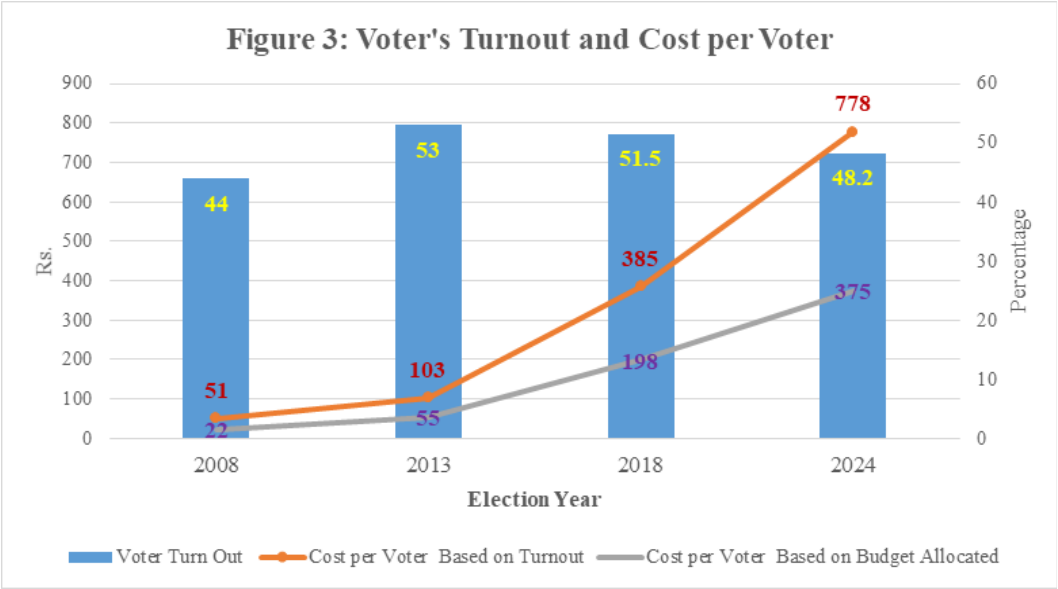
The Administrative Cost per Voter based on Voter Turnout

Another crucial factor in estimating the administrative cost of elections is to consider the actual voter turnout. In Pakistan, voter turnout typically remains low, resulting in a significantly higher cost per voter than initially anticipated. Figure 2 illustrates the voter turnout over the past 54 years, highlighting that turnout is still lower than general elections held in the 1970s. According to FAFEN, this year's voter turnout stands at 48.2 percent, which is much lower than expected due to the closure of cellular services and internet facilities, greatly obstructing the voting process. In 235 National Assembly (NA) constituencies, Presiding Officers excluded 1.6 million ballots from the count. This figure is nearly identical to the number excluded during the 2018 General Elections[2].



Data Source: ECP & FAFEN for (GE-2024)

Comparing the last four General Elections, we observe that cost per voter in GE-2008 appeared to be Rs. 22 but on the base of voter turnout it rose to Rs. 51. Similarly in GE-2013, 2018 and 2024 the cost per voter is increased from Rs. 55 to Rs. 103, from Rs. 198 to Rs. 385 and from Rs. 375 to Rs. 778 respectively (see figure 3). Hence, the actual expenditure per voter are much more than that appeared initially. Providing a precise estimation of the actual expenses borne by



Data Source: Author's estimations

the government is challenging, as there could be various instances where the actual costs aren't directly attributed to election expenses. Additionally, it doesn't include expenses related to district returning officers who are government officials, already using government-provided resources like cars and fuel to carry out election duties. Other officials than DRO's using similar resources can make this burden much bigger. So assuming that the expenditures by all tiers of governments, security establishment and donor funding are not more than the budget allocated to ECP than this cost would be approximately Rs. 96 billion or Rs 1556 per voter based on turnout.

[2] https://fafen.org/fafen-preliminary-election-observation-report-of-general-election-2024/

Legally Allowed Vs Actual Campaign Expenditure

In the 2018 General Elections, expenditure limits were set at Rs. 4 million for National Assembly candidates and Rs. 2 million for Provincial Assembly candidates. However, due to a significant increase in inflation, averaging around 33 percent during the previous year, the ECP has raised these caps for the GE-2024, which were Rs. 10 million for National Assembly candidates and Rs. 4 million for Provincial Assembly candidates.

With a total of 5,121 candidates contesting for 266 national assembly seats in GE-2024, they are legally entitled to spend approximately Rs. 51.21 billion collectively. Similarly, with 12,695 candidates competing for 593 provincial assembly seats, their combined allowable spending would amount to approximately Rs. 50.78 billion. Hence, the total permissible spending would sum up to around Rs. 102 billion.

But, the real picture is much bigger then this due to several reasons, for example the absence of rigorous checks, the predominant nature of cash based economy of the country, and most importantly the country where people are connected to the candidates for their personal benefits not on the base of any ideology or any vison so they spend money on their behalf for their campaign. However, the total expenditure can vary due to various socio-economic factors and geographical factors of the constituency. Hence, the expenditures which encompass various aspects such as establishing campaign offices and corner meetings, steering door-to-door appealing, the production of flexes, banners, poster and pamphlets to make the campaign more visible, the expenses related to food at rallies and jalsas and social media expenditures. Additionally, some candidates resort to vote-buying practices, further inflating their expenses. Moreover, on election-day, candidates often shoulder the cost of transporting numerous voters to polling stations. Hence, the actual scenarios differ significantly from the official limits.

Out of the total contestants, 11,785 are independent candidates, while 6,031 are affiliated with various political parties. Typically, candidates affiliated with political parties tend to spend considerably more money. When interviewing candidates from major political parties, their reported expenditures for National Assembly campaigns range between 150-200 million on average. This is true for the bigger political parties which have higher likelihood of winning so they consider candidates' financial resources and other factors along with popularity, when issuing tickets, often estimating that a campaign would cost no less than Rs. 500 million. To secure a ticket, candidates also typically have to deposit a specific amount into the party's account too, as a ticket fee[3].

When looking at election expenditures, there is a large disparity between candidates affiliated with political parties and independents due to several socioeconomic and geographical reasons. So, considering the disparity and assuming an average expenditure of Rs. 80 million for National Assembly constituencies and Rs. 40 million for provincial assembly seats, the total cost would sum up from 409 billion for the national assembly and 508 billion for provincial assembly. Therefore, the total actual campaign cost would be approximately Rs. 917 billion.

Hence, if candidates adhere to the ECP limits, the projected total economy would be approximately Rs. 102 billion. However, based on the overall campaign expenses, this figure escalated to roughly Rs. 917 billion. Considering all the points mentioned earlier and factoring in all incurred expenses, the total economic cost of the GE-2024 exceeds Rs. 1013 billion, approximately equivalent to 1.18 percent of the annual GDP.

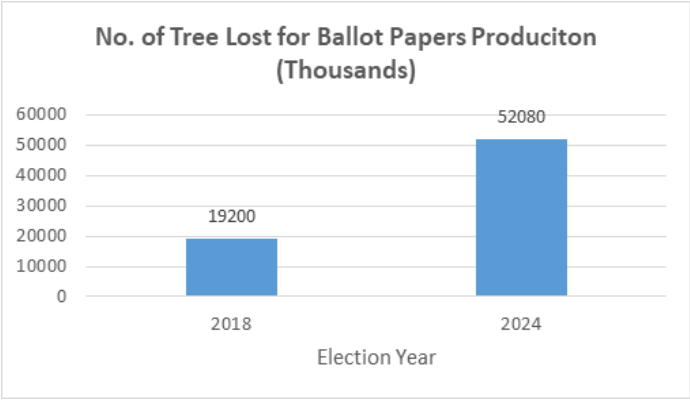
[3] https://profit.pakistantoday.com.pk/2024/02/07/the-rising-cost-of-democracy-from-modest-campaigns-to-billion-rupee-battles/

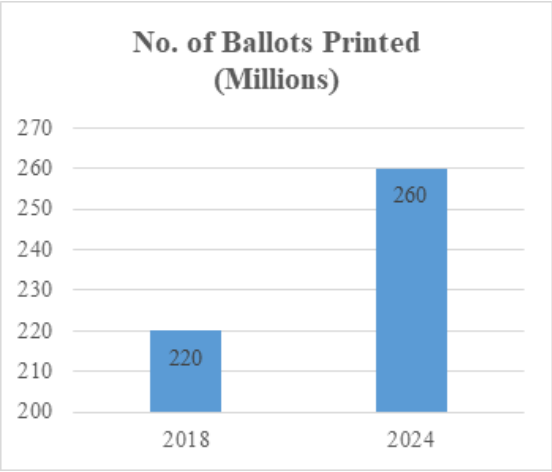
The Environmental Cost of GE-2024

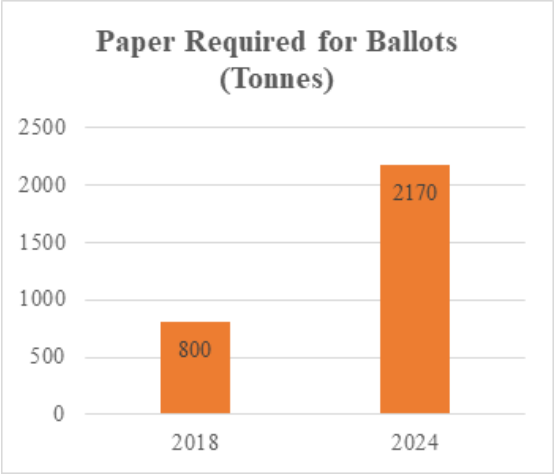
The environmental footprint of ballot paper based election is much bigger than it appeared in the previous section. The utilization of ballot papers during GE-2024 raises momentous environmental concerns. Primarily, the concern revolves around the production process of these papers, which necessitates the extraction of raw materials, predominantly trees. Research indicated that producing one tonne of paper through chemical pulping process requires wood from approximately 24-25 mature trees.

The trees typically consist of a mix of softwoods and hardwoods, measuring about 40 feet tall with a diameter of 6 to 8 inches. Considering this, the production of 2170 tonnes of paper would require the chopping down of at least 52,080 mature trees.

Comparing with previous election, GE-2018, when considering the number of ballots, there has been an approximate increase of 18 percent (from 220 to 260 million) but the paper required to prepare these ballots has surged from 800 to 2170 tonne which is equaling to 171 percent, attributed largely to the large number of candidates participating in the election. Hence, the extent of tree loss is escalated significantly from 19200 to 52080 (approximately 171 percent). This data underscores the profound consequences of deforestation associated with paper manufacturing. Furthermore, if the felled trees aren't mature, the demand for trees would be even greater. This indicates that organizing a paper-dependent election would necessitate the depletion of mature forests at larger scale.







Source: Authors Estimation

[4] https://www.worldatlas.com/articles/how-many-trees-does-it-take-to-make-1-ton-of-paper.html

The environmental impact extends beyond the production of ballot papers. The materials prepared for the campaign purposes of the 17,816 candidates exacerbate the situation. Additionally, the separate symbols for each PTI candidate implies additional costs for producing campaign materials. Considering these factors, one can only imagine the extent of forest depletion caused by the 2024 electoral process, supposing if it has almost similar affect as of ballot paper production, then the collective tree loss may be around 0.1 million trees. If trees are not mature than this number would be much bigger. Further, the import of paper would definitely cause a big burden on already worsening economy and foreign exchange reserves.

This issue is particularly alarming for a country like Pakistan, where the forested area is already limited, 4.8 percent of land area [5] and the effects of climate change are being keenly felt. Notably, afforestation efforts consistently lag behind deforestation rates especially in last two years. Moreover, nearly all political parties have shown minimal regard for environmental and climate change concerns in their party manifestos for the General Election of 2024, indicating a lack of concern on these crucial issues. [6]

The Administrative Cost per Voter based on Voter Turnout

The true economic cost of deforestation extends far beyond the immediate value of the wood obtained. Chopping down approximately 0.1 million trees equates to the destruction of numerous fully grown forests just for a single electoral procedure. The consequences of chopping down these trees would result in the loss of a significant ecosystem, including vital biodiversity, carbon sequestration capacity, oxygen generation, water cycle regulation etc. However, estimating the actual economic loss incurred by cutting down a tree is a complex task. One potential method is to assess the value of the timber obtained from the tree based on its potential uses, such as for heating or processing, which is calculated by multiplying the volume of wood (measured in cubic meters) by the price per unit cubic meter. However, this value represents only a one-time gain, whereas trees provide numerous ongoing benefits.

In Pakistan, there is a lack of empirical evidence regarding the monetary value of a tree. Therefore, adopting various estimations from neighboring regions can be useful in estimating the monetary loss of trees.

Two years ago, the Indian Supreme Court established a special committee to assess the monetary value of trees during a case involving the felling of 356 trees. The committee determined that a single tree is valued at one crore Indian rupees . If we get this value as base then by taking into consideration all factors, the estimated loss due to the electoral process, resulting from the cutting down of 52,080 trees, would amount to Rs. 1760 billion or approximately 2.1 percent of GDP. If we include the environmental impact of campaign materials produced, assuming it is equivalent to that of ballot paper production, this cost would increase to around 4.2 percent of the annual GDP.

There is another valuation presented by the Rachel Kay. He considers the benefits of a tree for air conditioning, erosion control, wildlife shelter, and air pollution reduction. He concluded the compounded value of a tree equal to $57,151. However the formula presented by Dr. T. M. Das is more comprehensive. He considers the monetary value of benefits extracted from a mature tree with life span of 50 years is estimated to be USD 193,250. He considers the value of oxygen

[5] https://data.worldbank.org/indicator/AG.LND.FRST.ZS?locations=PK
[6] https://pide.org.pk/research/political-party-manifestos-reform-paradox-in-pakistan/

provided ($ 31,250), reduced soil erosion and increased soil fertility (31,250), fight against pollution ($62,000), the worth of recycled water ($37,500) and the value as a home for animals ($31,250) . There are number of other benefits which can be added to this list such as recreational value, value of fruit and wood etc. However, based on these key benefits and by following the Dr. Das estimations, the total environmental footprint of lost trees to produce ballot paper would be around PKR 2.8 trillion (USD 10 billion) which is equal to 3.32 percent of our annual GDP. If we add the environmental footprint of campaign material produced, supposing it has equal impact as of ballot paper production then this cost would be around 6.64 percent of annual GDP.

There are several other environmental repercussions stemming from ballot paper production

- The manufacturing of ballot papers is also resource-intensive, which require a significant amounts many natural resources such as water, energy, and chemicals. This cause a depletion in precious natural resources.
- The process of transporting the ballot papers across country adds another layer of environmental strain, as it involves the combustion of fossil fuels, contributing to air pollution and greenhouse gas emissions.
- Once the elections conclude, the disposal of used ballot papers poses yet another challenge. Incineration, a common method, releases harmful pollutants into the air, while landfill disposal perpetuates long-term environmental degradation.
- The environmental impact extends beyond the immediate election period, as the ecological toll of paper production and disposal persists for years.

Taking into account all elements involved could elevate the environmental impact of the electoral process to around 10 percent of the annual GDP.

Electronic Voting System: A Potential Way Forward

The environmental concerns raised by ballot paper-based elections are substantial and warrant urgent attention. Exploring and adopting eco-friendly alternatives, coupled with proactive measures to reduce the environmental impact of traditional voting methods, can pave the way for a more sustainable and resilient democratic future. Hence, the economic and environmental consequences of widespread utilization of ballot papers demands a revision of traditional voting methods. One potential alternative is the adoption of electronic voting systems (EVS). This can save the direct economic cost of conducting an electoral process as well as it will be beneficial for the environment too.

Transitioning to EVS has the potential to significantly reduce deforestation rates due to reduced demand for paper, resulting in lower energy consumption and minimized emissions associated with transportation. Moreover, Pakistan's import expenditure on paper and pulp could be reduced. Additionally, EVS have the capacity to streamline the electoral process, diminishing the necessity for physically transporting paper ballots and simplifying the counting process.

There had been a debate regarding the introduction of Electronic Voting Machines (EVMs) into Pakistan's electoral process. But, it has not implemented yet, despite efforts by the PTI government. The actual cost of implementing EVMs in Pakistan would largely depend on the number of polling

[7] UNDP, what is a tree worth

booths. However, estimations were made regarding the implementation of EVMs. The estimated economic cost of implementing EVMs for nationwide one-day elections will be around 25 billion , which is approximately 19 percent more than the cost of the General Elections in 2018 (21 billion), but approximately 48 percent less than the direct cost of the General Elections in 2024 (48 billion).

Considering the adoption of EVM's, there is no necessity to conduct a nationwide election on a single day, a practice observed in many countries where elections are staggered. This staggered approach would reduce the required number of EVMs, thus lowering costs. An alternative suggestion is to stage elections in phases, initiating with the Punjab Province and gradually extending to other provinces. Another critical aspect to consider is that implementing EVMs incurs a one-time cost. These machines can be utilized for numerous other purposes beyond general elections.

EVS bring their own set of challenges, such as concerns over cybersecurity and access. But, advancements in technology and robust security measures can address these issues. However, the environmental benefits are much more important than anything else in country facing severe air pollution resulting in several health issues.

References

The data pertaining to the General Election of 2024 have been sourced from the ECP's website and various press releases issued by the ECP.

[8] https://prakati.in/what-the-value-of-a-tree-sc-panel-says-74-5k-per-year/#:~:text=As%20per%20the%20report%20submitted,on%20the%20valuation%20of%20trees.
[9] https://www.thales-ld.com/the-value-of-trees-how-to-monetize-your-trees-for-income/
[10] https://changeisup2u.wordpress.com/2014/04/04/monetary-value-tree/
[11] https://tribune.com.pk/story/2301258/evms-to-cost-rs25b-if-polls-held-in-single-day

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