

Business and Sustainable Development
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Lecture - 02
Evolution of Sustainable Development

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Evolution of Sustainable Development

Industrial Revolution – Idea of sustainable development

Economic and industrial activities had a significant impact on the environment and the social balance – Ecology, Economic and Social crisis

<u>Economic Crises</u>	<u>Ecological Crises</u>
1907: the American banking crisis	1954: Rongelap nuclear fallout
1923: the crisis of American hyperinflation	1956: Mercury crisis of Minamata
1929: the financial crisis of the 1930s begins	1957: Torrey Canyon oil spill
1968: the worldwide protests against bureaucratic elites	1976: Seveso disaster
1973 and 1979: oil shocks	1984: Bhopal disaster
1982: the debt shock of developing countries	1986: Chernobyl nuclear disaster
	1989: Exxon Valdez oil spill
	1999: Erika disaster

Biggest crisis: Global warming, air pollution, the issue of the ozone layer, the loss of biodiversity ...

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So, in this lesson, we will see how sustainable development as a concept it has evolved over a period of time. So, the idea of sustainable development came after industrial revolution and why industrial revolution?

Because the economic and industrial activity that started after our industrial revolution only, after the beginning of the industrial revolution and the negative part of this is that this economic and industrial activity because of industrial revolution has a significant impact of environment and social balance and that led to ecology, economic and social crisis.

So, there are many crises. Few of them they are just listed here; the economic crisis and also few of them are the ecological crisis and the biggest crisis what came after this industrial revolution over a period of time or over years what we are encountering now that is global warming, air pollution, ozone layer, loss of biodiversity, glacier melting and so on.

So, this evolution of the sustainable development what we are going to see this as taken from a beautiful blog written in Youmatter in world which gives the definition of the sustainable development, sustainability and also given a nicely presented that how the sustainable development is evolved over a period of time.

Now, as we know this idea of sustainable development started in industrial revolution which leads to also many crises because the economic and industrial activities led a significant impact on the environment and social balance.

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The slide is titled "Evolution of Sustainable Development" and features a video inset of a woman in a blue shirt speaking. The main text on the slide discusses "The Tragedy of Commons And Sustainable Development [1968] - Garret Hardin". It includes two bullet points: "if individuals act independently, rationally and focused on pursuing their individual interests, they would end up going against the common interests of their communities and exhaust the planet's natural resources." and "Mankind need to radically change its way of using common resources to avoid a disaster in the future – this would be the way to keep on a sustainable development track". The slide also includes a URL at the bottom: <https://youmatter.world/en/definition/definitions-sustainable-development-sustainability/> and a small logo for NPTEL.

Now, going further in 1968 Garret Hardin, he gave the he brought out this Tragedy of Commons and how it is linked to the sustainable development. Now, what is this tragedy of commons? If he argued that if individual acts independently, rationally and focused on pursuing their individual interest.

They would end up going against the common interests of their community and exhaust the planet's natural resources. It given a beautiful example that when everyone goes to go for grass to a common land, at the end of it since there is no control over it, you will not find any more grass available in that piece of the land.

And what is the solution? So, this typically known as the tragedy of commons because no one is responsible for that particular common resources and everyone use up those resources according to their need. Now, what the suggestion over here from Hardin is

that mankind need to radically change its way of using common resources to avoid disaster in the future. This would be the way to keep on a sustainable development track.

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Evolution of Sustainable Development

Limits To Growth And Sustainable Development [1972] - Meadows et al., commissioned by the Club of Rome

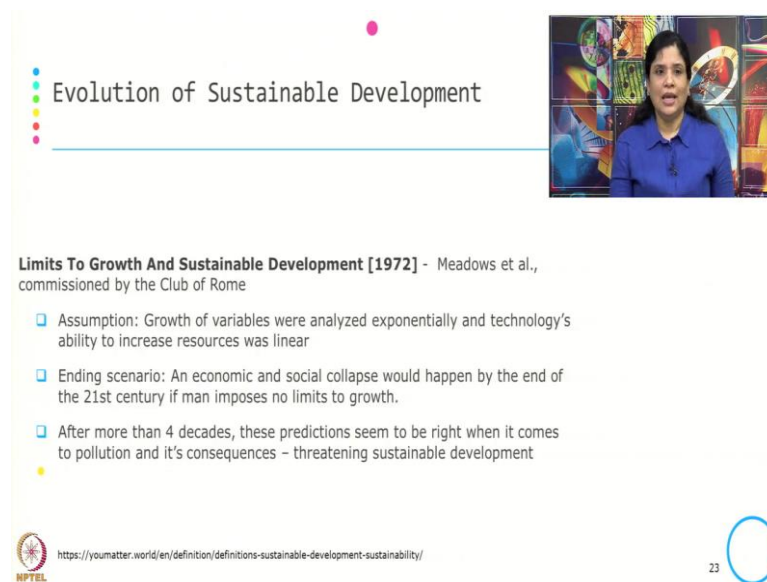
- Computer simulation: to predict the consequences of what could happen in a planet with limited resources
- Analysis: Interactions between 5 different dimensions
 - world population growth
 - industrialization
 - pollution generation
 - food production, and
 - non-renewable resource depletion

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Then, came the Limit to Growth and Sustainable Development by Meadows et al and this is commissioned by Club of Rome. Now, what they did? They did a simulation. They did a computer simulation to predict the consequences of what could happen in a planet with limited resources and they did the analysis through the interaction between 5 different dimension and what are those dimensions? That is world population growth, industrialization, pollution generation, food production, non-renewable resource depletion.


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Evolution of Sustainable Development

Limits To Growth And Sustainable Development [1972] - Meadows et al.,
commissioned by the Club of Rome

- ❑ Assumption: Growth of variables were analyzed exponentially and technology's ability to increase resources was linear
- ❑ Ending scenario: An economic and social collapse would happen by the end of the 21st century if man imposes no limits to growth.
- ❑ After more than 4 decades, these predictions seem to be right when it comes to pollution and it's consequences – threatening sustainable development

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And in the interacts; taking the analysis for the interaction between these five different dimensions, what they the ending scenario for rate is that there is a there with going to be collapse of economic and social that would happen by the end of 21st century if man imposes no limits to growth and that is why this is known as the limits to growth.

And what assumptions they have taken? The assumptions they have taken is that whatever the dimension they are taking, what the intersection interaction between different variables, the growth of variables were analyzed exponentially and technology ability to increase resource was linear.

And what they did taking all these 5 different dimension, they created a computer simulation and that led to the ending scenario and the ending scenario says that it is going to be economic and social collapse. And after all this years or after more than four decades, this prediction what they did through a computer simulation that seems to be right, when it comes to pollution, consequences, emission, the so called manmade disaster and all these are threatening the sustainable development.

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Evolution of Sustainable Development

1st UN Conference On The Environment And Sustainable Development [1972]

- First historical conferences: Stockholm the UN Conference on the environment
- Discussion on:
 - the human impact on the environment and
 - how it was related to economic development
- Main Goal: Common outlook and common principles to inspire and guide the world's population to preserve the "human environment"

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Now, in nineteen after that 1972, the 1st UN Conference on Environment and Sustainable Development took place. This was the first historical conference took place in Stockholm. And the discussion was on what is the human impact on the environment and how it is related to the economic development and this is the first kind of conference among the world leader.

And the main goal of this conference was to the common outlook, common principle to inspire and guide the world's population to preserve a human environment. So, possibly, we can say that historically this is the first time the global effort was made that what we should do about the human impact on the environment. And how we should; how we should preserve the environment whatever is available to us.

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Evolution of Sustainable Development

The Human Development Index And Sustainable Development [1980]

- Integrated solutions started to develop
- Human Development Index - statistical tool that measures countries' economic and social achievements
 - Dimensions
 - Health
 - Education
 - financial flows
 - mobility or human security, among others
- UN Development Programme provides yearly ranking of countries based on the HDI report released together with their annual report

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Then, in 1980, the HDI came into picture. Now, what is this HDI? This is Human Development Index and it is the integrated solution started to develop. Now, this solution is for what to measure the country's economic and social achievement. So, human development index, it is a statistical tool that measures the country's economic and social achievement.

And the dimension based on what typically they do this achievement or rating of this achievement is through health, education, financial flow, mobility and human security among others and UN development program, every year they provide a ranking based on this HDI report for the country.

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Evolution of Sustainable Development

HDI & The Ecological Footprint - Achieving Sustainable Development

- Ecological footprint
 - maximum limit of consumption per person according to Earth's ecological capacity
 - living below it wouldn't compromise the future generations, as the planet would be able to regenerate itself
 - less is better for the path of sustainable future

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Then, the Ecological Footprint was the new concept that was added and what is ecological footprint. This is a maximum limit of consumption per person according to the earth ecological capacity and we are living below, it would not compromise the future generation because we are not crossing the limit of the ecological capacity.

And why it is needed? As the planet would be able to regenerate itself and less is always better for the path of the sustainable future. So, what is less? The ecological footprint should be less.

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Evolution of Sustainable Development

The Brundtland Report And Sustainable Development [1987] - Our Common Future

- Recognized and widely accepted definition of the term 'sustainable development'
 - "the human ability to ensure that the current development meets the needs of the present without compromising the ability of future generations to meet their own needs"

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Then, in 1987, the definition of the most recognized widely accepted definition of the sustainable development came, that is through the Brundtland Report, what we discussed in the previous class also through the our common future. Now, how they have identified how they have defined the sustainable development? The human ability to ensure that the current development meets the need of the present without compromising the ability of future generations to meet their own need.

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The slide is titled "Evolution of Sustainable Development" and features a video inset of a woman in a blue shirt speaking. The main content discusses the Brundtland Report and Sustainable Development [1987] - Our Common Future. It lists the World Commission on the Environment and Development and quotes the report's definition of sustainable development. The slide includes a URL and a small logo in the bottom left corner.

Evolution of Sustainable Development

The Brundtland Report And Sustainable Development [1987] - Our Common Future

- The World Commission on the Environment and Development
- "present state of technology and the social organization on environmental resources, together with the limited ability of the biosphere to absorb the effects of human activities" impose limitations on sustainable development

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Now, once the definition was given by Brundtland commission, the world commission on environment and development, they also brought the challenges associated with the sustainable development. Now, what it is? The present state of technology and social organization on environmental resources together with limited ability of biosphere to absorb the effect of human activity imposes a limitation on the sustainable development.

So, simply what it say that what imposed the limitation on the sustainable development. So, mostly, it is about that what is the “state of technology we are using; what is the role of the social organization and also, what is the ability of the biosphere to absorb the effect of human activity” that impose the limitation on the sustainable development.

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The slide is titled "Evolution of Sustainable Development" and features a video inset of a woman in a blue shirt. The main content discusses the "Climate Change & Sustainable Development [1988]" and lists the objectives of the International Panel on Climate Change (IPCC).

Evolution of Sustainable Development

Climate Change & Sustainable Development [1988]

- International Panel on Climate Change - UN Development Programme and the World Meteorological Organization
 - To develop and share knowledge about the impact of human activities on climate change
 - It also aims to explore the causes, consequences, and ways of fighting climate change

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Now, the climate change came in 1988 with the formation of IPCC, International Panel on Climate Change through UN Development Program and World Metrological Organization. Now, what are the role or objective of this IPCC? To develop and share knowledge about the impact of human activities on climate change. It also aim to explore the causes, consequences, and the ways of fighting the climate change.

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The slide is titled "Evolution of Sustainable Development" and features a video inset of a woman in a blue shirt. The main content discusses "The Triple Bottom Line & Sustainable Development [1994]" and lists its assumptions and components.

Evolution of Sustainable Development

The Triple Bottom Line & Sustainable Development [1994]

- Important assumption of foundations of sustainable development
 - first used by John Elkington, the founder of a sustainability consultancy firm
- 3 different bottom lines in their businesses
 - the profit and loss account
 - how socially responsible the operations across their value-chain are
 - measure their environmental impact on the planet
- Business needs to be concerned about its impact on people and planet – and not only finance and profit

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And then, in 1994, we got the concept of Triple Bottom Line or TBL and this is the important assumptions on for the foundation of the sustainable development, first time

used by John Elkington, the founder of a sustainability consultancy firm. And what are this triple bottom line?

The three bottom lines in the businesses; one the profit and loss account, second how socially responsible the operation across the value chain, measure the environmental impact of the planet. These are the three bottom line of the businesses and it emphasizes the fact that business need to be concerned about its impact on people and planet, not only the finance and the profit. So, it is about people, planet and profit; it is not only profit.

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Evolution of Sustainable Development

The Millennium Ecosystem Assessment And Sustainable Development [2001]

- Goals
 - To assess the consequences that ecosystems' changes had on human well-being
 - Finding the scientific basis for action needed to improve the conservation and sustainable use of ecosystems

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Then, in 2001, we got the Millennium Ecosystem Assessment. Now, the goal of this millennium ecosystem assessment is to assess the consequence of ecosystem changes based on human well-being and the also, to find the scientific basis for action needed to improve the conservation and sustainable use of the ecosystem.

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Evolution of Sustainable Development

The Millennium Ecosystem Assessment And Sustainable Development [2001]

- Assessment
 - Changed ecosystems resulted in a substantial and largely irreversible biodiversity loss; harmed the planet and society
 - Degradation of ecosystems services would probably get worse over the 21st century
 - Changes needed to preserve the ecosystem's degradation and meet the increasing demand for services could still be met
 - ★ □ Needs significant changes in policies across the public and private sectors

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Now, how the assessment would be done for this? The assessment would be through changed ecosystem resulted in substantial and largely the irreversible biodiversity loss; harmed the planet and society; degradation of the ecosystem services which is probably going to get worse. The changes needed to prevent the ecosystem degradation.

And needs significant changes in the policy across both the public and private sector, then only the assessment would be proper and also, the action associated with ecosystem how we can restore the ecosystem, how can we can consume up the ecosystem that would be efficient.

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Sustainable Development Today

- Strong current framework on sustainable development
- The **latest IPCC report** demonstrated that
 - big changes will need to happen quickly regarding the reduction of CO2 emissions
 - to keep the Earth's temperature change below 2°C and prevent its devastating impacts
- Many actors across areas with same goal
 - to raise awareness on this topic and
 - to create conditions for it to grow and develop
- A bigger role for the **United Nations**
 - in creating awareness through different campaign and
 - organizing the meetings between the world leaders

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Now, when we are coming to the sustainable development today, there is a strong current framework on sustainable development. It has evolved over a period of time, we have added more dimensions to this and the latest IPCC report demonstrated that big change will need to happen quickly regarding the reduction of the CO2 emission.

Because the way, the CO2 emission growth is happening, we need the intervention in order to reduce the CO2 emission. And to keep the earth's temperature change below 2 degrees Celsius to prevent the devastating impact. Like the extreme one can be where we are going to lose few of the island a few of the low lying islands. Many actor across area there with the same goal.

So, you will find that whether it is NGO, whether it is industry, whether it is at the country level, organization level, all of them there are the same goal to raise awareness on this topic and to create condition for it is to grow and develop.

And United Nation has a bigger role for it to create the awareness through different campaigns, organizing meeting between the world leaders and to understand what are the actions needed to achieve this or to control the negative impact.

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The slide is titled "Sustainable Development Today" and features a video of a woman in a blue shirt. The main content is a list of activities of the World Business Council for Sustainable Development (WBCSD). The slide also includes the MPTEL logo and a URL.

Sustainable Development Today

World Business Council for Sustainable Development (WBCSD)

- Helps its member companies to accelerate their businesses transition to create a sustainable world
- Provision of certifications
 - that reward (mostly through a stamp recognition) the businesses with the best practices for the planet
 - such as the B-Corp movement, the Rainforest Alliance, the Fairtrade Foundation or the Conscious Capitalism Movement

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Then, the role of World Business Council for Sustainable Development typically known as WBCSD and what is their role? Their role is to helping the member countries to accelerate their business transition to create a sustainable world.

And few of their activities or a few of the action what they do is that there is a provision of certification and what is the provision of the certification? Mostly, that is in the form of if someone is achieving something, they give a reward in the form of stamp recognition.

That is the best practices, what they are doing for the planets. So, the businesses showing the best practices or businesses achieving something in term of the good for the planet, they get rewarded through the provision of certificates. And the typical example over here is the Rainforest Alliance or the Fairtrade foundation or the Conscious Capital Movement.

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Slide 35: Sustainable Development Today

Elen MacArthur Foundation

Evolution of the concept of the **Circular Economy**

- How societies and businesses can align
- How they use natural resources with the way nature does it
- Aligning businesses' operations across their supply chains is also allowing different and ecological business models to develop

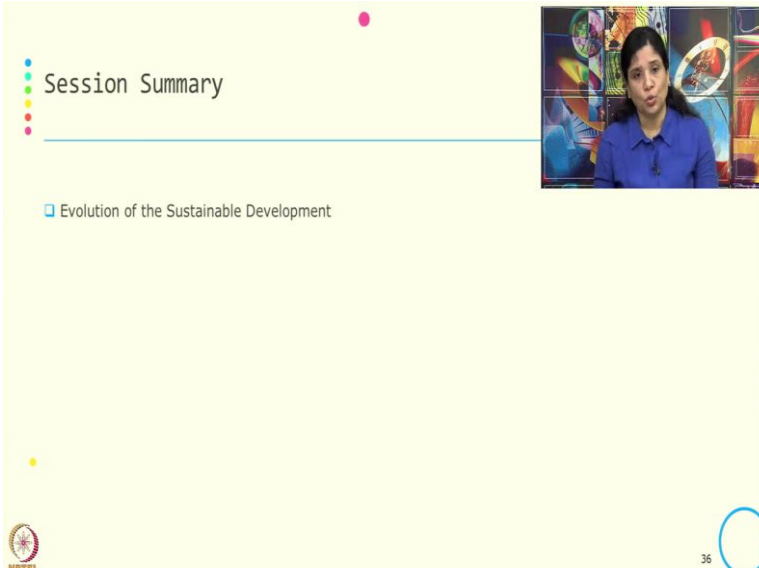
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The slide features a yellow background with a vertical bar of colored dots on the left. A video inset in the top right shows a woman in a blue shirt speaking. The NPTEL logo and a URL are at the bottom left, and the slide number 35 is at the bottom right.


Next is what is the newest is that we talk about the circular economy. It is given by the MacArthur Foundation and they have evolved on given the concept of the Circular Economy and what is circular economy? How society and business can align and how they use the natural resources, the way the nature does it. So, aligning business operations across the supply chain is also allowing the different ecological business model to develop.

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Slide 36: Session Summary

- Evolution of the Sustainable Development

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So, what we have tried to understand in that last few slide that how sustainable development has evolved over a period of time from the day to where the activity started during industrial revolution, after industrial revolution. What are the negative impact and till the time when we are talking about the circular economy or about the best practices what the businesses they do in order to achieve the sustainable development.

So, in the next session, we will try to see why sustainability is important or why sustainability is imperative or we will try to understand few of the issues associated with the fact that we need to give importance to the sustainability or the process of sustainable development.

Thank you.