

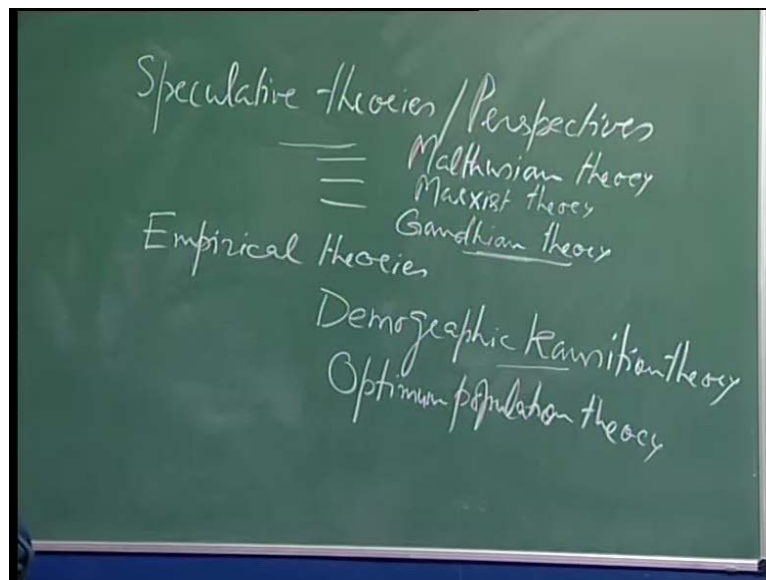
Population and Society
Prof. A.K. Sharma
Department of Humanities and Social Sciences
Indian Institute of Technology, Kanpur

Lecture No. # 25
Population Theories

Well friends, today we are going to start a new topic and that is of population theories. So far we have seen data on world population growth, India's population urbanization and the later issue.

Now we will be talking about theories. Theories as you know are explanatory systems to explain something, and population theories are theories to explain either relationship between population and society or changes in birth and death rates. There are as in any other subject there are a large number of theories in population.

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If I broadly divide these theories into two types, then I can say that there are Speculative theories, and there are Empirical. Empirical theories are based on hard facts, so that means they take trends in population growth fertility, mortality, migration, marriages or social mobility as they are based and explain them.

Speculative theories are essentially certain ideas or ways of looking or you can call them perspectives or paradigms to look at issues connected with population growth. In Speculative theories I would include three theories: one Malthusian theory, second Marxist theory and third. In population books you will not find discussion of Gandhian theory population books talk about Malthusian theory of population and Marxist theory of only. But I thought that a for students of sociology in India it will be a good idea to get acquainted with certain ideas of Gandhi regarding society in general and population in particular.

Not many people know that Gandhi spoke directly on issues connected with population including family planning and contraceptive practices. I have a thought at one time I developed interest in Gandhian theory and so I have read a lot of literature on Gandhiji's thought pertaining to society, polity and population and being a student of population, I developed interest in population theory of Gandhi.

So what does Gandhi say on the issue of population control contraceptives? What is the rationale behind this? This I will discuss in Gandhian theory of population.

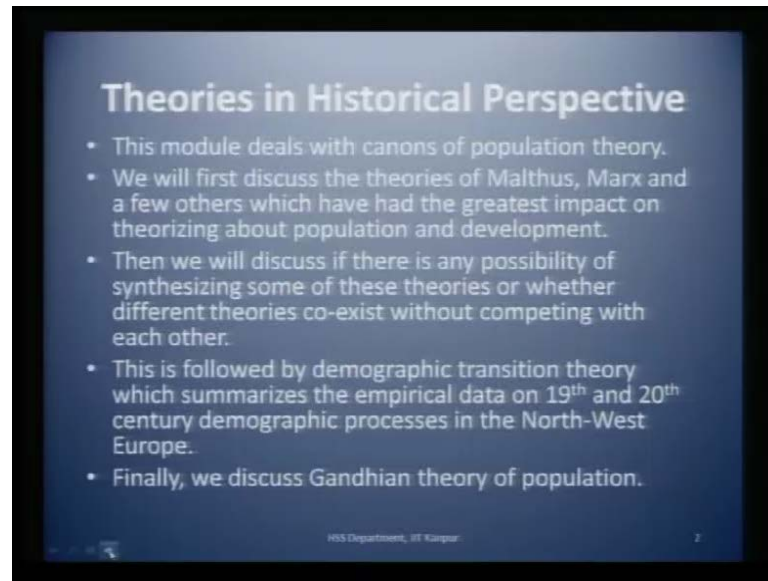
In Empirical theories, I can include two theories: one Demographic transition theory and another Optimum population theory. Demographic transition theory explains how did birth, and death rates in different societies change over time and Optimum population theory makes a connection between welfare and size of population.

So, today we are going to discuss Malthusian theory of population. Wherever you have any doubt or you want to say something or may be on some particular aspect you have read more than me, so you can add you can ask yourselves or you can seek clarification.

So, population theory of Marx is essentially Speculative theory of population. It is a perspective, a way of approaching population issues and this also means that these theories which are of Speculative nature can actually never be proved right or wrong they will never die. Theories of this kind can be enlarged, modified, reformulated they can be rejected partially in certain aspects or certain new things can be added to them but they can never be completely rejected or completely accepted.

The main role of these theories is to draw our attention to certain features of population, dynamics and to certain consequences or determinants of population growth.

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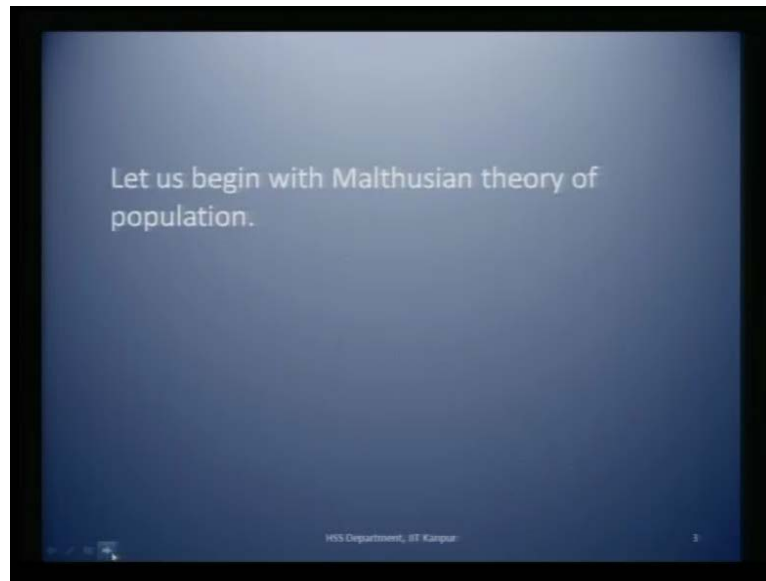
Now, this module will deal with canons of population theory, and we will first discuss Malthus Marx and a few others which have had the greatest impact on theorizing about population and development.

Then we will discuss if there is any possibility of synthesizing some of these theories. Some people believe that it is not possible to synthesize these theories that Malthusian theory shares a bourgeois and capitalist perspective and Marxist theory shares a socialist, communist perspectives which is antithetical to capitalist or Malthusian theory.

But there are some others who claim that basically these theories focus on different aspects of population and to develop a holistic theory of population it is possible to combine them in a creative manner. Then this will be followed by Demographic transitions theory which summarizes Empirical data on 19th and 20th century Demographic processes in the North-West Europe.

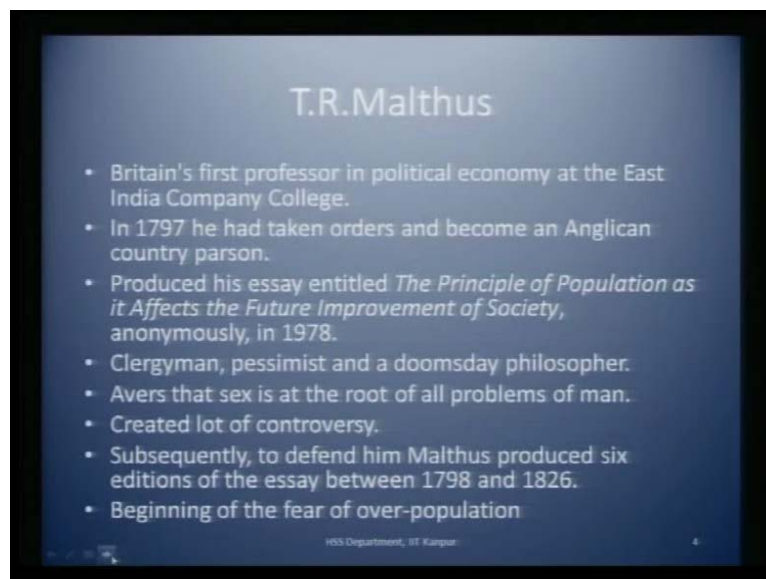
Basically the Demographic transient theory is based on the data from North-Western European countries but some a variant of Demographic transition theory has been use to explain Demographic trends in other parts of Europe and in Northern America and later on in Latin America, Asia and Africa. Finally, we will discuss Gandhian theory of population and this module is divided into 4 lectures.

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So, today we are beginning with Malthusian theory of population.

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Something about Malthus first, who was this man because this **this** helps us in understanding the conclusions of his efforts his book, the first major book on population. He was Britain's first professor in political economy. He was not a demographer or he was not a sociologist, the no book on population can be completed without mentioning the name of Malthus but Malthus was not a sociologist he was not a demographer, he

was professor of political economy and where at the East India company college so that also means that he carries the bias of East India company.

Now in 1797, he had taken orders, he was a religious priest and become an Anglican country parson. Parson means priest, like our Brahmins priest or Ulamas, he was a priest. He was a parson, so that also means that his theory must reflect some kind of Christian beliefs about morality, sin, population growth, happiness or welfare of mankind.

He produced his essay entitle The Principle of Population as it Affects the Future Improvement of Society. It was a long his essay actually this essay appeared in a book form. It was not 5 or 6 pages essay, this is a detailed essay. I may even say that the term essay in this is missing over it was a full length book with the Principle of Population as it Affects the Future Improvement of Society, and that was published in 1798, let me correct it not 19 this was published in 1798 not in 1978 and this was published anonymously.

Malthus must have realized that this book will create lot of sensation in society and fearing reactions of diverse sections of intelligence and thought leaders and members of society, he published this essay anonymously. He was a clergyman, a pessimist and sometime it is called that he was a doomsday philosopher, a pessimist philosopher doomsday. In post model language of today, we can call him apocalyptic philosopher. He was apocalyptic, he could see that unless we exercise restrain then the end of the world is before us and population would be a reason behind it.

He avers that sex is at the root of all problems of man. This is what the Christian faith is! The fall of man according to Christianity is because of man's wisdom and his attraction towards women, Adam and Eve.

He is a clergyman

He is a clergyman.

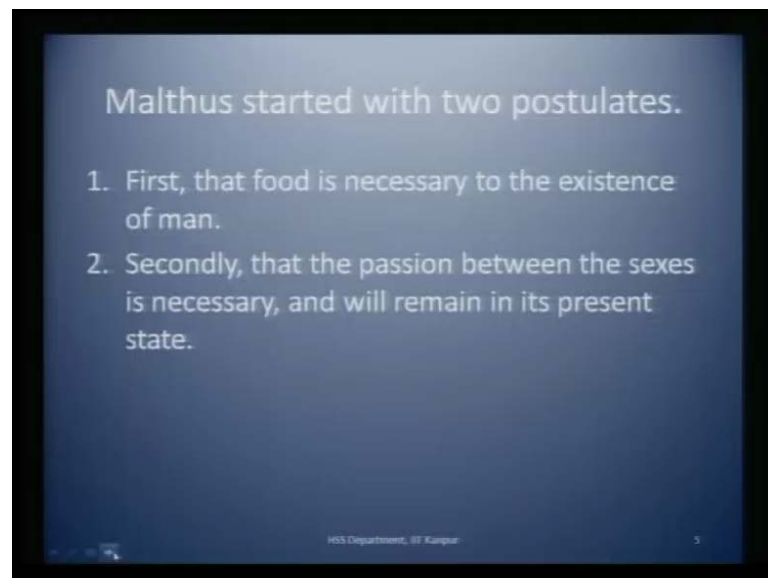
If you analyze history of Christian priest are especially in a much interesting than a, he is also priest.

Yeah church was a center. So, he was a clergyman, he was a parson, he was also a professor of political economy, first professor, so he must say something like a professor

of political economy but what he said as professor of political economy was heavily influenced by his Christian faith and so the idea of sin that sex is at the root of all problems of man. This essay obviously created lot of controversy and subsequently to defend him; Malthus produced 6 editions of this essay between 1798 when the book was published first time and in 1826. The last edition was published after his death and with this the beginning of fear of overpopulation started.

Before Malthus produced his essay many people were thinking that growth of population that **that** was the time you have seen in the history of world population growth, that was the time when the population of the developed countries was beginning to rise and many people were welcoming that and thinking that this rise of population or statistics of increase in size and growth of population are indicative of peace, development, welfare, happiness, growth of science and technology. Malthus wanted people at that time when these kinds of writings were coming that no population we must be careful, growth of population is not an indicator of development and growth of science and technology it could create disaster in the long run.

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Malthus started with two postulates. He says that first postulate is that food is necessary to the existence of man. Now what was the need to make such a postulate? This is so obvious that food is necessary to the existence of man. Perhaps the reason why he made this postulate was to counter those intellectuals who were so much endeavored by growth

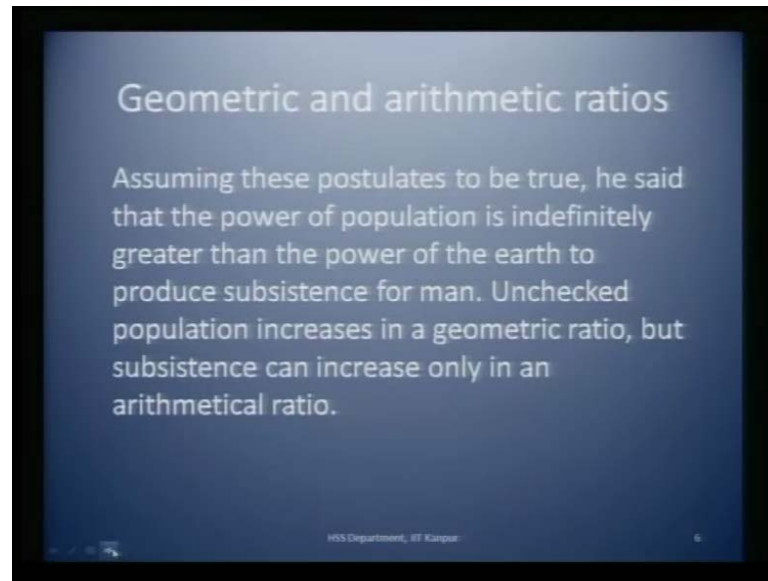
of science and technology that they were thinking that in the future scientific stage, there be no problem no neither problem of hunger nor of greed nor of violence, war, conflict, scarcity that in the age of science by temperament people will become peace loving they will become ascetic and also with the growth of science and technology, it will be possible that you can in extreme cases, like you can even produce some pills which you will take and you can satisfy your hunger and you can totally depend on industrial production. No agricultural production may be required.

So Malthus said that this is all nonsense, as long as human beings survive they will necessarily depend on food. On food means agricultural product for him was an agricultural product. It could not be manufactured in industry; it could not be manufactured in the form of tablets or chemicals. It was something which had to come from nature, from agriculture, from land. And second that the passion between the sexes is necessary and will remain in its present state.

The second postulate is another interesting postulate. If you read his book, he wants to say that whatever good and bad exists in human society that is all due to sexual passions. So, it is not that sexual passion is only bad. He says that the greatest works of arts; poetry, architecture, literature would not be possible in absence of passion between sexes.

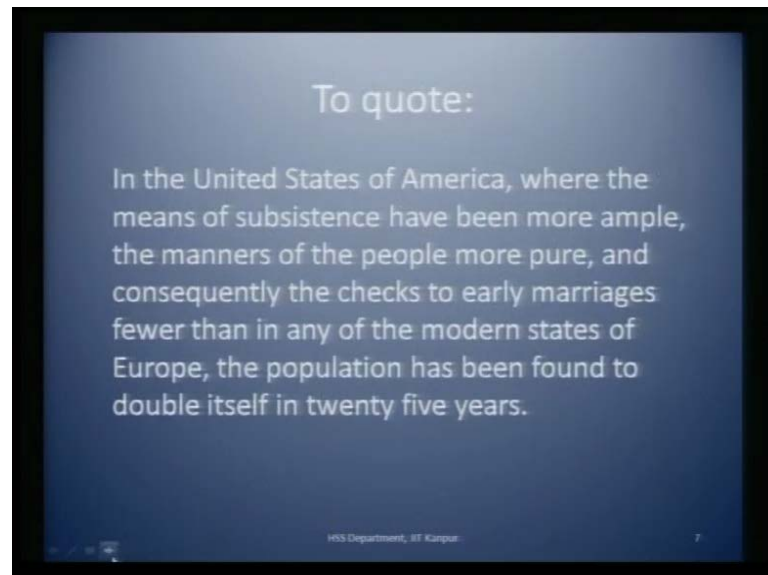
Passion between sexes; love, attraction of the opposite sex, this is at the root of all artistic developments in human society. So, this passion between sex is if the cause of everything good or bad and this passion between sexes will not end in scientific and technologically advance society. Condorcet and other philosopher they were thinking that in scientific age will become ascetic and you will not be attracted towards other sex as you will not be a greedy, you will not be violent and criminal and immoral tendencies of people will end. Malthus does not believe in such idealistic thing. He says that man will always require food and the passion between sexes also will always exist. Because everything in evil society good and bad is because of passions sexual passion between men and women.

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Now, assuming these postulates to be true, then he said that the power of population is indefinitely greater than the power of the earth to produce subsistence for man, unchecked population increases in geometric ratio, but subsistence can increase only in an arithmetical ratio.

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To quote, now at what rate they can increase? The next issue was if a population can grow geometrically and food can grow at best in arithmetic progression, then what is the rate at which they will rise? So, Malthus says that in the United States of America, where

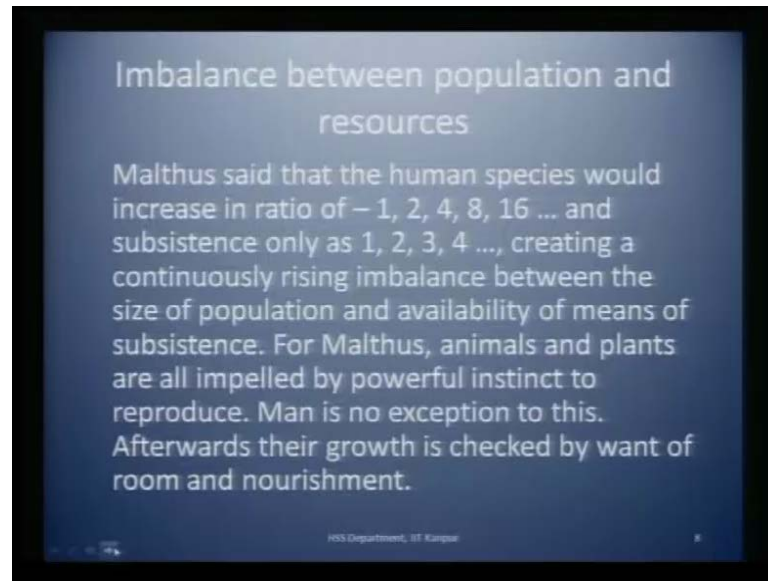
the means of subsistence have been more ample, the manners of the people more pure, and consequently the checks to early marriages fewer than in any of the modern states of Europe, the population has been found to double itself in 25 years. So, here he is producing some data **data** from United States, where he thinks that in his time checks on population growth were less there can be checks on population growth, checks on age of marriage, checks on cohabitation then use of contraceptes.

Now in United States in his time where there was no check on population growth he found that population could double in 25 years. From this observation he arrived at the theory that population can double in 25 years time. He said that population can actually more than double in 25 years time but let us take this to be in generalization that in most cases unrestrained populations will grow at geometric rate and double in 25 years time.

He also said that 25 years time is such that with best possible scientific developments and intensive and extensive agriculture, with all possible efforts in 25 years time you can add to present agricultural production only by an amount which is equal to the present production, means you in next 25 years, suppose you are producing x today in best possible circumstances in 25 years time only x amount can be added to agricultural production.

So, in the next 25 years there will be no problem. Population will be doubled and agricultural production will also be $2x + x$ plus x problem will **will** start after that because in the next 25 year period population will become 1 into 2 into 2 means a 4 times but agricultural production will only become 3 times x present x plus x in next 25 years plus another x in the second 25 year time.

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So, on that basis he says that the human species would increase in the ratio of 1, 2, 4, 8, 16, if population suppose the cycle of population starts today and today we have population x , then after 25 years we will have $2x$, after 50 years we will have $4x$, after 75 years we will have $8x$ and after 100 years we will have $16x$ and subsistence will increase only as 1, 2, 3, 4.

So when your population becomes 8 times your food has become only 4 times and as time passes this gap between imbalance between food and population continues to rise. It is very easy to calculate using the rule of geometric and arithmetic progression, what will be the imbalance between population and food after time t . And for Malthus animals and plants are all impelled by this powerful instinct to reproduce. Man is no exception to this afterwards their growth is checked by want of room and nourishment.

So when population continues to increase food also increases but not at that pace, while population can increase in geometric progression food can increase at best in arithmetic progression. So, a time comes when the imbalance between population and food is so great that it is not possible from human society or for all the people to survive further and due to this basic conflict between sexuality and subsistence humans can never be happy. That is why he is called a doomsday philosopher.

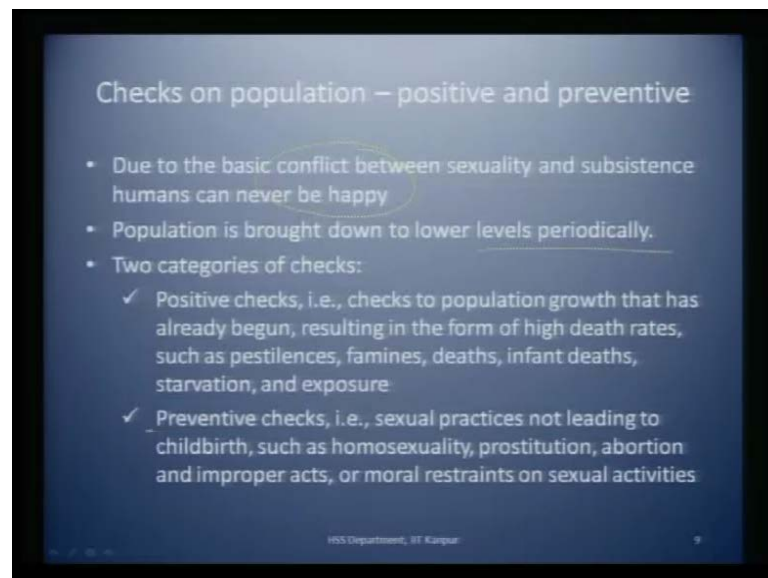
Malthus thinks that human beings are destined not to be happy because of the fact that you need food for survival and food cannot be increased at that pace at which reproduction

can occur and passion between sexes is a law and this will never be mitigated so there will be imbalance and this imbalance between population and food is the real cause of all kind of problems facing mankind.

So man can never be happy. When there is too much of imbalance between population and food then population is brought down to lower levels and this happens periodically. When there is too much of imbalance then there are checks and there are two types of checks. You can exercise check through death rates or through birth rates population can start declining or the rate of growth of population can start declining either because the death rate increases or because the birth rate falls.

Now those factors which can lead to reduction in fertility they come under preventive checks and vices.

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And those factors which lead to increase in death rate they come under positive checks. Examples of positive checks are checks to population growth that has already begun means checks. There are two types of checks either you prevent future births or you reduce the number of births or you start reducing the size of existing population. To reduce size of existing population you will have to raise your death rate and to reduce the number of births or future addition to population you will have to control your birth rate.

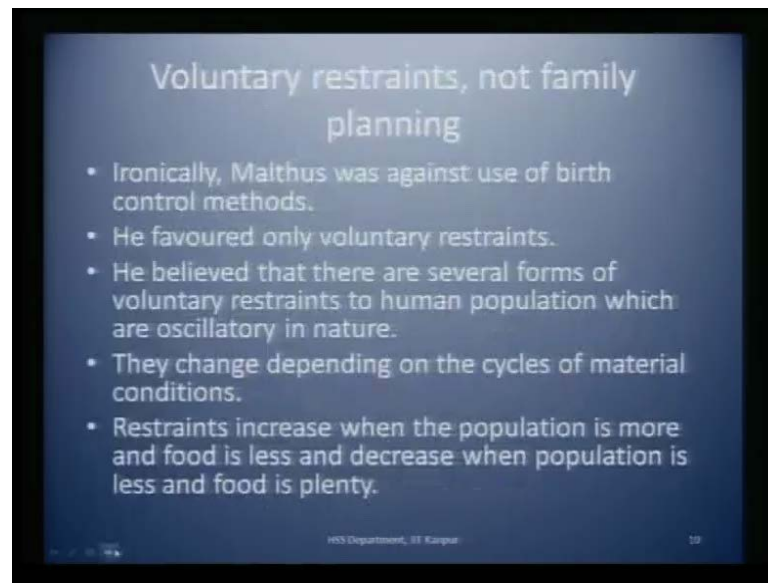
Now positive checks include high death rates caused by all causes of high death rates such as pestilences, famines, deaths, all kinds of deaths, epidemics, wars, conflicts, homicides, suicides, infant deaths, starvation, hunger starvation and exposure in several countries. There was a practice of abandoning children they were exposed to nature, who will eventually die. China was known for child exposure. All these factors wars, pestilences, earthquakes, floods, famines, epidemics, raise the death rates of population and come under positive checks. Sexual practices not leading to child birth such as homosexuality, prostitution, abortions and improper acts, a general term for all kinds of acts which he thinks will be responsible for sex without child birth you, they come under vice.

So there is a preventive check and the former vice and some preventive checks are in the form of moral restraints. He was a Christian parson, so celibacy not marrying, postponing marriage or not indulging in sexual activities in marriage. They will come under moral restraints, so Malthus said that as far as the law of population is concerned by natural law, population increases faster than subsistence available for men and this creates imbalance and that is the root cause of all types of unhappiness in society.

The options **options** are that either you practice wise if you can, since he believed that human being will not be able to control sexual urge so either you promote homosexuality prostitution abortions or improper acts means wise, if you are religious pious person then you promote celibacy raise age of marriage some people would include even natural methods of family planning such as withdrawal or quite as interrupts in natural methods in moral restraints some people will not include but Malthus was clear that either you exercise, for him moral restraint was not marrying or celibacy.

If you do not practice them then positive checks will follow.

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Ironically Malthus who is known so much worldwide for his ideas and excessive population growth can lead to problems and in Empirical language today we associate population growth with poverty at least in the context of developing countries that population leads to poverty or surplus population is the cause of poverty or backwardness or low per capita income in developing countries. Malthus was against use of birth control methods.

So all though he said that population growth will cause all kinds of problems for mankind but as he was a Christian parson, so he was against use of birth control method he favored only voluntary restraints and he believed that there are several forms of voluntary restraints to human population which are oscillatory in nature. They change depending on the cycles of material conditions or sometime people exercise more restraint and population growth rate reduces sometime they exercise less restraint and population growth increases.

Restraints increase when the population is more and food is less and decrease when population is less and food is plenty. When population is less and food is plenty then people are happy more of them marry more of them produce children. When Malthus said actually when we make slide then everything cannot be covered. I remember I think I must explain this that a for Malthus, human beings will always remain unhappy because on the one hand he is promote he is a propagating the idea of moral restraints but

a clergyman as he was, he believed that the real happiness of man, lies in loving sexual relationship that man can be happy only if happy in life he loves a woman and lives with woman throughout his life happily and in good love and sexual relationships.

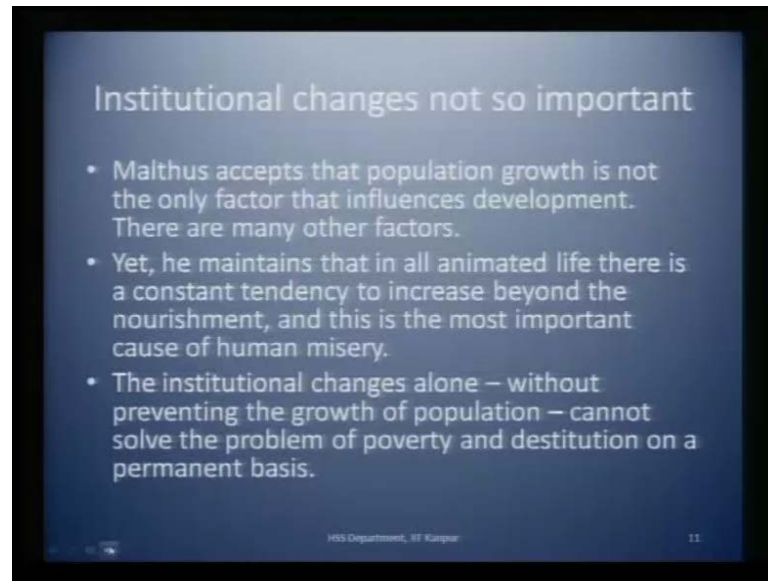
Now since that is not possible due to law of population growth. If positive checks will make man unhappy that there is no doubt if there are floods, famines, earthquakes, epidemics, wars, more suicides, more homicides, people are unhappy. If people go for vices like prostitution then it is not natural it is not it does not give so much satisfaction to indulge in homosexuality. According to Malthus, that it does not give people so much satisfaction to indulge in unnatural sex or prostitution or homosexuality or in vices killing of female babies or child exposure or abortions even moral restraint which he advocates cannot make man happy.

So, moral restraint is moral in the sense that it is permitted by Christianity, its put on high pedestal in Christian religious framework in all religious framework by Christian. Among Hindu's also we say that Brahmacharya is a path of liberation so but from Malthus **malthus** was both religious parson and a professor of political **political** economy, an ordinary person who understands man much better than perhaps religious persons will do.

So, even moral restraints according to Malthus cannot make people happy. So, man can never be happy. That is why he is called doomsday philosopher. So you have to choose your own you have to choose what source of unhappiness you will prefer you want epidemics and floods and famines or wars or you want vice or you want moral restraint. If you compare the various types of unhappiness then obviously you will prefer moral restraint and in that sense Malthus prefers moral restraint.

Malthus was a clear on one thing, that institution in Malthus's time also me kind of socialist thinking had started and many people were saying that the cause of poverty, unemployment, exploitation and misery in urban industries was the faulty mode of production or inequality with respect to distribution of wealth. Malthus did not agree with that position.

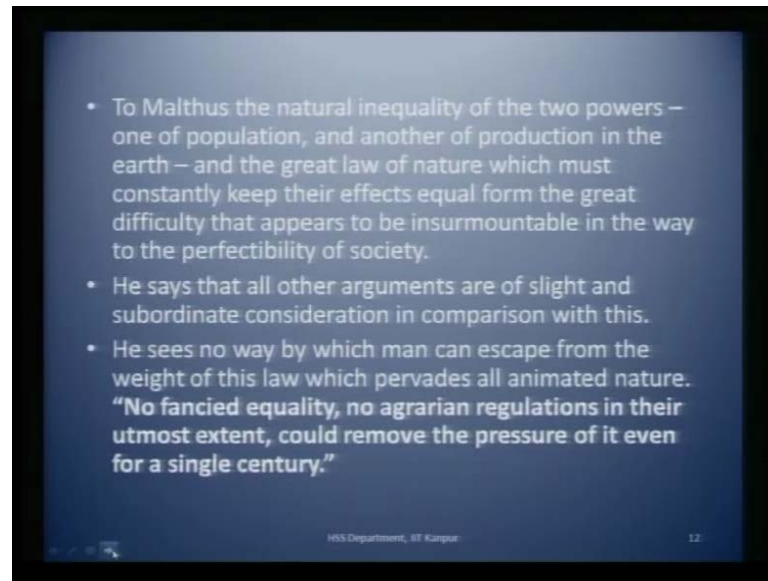
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Malthus accept that population growth is not the only factor which influence his development there are many others, yet he maintains that in all animated life there is a constant tendency to increase beyond the nourishment and this is the most important cause of misery. This applies to humans this applies to plants to animal this is a natural law of population by which he means population of any living beings plants and animals are also included.

The institutional change in the form of changes in distribution of wealth without preventing the growth of population cannot solve the problem of poverty and destitution on a permanent basis.

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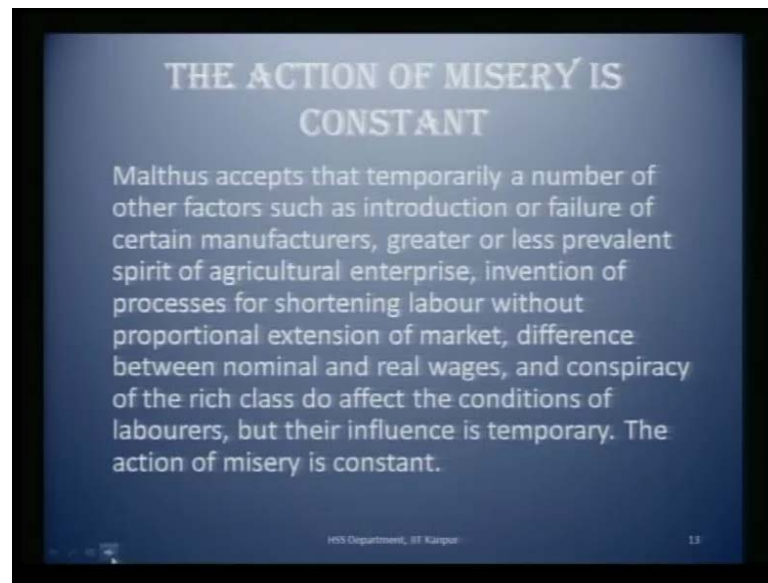


To Malthus the natural inequality of the two powers, one of population and another of production in the earth and the great law of nature which must constantly keep their effects equal from the great difficulty that appears to be insurmountable in the way to the perfectibility of society.

He says that all other arguments are of slight and subordinate consideration means they are also important but not so important as this natural law of population. He sees no way by which man can escape from the weight of this law which pervades all animated nature, no fancied equality, no agrarian regulations in their utmost extent could remove the pressure of it even for a single century.

By going for other kinds of things socialism, protective discrimination they saw that may be temporarily we can solve problems of some part of population or the entire population but that will be a temporary thing. The gains cannot last for even a single century because there is a natural law by which population increases in geometric progression.

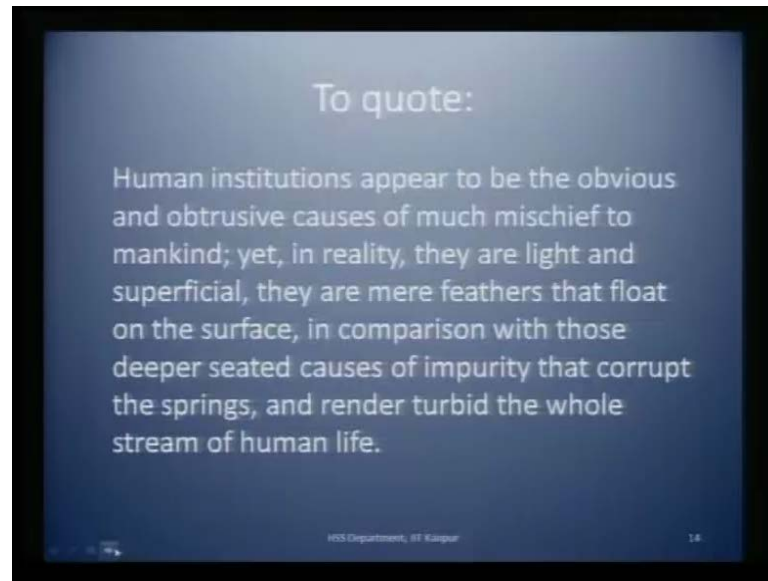
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Malthus accept that temporarily only in number of other factors such as introduction of failure of certain manufacturers, industrializations greater or less prevalent spirit of agricultural enterprise invention of processes for shortening labor without proportional extension of market means better labor laws shortening of working hours, fixing minimum wages all those fancied things difference between nominal and real wages means control of prices and conspiracy of the rich class do affect the conditions of laborers.

If there are more benevolent capitalist, enlighten capitalist of bourgeois, if there is more sharing of surplus with the workers, if there is an increase in proportion to use Marxist language, if there is an increase in proportion of variable capital in the total capital, then temporarily conditions of worker can improve but the action of misery is constant and therefore, there is no escape from the law of population.

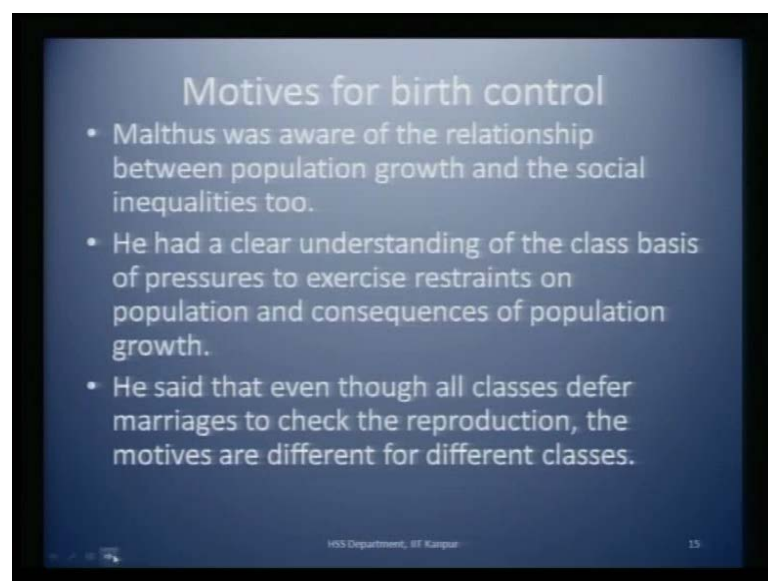
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To quote, human institutions appear to be the obvious and obtrusive causes of much mischief to mankind it appears they institutions appear to be religious reasons, economic reasons, political reasons, social reasons. In reality they are light and superficial they are mere feathers that float on the surface in comparison with those deeper seated causes of impurity that corrupt the springs and render turbid the whole stream of human life.

So, again and again emphasizing the same thing population.

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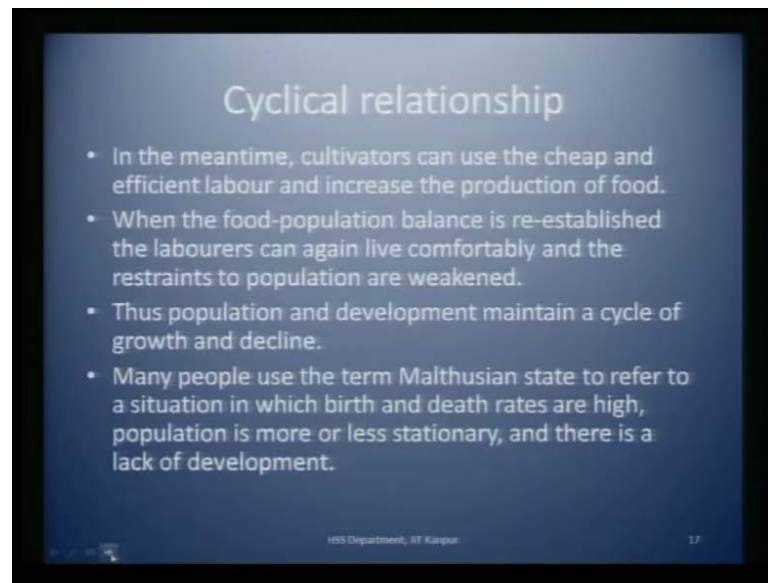


Now Malthus was aware that sometimes there can be a relationship between population growth and social inequality. Since I did more about this inequality thing, so I was looking for person in Malthus where he touches upon the issue of inequalities stratification and mode of production he had a clear understanding of the class basis of pressures he knew that societies are divided into classes to exercise restraints on population and consequences of population growth. He said that even though all classes differ marriages to check the reproduction the motives are different.

Now I think that let me finish my presentation fast so that we have more time for discussion. What I am trying to say that, after reading sociology of stratification when I read Malthus's essay, this must be twenty years back, then I was surprised to see that Malthus was not unaware of issues of social stratification, inequality, he was not aware that in several countries several societies transformation has produced good results means in terms of welfare of mankind in general or welfare of workers.

He also explicitly said things about motivation to **motivation to** limit family size or motivation to produce more children and the social class. He said that when population is small and there is more food or more welfare and people feel happy more of them marry and they produce more children. When there are problems then there are restraints of marriage, fertility reduces and capitalist can take the advantage of large pull of labor power available at that time and run their mills and with that again the period of prosperity will come so period of poverty and prosperity they come and go in cycles.

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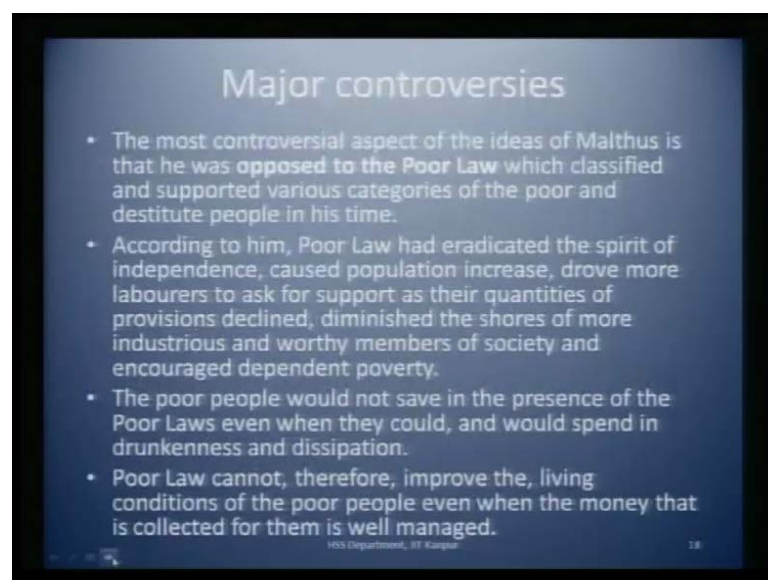
Cyclical relationship

- In the meantime, cultivators can use the cheap and efficient labour and increase the production of food.
- When the food-population balance is re-established the labourers can again live comfortably and the restraints to population are weakened.
- Thus population and development maintain a cycle of growth and decline.
- Many people use the term Malthusian state to refer to a situation in which birth and death rates are high, population is more or less stationary, and there is a lack of development.

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There is a cyclical relationship. When there is more population cultivators can use the cheap and efficient labor and increase the production. When the food population balance is reached average the laborers can again live comfortably and restraints through population are weakened thus population and development maintain a cycle of growth and decline.

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Major controversies

- The most controversial aspect of the ideas of Malthus is that he was **opposed to the Poor Law** which classified and supported various categories of the poor and destitute people in his time.
- According to him, Poor Law had eradicated the spirit of independence, caused population increase, drove more labourers to ask for support as their quantities of provisions declined, diminished the shores of more industrious and worthy members of society and encouraged dependent poverty.
- The poor people would not save in the presence of the Poor Laws even when they could, and would spend in drunkenness and dissipation.
- Poor Law cannot, therefore, improve the, living conditions of the poor people even when the money that is collected for them is well managed.

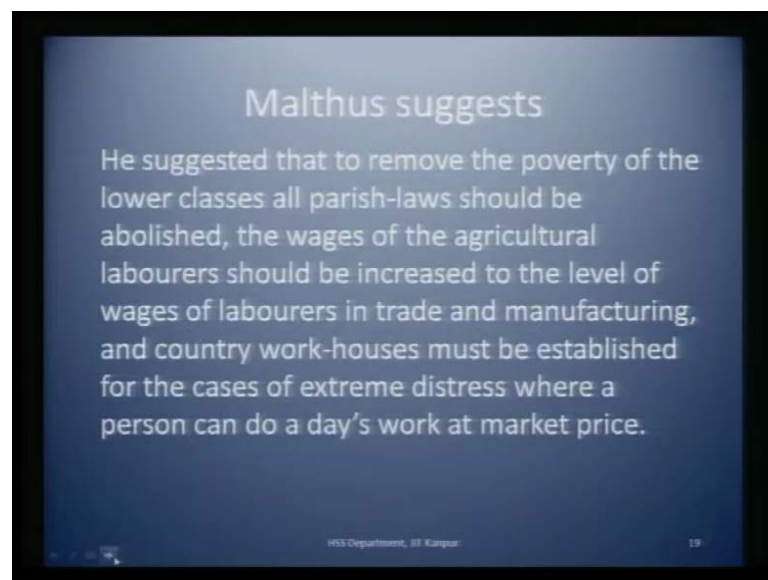
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The major controversies with Malthus are, that first of all he was opposed to the poor law.

This poor law existed there which classified and supported various categories of the poor and destitute people. For Malthus poor law had eradicated the spirit of independence Malthus was against poor law caused population increase though more laborers to ask for support as there quantities of provisions declined, diminished the shores of industrious and worthy members of society and encouraged dependent poverty.

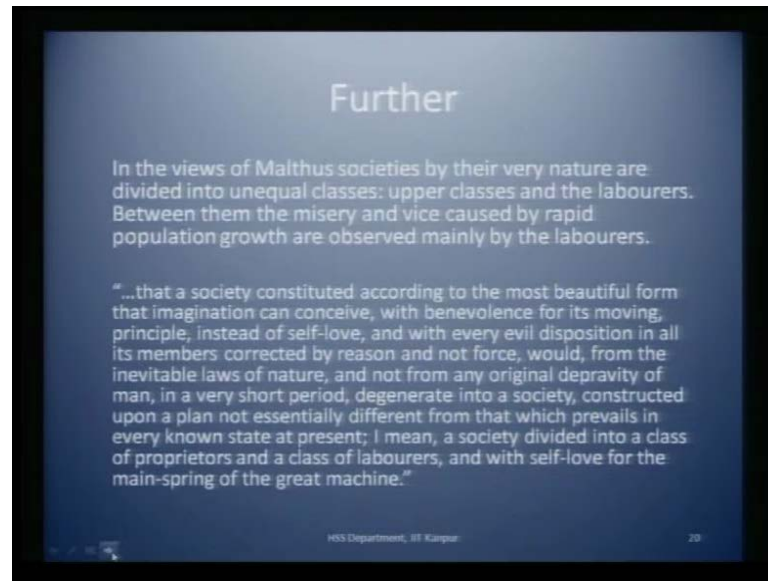
The poor would not save in the presence of poor laws even when they could and would spend in drunkenness and dissipation. You support the poor you give them put them on social security this does not help society and the poor people spent waste their money in drunkenness and dissipation. Poor law cannot therefore, improve the living conditions of the poor people.

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He suggested that to remove the poverty of the lower classes all parish-laws should be abolished, the wages of the agricultural laborer should be increase to the level of wages of laborers in trade and manufacturing, and country work houses must be established for the cases of extreme distress where a person can do a day's work at market prices.

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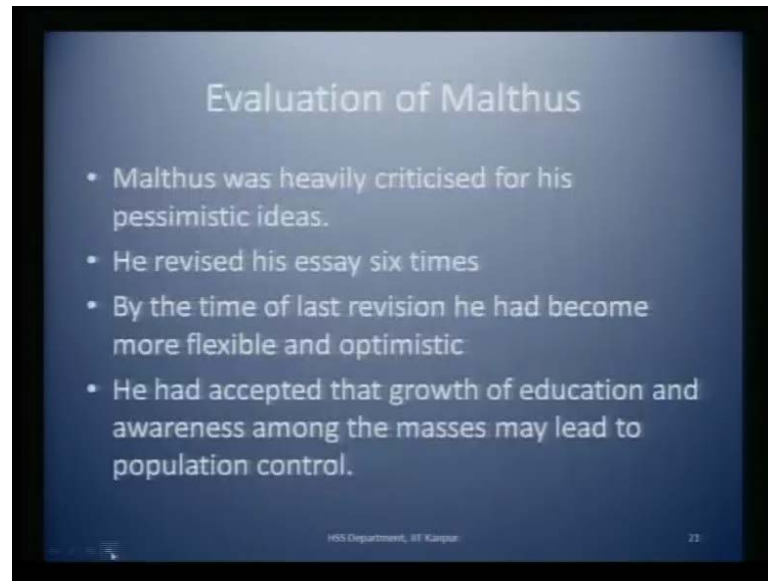


Further in the views of Malthus societies by their very nature are divided into unequal classes upper classes and the laborers between them the misery and vice caused by rapid population growth are observed mainly by the laborers. So, when we talk of misery or backwardness or poverty or exploitation certainly these are the issues which effect laborers more.

And a society constituted according to the most beautiful form that imagination can conceive or communism with benevolence, for its moving principle instead of self love and with every evil disposition in all its members corrected by reason and not force. What he is saying Echoesthe ideas of Condorcet and others idealistic thought of that time.

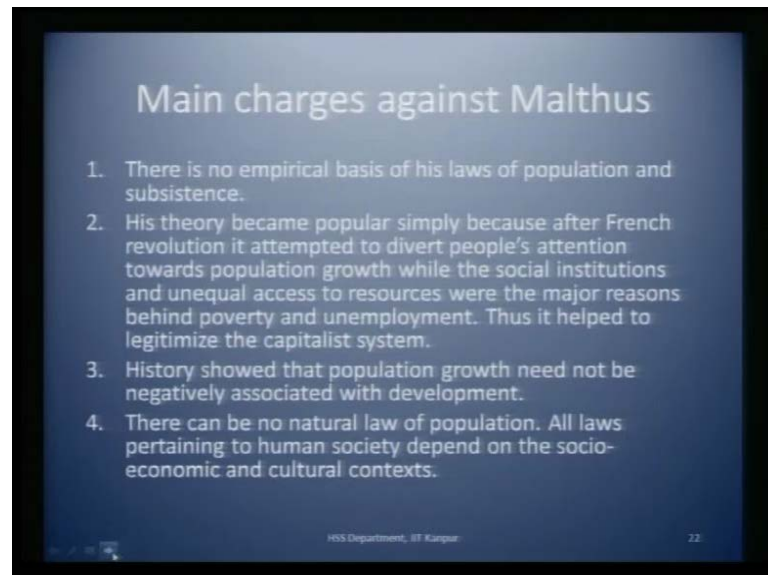
They would form the inevitable laws of nature and not form any original depravity of man in a very short period degenerate into a society constructed upon a plan not essentially different from that which prevails in every known state at present, I mean a society divided into a class of proprietors and a class of laborers and with self love means profit motive for the main spring of the great machine.

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Now when we evaluate Malthus you know there are certain things which we can see that he was heavily criticized, he had to revise his essay several times and by the time of last revision he had become more flexible and optimistic, and he accepted that growth of education and awareness among the masses can lead to population control.

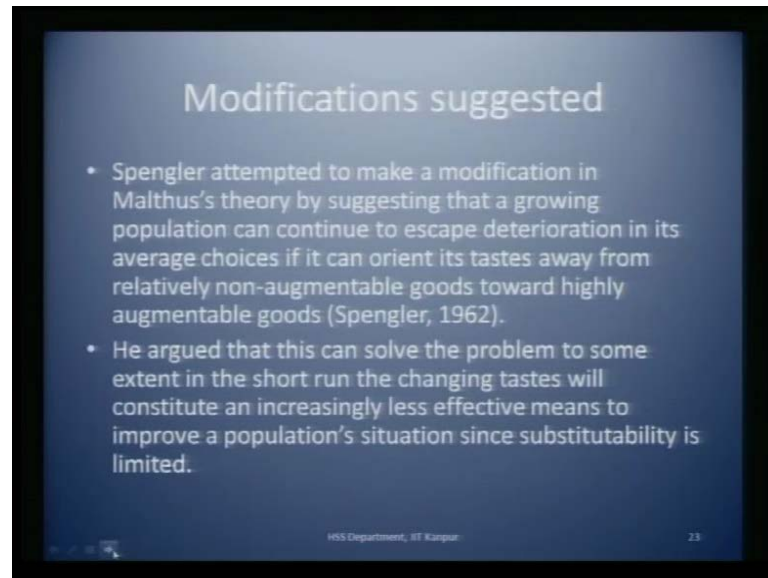
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The charges against Malthus are no Empirical basis of the laws. His theory **you know** Marx said that his theory became popular simply because it saw the interest of the bourgeois class. Then history showed that population growth need not be negatively

associated with development always, means it does not have Empirical basis there can be no natural law of population. All laws pertaining to human society depend on socio economic and cultural context again Marxist theory of stages of development.

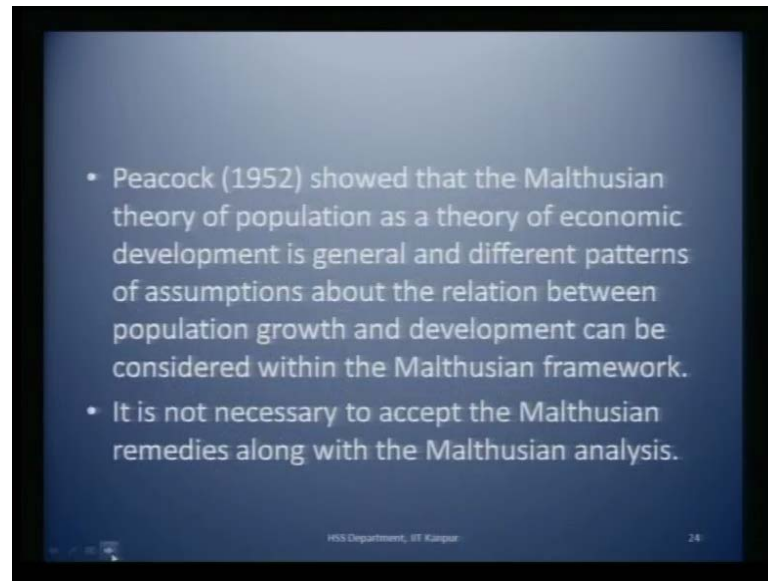
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And later on there have been some modifications as by Spengler and others. Spengler attempted to make modification by suggested that a growing population can continue to escape deterioration in its average choices if it can orient its taste away from non this is a purely economic argument non augmentable goods towards highly augmentable goods. Something like this can be said in modern our time that if economy is oriented most towards service sector knowledge economy rather than manufacturing or production we can take care of even a bigger size of population.

He argued that this can solve the problem to some extent in the short run, that changing tastes will constitute an increasingly less effective means to improve a population situation since substitutability is limited.

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I think I will stop here and let us interact, let me invite a few questions from you.

Can we say Malthus and status quo is wrong anti modernist, because in the time we when he is talking about all the theories the society is moving towards more rational things logical, scientific way of enquiry and one way he is applying these theories on the other hand he is becoming a status quo and trying to be an old domain of that charge the things so can we call him anti modernist?

Anti modernist is another thing being illogical is another thing. I do not think that in the times of Malthus, this term modernization existed, but as far as logic is concerned Malthus's logic is very simple. He says that your logic your scientific attitude rational thinking what you called rational thinking, your modernization they may solve the problem of mankind temporarily for some years sometime but by natural law of population. Population has a tendency to go faster than the means of subsistence available.

So what your modernization or technological development can do is that temporarily for some time with that interventions technological development, you can raise labor productivity we can raise agricultural productivity by applying pesticides, herbicides, putting more chemical fertilizers, better irrigation providing better irrigation facilities may be you can raise your agricultural productivity you can go into uncultivated areas, forest areas or those areas which were not used for cultivation.

So far now that you have better science you can do that but the gains of all these things will saturate sometime you cannot indefinitely continue to raise labor productivity you cannot indefinitely continue to raise productivity of land and labor while if there are no restraints on population if there is no vice if there is no moral restraint then it is natural that population will continue to grow. The fact that in several countries and more so in developed countries population is not growing at that rate developing in 25 years using our formula for **formula for** doubling time **doubling time** of 25 years means a population growing at around 3 percent rate per year.

So, we know the Empirical data show that not all population always grew at 3 percent but these are Speculative theories. Malthus says, if **if** there are no vices, if there are no moral restraints, if there is no contraception, no family planning, no homosexuality, no prostitution, no delay in marriage age, because of fear of not earning to provide for members of family then population will go unchecked and grow in geometric fashion.

So, the problem with these Speculative theories that just by showing that population has not always grown at 3 percent rate per year. Initially it was growing at 0 for lakhs of years at least for 5 lakhs years population did not grow at all, it grew at 0 percent rate. Then in developed countries during the transition period as you have seen it grew only at 0.5 or 0.6 percent and now in developed countries it is hardly growing some **some** countries are witnessing a negative growth.

It is only less developed countries in 1960s and 70s that. Some Latin American countries grew at 3 percent, India did not grow at 3 percent even then India's growth rate was only 2 percent but with the Empirical data, you can never reject this Speculative theory because there are ifs and buts. According to Malthus if there is no vice, if you commit the vice for him family planning or use of contraceptive methods will be part of vice.

So, population growth rate can be less than 3 percent but that will be less than 3 percent either if age of marriage is raised to very high level or if people use contraceptive methods as family planning program that is a vice. So, if you practice either moral restraints or you practice vice or you practice in our country now there is so much of talk of sex determination and feticide, if you have sex determination and feticide **this is** this is also a part of vice.

So, if you practice vices, if you are ready to practice vices or if you are ready to practice moral restraints, then population will not grow at 3 percent but if we are not practicing them then the population can grow even at as higher rate as 3 percent per year and this to that several countries have grown at 3 percent or more. Latin America countries, Pakistan also grew at a substantially high rate at some time now of course, everywhere growth rates are decline.

But growth rates are declining because countries are promoting family planning. So, you cannot reject Malthus entirely. Our china tried to **to** reject Malthus and in last time during Cultural Revolution. They not only attempt Malthusian theory, they destroyed all population centers, all Demographic research centers and the demographers and sociologist interested in population issues were murdered and jailed.

But then came a time when china realized how important it is to limit family size and eventually they had to go for one child policy. Malthus's position is clear that if there are no checks on population then population can grow in a geometric fashion and if the postulate another postulate that food is necessary for survival of man is true then there will be periodic imbalances between size of population and food which will result in positive checks on population.

So either you check your population yourself by exercising preventive checks otherwise nature will take care of it, there is no other option. And at least to me in some there is more than partial truth in what Malthus is saying. Do not we see that today, these days we are facing problem of floods in Uttaranchal in **in** several in Haryana in Delhi. Now is this not true that we are facing the problem floods in Uttaranchal because of high density of population, felling of trees, infrastructure, activities, dams, roads?

If the population size was half of this and there was no need to fell trees or for deforestation and **and** we did not built, so many roads and dams then the problem of floods will not be there. The fact that there was a population growth and developmental activities leading to floods show that population growth is eventually checked by positive checks. So, nature is exercising positive checks, because we fail to exercise checks.

Second problem, sex is necessary but we know that in the beginning you know that he said Christian priest in the medieval period in the medieval period the moralities actually

is the Christian morality of the during sex is a necessary only sex only for reproduction not allow they not agree sexual course or any kind of pleasure that **you know** that is the argument of Victorian morality with the supported by the Christian theology.

But here he says that sex is does not mean that the attraction between in any kind of relationship you have the sex for happiness or **or** even it is necessary but according to the Christian theology or the morality or the medieval morality that supposed to be the Christian theology. is it means that even though priest to some extent he is he trying to make a distance from.

When the priest say that it is moral or religious to go for moral restraint or Brahmacharya or celibacy, implicit somewhere in the argument is that this is not natural something which is natural does not require to be made a moral law, if it is natural for us to feel hungry and look for food then no morality is required to say that man must eat. So, even that priest who were saying, that we should withdraw from sexual pleasure.

They realize that sexual pleasure is the source of happiness and because sexual pleasure is a source of happiness so people would like to indulge in that. Malthus made this more explicit that it is natural for man to seek happiness from love and sex and if you want to control population because population has far reaching consequences for development and poverty and exploitation then moral restraint is one way.

So he says I can give in Christian priest will realize that sex is a source of pleasure. The problem is that if you if man goes for pleasure today then tomorrow there is positive checks. The fear of positive check and if you want to avoid the fear of positive check then you have to withdraw yourself from sexual pleasures today, so the choice is yours whether you want to make yourself unhappy today or you have to make yourself unhappy tomorrow. That is why it is said that according to Malthus there is no escape from unhappiness, he is a doomsday philosopher. Thank you.