

Statistical Methods - Geography Form 4 Notes

- [Definition](#)
 - [Statistics](#)
 - [Statistical Methods](#)
- [Methods of Statistical Presentation](#)
 - [Age-sex Pyramids](#)
 - [Dot Maps/Distribution Maps](#)
 - [Choropleth Maps](#)

[Definition](#)

[Statistics](#)

This is a branch of mathematics dealing with collection, analysis, interpretation and presentation of masses of numerical data

[Statistical Methods](#)

It is a systematic introduction to the essential techniques that all learners must understand to complete a module in statistical analysis.

In these notes we will learn more methods of statistical presentation and analysis i.e

- Age-sex pyramids
- Dot maps
- Choropleth maps

[Methods of Statistical Presentation](#)

[Age-sex Pyramids](#)

- Is a graph used to present population data showing the different age groups for males and females
- It is used to show the numbers of different age groups in a population by considering their ages and sex
- It consists of bars, which are drawn horizontally
- The length of each bar indicates the number of persons in each age-group in a population
- Population is usually divided into 5 year age - groups
- The age groups are known as cohorts E.g. 0-4, 5-9, 10-14, 15-19, 20-24
- While drawing the pyramid, males are usually represented on the left side of the graph and females on the right
- The youngest age-group always forms the base of the graph

Steps Followed when Constructing an Age Sex Pyramid

Step 1

Identify the respective sexes from the table given

Step 2

Establish the number of cohorts in the population

Step 3

Determine the number or percentage males and females in each cohort

Step 4

Using the number of males and females in the cohort, choose an appropriate horizontal scale

Step 5

Choose an appropriate vertical scale as determined by total number of cohorts

The bars should not be too wide or too narrow

Step 6

Using a graph paper, draw two vertical parallel line at the centre of the paper with 2 cm space between them

At the base of the right line, draw a horizontal line to the right and do the same to the left line.

Step 7

In the 2 cm space indicate the cohorts beginning with the lowest age-group in ascending order

Step 8

On the horizontal line to the right mark 0 at the point of intersection between vertical and horizontal lines increasing the value to the right. On the horizontal line to the left, do the same.

Mark the cohorts to the right to represent females and those to the left to represent males

Step 9

Draw the respective bars in each cohort and shade them neatly

Step 10

Frame the age-sex pyramid and give it a title

How to Calculate the Percentages of Males and Females in Each Cohort

1. Calculate the number in each age group as a percentage of the total population as shown in the table

For example

In age group 0-4

$$\% \text{ Males} = \frac{2,291,936}{14,205,589} \times 100 = 16.13\%$$

$$\% \text{ Females} = \frac{2,242,966}{14,481,081} \times 100 = 15.49\%$$

| Age-group | Males 000,000 | Females 000,000 | %Male | %Female |
|-----------|---------------|-----------------|-------|---------|
| 0-4 | 2,291,936 | 2,242,966 | 16.13 | 15.49 |
| 5-9 | 2,00,580 | 1,962,556 | 14.08 | 13.55 |
| 10-14 | 2,034,980 | 2,003,655 | 14.32 | 13.83 |
| 15-19 | 1,681,984 | 1,721,194 | 11.84 | 11.83 |
| 20-24 | 1,328,529 | 1,504,389 | 9.35 | 10.38 |
| 25-29 | 1,094,909 | 1,164,594 | 7.70 | 8.04 |
| 30-34 | 840,692 | 845,230 | 5.91 | 5.83 |
| 35-39 | 695,263 | 723,749 | 4.89 | 4.99 |