

# MEASUREMENT OF FERTILITY

FOR M.A

401/C UNIT-3

BY

**DR. SANJAY KUMAR**

ASSOCIATE PROF AND HOD

P.G.DEPTT OF GEOGRAPHY

MAHARAJA COLLEGE,ARA

V.K.S.U.BIHAR

# Contd....

## Introduction

**Reproductive capacity and Fertility are use very frequently and simultaneously.**

**There are difference between these two words.**

**Reproductive capacity is associated with the reproductive capacity of a female during her gross reproductive period while Fertility is associated with motherhood.**

**The measurement of Fertility is possible but not of reproductive capacity.**

# Contd...

Fertility is the basic dynamics of population change along with mortality and migration.

.Natural growth of population depends on these three factors.

Therefore, it is must to study about the measurement of fertility of a region for their population related forecasting.

## Contd....

**There are three (3) major methods in operation for the measurement of Fertility:**

- 1. Measures based on Performance during one year**
- 2. Measures based on Census –age distribution**
- 3. Measures based on number of children ever born.**

# 1.Measures based on Performance during one year

It is further contains 6 types of measurement like-

A- Crude Birth Rate

B- General Fertility Rate

C- AGE-Specific Fertility Rate

D- Total Fertility Rate

E- Gross Reproductive Rate

F- Sex-Age Adjusted Birth Rate

## A- Crude Birth Rate

Crude birth rate is measured by the live birth on per 1000 population during mid year .

Formulae of CBR measurement-

$$B/P * K$$

Where

B= Live birth during a year

P= Mid Year total population

K= 1000

## B- General Fertility Rate

It is just an improvement over CBR.

In CBR we includes all the fertile and unfertile population. Hence, in this GFR we only consider the age group of 15-44.

Formulae-

$$B/P_i * 1000$$

Where

B= Total live birth during a year

P<sub>i</sub>= Total population of 15-44 age group

## C- AGE-Specific Fertility Rate

**Formulae for ASFR is-**

$$\mathbf{B_i/P_i * K}$$

**Where**

**B<sub>i</sub> = live birth by age-specific Total population**

**P<sub>i</sub> = Total population of age-specific in mid year**

$$\mathbf{K=1000}$$



# D- Total Fertility Rate

**Formulae of TFR is=  
(Bi/Pi\*1000)\*5/ 1000**



# E- Gross Reproductive Rate

**Formulae for GRR is=  
Fertility Rate \* 0.49**



# F- Sex-Age Adjusted Birth Rate

**SAABR= Total number of live birth in a year**

---

$$1 * W_1 + 7 * W_2 + 7 * W_3 + 6 * W_4 + 4 * W_5 + 1 * W_6$$

**Where=**

**W<sub>1</sub>, W<sub>2</sub>, W<sub>3</sub>, W<sub>4</sub>, W<sub>5</sub>, W<sub>6</sub> represents - the age group of 15-19, 20-24, 25-29, 30-34, 35-39 and 40-44 respectively.**

## 2. Measures based on Census – age distribution

$$P_{0-4} / f_{15-44} * 100$$
A small, semi-transparent speaker icon is overlaid on the equation, positioned between the denominator and the multiplication sign.

# Contd...



**3. Measures based on number of children ever born**

# MEASUREMENT OF FERTILITY

**THE END**



**THANK YOU**