

PPS STEPS

To select two Gram Panchayats using Probability Proportional to Size (PPS) sampling, follow these steps:

Step 1: List the Gram Panchayats with Their Populations

We already have this data:

Sl. No. Gram Panchayat Total Population

1	Adavisomapur	12,952
2	Antur	6,290
3	Asundi	6,782
4	Balaganur	5,007
5	Beladhadi	5,526
6	
7	

etc

Step 2: Calculate the Cumulative Population

Create a cumulative population column:

(This example is based on the Gram Panchayats in the Gadag district of Karnataka)

Sl. No. Gram Panchayat Total Population Cumulative Population

1	Adavisomapur	12,952	12,952
2	Antur	6,290	19,242
3	Asundi	6,782	26,024
4	Balaganur	5,007	31,031
5	Beladhadi	5,526	36,557
6		

7.....

etc

Step 3: Determine the Sampling Interval

1. Calculate the total population of all Gram Panchayats: Total Population=806177
2. Divide the total population by the number of Gram Panchayats you want to select (18 clusters)
3. Sampling Interval (SI) $\text{Sampling Interval (SI)} = 806177/18 = 44787$

4. Step 4: Choose a Random Start Point

1. Select a random number between 1 and the sampling interval (44787).
2. For example, if the random start is 19200, this number will determine the first Gram Panchayat.

Step 5: Select the First Gram Panchayat

1. Identify the Gram Panchayat where the cumulative population just exceeds the random start number (19200)
2.
 - The cumulative population for Adavisomapur is 12,952 (less than 19200).
 - The cumulative population for Antur is 19,242 (greater than 19200).
 - **Antur** is the first Gram Panchayat selected.

Step 6: Select the Second Gram Panchayat

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1. Add the sampling interval to the random start to determine the next selection point:
Next Selection Point=19200+44787=63987
2. Identify the Gram Panchayat where the cumulative population just exceeds this new number (63987).
 - The cumulative population for Chikkahandigol is 53887(less than 63987).
3. The cumulative population for Chinchalli is 65284(greater than 63987).
 - **Chinchalli** is the second Gram Panchayat selected.

Step 7: Select the Third Gram Panchayat

1. Add the sampling interval to the second selection point:

Next Selection Point=63,987+44,787=108,774

Since 108,774 exceeds the total cumulative population, it wraps around to the beginning. The selection point now lies within the cumulative population for Huyelagola.

Step 8: Repeat the Process

- Continue this procedure of adding the sampling interval and wrapping around if necessary until the required number of Gram Panchayats is selected.