

Hypergeometric Probability:

A simple case to understand probability:

Case: Burning of District Courts and Pending Cases of Rabi Lamichhane

1. Fact of the Case

During the recent Zen Z protest, demonstrators set fire to district courts across the country. Out of 77 district courts, 10 were burnt.

It was observed that Rabi Lamichhane has pending cases in 5 district courts, and all 5 of these courts were among those burnt. Besides these, only a few additional courts without his cases were affected.

List of court

Burnt District Courts	Rabi Lamichhane's case
Chitwan District Court	Ongoing
Kaski District Court	Ongoing
Rupandehi District Court	Ongoing
Parsa District Court	Ongoing
Kathmandu District Court	Ongoing
Makawanpur District Court	NO
Saptari District Court	NO
Banke District Court	NO
Kapilvastu District Court	NO
----- District Court	NO
Total District Courts	77
Total District Courts Burned	10
Total District Courts Not Burned	77
Total District Courts That Have Rabi Lamichhane's Case	5
Total Courts That Have Not Been Burned Despite Rabi Lamichhane's Case	0

This unusual concentration raises the statistical question: Could this outcome reasonably occur by chance, or does it suggest deliberate targeting?

2. Hypergeometric Probability: Why It Is Suitable

The appropriate probability model here is the hypergeometric distribution, because:

- The total population is finite (77 courts).
- There is a fixed number of “successes” (5 courts with his cases).
- A subset is drawn (10 burnt courts) without replacement.

- We are interested in the probability that all 5 successes fall within the drawn subset.

Thus, hypergeometric probability is the correct method to quantify how likely this event could occur under pure randomness.

3. Calculation Procedure and Formula to calculate

The probability mass function of the hypergeometric distribution is:

$$P(X = k) = [C(M, k) * C(N-M, n-k)] / C(N, n)$$

where:

- $N = 77$ (total courts)
- $M = 5$ (courts with his cases)
- $n = 10$ (burnt courts)
- $k = 5$ (his courts burnt)

4. Calculation: 10 Burnt Courts

$$\begin{aligned} \text{Probability } (X=5) &= [C(5,5) * C(72,5)] / C(77,10) \\ &= C(72,5) / C(77,10) \\ &= 13,991,544 / 17,870,560,000 \approx 7.82 \times 10^{-7} \end{aligned}$$

Probability $\approx 0.000078\%$ (about 1 in 1,280,000).

5. Interpretation

- If courts were burnt randomly, the chance of all 5 courts with his cases being included is vanishingly small.
- In the 10-court scenario, the chance is even smaller: 1 in 1,280,000.
- This makes the event statistically implausible under randomness.

6. Conclusion

The hypergeometric probability analysis shows that the likelihood of all 5 of Rabi Lamichhane's courts being burnt purely by chance is extraordinarily low. While statistical improbability cannot by itself prove deliberate targeting, the evidence strongly suggests that the burning pattern is unlikely to be accidental and merits deeper investigation.

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With the help of the notice of the Supreme Court and news available in media, where the Supreme Court highlighted that in total 10 courts are burnt and among them 5 courts have pending litigation of Rabi Lamichhane.