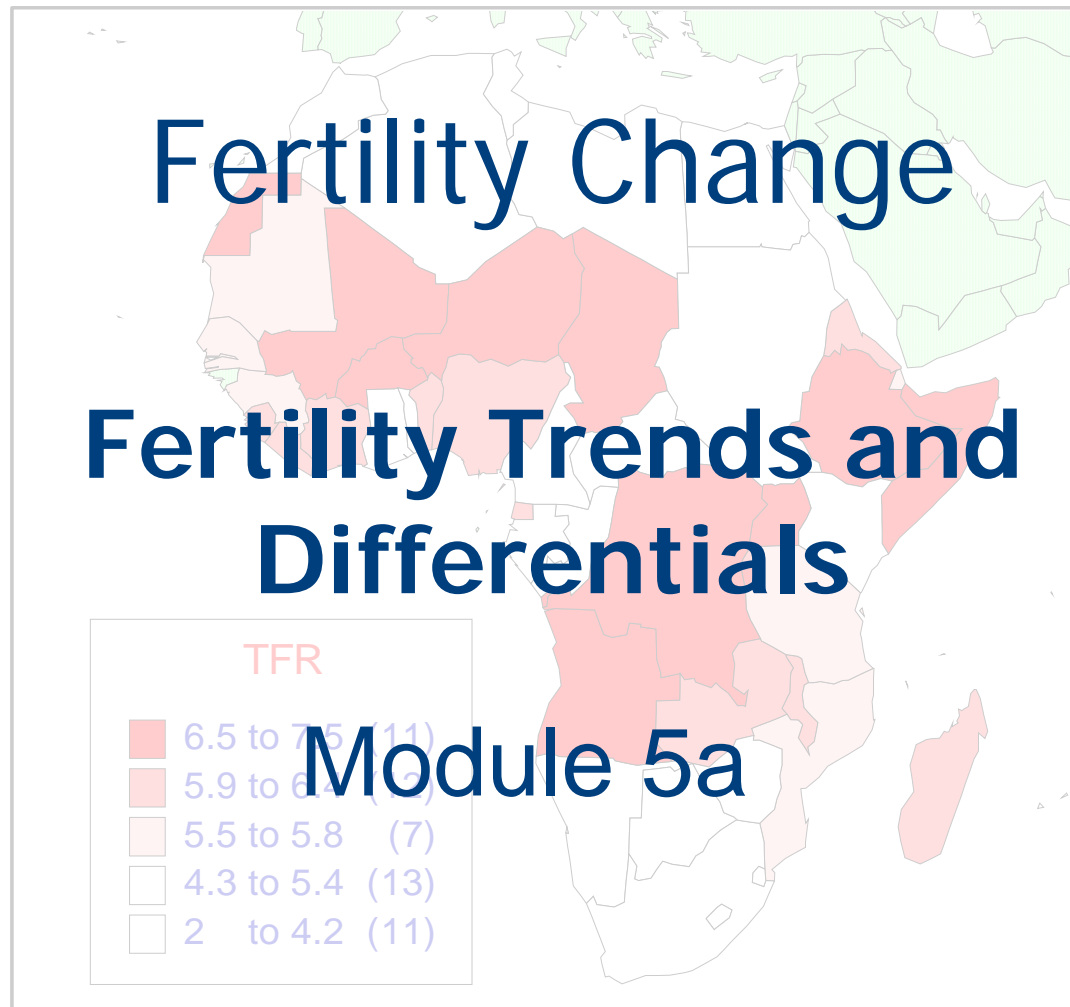


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Learning Objectives

Upon completion of this module, the student will be able to

- ◆ Describe the trends and differentials in fertility over time and place
- ◆ Trends and differentials in age specific fertility rates over time and place

The Fertility Transition Definition

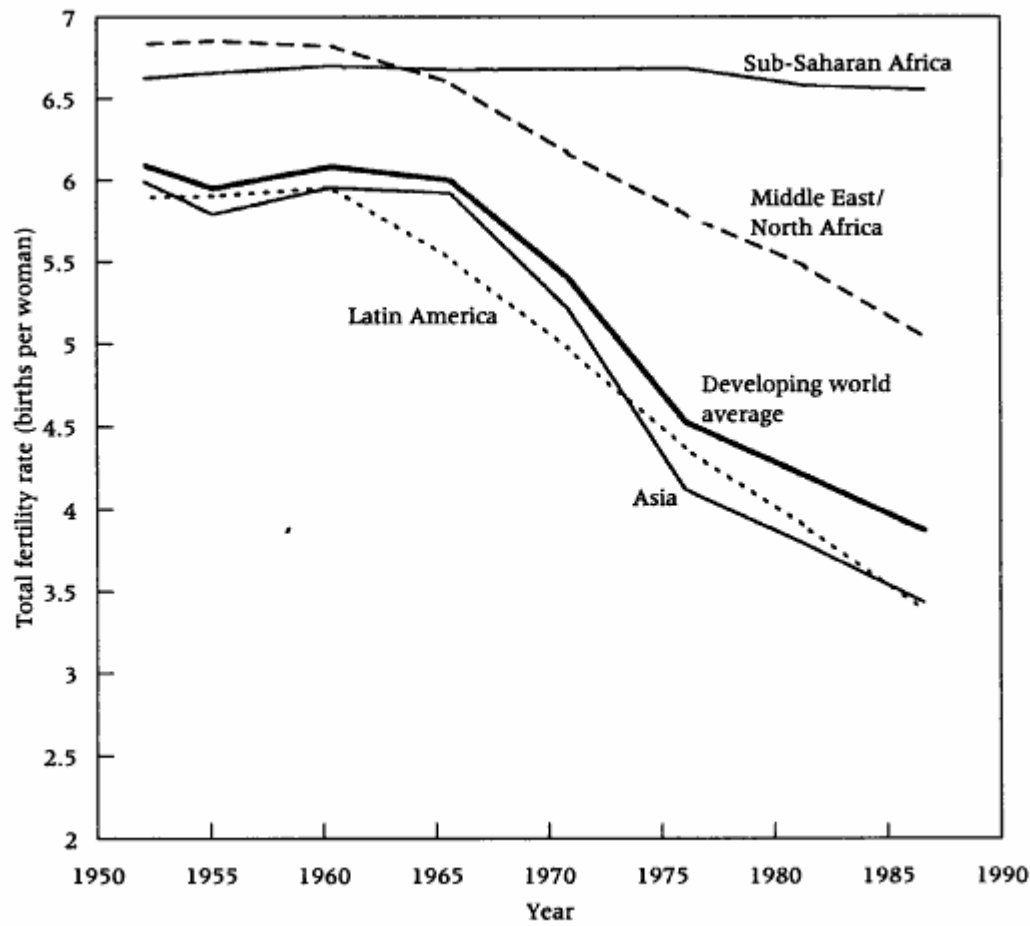
- ◆ Generally defined as having started in a country when there is at least 10% decline in fertility which begins an irreversible trend downwards
- ◆ Said to be “completed” when replacement level fertility levels are achieved

Fertility Transition

Current Status

- ◆ Began in most industrialized countries in the late 19th century and completed by early/mid 20th century
- ◆ Began in most of Asia and Latin America after World War II and completed or nearing completing in some (e.g., Brazil, Thailand, China)
- ◆ Just beginning in most sub-Saharan African countries

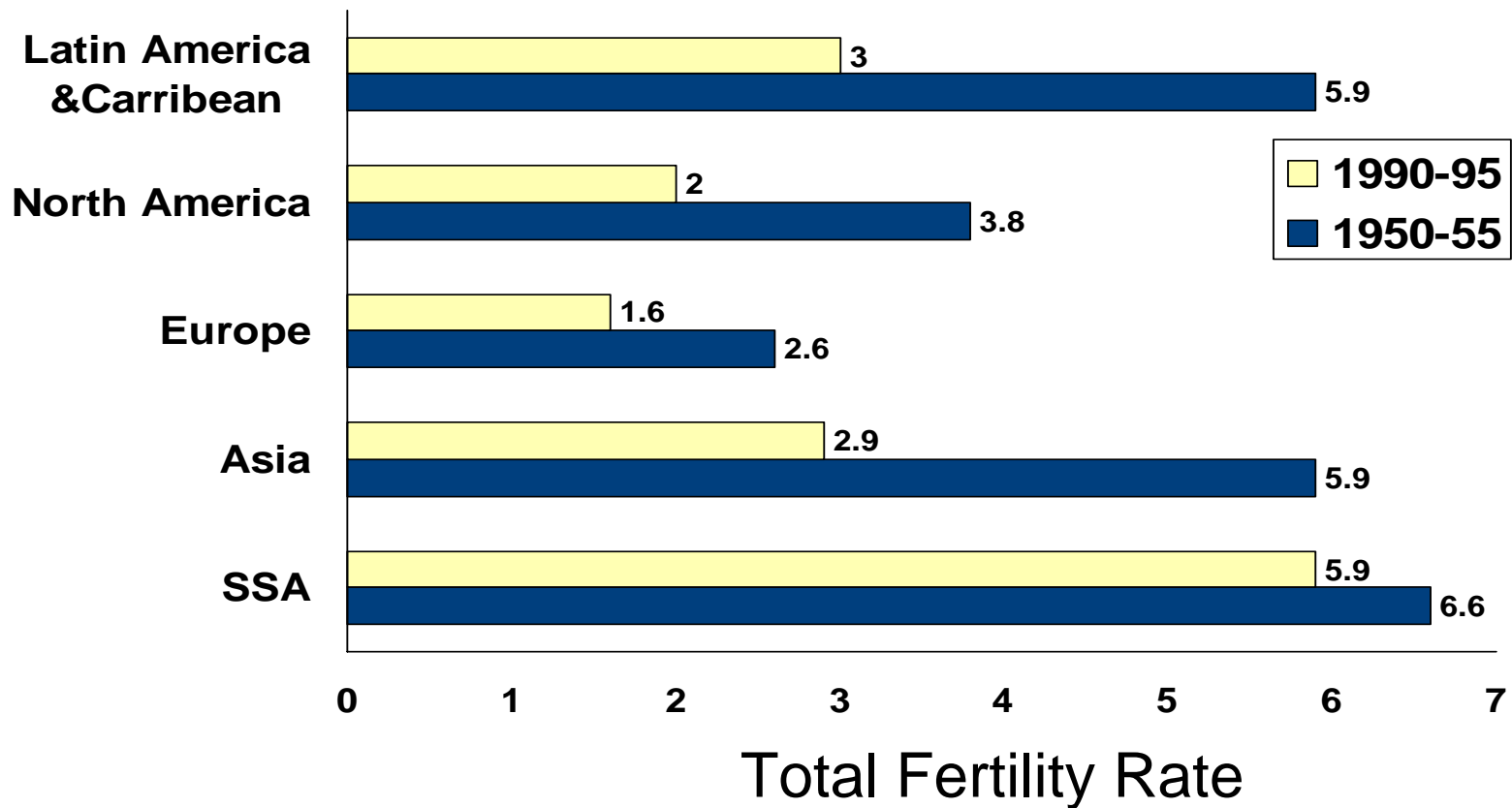
Total Fertility Rates by Region of the Developing World, 1950-55 to 1985-90



SOURCE: United Nations 1995.

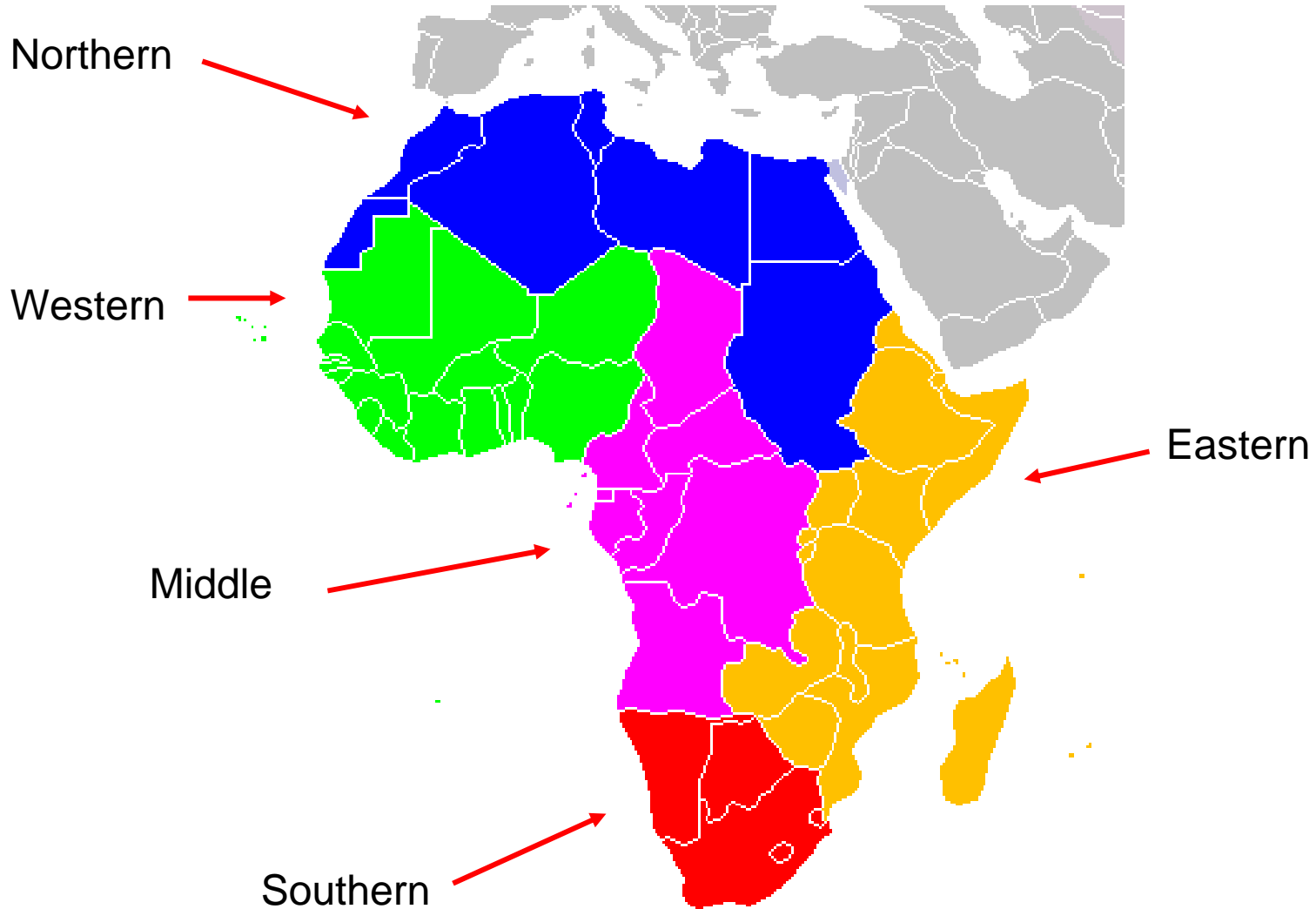
Source: Fig1, Bongaarts and Watkins, 1996

Decline in Fertility by World Region, 1950-55 to 1990-95

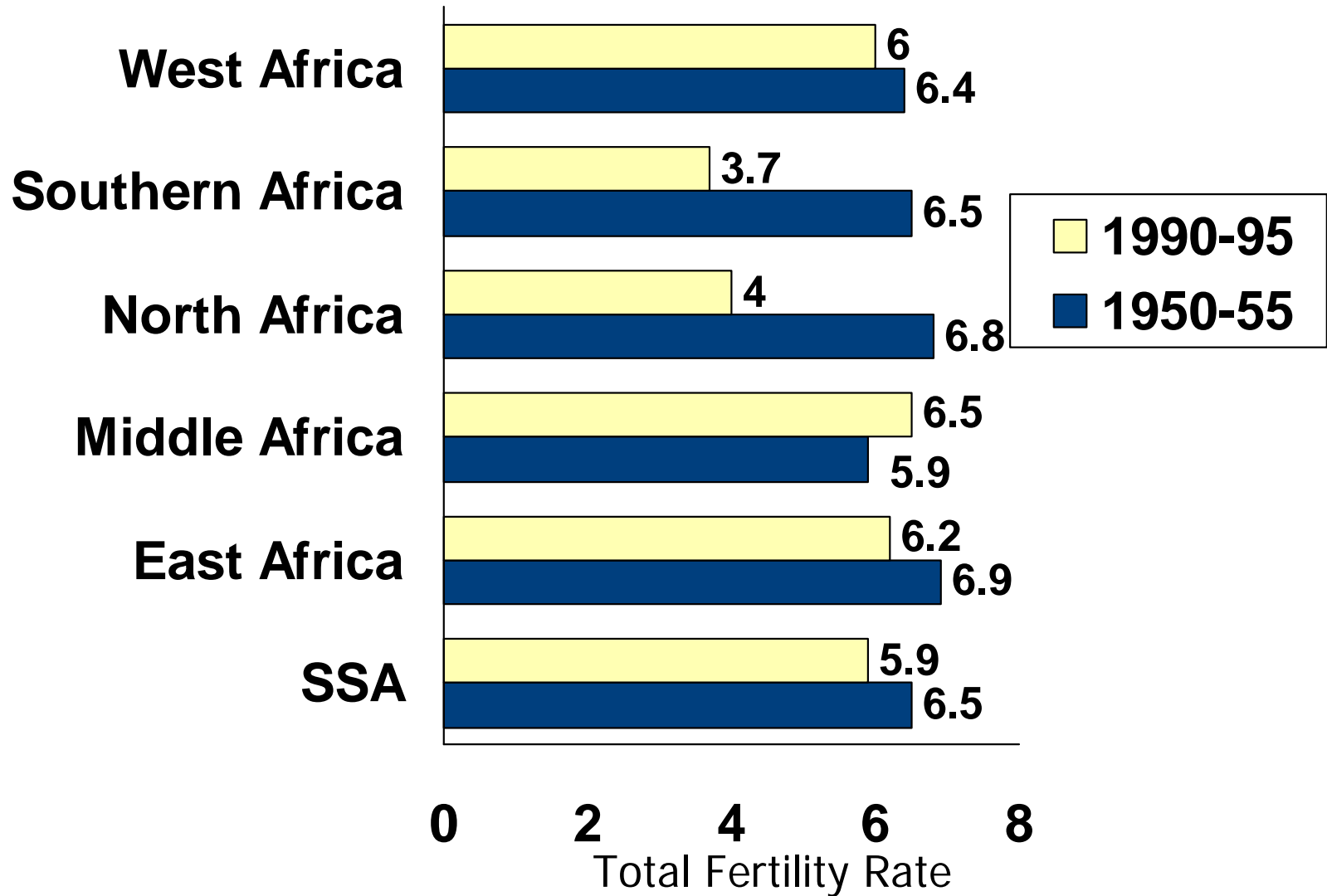


Data Source: UN, World Population Prospects: The 1998 revision

Africa – Regional Map

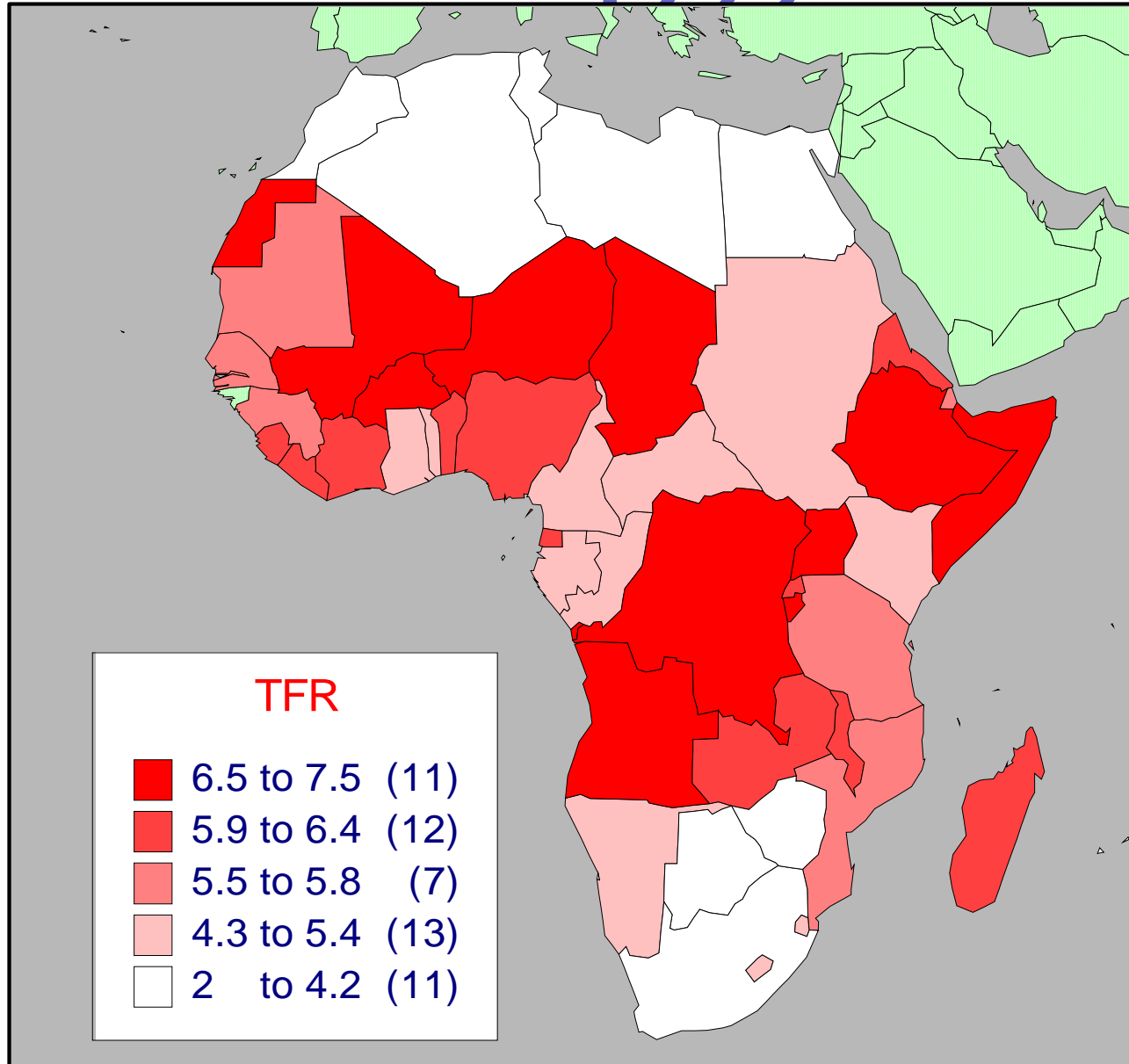


Decline in Fertility in Africa by Region



Data Source: UN, World Population Prospects: The 1998 revision

Total Fertility Rates in Africa, 1999



Source: World Population Data Sheet, 1999, PRB

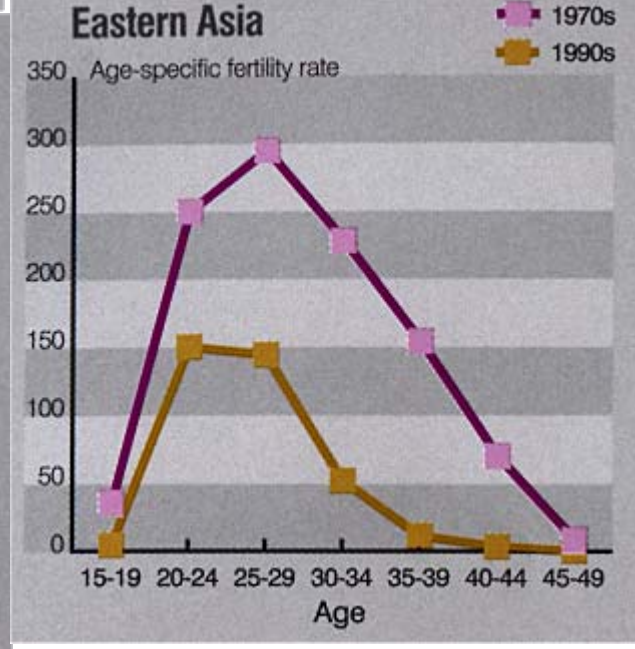
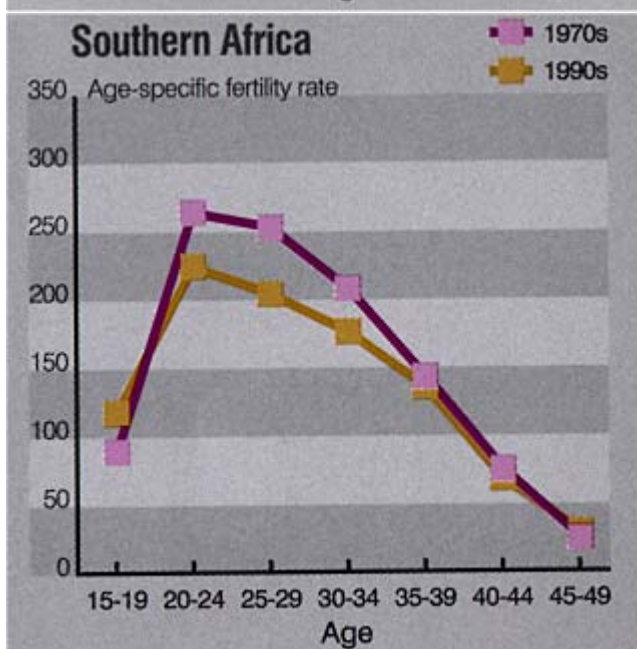
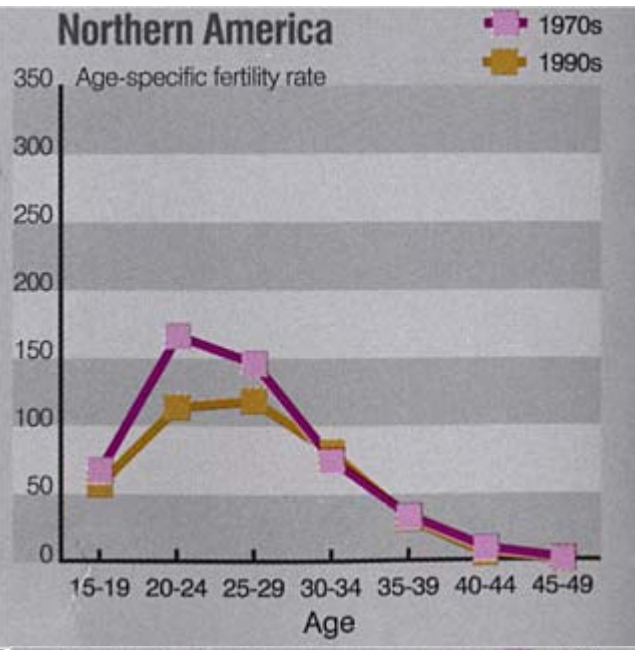
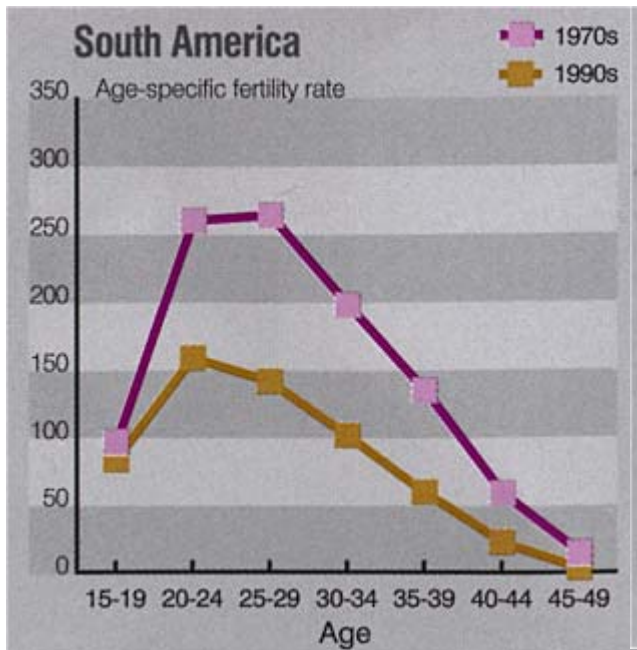
Trends in Age Specific Fertility Across Regions

- ◆ During fertility transition, the proportion of decline in fertility may not be same across age groups
- ◆ With delay in age at marriage over time with no concomitant increase in premarital fertility, the fertility in age group 15-19 will decline over time as observed in East Asia, esp. in Japan

Trends in Age Specific Fertility Rates Across Regions

- ◆ However, in some regions e.g. in Southern Africa, an increase in fertility in 15-19 year age group is observed over time.
- ◆ Further, the fertility patterns may shift up with delay in initiation of child-bearing with rising level of women's education and labor force participation
- ◆ Fertility may decline disproportionately in higher age groups with rise in use of contraception in these age groups

Trends in ASFR over time across different regions



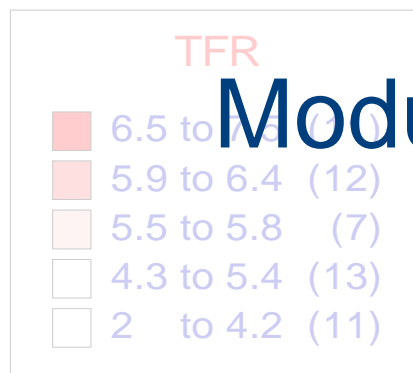
Source: UN, World Fertility Patterns, 1997

Summary Slide

- ◆ This concludes this session, the key concepts introduced in this session include:
 - Fertility transition
 - The status of fertility transition in different countries around the world
 - The trends and differentials in fertility across different regions of the world and among different countries in SSA

Fertility Change

Determinants of Fertility Trends and Differentials



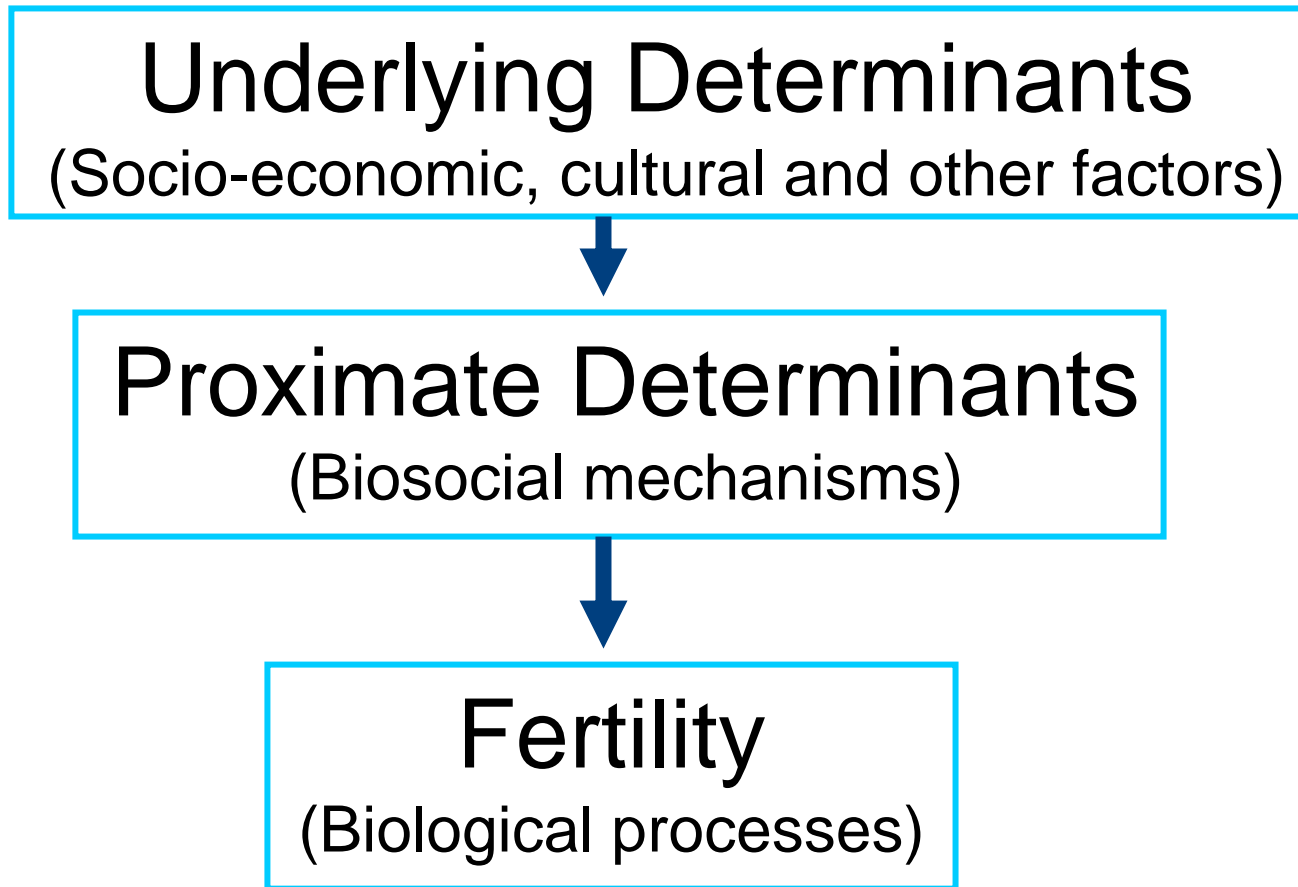
Module 5b

Learning Objectives

Upon completion of this module, the student will be able to :

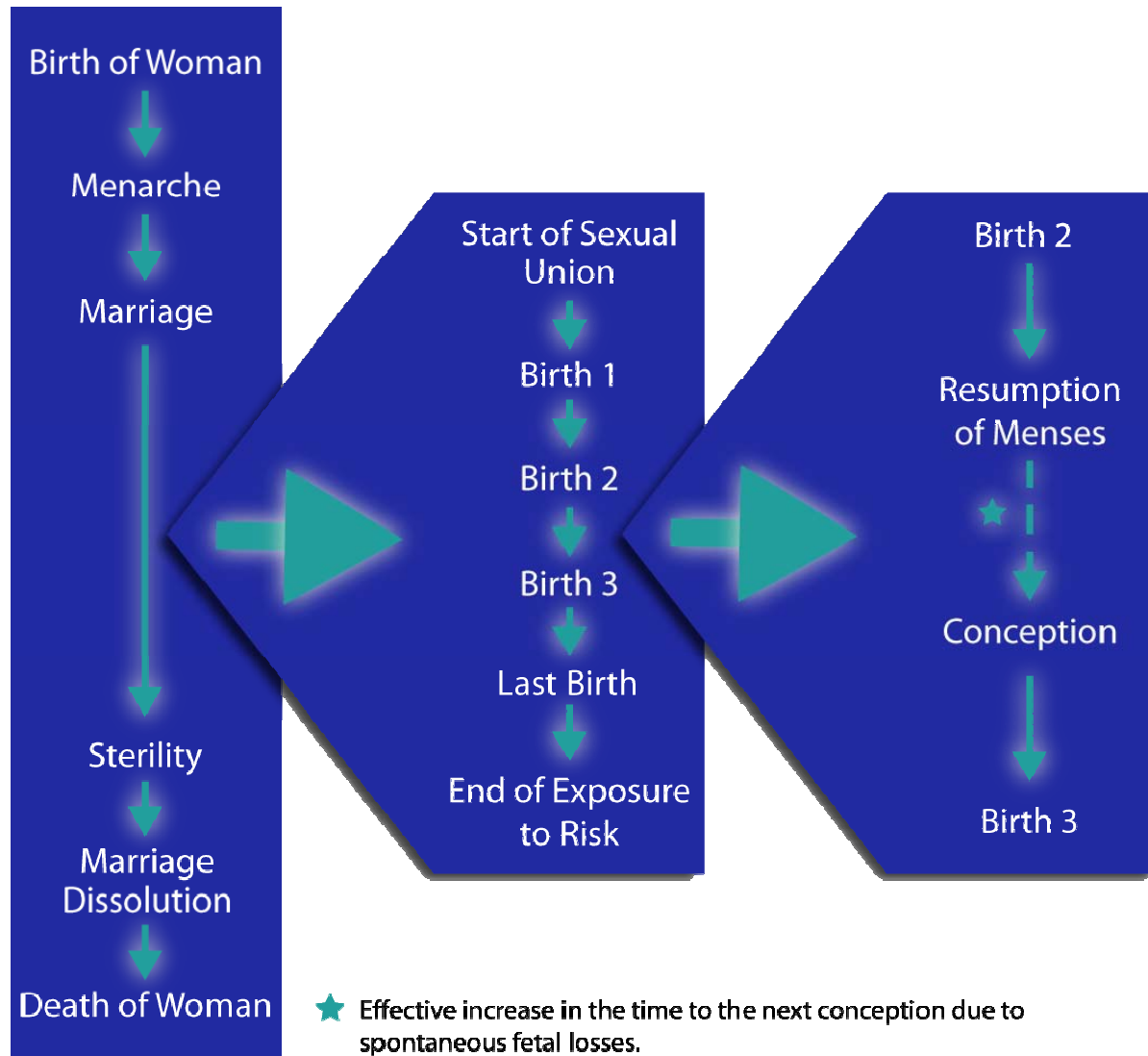
- ◆ Describe the proximate and underlying determinants of fertility responsible for observed trends in fertility

A Model of Fertility Change



Fertility: Biological Processes

A Model of Reproduction



Fertility – Biosocial (Proximate) Determinants

- ◆ Davis and Blake (1956) introduced the concept of “proximate” or biosocial determinants – that is, behavioral factors that directly affect the biological processes controlling fertility.

continued

Fertility – Biosocial (Proximate) Determinants

- ◆ Bongaarts (1982) provided an analytical model for measuring in surveys the most important proximate determinants that affect fertility.

Bongaart's Proximate Determinants

1. * Proportion of women in a sexual union (married)
2. * Use of contraception
3. * Post-partum amenorrhea (due to breastfeeding)
4. * Induced abortion
5. Frequency of intercourse
6. Spontaneous fetal losses
7. Sterility (due to disease)

** Major determinants of variability in fertility in most populations.*

The four most important proximate determinants - based on sensitivity of fertility levels to changes in these, and their variability over time and place

- ◆ Proportion of women in sexual unions
- ◆ The level of contraceptive use
- ◆ Duration of postpartum infecundability
- ◆ The level of induced abortion

These 4 factors substantially account for the trends and differentials seen in fertility over time or place

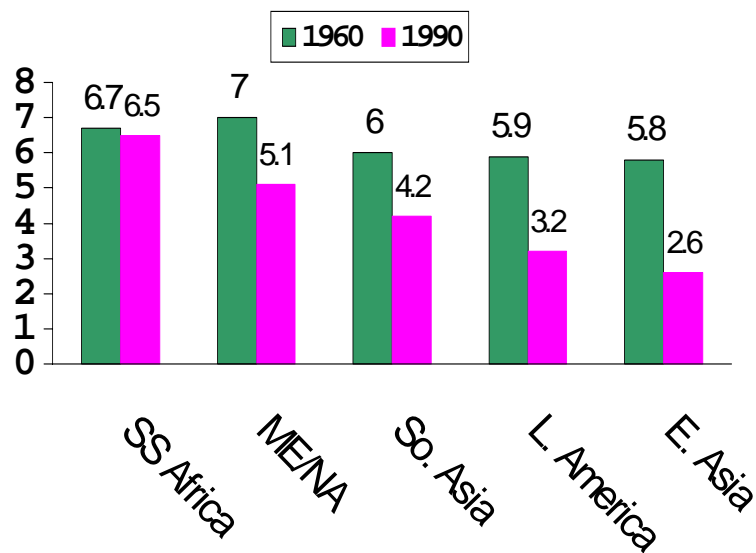
The remaining three proximate determinants

- ◆ The level of permanent sterility
- ◆ Frequency of intercourse (fecundability)
- ◆ Spontaneous intrauterine mortality

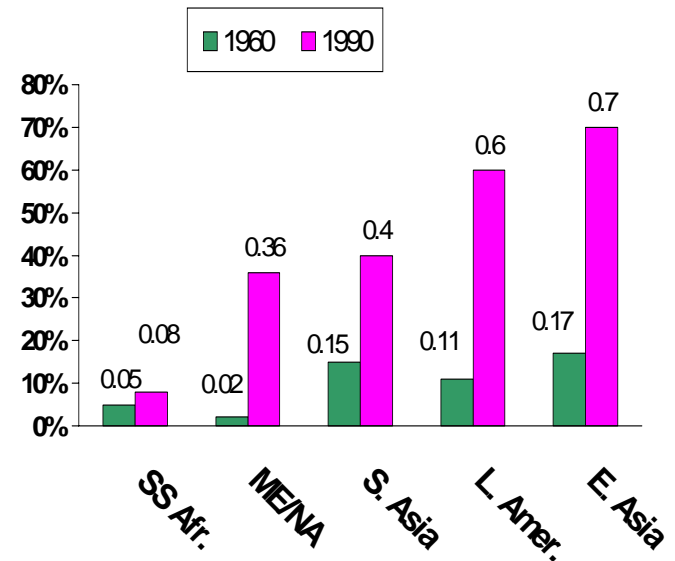
Relatively less important determinants of the trends or differentials in fertility (though sterility due to disease is important in some SSA regions)

The Contraceptive Revolution and Fertility Change Since 1960

Trends in Fertility in Developing Countries 1960-90

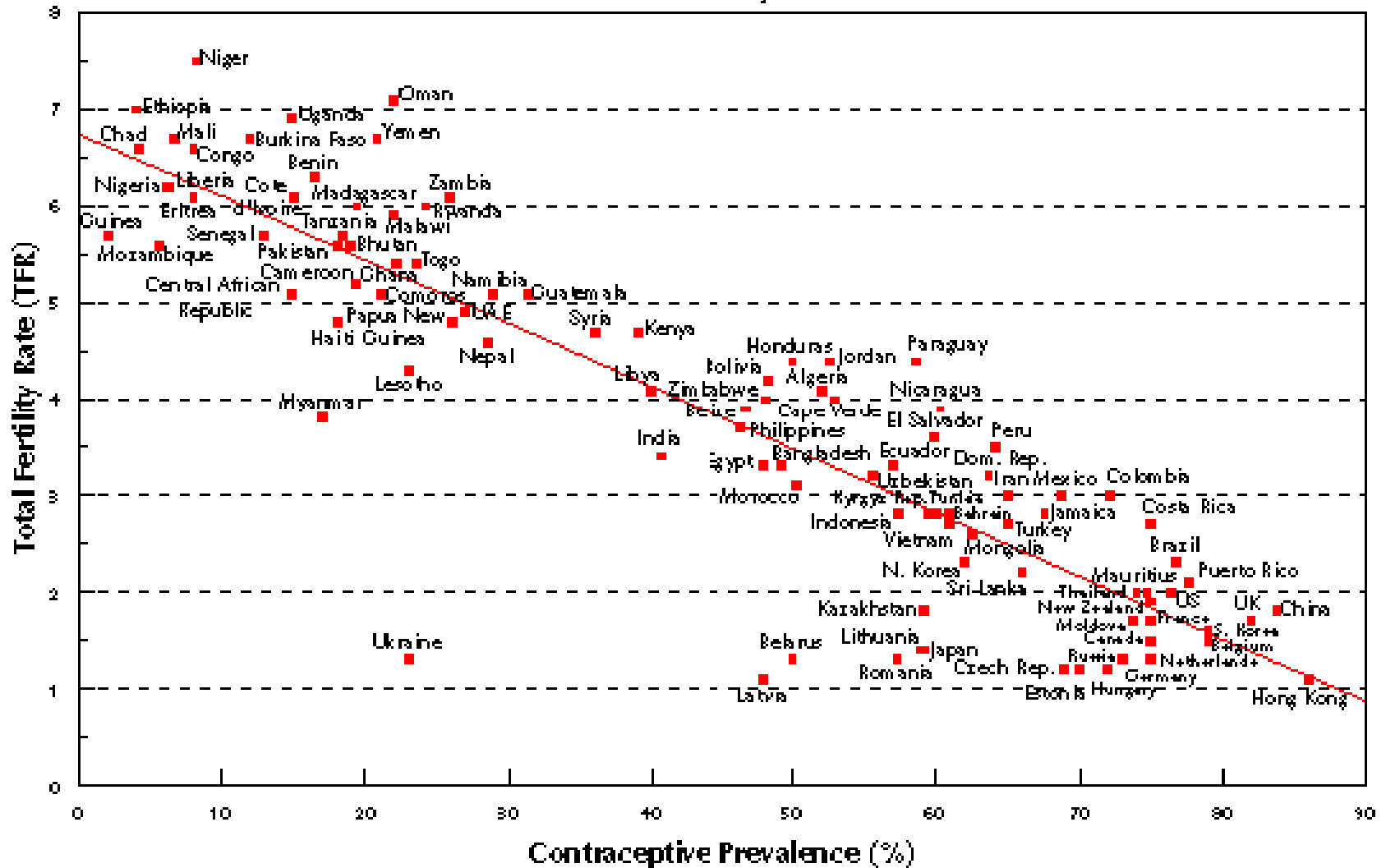


Trends in Contraceptive Use in Developing Countries 1960-90



Relationship Between Fertility and Contraceptive Use

100 countries Surveyed in the 1990s



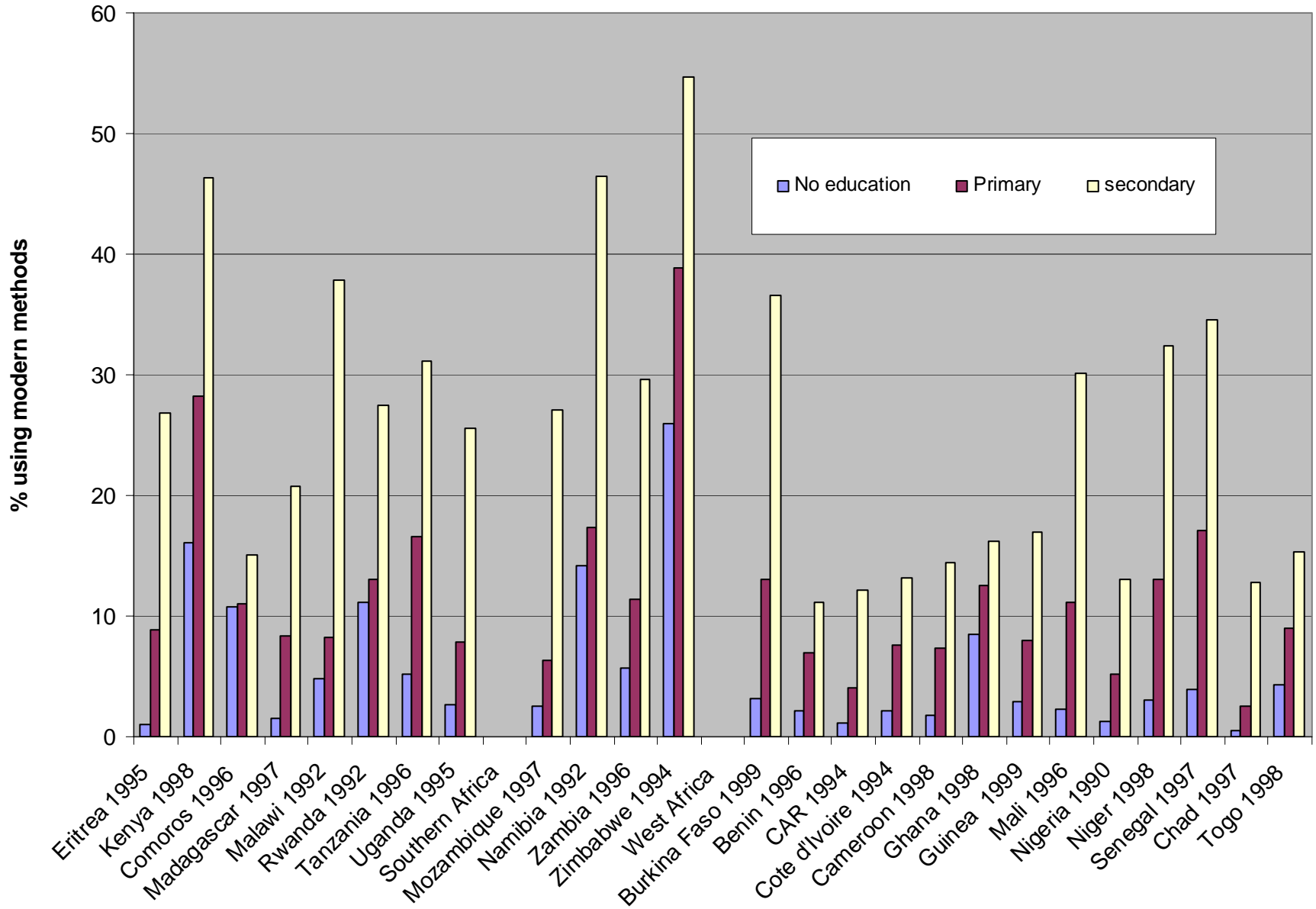
Underlying Determinants of Fertility in Populations

- ◆ The underlying determinants of fertility are those socio-economic, cultural, health and programmatic factors that result in changes in reproductive behaviors in populations.
- ◆ All underlying determinants must operate through the proximate determinants to influence the level of fertility in a population.

Underlying Determinants of Fertility: Some Examples

- ◆ *Social*: education, income, work, status of women
- ◆ *Cultural*: marriage practices, post-partum abstinence, religious beliefs about contraception
- ◆ *Health*: prevalence of STDs, malaria
- ◆ *Political*: government policies regarding family planning, female education
- ◆ *Programmatic*: availability of contraceptive information and services

Contraceptive prevalence rates by the Level of Mother's Education, SSA, 1990-1999, Demographic and Health Surveys

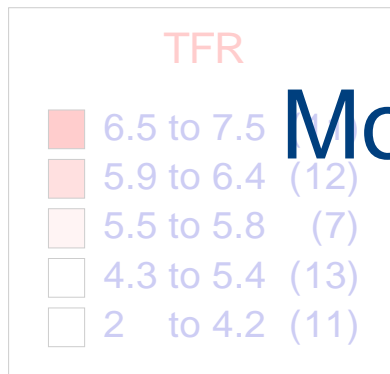


Summary Slide

- ◆ This concludes this session, the key concepts introduced in this session include:
 - The proximate determinant of fertility
 - The underlying or distal determinants of fertility

Fertility Change

Classic Theory of Demographic Transition



Module 5c

Learning Objectives

Upon completion of this module, the student will be able to :

- ◆ Describe , interpret and critique the classic theory of demographic transition to explain the current and historical trends in fertility decline

Why Does Fertility Decline? Theories and Controversies

- ◆ Fertility decline - No uniform pattern, much diversity in the origin, speed and correlates in different historical and geographical setting.
- ◆ No consensus on a common theoretical framework.

Malthusian Theory of Population Growth (Early 19th Century)

The “cause” of poverty

- ◆ Population tends to increase at a geometric rate
- ◆ Food can only increase arithmetically
- ◆ Population expands to eat up any surplus
- ◆ Subsistence wages forever unless “moral checks” (abstinence from marriage)
- ◆ Otherwise “positive checks” on population growth - misery (wars, famines) and vice (use of contraception)

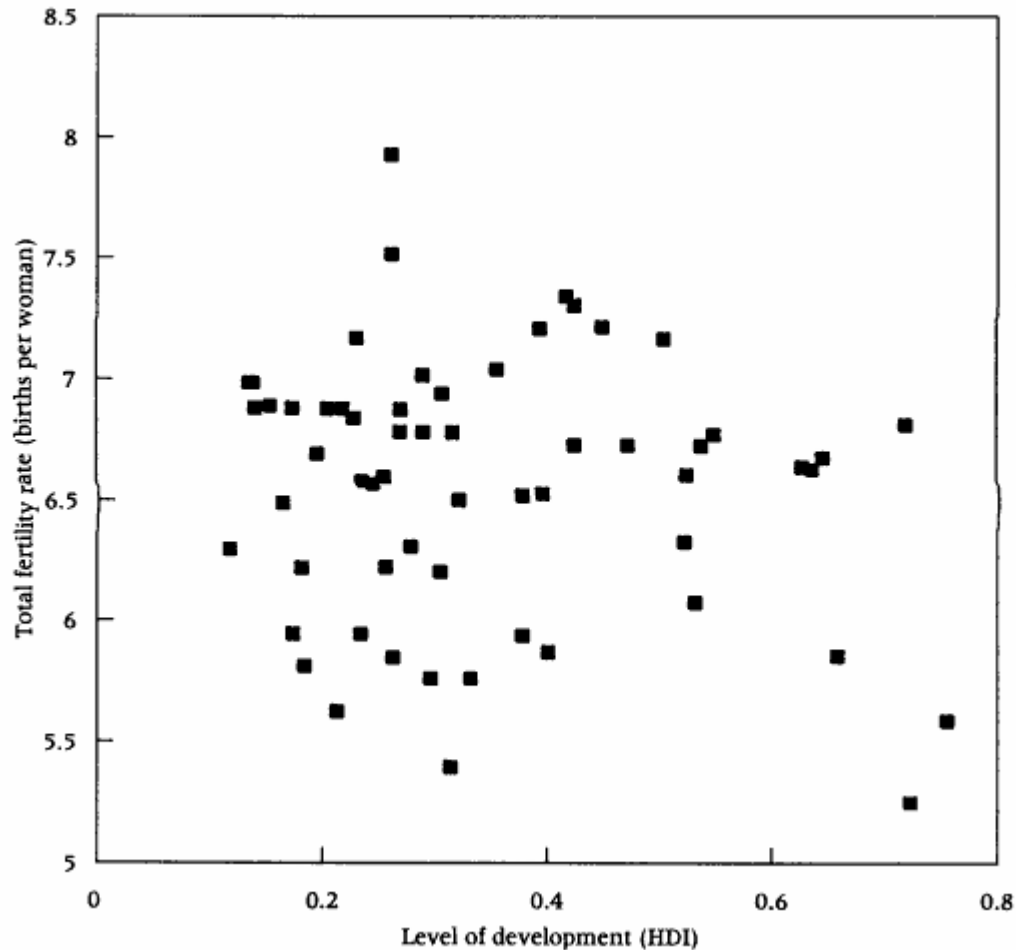
Why Fertility Declines: The Classic Demographic Transition Theory (Notestein and Davis, 1950s)

- ◆ Socio-economic development leads to:
 - Increased supply of children due to reduced mortality
 - Reduced utility of children
 - Reduced desired family size
- ◆ Declining mortality and, after some lag period, declining fertility follow from socioeconomic development

What Does Empirical Evidence Say about the Demographic Transition?

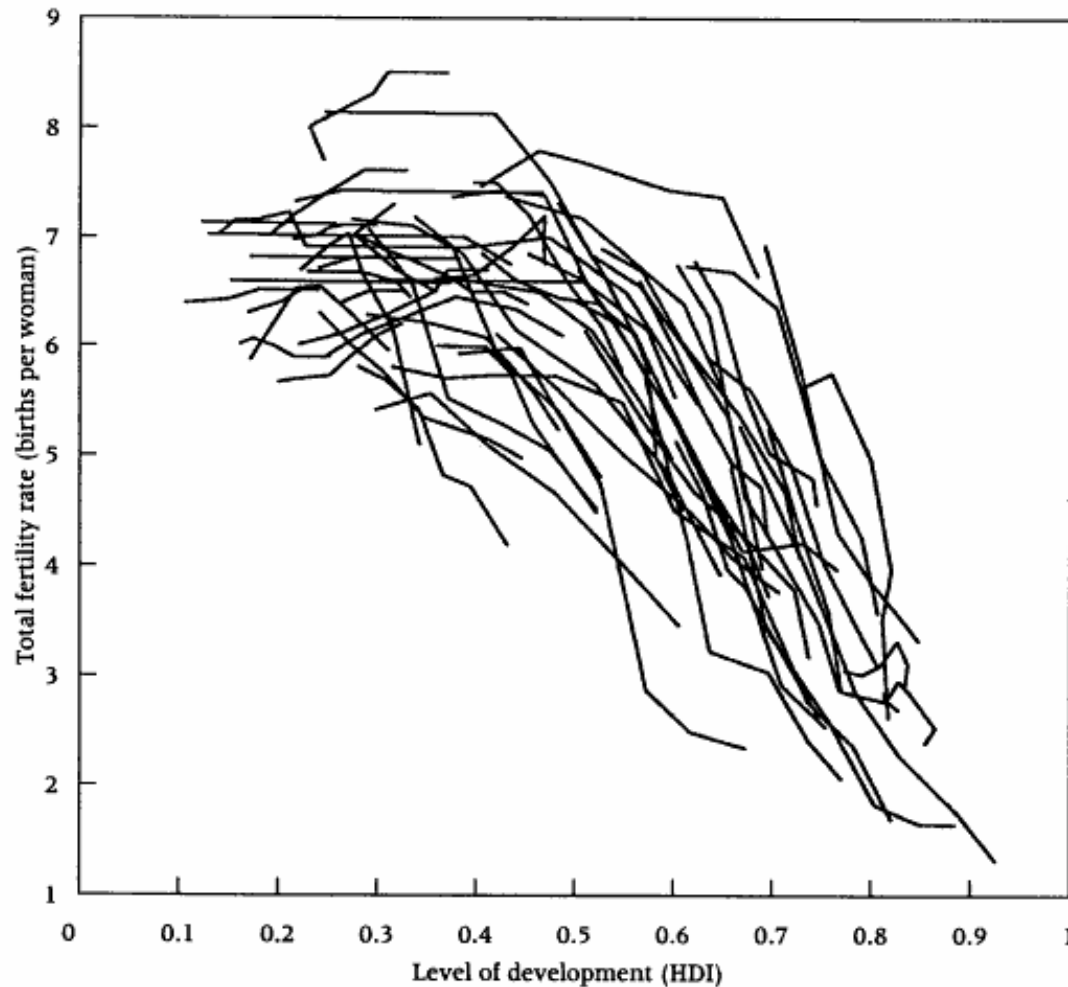
- ◆ **Princeton European Fertility Project:** launched in 1963, two decade long endeavor- designed to test transition theory with historical data from roughly 700 provincial -level units throughout Europe.
- ◆ **World Fertility Surveys:** launched in the 1970s provided evidence on fertility change from over 40 less- developed countries

Relationship between TFR and the Human Development Index (HDI) for less developed countries in 1960-65



Source: Fig. 4, Bongaarts and Watkins, 1996

Relationship between TFR and level of development (HDI) for 69 developing countries, 1960-65 to 1985-90



Source: Fig2, Bongaarts and Watkins, 1996

What Does Empirical Evidence Say About the Demographic Transition Theory?

- ◆ No consistent relationship can be found between the timing of the onset of fertility decline or level of fertility and measures of social and economic development as one looks across countries

Necessary Preconditions for Decline in Marital Fertility (A. Coale, 1973)

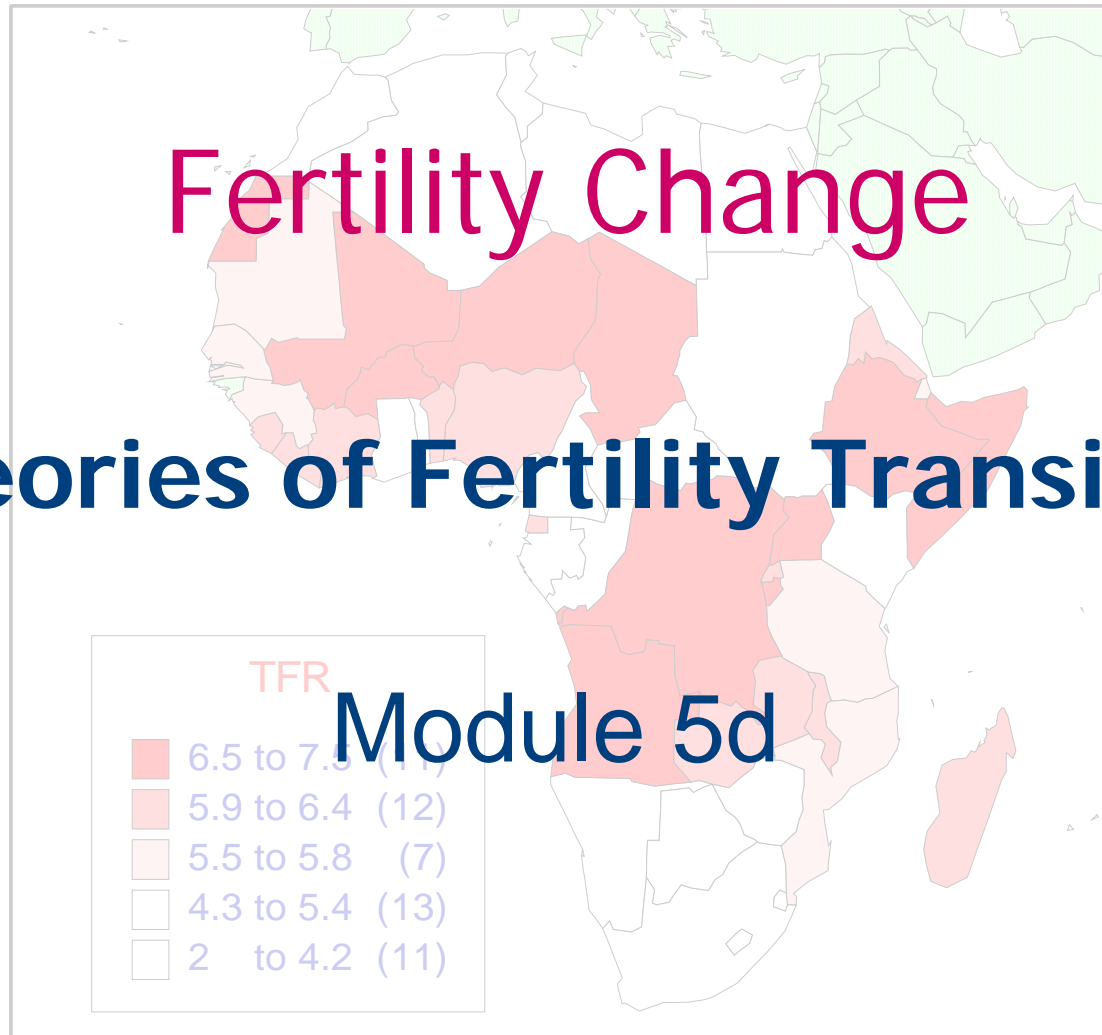
- ◆ A setting that allows fertility control to be part of calculus of conscious choice
- ◆ Clear economic advantages of smaller family size
- ◆ Availability of information about, and means of, fertility control

Summary Slide

- ◆ This concludes this session, the concepts introduced in this session include:
 - Malthusian theory of population growth
 - Classic theory of demographic transition
 - Necessary preconditions for decline in marital fertility as proposed by A. Coale

Fertility Change

Theories of Fertility Transition



Module 5d

Learning Objectives

Upon completion of this module, the student will be able to :

- ◆ Describe , interpret and critique the existing theories to explain the current and historical trends in fertility decline

Recent Fertility Transition Theories

- ◆ Theory of intergenerational wealth flow (Caldwell, 1982)
- ◆ Easterlin's theory of supply and demand (Easterlin and Crimmins, 1985)
- ◆ Diffusion of innovation theory (Cleland and Wilson, 1987)

Theory of Intergenerational Wealth Flows

- ◆ Changes in child labor, compulsory education, extended families, etc., shifts child-to-parent “wealth flow” to parent-to-child
- ◆ Fertility is limited as children become a burden to the family
- ◆ *Criticism*: little empirical evidence to support this theory

Economic Theories of Fertility:

Easterlin theory of supply-demand

- ◆ Three basic determinants of fertility:
 1. supply of children, initially limited by poor health conditions
 2. demand for children for economic and social reasons
 3. cost of fertility regulation, including social and psychic as well as monetary costs
- ◆ Modernization can lead first to a rise and then to a fall in fertility

Economic Theory of Supply and Demand: Criticism

- ◆ Does not specify what socioeconomic variables account for demand for children
- ◆ Does not explain the variations in pre-transitional marital fertility

Diffusion of Innovations (Ideational) Theory (Cleland and Wilson)

- ◆ The key element is diffusion of:
 - knowledge (of birth control methods)
 - attitudes (towards use of contraceptives)
 - innovations (in birth control technologies and behaviors)

Diffusion of Innovations Theory: Implications

- ◆ Population sub-groups open to outside influence would be affected first
- ◆ In the process of transition, fertility differentials across diffusion barriers (race, language, education) will first increase, then decline
- ◆ Fertility decline is most rapid in homogenous populations
- ◆ Family planning programs can help to bring about fertility decline

Diffusion of Innovations Theory: Criticism

- ◆ Narrow in focus, the human drama of fertility decline is more than just a technological issue related to changing contraceptive behaviors
- ◆ Places culture out of social, economic and political context
- ◆ Limited empirical evidence – e.g., does not indicate when innovations will actually be adopted by a population

Gaps in Current Theories on Fertility: Role of Power and Culture

- ◆ Role of authoritarian political power, e.g., in China and Indonesia
- ◆ Role of democratic institutions, e.g., in Thailand and India
- ◆ The interaction of cultural traditions and political decisions, e.g., in Pakistan and sub-Saharan African

Gaps in the Current Theories on Fertility: Role of Gender

- ◆ How have gender roles and relationships shaped reproduction in different times and different places?
- ◆ Importance of gender in population policies has been highlighted in the 1994 International Conference on Population and Development
- ◆ Limited research in this area

Role of National Family Planning Programs in Fertility Decline

- ◆ Provide information on fertility regulation methods
- ◆ Reduce the costs (and enhance the effectiveness) of contraceptive practice (monetary, time, and psychic)
- ◆ May influence demand for children by changing the social norms about ideal family size, role and status of women, etc., through IEC activities

continued

Role of National Family Planning Programs

- ◆ Hard to quantify and separate the effect of family planning programs on fertility decline from other socio-economic factors
- ◆ Mauldin and colleagues (1978,1984,1996) collected information on FP program effort in different countries and found a consistent positive relationship between contraceptive prevalence and program effort score even when controlling for level of SE development

Is There a Theory of Fertility Decline Applicable to All Areas?

- ◆ Fertility transitions are the result of a complex interaction of social, economic, cultural and political forces that change patterns of family formation, family size desires, and fertility control behaviors
- ◆ The relative importance of different forces may be quite different in different settings
- ◆ There may not be a single theory that fully encompasses these processes

Summary Slide

- ◆ This concludes this session, the key concepts introduced in this session include
 - Theory of intergeneration wealth flow
 - Easterlin's theory of supply and demand
 - Diffusion of innovation theory
 - Role of gender, power and culture in fertility decline
 - Role of national family programs in fertility decline