Infrastructure Economics
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Module – 02
Lecture - 08
Experiences of Infrastructure Development in NICs

Experiences of Infrastructure Development in Newly Industrialized Countries, this is the topic, which we are going to cover as a part of module 8.

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We will discuss briefly, about what is basically newly industrialized countries, what are the main characteristics of newly industrialized countries, how these countries have developed their infrastructure in a very short span of time, and what reasons other economics of the world can take from newly industrialized countries.

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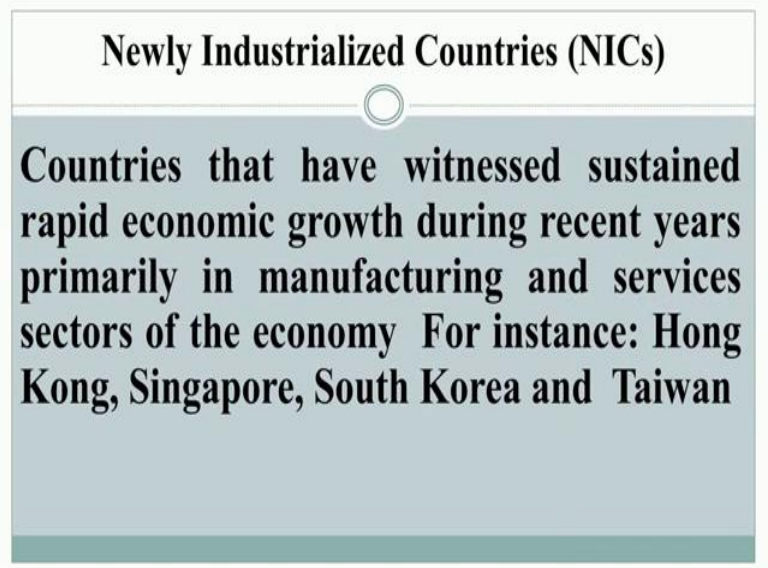

So, countries that have witnessed sustained rapid economic growth during recent years, especially in manufacturing and services. Basically, the newly industrialized countries and these are basically Hong Kong, Singapore, South Korea and Taiwan.

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So, what are basically the main characteristics of newly industrialized countries and how they have really developed or they have really grown up very fast in last 2, 3 decades. There are certain reasons and that certain characteristics of newly industrialized countries, which one can also know and understand. The first thing is the strong and stable government, these governments where having a very good political will, these countries have really shifted, their industrial policy from import substitution to the export

promotion.

And for that, they are adopting different models of restrictions on the entry of the products coming from other part of the world. But, while these counties were adopting their industrial model, industrial policy, they were looking more for the export promotion avenues available outside the world, outside the country and they were looking for basically those items, which taken really trade in the international economy.

And that way newly industrialized countries are completely different from many other developing country, because majority of the developing countries till 1990, they were more worried for the imports substitution model and they were not really reformed their economy. So, these economies newly industrialized countries they have shifted from the agricultural to manufacturing and services.

They have very high economic growth compared to other developing country, these economies were the export oriented economy. They have very high domestic savings and investments including these features, they were also having the cheap skilled and educated work force. And they have the shift from labor intensive production to the technology intensive manufacturing activities. So, this is the main characteristic of newly industrialized countries.

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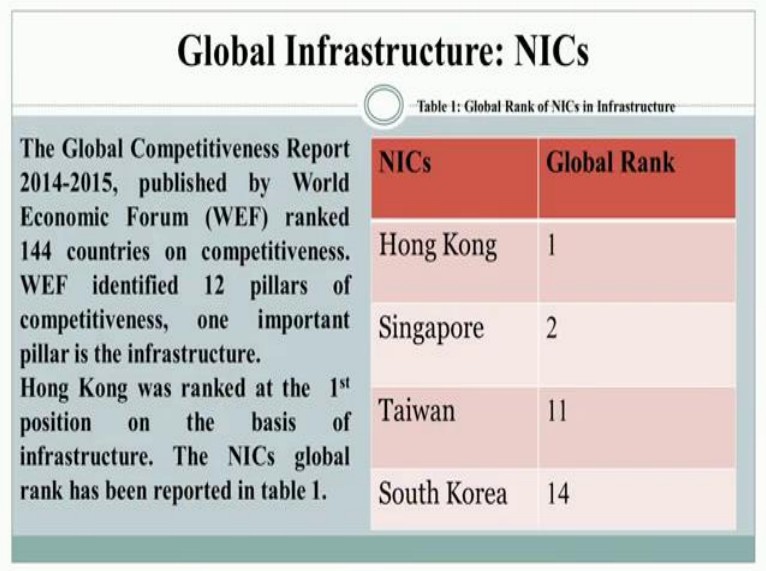

Let we compare these newly industrialized countries with the other economies of the world, the recent global competitiveness report 2014-15 published by the World Economic Forum, which ranks around 144 countries on competitiveness, identified 12

pillars of competitiveness, one important pillar is the infrastructure and Hong Kong was ranked as the first position on the basis of the infrastructure.

The newly industrialized countries, global rank has been reported in table 1. We can see here that Hong Kong is the first; Singapore is second, Taiwan is on the 11th position, while South Korea is on the 14th position.

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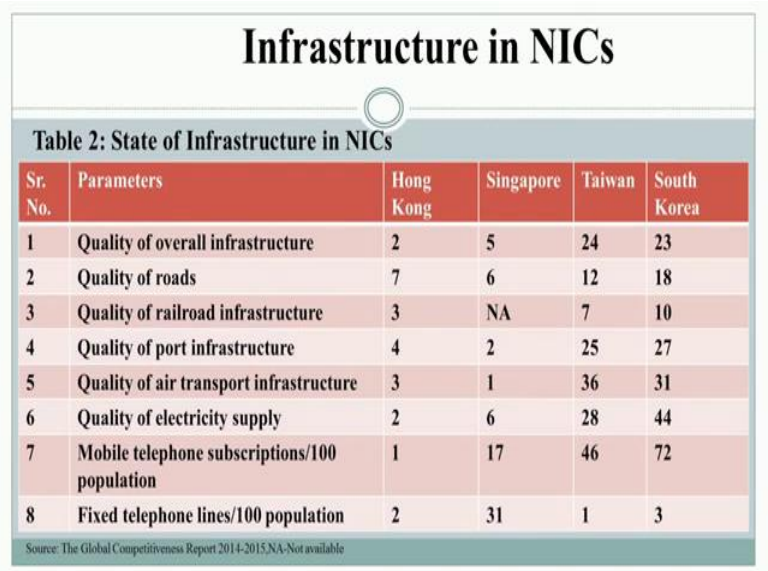

So, state of infrastructure, if one can see in the newly industrialized countries quality of overall infrastructure, Hong Kong again ranked second in the world, Singapore 5th, Taiwan 24th, South Korea 23rd. Quality of roads across the world, Hong Kong 7th position, Singapore 6th, Taiwan 12th, South Korea 18th, quality of railroad infrastructure, Hong Kong 3rd, Taiwan again 7th position, South Korea 10th position.

Quality of transport infrastructure Hong Kong 3rd, Singapore first and Taiwan and South Korea is on 36th position and 31st position. Mobile telephone subscriber, Hong Kong is the first again, fixed telephone lines, Taiwan is again first in that rank. We find out that a state of infrastructure in these newly industrialized countries are much ahead for many developing countries as majority of the countries are having their positions.

Hong Kong is in between 1 to 10 in majority of the indexes, majority of the indicators as cited in this table. While, the Singapore is also having a very good position between 1 to 10 in majority of the indexes and it shows that, these newly industrialized countries are really ahead in terms of infrastructure development.

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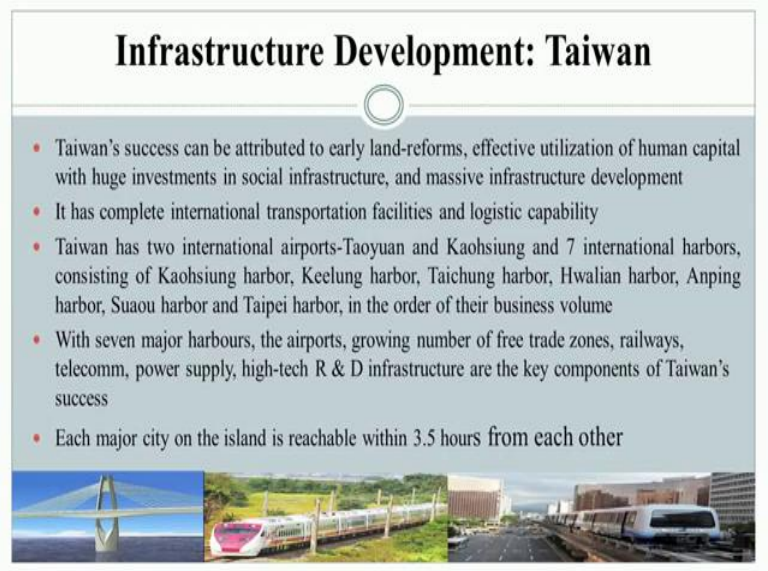

I would like to highlight some of the features of these countries one by one in case of Taiwan, one of the successful examples, because of the land reforms, effective utilization of human capital, huge investments in social infrastructure and massive infrastructure development. It has complete international transportation facilities and logistic capacity and this shows that, major cities on the island is one can reach within 3 to 5 hours from each other.

And this basically shows that not only in the physical infrastructure sector, not only in the economic infrastructure sector, but also in the case of social infrastructure, they were such as the land reforms, which India can take really lessons from Taiwan. And the effective utilization of human capital, this is also one of the major challenges for the economies like India and other South Asian economies and many other Asian countries.

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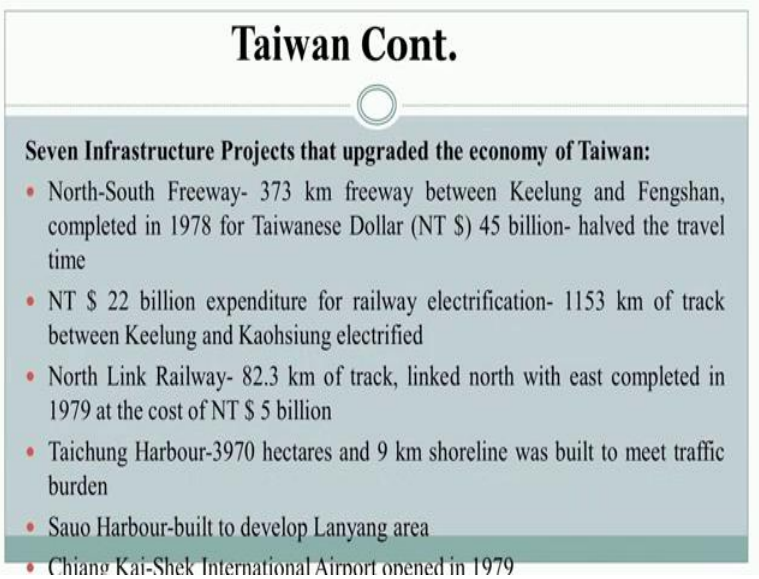

So, this is one of the example where we can find out being a very small country, they have really serious about developing not only the economic infrastructure, but also the social infrastructure. And these are some of the figures, where we can find out that North, South freeway, they have 373 kilometer freeway between Keelung and Fengshan completed in 1978 long time back and North Link railway, which was also completed in 1979.

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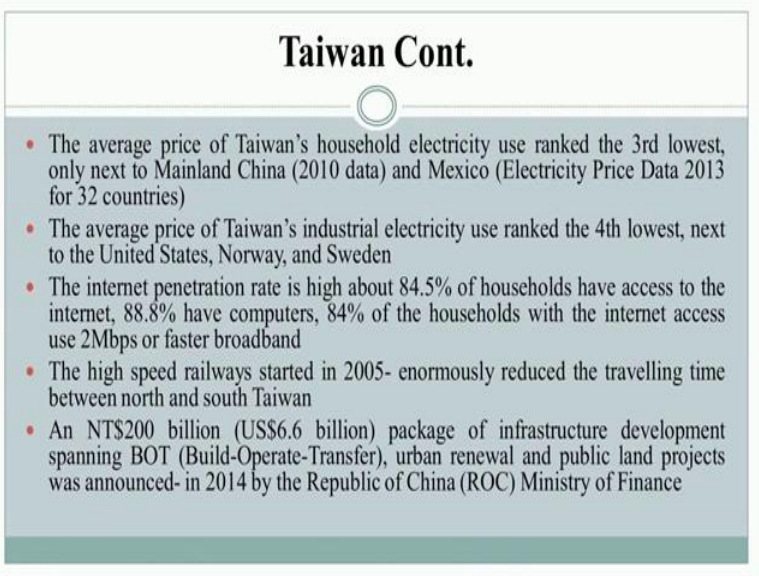

And this data shows that long time back, they have completed a majority of the infrastructure projects and also in the field of electricity generation. The average price of Taiwan's industrial electricity use ranked the 4th lowest next to the United Nations,

United States, Norway and Sweden in the world. And these indicators shows that, how effective infrastructure generation they were having and they have used the build operate transfer as a part of infrastructure development strategy.

And these statistic shows that, whether it is high speed railway, which was a started in 2005 or the electricity, which is on the cheapest price. It is basically admirable achievements of a very small country for the world and this is happening with a very systematic growth process of infrastructure in last few years.

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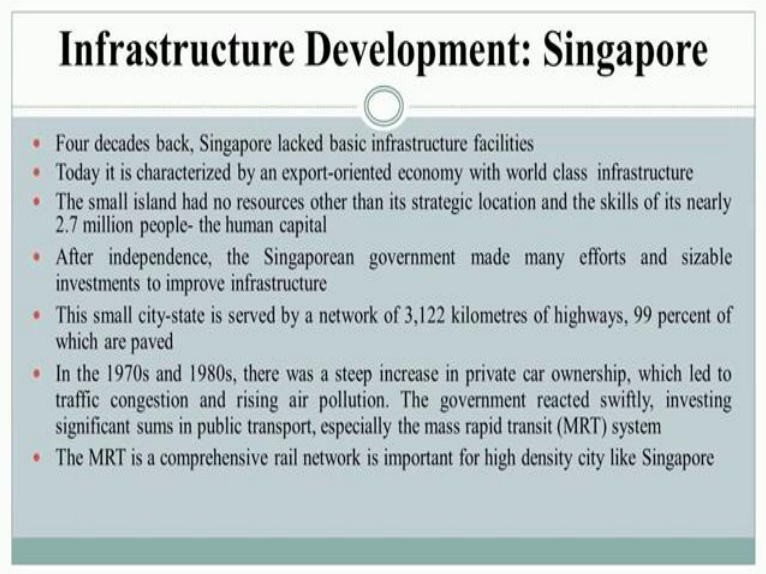

Four decades back, if we can just see the condition of Singapore's infrastructure development, 4 decades back Singapore lacked basic infrastructure facility. Today it is one of the major export oriented economy in the world with having the world class infrastructure. So, how it is possible, how it has happened, this happen because of the strong government and stable government, transparent government, corruption free government.

And this happened, because of the long time planning and a different type of economic policy reforms, which they have adopted, which is named as Paul Krugman and other people naming as a part of the strategic trade policy or one can say as the outward looking industrialization model, where majority of the focus of the economies is not on the, what they are basically importing, but the focus is on what they have to export to the world.

So, Singapore today the small city-state is served by the network of 3122 kilo meters of

high way, 99 percent of which are paved. In 1970's and 80s there was a steep increase in private car ownership, which led to the traffic congestions and rising air pollutions. The government reacted swiftly investing significantly and the public transport especially the mass rapid transit system, they have developed, and now a days, this small island had no resources other than its strategic location and skills of its nearly 2.7 million people, the human capital, which is one of the backbone for the economic growth of Singapore.

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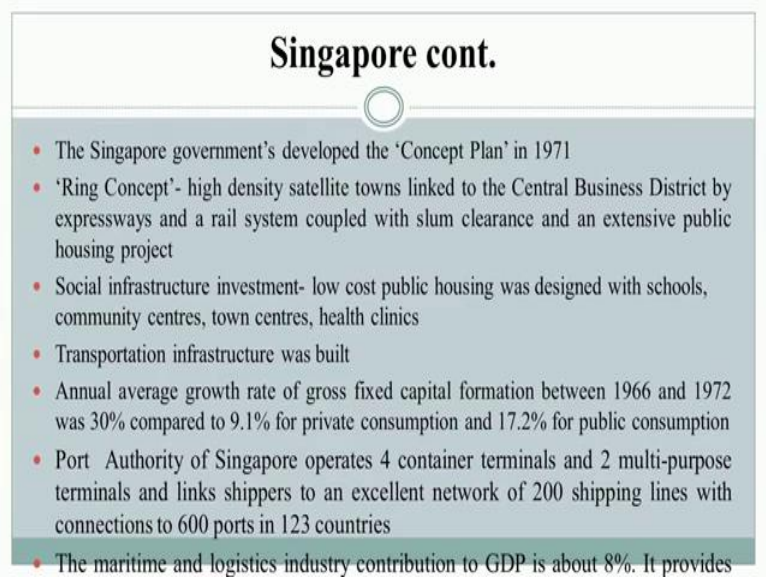

So, in 1971, the Singapore government developed the concept plan, the ring concept high density satellite towns linked to the central business districts by the expressways and a rail system. In terms of social infrastructure, low cost public housing was designed with schools, community, centers, town centers, health clinics, transportation facilities was also build up.

Annual average growth of gross fixed capital formation between 1966 to 77 was 30 percent compared to 9.1 percent of the private consumption and 17.2 percent of the public consumption. Port authority of Singapore operates, port container terminal and two multipurpose terminal and link shippers to an excellent network of 200 shipping lines with connection to 600 ports in 123 countries and that is one of the major source of their GDP.

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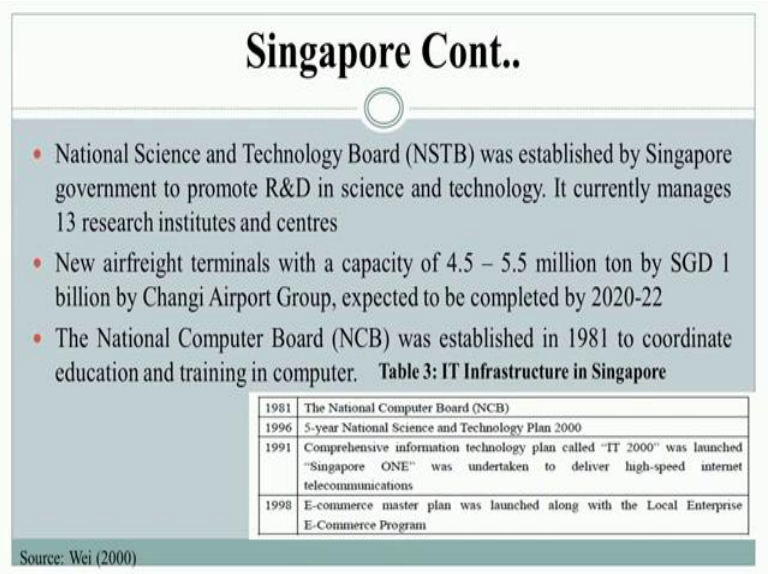

So, this was not possible without having the proper infrastructure developed in last 3 decades. National Science and Technology Board was established by Singapore government to promote R and D in science and technology, it currently manages 13 research institutions and centers. The air freight terminals with a capacity of 4.5 and 5.5 million ton by Singapore 1 billion dollar expected to be completed by 2020-22.

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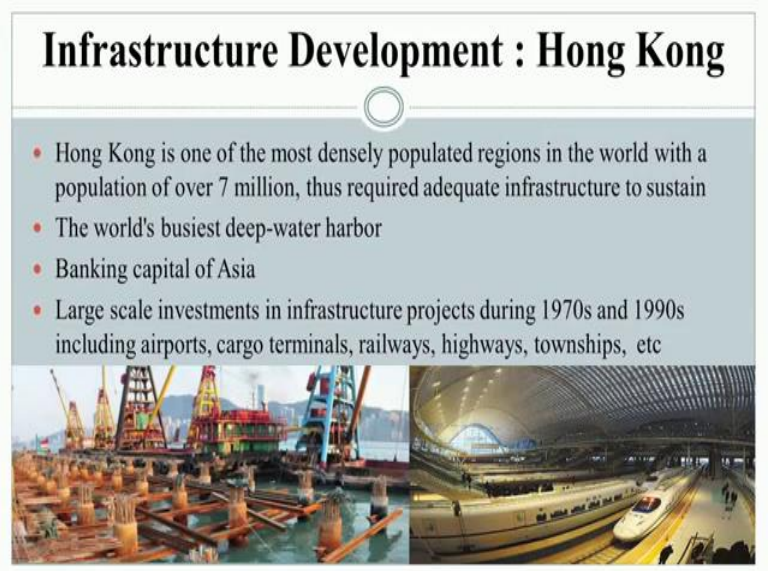

These are the major achievements of Singapore in last 3 decades, again if one can see the Hong Kong, which is one of the most densely populated regions in the world with a population of over 7 million. Thus required adequate infrastructure to sustain, one of the world's busiest deep water harbors, banking capital of Asia and also large scale

investments in infrastructure projects during 70s and 90s, including airport, cargo, terminal, railways, highways and townships, etc., which has made Hong Kong as one of the major achiever in terms of infrastructure development today.

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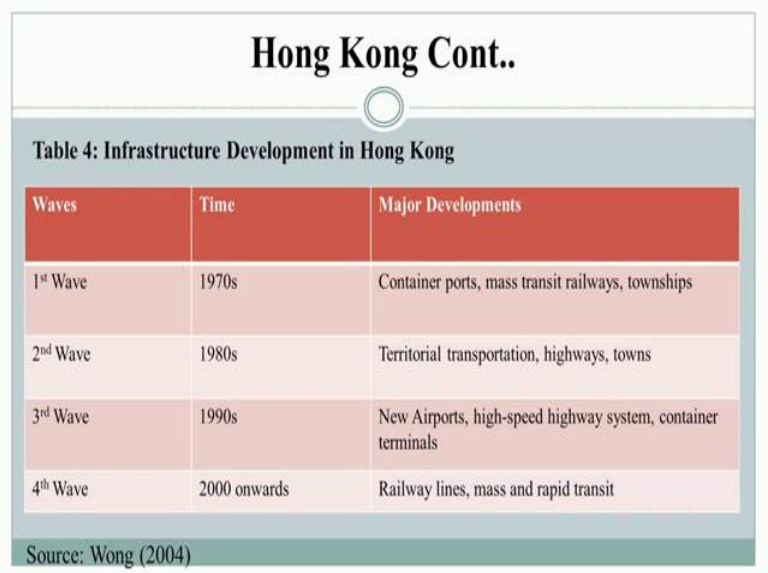

So, one can see here the four different stage or wave of infrastructure development; in first wave, which was in 1970s, container ports, railways, townships, were developed; in second wave territorial transportation high ways and towns were developed, and third wave in 1990s- new airports, high speed high ways and container terminals were developed. And in the fourth wave -2000 onwards railway lines, mass and rapid transits were also developed.

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The ten major infrastructure projects announced in Hong Kong includes the West Island lines and South Island lines Sha Tin to central link. And apart from that, there are cross boundary infrastructure projects and new urban development area, which is also coming up West Kowloon Cultural Districts, Kai Tak development plan and new development areas. And this shows that, these feature infrastructure projects, were started in 2007 and these are the ongoing projects, which they are going to complete soon.

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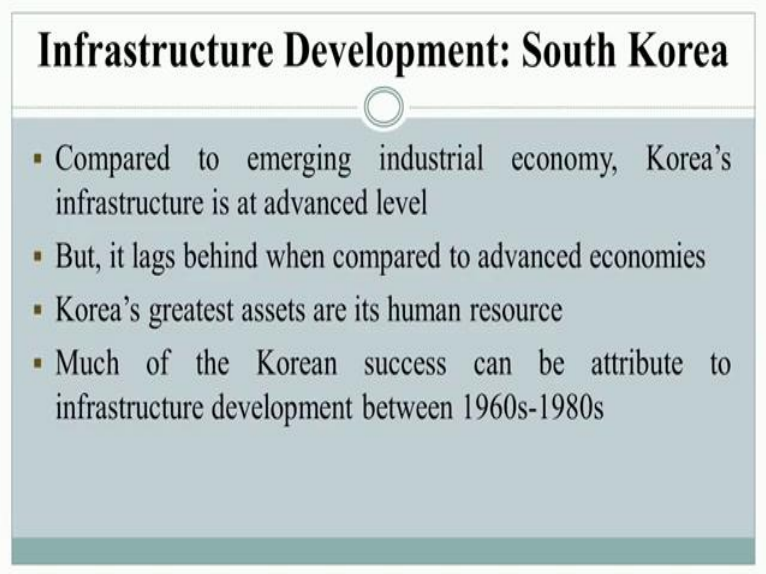

And this shows that, how better infrastructure planning they are having, because we are finding that from many decades, from last 3 decades they were constantly working on improving the condition of infrastructure. And one can also consider here the South Korea's performance in infrastructure development compared to emerging industrial economy.

Korea's infrastructure is at advanced level, but it lags behind when compare to advanced economies. Korea's greatest assets are in the human resources, much of the Korean success can be attributed to the infrastructure development between 1960 and 80. And infrastructure developed during this period is now going to get certain benefits to the economy. And whatever growth South Korea is having today, it all because of the infrastructure developed in 2 decades between 1960 to 1980.

So, first five year plan 1962 to 66, construction of 275 kilometers of railways and small highway projects. This was the Korea's plan in the first five year, again in the second five year plan, which was focused on railways and highways construction and they were

successfully achieving, those targets. Infrastructure investment remained very high during 1980s, expenditure of 100 billion US dollar on transportation infrastructure and out of which 50 percent of this on roads and 40 percent on the railway remaining on airports and seaports.

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1993- 97, five-year economic development plan was announced in Korea, which had the focus on housing, urban traffic, transportation, communications, networks etc. Growth in infrastructure investment 20 percent annually exceeded the growth rate of national budget, planned to invest 85 trillion South Korean won in social overhead capital in between 2014 to 2017.

And public private partnership model introduced in Korea in 1994 to supplement public investment in infrastructure. So, we can see here, there is a vibrant planning for the infrastructure development for first five years plan to till today.

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So, this public private partnership initially based on the build operate transfer model in 2005, build transfer lease where also adopted. This PPP model was to finance infrastructure projects especially the second Seohaean express way, which had the 2.6 trillion Korean currency. Metropolitan express railways which had again 3.1 trillion Korean currency and Korean water resource development corporations, which had 5 trillion Korean currency surplus for infrastructure investment in 2014.

The three-year plan for economic innovations to promote investment and expand infrastructure investment is also on the way. Action plan for large-scale private investment in infrastructure worth 5.7 Korean trillion currency is again on the way.

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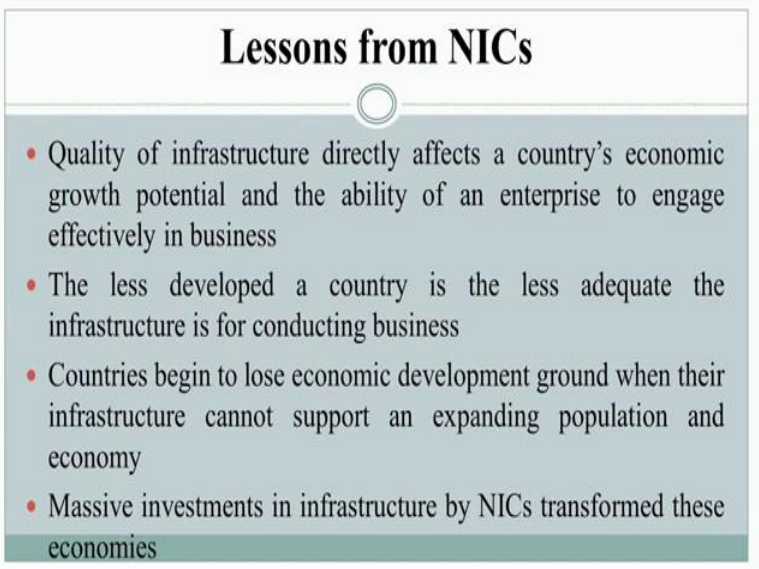

And based on the previous discussions from Korea, Singapore, Hong Kong and Taiwan, these four newly industrialized countries, there are so many things which developing country can really take as the lessons. One important point which a developing country can take as a lesson from these newly industrialized countries is the quality of infrastructure, which they have developed in recent past in terms of as I have mentioned that these newly industrialized countries are one of the best performer in the world in terms of a infrastructure development and management. Lowest electricity rates, they are charging and quality of infrastructure is very important, because it directly affects the countries, economic growth potential and the ability of an enterprise to engage effective business.

If infrastructures are less developed, the return of the business enterprises are also less. So, countries begin to lose economic development ground, when their infrastructure cannot support an expanding population and economy. So, massive investments in infrastructure by these newly industrialized countries have really transformed these economies.

And whether it is roads, whether it is transportation and electricity generation, containers development, ports development. Whatever we have seen like in case of Singapore major chunk of GDP comes from the transportation services from the sea route. One can see this social infrastructure development, so if one can see the book by Amartya Sen, where he has really compared some of the Asian countries including these economies where with other under developed economy of the world.

And he finds that wherever land reforms and education and health is a really serious concern for the government, there was much better result in the development and economic growth, compared to the economy, where education, health, land reforms were not considered as one of the serious concern. And he compares Kerala with other part of the Indian states at same time Kerala with Sri Lanka and Sri Lanka with other Asian countries.

So, the final conclusion of this discussion is, these four economies, newly industrialized economies, newly industrialized countries are more than enough to provide lessons that if a country has to grow, a country cannot grow due to the planning of a particular year or due to the planning of the current government decisions.

But, if a country has to grow based on their previous planning and more you have a

better previous planning in infrastructure development, more you have wide range of planning for the infrastructure development. More you have better results in future, a country like India is lacking or many other Brazil and Pakistan and many other developing countries are lacking today in terms of proper growth and development.

Because, their planning in last few decades before 30 years or 40 years were not as good as the planning of these newly industrialized countries. The economic reform process which these countries or these countries have a started after 1990, those economic reform process were started long time back in 70s or in 80s in newly industrialized countries.

The land reforms, which is a still one of the unfinished agenda in many developing countries such as India and Pakistan, Brazil. It was not the agenda, which was not achieved by newly industrialized countries in last 3 decades. We are a still having this agenda to achieve, but these newly industrialized countries have really achieved those agendas.

In terms of education, in terms of literacy, if we will compare our economy or other developing countries with these newly industrialized countries, we find out that those economies, were much ahead in terms of providing better educational facilities and health facilities. And the result is seen now, because the country is having more skilled population and more technologically equipped labour force compared to economy like us which are really dependent on majority of the workers still in the traditional field, agricultural field and to modernized those workers to provide economy as a modern boost, we cannot really depend on the old infrastructure and old production techniques. So, we have to have a new infrastructure developed as soon as we are planning for that, we are basically planning for the new economic growth, which is on the way.

So, lessons from these newly industrialized countries cannot be really forgotten, because these economies has really proved that not only the physical infrastructure, which is required for the manufacturing and service growth. But, when you say that, the economy has to grow in a complete and one can say that in an inclusive shape. Then, in that case, you have to have a proper coordination between the physical infrastructure and the social infrastructure, which is lacking in many developing countries today.

Thank you.