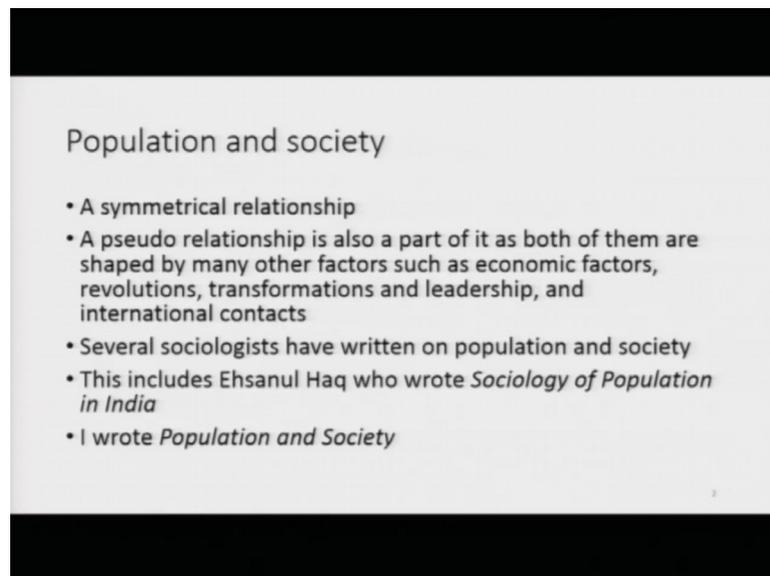


Population Studies
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Indian Institute of Technology, Kanpur

Lecture - 13
Population and Society-I

Friends, now we will have two lectures on the relationship between Population and Society. The purpose of these lectures is to show the interrelationship between population variables which are fertility, mortality and migration, and social variables as such as institutional variables and education and economic variables or income social mobility and others; we will see some of these relationships. First thing to notice is that the relationship between population and society is symmetrical, demographic processes affect socially structure. Social structure means some total of normative relationships among people or the normative structure of society.

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So, population variables affect social structure and social structure affects population variable; such as fertility, mortality. And sometimes this relationship maybe mediated or moderated by other factors and a pseudo relationship is also part of it as both of them are shaped by many other factors; such as economic factors, revolutions, transformations and leadership and international contacts of globalization. Several sociologists have written on population and society; one book which came to my notice in the recent past is a book

by Ehsanul Haq, a professor of JNU; who wrote Sociology of Population. Some years back I also wrote a book on population and society.

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Consequences of population growth

- Density
- Poor quality of living
- Reduced per capita income
- Impact on environment
- Political unrest and social conflicts
- Alienation
- Disintegration

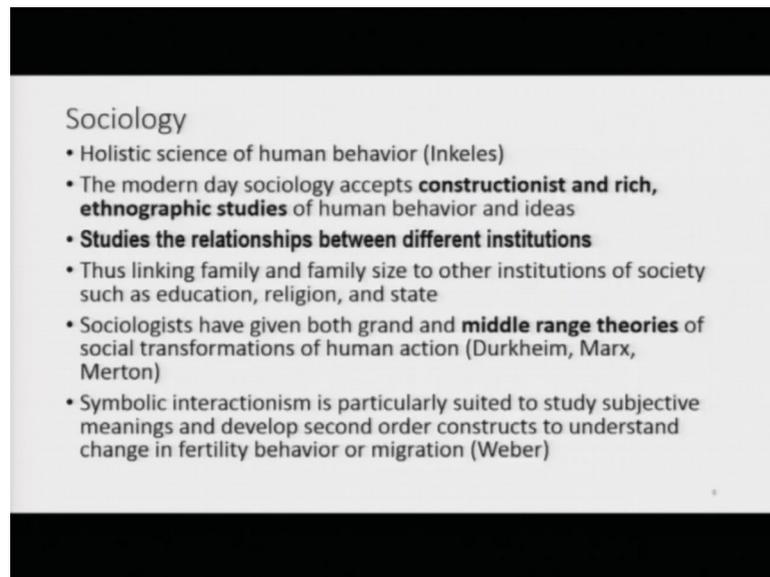


Garret Hardin, *Lifeboat ethics*

Now, some of the consequences of population growth which we have learnt by now are rise in the density of population. A noted sociologist or one of the founding fathers of sociology Durkheim talked about this density of population.

He made a difference between physical density and moral density; physical density is the density; in demographic sense number of people inhabiting an area divided by the size of that area. Moral density refers to number of interactions possible between people and he also said that rise in moral density can lead to conflicts and disintegration and at that time division of labour comes to society's rescue. Then population variables can lead to poor quality of living, reduced per capita income, impact on environment, political unrest and social conflicts, alienation, disintegration and in short poverty.

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Sociology

- Holistic science of human behavior (Inkeles)
- The modern day sociology accepts **constructionist and rich, ethnographic studies** of human behavior and ideas
- **Studies the relationships between different institutions**
- Thus linking family and family size to other institutions of society such as education, religion, and state
- Sociologists have given both grand and **middle range theories** of social transformations of human action (Durkheim, Marx, Merton)
- Symbolic interactionism is particularly suited to study subjective meanings and develop second order constructs to understand change in fertility behavior or migration (Weber)

Now, sociology is a holistic science of human behaviour; this is how Alex Inkeles defines sociology. The modern day sociology accepts constructionist and rich ethnographic studies of human behaviour and ideas. Of all the studies in demography, I remember of right now Mahmood Madanis study in response to Khanna study in Punjab or rather a critic of Khanna study of Punjab falls in this category of ethnographic studies. Sociology studies the relationship between different institutions thus linking family and family size to other institutions of society; such as education, religion and state.

//////While some sociologists have focus on building grand theories Emile Durkheim, Comte, Karl Marx; these people are known for building or attempting to build grand theories; theories of society. But some theorist like R K Merton talk of a specific theories in specific settings or middle range theories which are based on empirical data. The aim is not to develop theory of the whole society or a theory in terms of which everything of society can be explained but a specific theory.

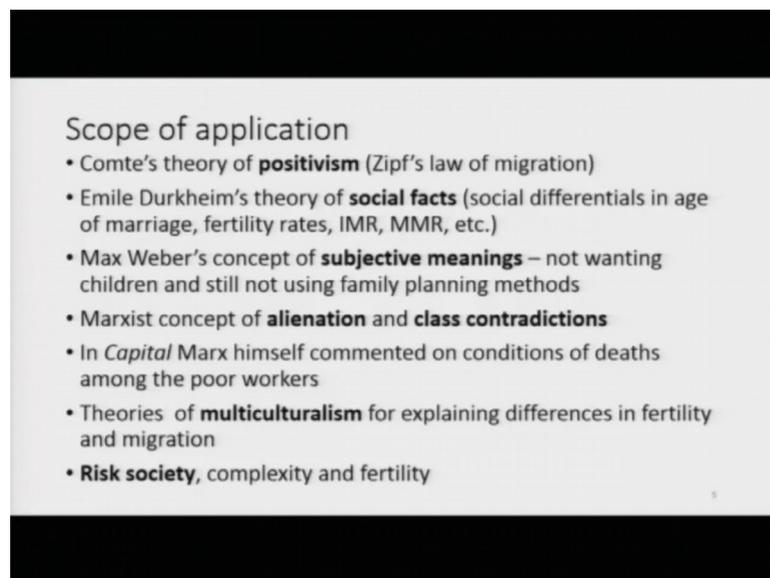
I would say that the theory physical; theory based on social capillarity which explains a decline in fertility in Europe in terms of social mobility or possibility of mobility due to industrialization, expansion of economic and manufacturing activities is one such middle range theory. It does not talk about what is happening to society at large; it only links that under certain conditions when there is industrialization, when there is social

mobility, when there are opportunities then in the interest of children and their own interest couples start limiting family size.

There is another perspective in sociology called symbolic interactionism and it is particularly suited to study subjective meanings and develop second order constructs to understand changes in fertility behaviour or migration. The phrase second order construct is taken from the theories of Max Weber, who says that people attach subjective meanings to their action; these are first order concepts.

And sociologists developed second order concepts or constructs in terms of which first order concepts can be understood.

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Scope of application of sociology in study of population Comte's theory of positivism, Zipf's law of migration is an example of this; that migration between two places is a constant of proportionality into population of the first place into population of the second place or place of origin and place of destination divided by the distance separating the two.

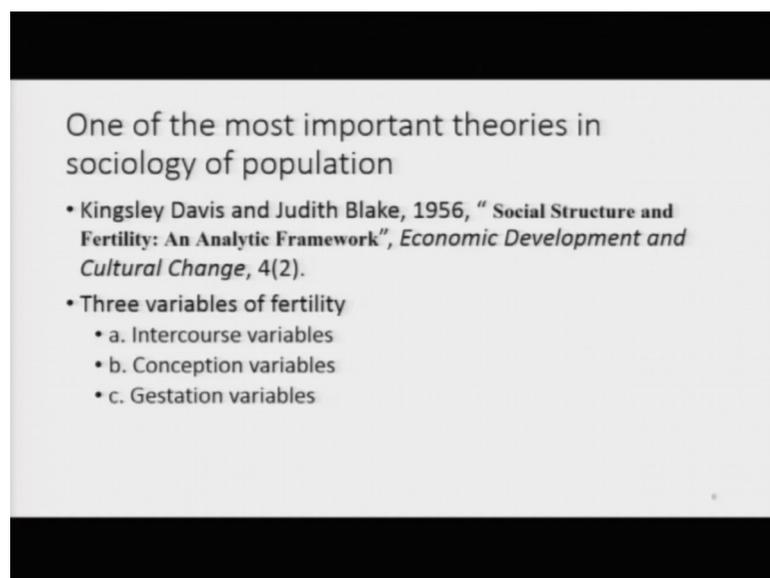
It reflects positivism in sociology means application of scientific methods to study social facts or social phenomena. Emile Dukheims theory of social facts of relationship between say social differentials in age of marriage and fertility rates and IMR and MMR etcetera will belong to this category.

Max Weber's concept of subjective meaning, an example would be to a study phenomenologically that there are some couples who are not wanting children and they are still not using family planning methods; why? Unmet need; unmet need has subjective meaning and different couples, in different settings, in different context, in different countries and at different levels of demographic transition may have different meaning, different subjective meanings.

Then one can also apply to study certain demographic features by using Marxist concept of alienation and class contradiction; some sociologists have done this. In Capital Marx himself commented on conditions of deaths among the poor workers, in his famous work Capital, he is talking about what are the factors responsible for infant deaths and deaths among adults. And he wants to say that it is the environmental conditions, conditions of capitalism, sanitation, hygiene, availability of medicine, doctor; these factors are responsible for the impoverish conditions of the working classes.

These days there is a theory of multiculturalism which explains or which can explain differences in fertility and migration. Sociology also gives some new concepts like risk society complexity, John Uri's concept of risk society, complexity and one can apply these concepts to study fertility.

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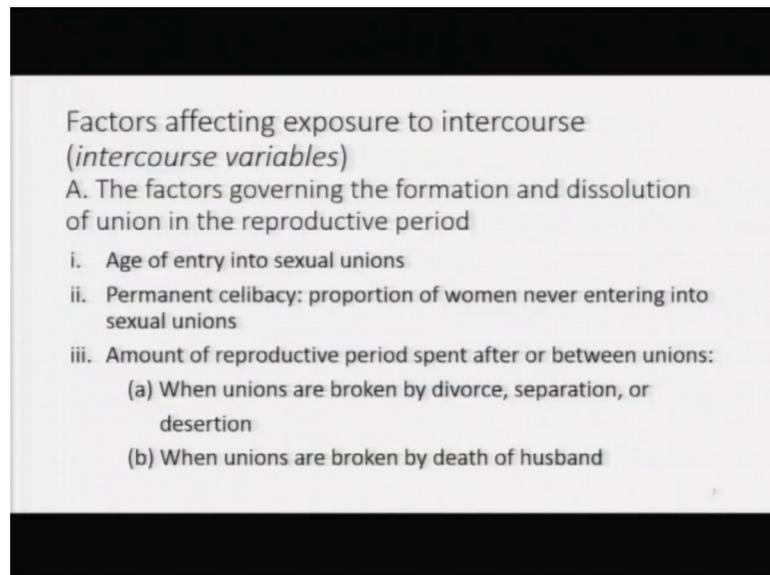
But for illustrating the relationship between sociology and population I would show you the relationship between sociology or social structure; social structure and fertility by

using the theory of intermediate variables; developed by a famous sociologist Kingsley Davis.

Kingsley Davis is known for his book Human Society and he has also made tremendous contributions in his studies of urbanization. And he along with his wife Judith Blake in 1956, developed the theory of intermediate variables. The title of his paper was social Structure and Fertility: An Analytic Framework. So, Davis and Blake are building an analytic framework in terms of which you can study what will be the impact of certain social factors on fertility.

This paper was published in Economic Development and Cultural Change and three variables of fertility which were further divided into a number of categories; in all there were 11 intermediate variables, these three variables are intercourse variables, conception variables and gestation variables.

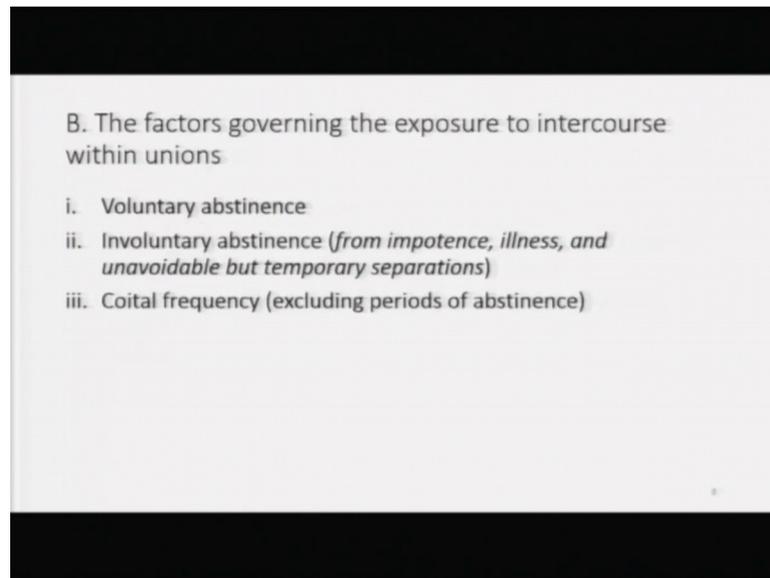
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Factors affecting exposure to intercourse or intercourse variables; they are further divided into a number of variables. The factors governing the formation and dissolution of union in the reproductive period; in the case of India and those countries, where child births take place within wed lock only; this age of entry into sexual unions implies age of marriage.

Second variable is permanent celibacy, proportion of women never entering into sexual unions. And third is amount of re reproductive period spent after or between unions when unions maybe broken by divorce, separation or desertion and unions maybe broken by death of husband.

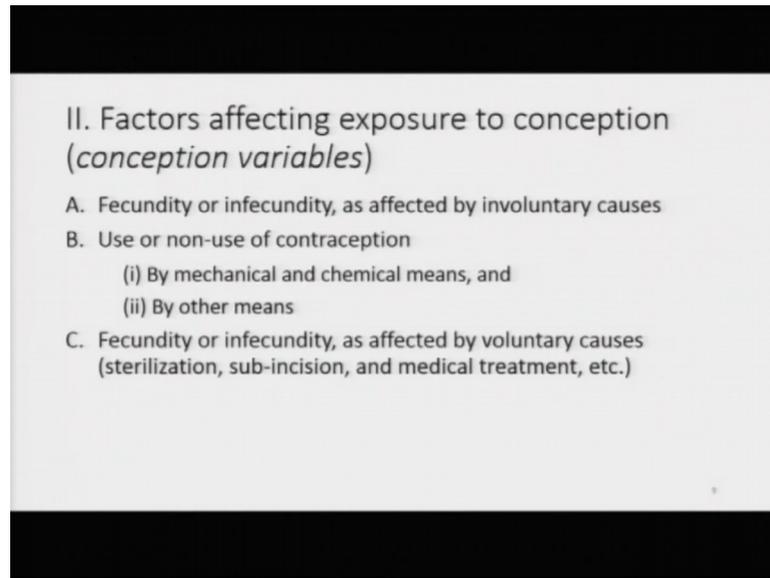
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B, the factors governing the exposure to intercourse within unions or intercourse variables. Now, this factor may be affected by voluntary abstinence United Nations determinants and consequences of population trend shows that in traditional India on almost half of the days in a year, there were religious restrictions on going for intercourse; the there were religious ritualistic reasons, fastings, celebrations, festivals and this factor voluntary abstinence can also effect fertility.

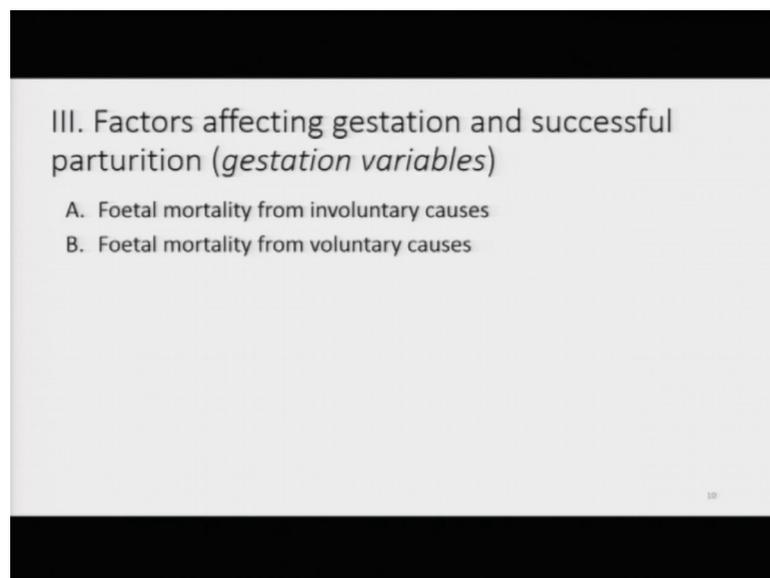
There was also involuntary abstinence from impotence, illness and unavoidable but temporary separations. You know in traditional India after child birth some time child birth took place at mothers place. And after child birth or to take part in some festivals and celebrations when women go to their native place; they continue to stay there for months and years and this also affects fertility, then coital frequency excluding periods of abstinence.

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And the other variable is factors affecting exposure to conception called conception variables. This is divided into A, B, C; A means fecundity or biological capacity to reproduce or infecundity; biological incapability to reproduce as affected by involuntary causes. B use or non use of contraception which is further divided into two categories by mechanical and chemical means and by other means; C, fecundity or infecundity; as affected by voluntary causes such as sterilization, sub incision and medical treatment etcetera.

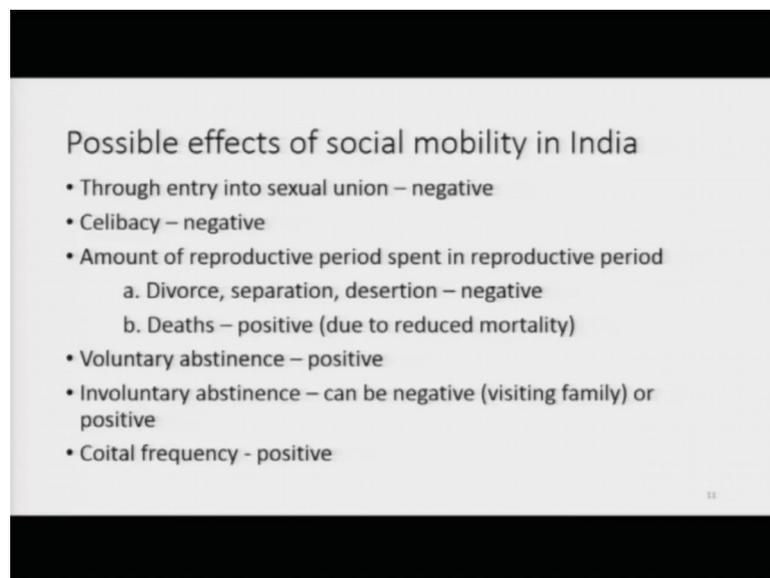
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Then factors affecting gestation and successful parturition; they are called gestation variables. And they are further divided into two categories foetal mortality from involuntary causes and foetal mortality from voluntary causes. Means induced abortions and a spontaneous abortion is induced abortions will come under foetal mortality from voluntary causes B and spontaneous abortions will come under foetal mortality from involuntary causes.

Now, let us apply this framework to study something like social mobility in India because social mobility is considered to be a great thing; a great determinant of fertility and mortality trends.

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Now, possible effects of social mobility in India you know in their own study of intermediate variables Kingsley Davis and Judith Blake; they took some other variable but I am taking social mobility to explain the relationship between social mobility and fertility through the intermediate variables.

I am writing negative and positive; negative for impacts which will depress fertility and positive for impacts which will raise fertility. Social mobility can have both negative and positive effects on fertility through a different variable. For example, through entry into sexual union; this will have a negative effect when there is social mobility, then age of marriage goes up.

Celibacy, there is more celibacy because of rise in age of marriage; then amount of reproductive period is spent in reproductive period, a divorce separation desertion the effect is negative because less period is spent in divorce, separation, desertion. And b death; the impact is positive due to reduced mortality.

Then voluntary abstinence one can argue that when there is more voluntary abstinence, then fertility will decline; if voluntary abstinence is less, fertility will increase. Social mobility will reduce voluntary abstinence because these days social mobility is linked with modernization, westernization, sanskritization and voluntary abstinence due to traditional reasons; religious reasons is going down. So, it will have a positive effect on fertility.

This will be a fertility enhancing effect; involuntary abstinence this can be negative or positive depends on the practises. Then coital frequency is going to rise with social mobility modernization, urbanization, industrialization, westernization, coital frequency is going to rise; so this is a positive effect on fertility. Similarly, one can think of that if there is social mobility; what happens to fecundity or infecundity due to involuntary causes.

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- Fecundity or infecundity due to involuntary causes – positive
- Use of contraception
 - i. Mechanical means – negative
 - ii. Other means – negative
- Voluntary causes: sterilization etc. – negative
- Gestation variables
 - i. Foetal mortality, involuntary causes (malnutrition etc.) – positive
 - ii. Foetal mortality, voluntary causes - negative

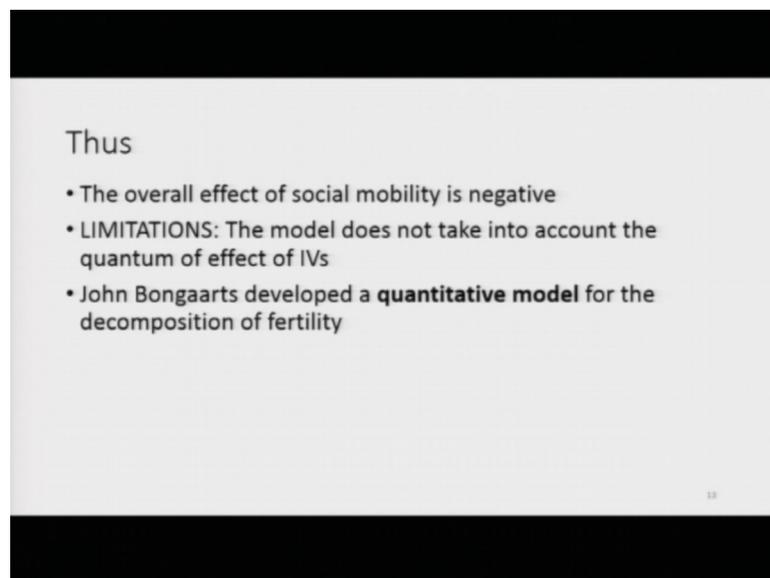
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Infecundity will decline and due to improved nutrition etcetera fecundity or biological capacity to reproduce may slightly go up. And some people say that in the early phases

of demographic transition fertility may go up; fertility levels may go up initially temporarily to some extent; so there is a positive effect.

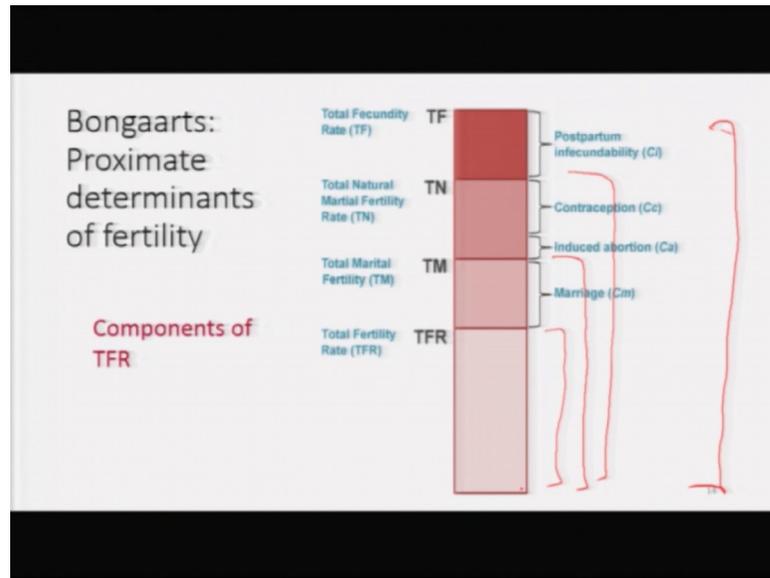
Use of contraception; if people start using mechanical means there is negative effect other means negative effect; voluntary causes sterilization etcetera, more of; social mobility will mean more of voluntary sterilization; so negative effect. Then gestation variable foetal mortality involuntary causes or voluntary causes. Involuntary causes is going to decline and therefore, fertility can go up and voluntary causes can have a negative effect, because people may use voluntary causes of foetal mortality or induced abortions for fertility control in some situations.

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Thus the overall effect of social mobility is negative, but there are limitations of this model. The model does not take into account the quantum of effect of intermediate variables; John Bongaarts developed a quantitative model for the decomposition of fertility.

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This is the model we say that total fecundity; this is the total fecundity this is the number of children women can produce. According to Bongaarts; this is the number of children women can produce this is total fecundity rate. But actually the total fertility in absence of family planning program will be this; less than the biological maximum possibility.

And the total marital fertility rate will be this and total fertility rate will be this.

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In notations:

The relation of TFR and the inhibitors of fertility are expressed in the following equation.

$$TFR = TF \times C_m \times C_i \times C_a \times C_c$$

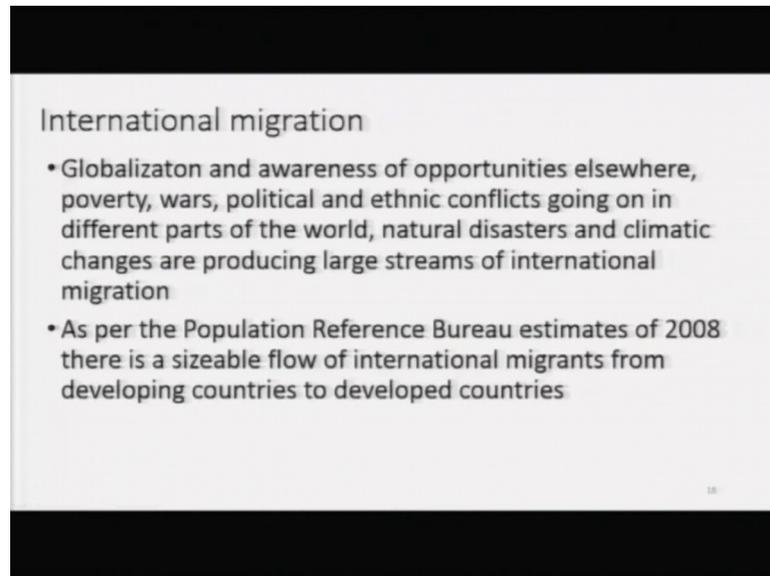
where:

TFR = Total fertility rate
TF = Total fecundity rate
 C_m = Index of marriage
 C_i = Index of postpartum infecundability
 C_a = Index of abortion
 C_c = Index of contraception

Source:
<https://www.demographic-research.org/volumes/vol33/19/33-19.pdf>

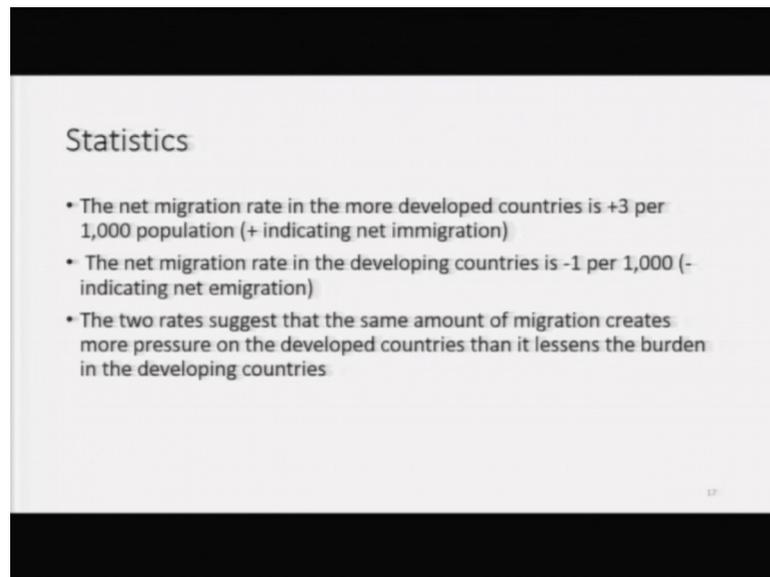
That means fertility rate has been affected by a number of factors like fecundity rate, index of marriage, index of postpartum infecundability, index of abortion and index of contraception.

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Similarly, with regard to migration social factors can affect migration; globalization for example, is affecting migration. Globalization and awareness of opportunities elsewhere, poverty, wars, political and ethnic conflicts going on in different parts of the world natural disasters and climatic change are producing large streams of international migration. As per the Population Reference Bureau estimates of 2008; there is a sizeable flow of international migrants from developing countries to developed countries.

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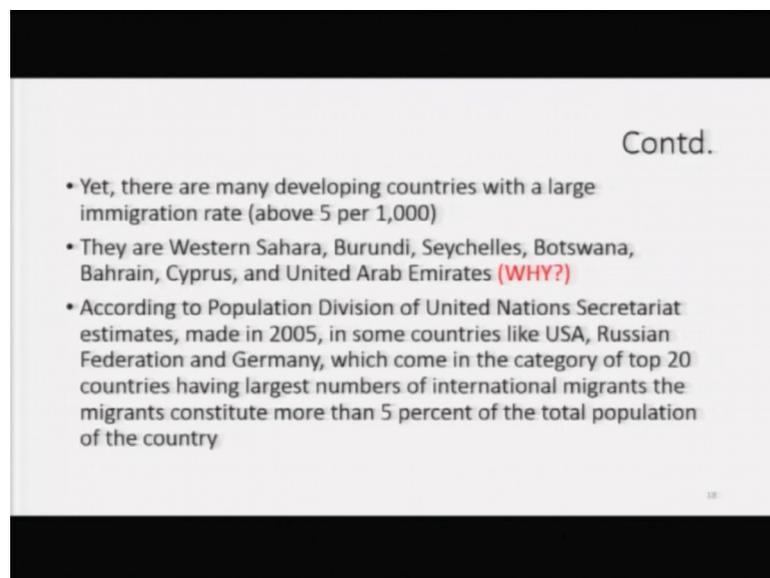
Statistics

- The net migration rate in the more developed countries is +3 per 1,000 population (+ indicating net immigration)
- The net migration rate in the developing countries is -1 per 1,000 (- indicating net emigration)
- The two rates suggest that the same amount of migration creates more pressure on the developed countries than it lessens the burden in the developing countries

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And I have explained this in one of the earlier lectures that this is net international migration rate is plus 3 for developed countries and minus 1 for less developed countries.

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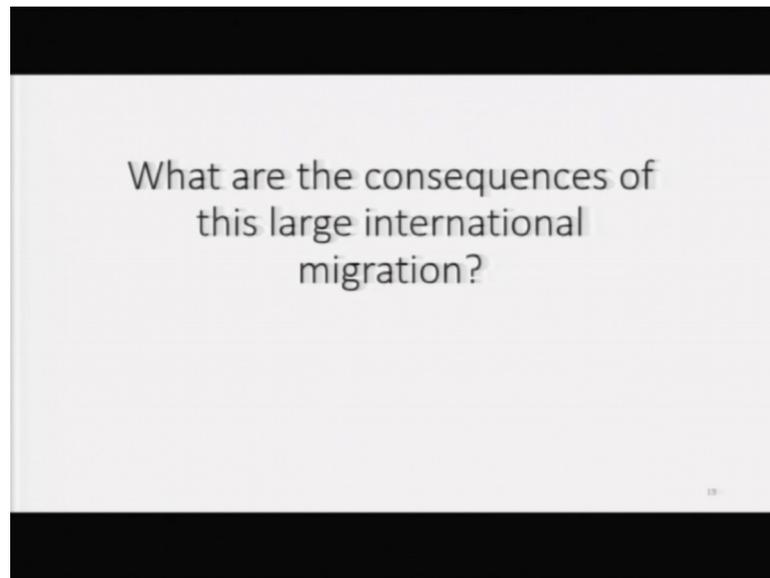
- Yet, there are many developing countries with a large immigration rate (above 5 per 1,000)
- They are Western Sahara, Burundi, Seychelles, Botswana, Bahrain, Cyprus, and United Arab Emirates (WHY?)
- According to Population Division of United Nations Secretariat estimates, made in 2005, in some countries like USA, Russian Federation and Germany, which come in the category of top 20 countries having largest numbers of international migrants the migrants constitute more than 5 percent of the total population of the country

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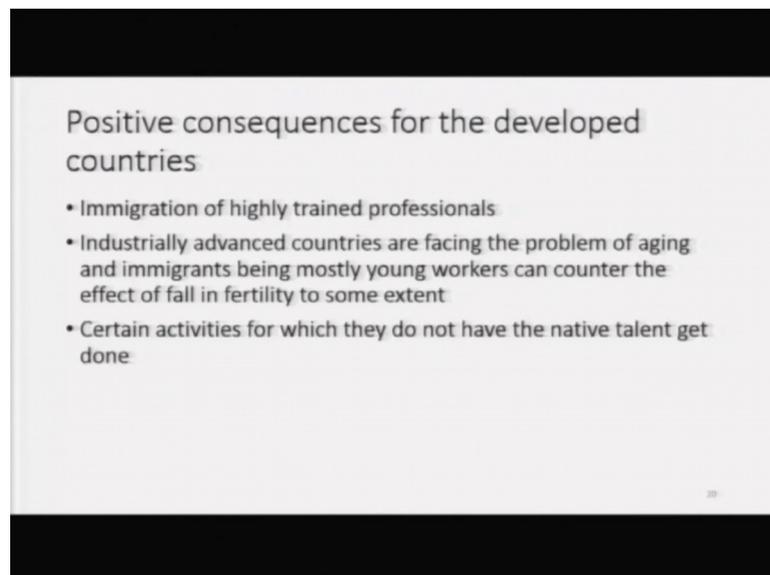
Yet, there are many developing countries with a large immigration rate above 5 per 1000; they are Western Sahara, Burundi, Botswana, Bahrain, Cyprus, United Arab Emirates. Why? Because of lack of labour force inside the country; they depend on the labour force from other countries.

According to Population Division of United Nations Secretariat made in 2005 estimates in some countries like USA, Russian Federation and Germany which come in the category of top 20 countries having largest numbers of international migrants; the migrants constitute more than 5 percent of the total population of the country.

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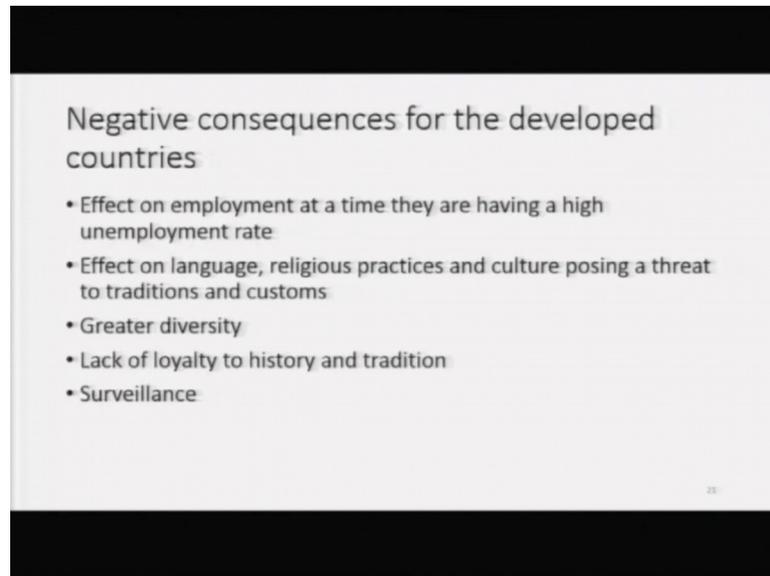
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You can imagine what are the consequences of this large international migration; there are positive effects, there are also some negative effects; positive effects will include immigration of highly trained professionals, industrially advanced countries are facing

the problem of ageing and immigrants being mostly young workers can counter the effect of fall of fertility to some extent. And certain activities for which they do not have the native talent also get done.

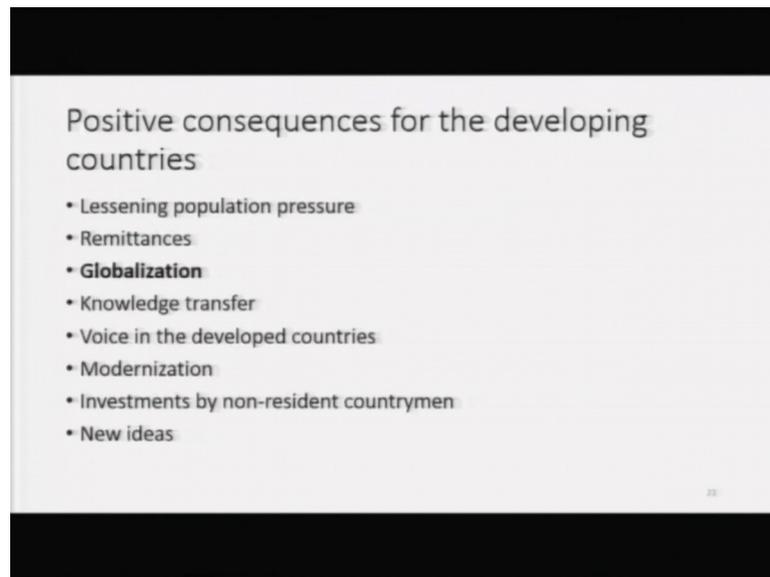
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Negative effects are effect on employment at a time; they are having a high unemployment rate many of the developed countries are having high unemployment rate and rapid rates of immigration can worsen the situation of employment for the natives.

Then there are effects on language, religious practises, culture, posing a threat to traditions and customs; it creates more diversity in society, it creates more number of people who are not loyal to history and tradition of the native country and surveillance.

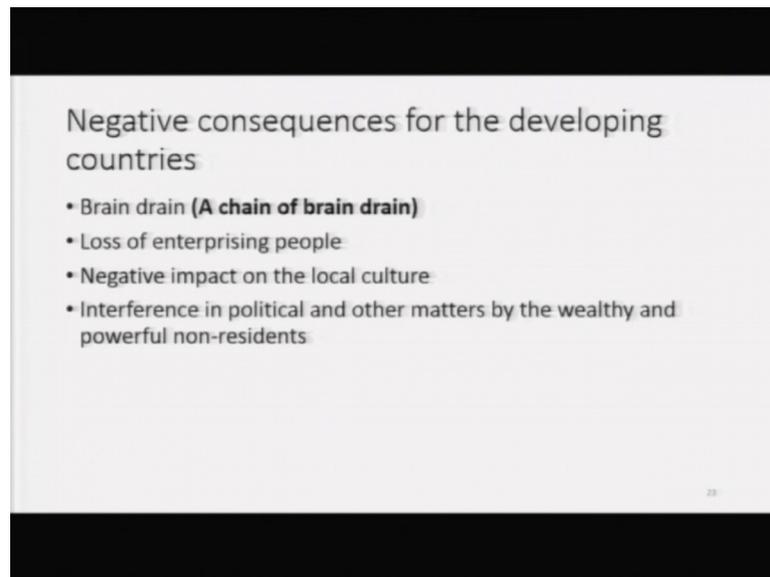
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Positive consequences for the developing countries are lessening population pressure, but one per 1000 is not a very significant migration rate. Remittances which migrants send to their families, household parents, wives; globalization the information flow money, capital, information knowledge and flow of men from one country to another this is called globalization; knowledge transfer.

Voice in the developed countries and less developed countries people have voice in the developed countries through the immigrants from these countries, modernization investment by non resident countrymen and new ideas.

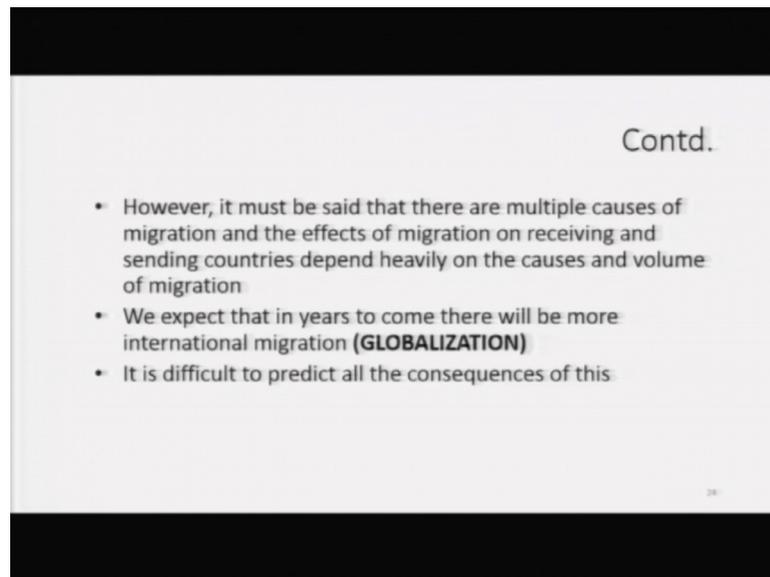
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Negative consequences are brain drain, loss of enterprising people because it is the best people; whether rural to urban migration or migration from one country to another, it is the most skilled, most educated, most enterprising, most creative people who tend to migrate.

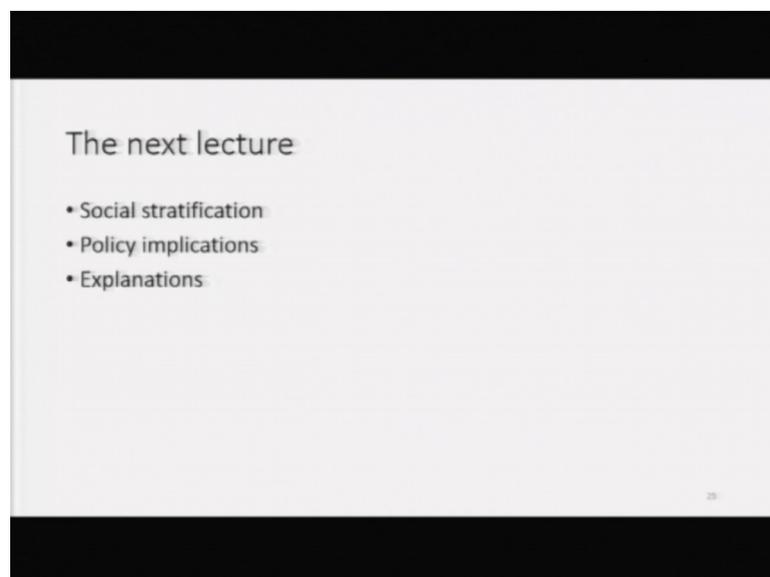
There is also a negative impact on the local culture because migrants leave. So, since better quality of migrants leave; so there is a negative impact on the local culture. Interference in political and other matters by the wealthy and powerful non residents; this is becoming an issue in certain parts of the country like Punjab, where non resident Indians are trying to interfere in the political process.

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However, it must be said that there are multiple causes of migration and effects of migration on receiving and sending countries depend on the causes and volume of migration.

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In the next lecture, we will talk about social stratification and policy implications of social stratification for demographic trends and some of their explanations.

Thank you.