

Infrastructure Economics
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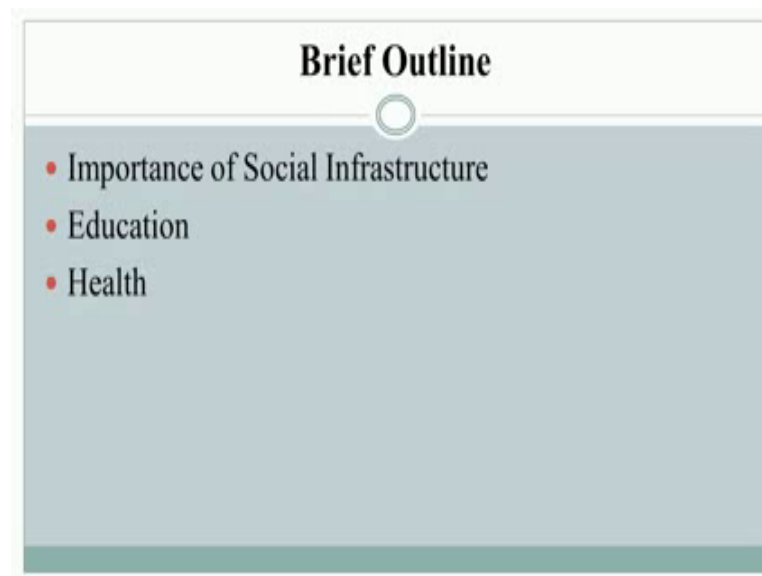
Module - 07

Lecture - 29

Social Infrastructure Development India (1950 – 1991)

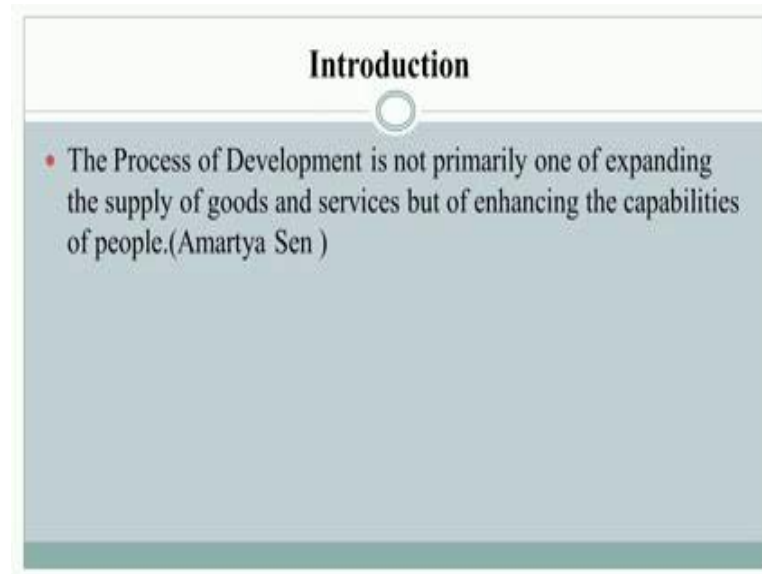
We are beginning the new discussion on Social Infrastructure Development in India. Let me begin with the importance of social infrastructure development.

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After that, we will take to two different sectors in the social infrastructure development, education and health as a part of the discussion.

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Let me begin with, what is basically the social development, social infrastructure development, because the process of development is not primarily one of the expanding the supply of goods, but also the services, which enhancing the capabilities of the people. This was will discussed by Amartya Sen in his book Development as Freedom.

So, when we say social infrastructure development, that includes varieties of sectors, varieties of attempt by the state, by the government, to promote education, to promote health, to promote safe drinking water, to have the better level of sanitation, housing for the poor people. At the same time, there are other inputs added in the social development programme, such as inputs, such as the different sources of entertainment. At the same time, the level of happiness, because of certain programs, certain initiatives, government today try to really have the level of happiness and level of more well being in the society.

And how government is really involve in distribution of income; that is one of the major challenge today for the policy makers, for the government, because if income is concentrated in one hand, then it is indeed difficult to have the happiness to most of the people in the society. So, how this distribution comes? Income distribution as Professor Amartya Sen and many other development economist has proved that, if we are not educating the people, if we are not providing better health services to the people, they are not entitled for many activities in the economy.

So, if they are not entitled for many activities, they are not really participating in the economic activities of the economy, they are far away from the mainstream business of the economies. And that way, the social infrastructure development do play an important role in making the people more connected to the mainstream business in the economy.

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Importance of Social Infrastructure

- ❖ An efficient social infrastructure accelerates the pace of economic development.
- ❖ Expenditure on education, health, nutrition act as growth promoting factor
- ❖ Increase in Human Development
- ❖ Reduction in Multi Dimensional Poverty Index.

(MDP) Index for a country complements old-style income-based poverty measures by seizing the severe scarcities that each person faces at the same time with respect to education, health and living standards.

So, let me begin with the importance of social infrastructure, these social infrastructures are basically an effective tool for the efficient acceleration of the pace of economic development. Because, without such infrastructure, such as schools, hospitals, rural roads, at the same time, housing facilities, better water and sanitation facilities, a society cannot be really in the position to reach to the minimum level of life, in general level of well being.

And if you are lacking, in that sense, if you are really having a very low level of living standard and very unhygienic living conditions, illiterate population not a skilled population, in terms of nutrition... If nutrition level of the people are really bad, in that case we are basically hampering the economic growth process also, because the kids, the labour or the worker or the farmer or the consumer, they are the direct partner in the economic growth and economic development process.

So, the expenditure on education, expenditure on health or the nutritional package or maybe the water and sanitation, that is directly promoting the factors of production, that is basically promoting one of the factor; that is the labour, which requires a very

educated and skilled and healthy conditions to work in, to participate in the mainstream economic business.

So, these social infrastructure a better facility in terms of health, a better facilities at the school level, at the high school level, at the middle school level, at the primary school level, at also at the higher educational level; that also promotes the human development conditions in the economy. Majority of the countries, which has really proved a better economic development process in the world in last 30 to 50 years, we have seen that, they have really worked hard for promoting the educational infrastructure, health infrastructure, a better safe drinking water condition and to provide the nutritional facilities to their people.

But, especially country like India, country like China, which had really faced the problem of population blast. Population blast is the condition when you have a large number of population added per year in your economy and this added population sometime is not really required, because more you are adding the population, the per capita availability of food, per capita availability of electricity, per capita availability of other infrastructure such as health infrastructure, you are not really giving in a better way in terms of the growing population.

So, you are reducing the availability of the resources, when a country is adding more and more population, so the per capita consumption drops, if the really population is on a very high speed. The economic argument is that, with growing population, a country can really sustain the per capita consumption of electricity or per capita availability of the educational infrastructure and health infrastructure.

But, for maintaining that level of infrastructure, maintaining that level of per capita consumption and per capita availability of the resources, you do have to add more faster infrastructure development compared to the fast growth rate. So, if the country is growing by 2.5 percent per year in terms of population, if countries population is growing by 2.5 percent and if the infrastructure added is by 0.5 percent, there will be a mismatch between the infrastructure available and the infrastructure demanded.

Because, we cannot really say today to the society or to the population, that we will provide you education after 10 years, will provide you health facility after 20 years. The expectations to get all these facilities are very much clear today, because society do not

want to really compromise on these basis with the help of awareness through the electronic sources, through the internet, through the television sets, through the radio.

Now, population of any country, any developing country is more aware that what they really need for the well being, what they really need for their own development. The process of human development depends on the process of the individual development. If individual in a society is not really having resources to really exploit, then in that case society is not having a proper human development also.

Because, if the resources are concentrated in few hands, there are certain studies which shows that most of the income in many developing countries are especially in few hands and Stiglitz pointed out more recently, the problem of basically problem of one percent. So, the 1 percent of population in United States is holding a bigger pie in the national income and that shows that, even in the developed country, the income distribution is not good as...

Neither, in the developed country income distribution is good, nor in the developing country income distribution is good. So, countries growing faster and faster with a very fast rate, but at the same time, the trickle down of those economic growth process is not for the society as a whole. But, the income generated by a few members of the society, a few pockets of the society is controlling the larger size of the income generated in that economy.

So, that basically, really creates the problem for the human development in the world today. Income inequality, income disparity is again creating further challenges for the economic development. And today as long as these social infrastructure is not properly developed, because the physical infrastructure do help in promoting economic growth process, which is more statistical idea or maybe you can say the mathematical calculation where we find out, what basically the growth performance of the agriculture sector, the industrial sector and tertiary sector.

But, when we find that, what basically this growth is doing for the population of that particular country, a country can grow with the help of a faster industrial growth rate; a country can grow only with the faster growth rate in services. And that services growth or the industrial growth rate maybe again treated as the country's growth, because even if one sector is going very fast, the country as a whole will say that, country as a whole can

also continue saying that, we are growing. The country is growing, because the country's growth is the combination of all the three sectors growth.

But, at the same time, when we do try to calculate the impact of such growth on the human development, if we do not have proper and very meticulous growth in the human development sector, especially in the social infrastructure development, then we are really inviting a other type of economic inequality and economic inequality is again reflected in the poverty index.

So, if the social infrastructure is really developed, one of the recent index of the multidimensional poverty index, which complements old style income based poverty measures by seeing the severe scarcity that each person faces, at the same time with respect to education health and living standard. So, the traditional approach of poverty estimation which was based on the income or which was based on the calorie is now included some other aspect and this multidimensional poverty index, which includes many items that gives us a wide range of idea, that what is happening in a country, which has a fast economic growth in last few years.

So, this economic growth can be achieved through the physical infrastructure growth, more we have the economic infrastructure added such as roads, flyovers, bridges, telecommunication and also the rails and the ports. We are having more turnover of the product from one part of the country to other part of the country; we have more turnover from the domestic economy to the international economy. But, when we look back the social conditions of that country, it all depends on how good the social infrastructure is in that economy. If the social infrastructure is not really adding the better conditions, then in that case, the country will certainly have a very poor multidimensional poverty index and that is again one of the challenges for the society.

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Importance of Human Capital

- A World Bank study of 192 countries revealed that only 16 % growth is explained by physical capital (machinery, buildings and physical infrastructure), while 20% comes from natural capital.
- But no less than 64% can be attributed to human and social capital.
- In India 'Kerala Model' is one of the best example of social and human development.

So, the importance of human capital in one of the study by the World Bank of 192 countries revealed that only 16 percent growth is explained by the physical capital, such as machinery, buildings and physical infrastructure, while 20 percent comes from the national capital. But, the study do calculated that, but not less than the 64 percent can be attributed to human and social capital. In India, Kerala Model is one of the best example of social and human development, which is again well cited by Amartya Sen and Jean Dreze in his book.

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Social Infrastructure...

- Increase in productivity
- Reduction in poverty
- Improved health status
- Quality of life of people
- Increase in earnings of individuals
- Personal income distribution
- Allocation of resources
- Positive externality

So, why social infrastructure is required in a very brief way, we can say that, because it increases indirectly in the productivity, it reduces the level of poverty, it improves the health status. It creates the better quality of the life for the people, it increases in the earnings of the individual, the personal income distributions are well settled if you have more, better social infrastructure added.

Allocation of resources are more better, because education makes you more aware that what is your right and how you can get the better chance in the labour market, how you can get the better chance in having the better productivity, better contribution to the economic development. At the same time, the social infrastructure is providing us more positive externalities, because more educated people, more healthy people are again...

If you have unhealthy citizens, unhealthy population surviving with varieties of communicable disease, that entire economy is not going to be free from communicable disease for many years, if you have such population continuing in that society. But, if you have a healthy economic condition, healthy society, a better health facility if it is added to the healthy society, if people are having good health, then they are again taking care of good health in the family, they are again taking care of the good health outside the family, outside the society.

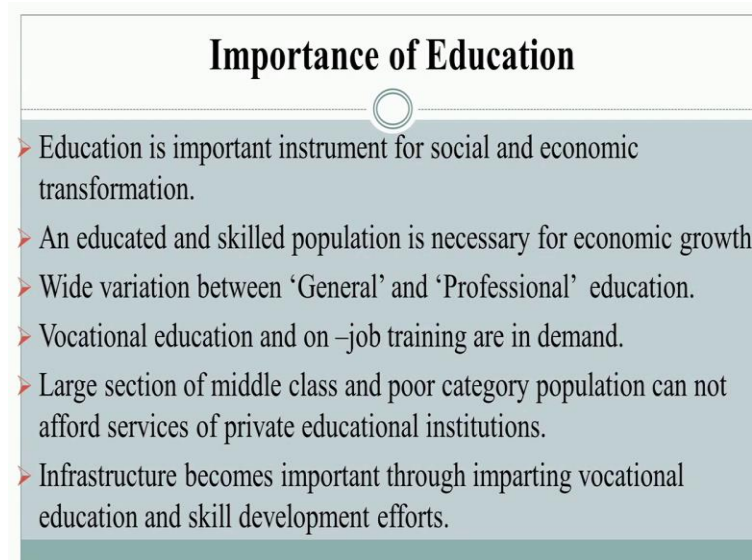
So, social infrastructure as a whole acts a lot and that addition is not only for years, because when we calculate agriculture production, when we calculate industrial production based on the physical infrastructure, there are so many factors, which really contributes the growth in agriculture, growth in manufacturing. And that component and that contribution is very much time centric and the product, which we are having today; that product is not going to really help us tomorrow, because the manufacturing products and the agriculture products are having a certain life.

But, at the same time, infrastructure products are having a bigger life, 30 years, 50 years, 60 years time and the physical infrastructure, which we are developing at most they can go for 30 years and 40 year's time. But the social infrastructure, which we are adding today that will certainly go for years and years, for generation to generation and from older generation to the new generation, from new generation to the future generation.

And that is the contribution of social infrastructure, because it leads you in a right direction, it leads you in a further developing direction and that development is more

inclusive and that development is more human best development not in human development.

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Importance of Education

- Education is important instrument for social and economic transformation.
- An educated and skilled population is necessary for economic growth.
- Wide variation between 'General' and 'Professional' education.
- Vocational education and on-job training are in demand.
- Large section of middle class and poor category population can not afford services of private educational institutions.
- Infrastructure becomes important through imparting vocational education and skill development efforts.

So, the importance of education is very much clear, because it is one of the instrument for social and economic transformation and educated and skilled population is necessary for economic growth. Wide variation between general and professional education is already seen due to the involvement of the vocational training institutes today, job training are in demand and last section of the middle class and poor category population cannot afford services of private educational institution.

So, the role of government and the infrastructure development, which is contributed today by the help of the government as well as a private parties. And sometimes with the help of the Public Private Partnership is becoming important through imparting the new way of educating the people and vocational education and skill development efforts are really important through the certain infrastructure added in educational sector.

So, if we can see here from 1950 to 1991, we are finding that Constitution of India has basically provided us in an opportunity that formal schooling; system should be developed by the state government and also by the central government. And it is the responsibility, the primary education became the responsibility of the government and that responsibility is turning out as the right of the children in India as a part of the right to education program today.

So, education kept under the concurrent list in 1976 in 1980, we do find out that non-formal education was introduced as the part of the national policy on education of 1968.

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Education Policy in India		
Period	Policy Framework	Approaches of the Central Government
1951-68	Constitution of India	Formal schooling System, State Government responsible for primary education
1968-86	National Policy on Education, 1968	1976-Education under Concurrent List 1980s-Non-formal education introduced
1986-91	National Policy on Education, 1986	1980-Andhra Pradesh Primary education Project (ODA by Britain) 1986-Environmental Education 1987-Rajasthan Shiksha Karmi Project 1988-Total Literacy Campaign 1989-Mahiala Samakhya (Dutch Govt.) in Karnataka, UP and Gujarat 1991-Bihar Education Project (UNICEF)

Again national policy on education 1986 has also given the better autonomy to the state to find out supports from the different agencies. And we are finding here that in different states, different programs, we are added such as Bihar, Bihar education project, which was supported by UNICEF was launched in 1991. While in 1980, Andhra Pradesh primary education project was supported by ODA by Britain.

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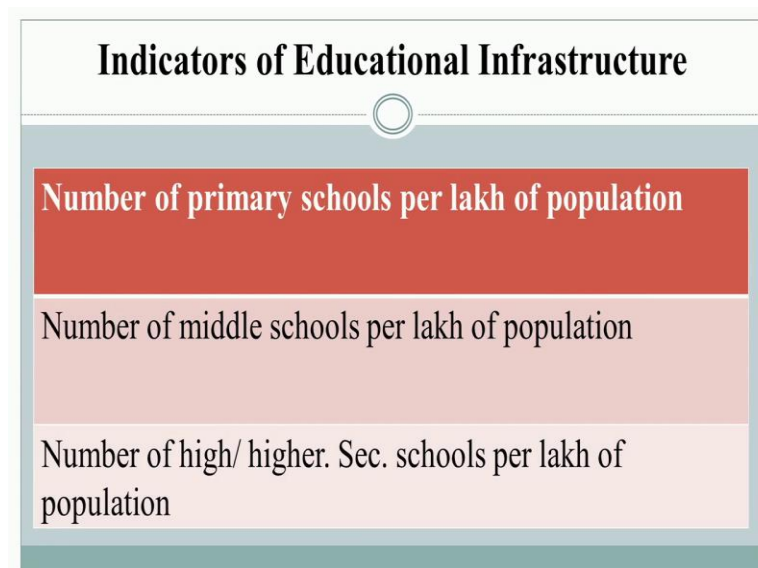
Backwardness in Education system

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- Shortage of high quality infrastructure
- Need of both public and private investment in infrastructure at primary and higher education (including technical)
- Poor administration and low public spending leads to deterioration in quality of education and health services.

And we find out that, there were many steps taken by the government to find out the new ways of providing education. The problem which education infrastructure or system is facing today is the shortage of high quality of infrastructure, need of both public and private investment in infrastructure at primary and higher education level including the technical institution level is the need of deserver. So, poor administration and low public spending leads to the deterioration in quality of education and health services in India because education and health is interlinked.

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There are certain indicators as we have also discussed in our introduction that there are certain indicators of the social infrastructure, Number of primary schools per lakhs of population, Number of middle schools per lakh of population, high school per lakh of population.

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Expenditure on Education in Five Year Plans		
	First Plan (1951-1956)	Seventh Plan (1985-1990)
Elementary Education	93	2854
Secondary Education	22	-
University Education	15	3226
Technical and Vocational	23	1083

Source: Planning Commission, Govt. of India

So, expenditure on education in five years plan, if we can see the first five plan years data, it was 93 from first five year plan to seventh five year plan, if you can see this was 2854 crore rupees. Again, we can see here the secondary education and the universal education, we are finding that government were also trying for such type of expenditure on secondary and university level education.

And then, technical and vocational education were also the part of the planning period, so we can just see here compared to the first five year plan, the 7th five year plan expenditure was much better on elementary as well as on the university education as well as the technical and vocational education. That shows the public sector contribution for the education in India.

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Literacy Rate in India	
Year	Literacy (%)
1951	18.33
1961	28.3
1971	34.45
1981	43.57
1991	52.21

Source: National Commission on Population, Ministry of Health & Family Welfare, Govt. of India, 2014

If you can compare the literacy rate from 1951 to 1991, it has a sharp increase from the level of 18.33 percent to 52.21 percent in 1991 and people do say that it is still not, India is not the country which is fully literate. But, at the same time, the way India has added population in last 50 years and even after that addition of the population. If India has receipt reach to this level of illiteracy that was possible not only because it was just only the government support, but there are also international agencies involved in such literacy program.

And being the vast population, being a large population, it is indeed important that India should be having a full literacy as soon as possible, because if India is reaching the full literacy level, a world is also moving fast, what is the literacy level. So, as a part of the government and as a part of the policy decision making, it is the responsibility of the government to lead this particular sector. Because, education primary middle or high school, what it is one of the sector, where more investment is going to give us more returns not quickly, but maybe after sometime in 10 years timer or 15 years time.

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Health

- Health is not merely absence of disease but as a state of complete physical, mental and social well being.
- Determinants of good health are: access to various types of health services and an individual's lifestyle choices, personal, family and social relationships.
- Health is also affected by availability of clean drinking water and sanitation.
- Health care facilities are mainly run by governments and extensive private sector.

Now, the second part of this discussion is on Health. As we have seen that health is not merely absence of disease, but as a state of complete physical mental and social well being. So, determinants of good health are access to various types of health services and an individual lifestyle choices personal, family and social relationship. Health is also affected by availability of cleaning drinking water and sanitation. Health care facilities are mainly done by the government and extensive private sector.

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Indicators of Health Care Facilities

- Number of hospitals and dispensaries per thousand sq. kms of area
- Number of beds in hospitals and dispensaries per lakh of population
- Number of veterinary hospitals and dispensaries per lakh of population

Indicators of the healthcare facilities are the number of hospitals and dispensaries per 1000 kilometre of area, number of beds in hospitals and available for the per lakh population, number of veterinary hospitals and dispensaries per lakh population.

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Expenditure on Health During Five Year Plans	
Plan Period	Expenditure on Health as a % of Total Plan Investment Outlay
First Plan	3.3
Second Plan	3.0
Third Plan	2.6
Fourth Plan	2.1
Fifth Plan	1.9
Sixth Plan	1.8
Seventh Plan	1.7

Source:

Expenditure on health during five year plan, expenditure on as percentage of total plan investment outlay in first five year plan, it was 3.3, second five year plan again 3, third 2.6, fourth 2.1, fifth year plan 1.9, sixth 1.8, but the seventh plan 1.7. We found out that after independence from independence to the seventh plan, we had always less expenditure on health compared to the first five years plan, it was only the second five year plan, which was close to the first five year plan expenditure as a percentage of total plan investment.

But, when we see seventh plan or the sixth plan, we were really having a very less percentage of health expenditure. And that shows that how state was really not very much interested in providing better health facilities in terms of adding the more health infrastructure.

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Weakness of Health Care System	
Wide differences in healthcare services	
➤ Quality differs in public and private sector	
➤ Lack of qualified doctors	
➤ Regulatory standards for hospitals are not defined	
Affordability of health care	
➤ It has serious problem	
➤ Lack of public health services incurs high expenditure on services purchased from private sector.	

So, there are Weakness of the Health Care System and it is in terms of the lack of qualified doctors, quality differs in public and private sector, regulatory standards for hospitals or not defined, affordability of the health care is not good for everybody. It has serious problems like lack of public health service incurs high expenditure on service purchased from the private sector.

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Health Infrastructure In India					
	1950-51	1960-61	1970-71	1980-81	1990-91
No. of Hospitals	2694	3094	3862	6804	11174
Dispensaries	6575	9406	12180	16751	27431
Hospital beds per lakh of population (no.)	31	46	60	74	96
Registered Doctors per lakh of population (no.)	16.5	17.6	25.8	38.2	46.56

Source: Economic Survey 2014-15, Ministry of Finance, Govt. of India

So, health infrastructure in India, if one can see here compared to 1951 number of hospitals which was 2694. Now, we have more hospitals added, which is around 11,164;

we have dispensaries from 6575 in 1950 to 51 to 27,431 in 1990 and 91. Hospital beds per lakh population, which was 31 in 1950-51, now it is 96. In terms of growth, one can see 3 times, but in terms of the population growth, even these 96 beds per lakh population is nothing. Registered doctors per lakh population which was 16 in 1950-51, now it has gone to 46, again very poor presence of doctors in the per lakh population indicators.

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Major Hindrances in Health sector

- District level disaggregated data not available from existing surveys so that under nutrition could be monitored.
- District Level Health Survey remains inadequate in coverage.
- e- health database with health- ID cards still a dream.
- Lack of human resources is mainly responsible for inadequate provision of health services as lack of physical infrastructure.
- Shortage of health professionals at all levels is serious impediment in achieving public provision of health services.
- Lack of capital investment in health infrastructure leads to poor quality of health services.

So, the major hindrance in health sector, district level disaggregate data is not available from the existing survey, district level health survey remains in adequate in coverage e-health database with health ID cards still is a dream. Lack of human resources is mainly responsible for inadequate provisions of health services as lack of physical infrastructure. Shortage of health professionals as we have seen in case of doctors and nurse, at the same time, lack of capital investment in health infrastructure leads to the poor quality of health services.

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Measures to be Taken for Health Care

- Strengthening rural health infrastructure especially Sub-Centers, PHCs and CHS and better mobile linkages to hospital network.
- Public Private Partnership (PPP) to finance healthcare services can help beneficiaries
- States must improve infrastructure for ancillary services like drug storage and warehousing, medical waste management, surveillance and cold chain management.

Measure to be taken a strengthen rural health infrastructure, especially Sub-Centers, Public Health Centres and Community Health Centres and better mobile linkages to the hospital network is indeed important today. A better Private Partnership, Public Private Partnership to financial care services can also help the beneficiaries. At the same time, a states must improve infrastructure for ancillary services like the drugs storage, warehousing, medical waste management and cold chain management.

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To Sum Up

- Different attempts by Government of India do indicate improvements in Education and Health infrastructure.
- Due to the poor investment on Health around 1 % of GDP and less than 3% of GDP expenditure on Education made India remain backward in the Human Development Index . India took lessons from its past and trying for a new way of reforms in Social Infrastructure development.

To sum up different attempts by government of India do indicate the improvement in the education and health infrastructure, but due to the poor investment on health around 1 percent of the GDP and less than 3 percent of GDP expenditure on education made India remain backward in the human development index. India took lessons from its past after 1991 and trying for a new way of reforms in social infrastructure development, which we will really discuss in our next few lectures that how and what mechanism India has adopted to improve the social infrastructure services.

Thank you.