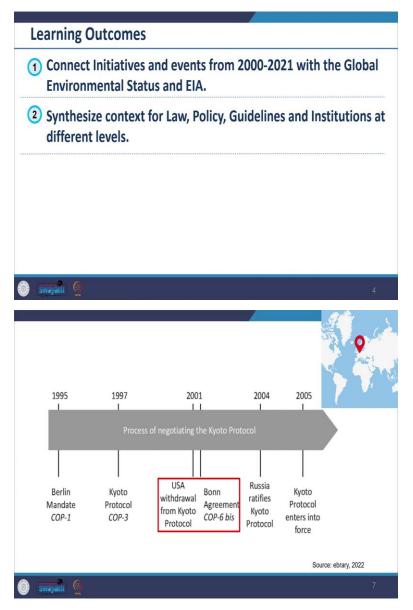
Environmental Impact Assessment Professor Harshit Sosan Lakra Department of Architect and Planning Indian Institute of Technology, Roorkee Lecture - 012 World Sustainable Development Timeline (2000-2021)

Welcome to the course- Environmental Impact Assessment. So, in our last lecture, we covered the global timeline from 1970 to 1999 concerning sustainable development. We looked into particularly the environmental concerns. We looked into the initiatives that were taken at the international level and what was happening across the globe.

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So, in this session, we will cover the second part of the timeline from 2000 to 2021 to complete the overall global timeline from 1970 to 2021. So, our coverage would be like we will be looking at the Global Environmental timeline from 2000 to 2021 from the environmental perspective. And the learning outcome is that you should be able to connect the initiatives and you see historically how different perspectives are coming and what different initiatives are coming in.

And how does our EIA, currently, all the enabling environment, the policies, and the Acts aligned to meet those goals at different levels from the local level to the global level and address all those problems? So, we see that, in 2001, easy directives were on placement of strategic environmental assessment is SEA of certain plans and programs, which was to be implemented by the member states by 2004.

So, this directive was already there in place by 2001. Then, in the same year, we see that there was a breakthrough in Bonn like following the Kyoto Protocol. But the breakthrough was because of the green technology by Germany. However, all the negotiations slightly happened without the US. So, it was not

aligning with their country's economic best interest. So, the US withdrew from this particular bond convention here.

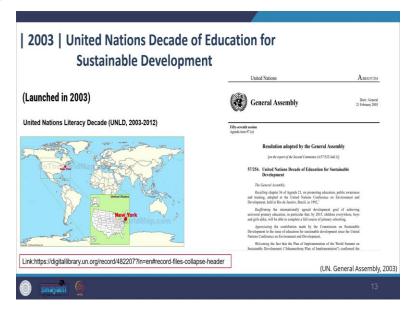
And Germany had a breakthrough in green technology. However, they came to an understanding that the car needed to account for the carbon sink in the natural reservoirs, which were much more efficient in terms of the function of the carbon sink. And more efficient in terms of their absorption compared to what they release. So, that was also realized and then also considered that those the account should be taken out those calculations, estimations should be made. So, in October, countries agreed on the rules for meeting targets set by the Kyoto Protocol.

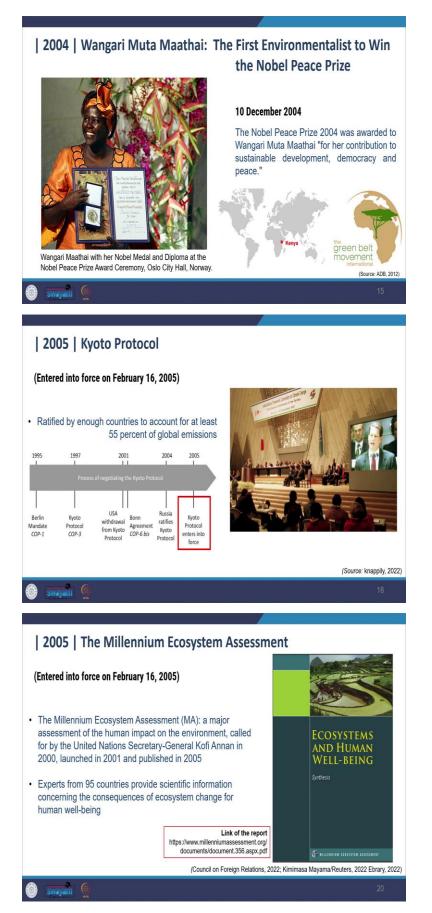
And then it was channelized to enforce it. So, further, in 2001, we also see the Doha ministerial declaration. In this, the countries were encouraged to share their experiences and expertise with the members. And members who wish to perform environmental reviews at the national level. So, there was an exchange of knowledge. So, last time, when we ended, we saw that the knowledge was also coming, the sharing of things was also coming.

So, now how the knowledge and experiences be shared? So, this came up in the Doha ministerial declaration. So, in 2002, we see that there was a World Summit on Sustainable Development in Johannesburg. And in 2002 it marked the 10th anniversary of the United Nations Conference on Environment and Development. And here the summit promoted the partnership as a non-negotiated approach to sustainability.

So, how all the nations could partner together? The further we see that was Global Reporting Initiative was formulated. And on which the guidelines were developed and how organizations should report on the economic environmental and social dimensions of their business activities. So, how does that, reporting have to be done, and how that communication has to be undertaken here?

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So, in 2003, we see that the United Nations General Assembly endorsed the United Nations Decade of Education for sustainable development. So, now you see that, how we started focusing on the education

component. So, previously, you had seen how we were creating encouragement for awareness about sustainability. So, now we see that now we went on the education aspect by 2003 sharing knowledge, creating partnerships, and then the education path.

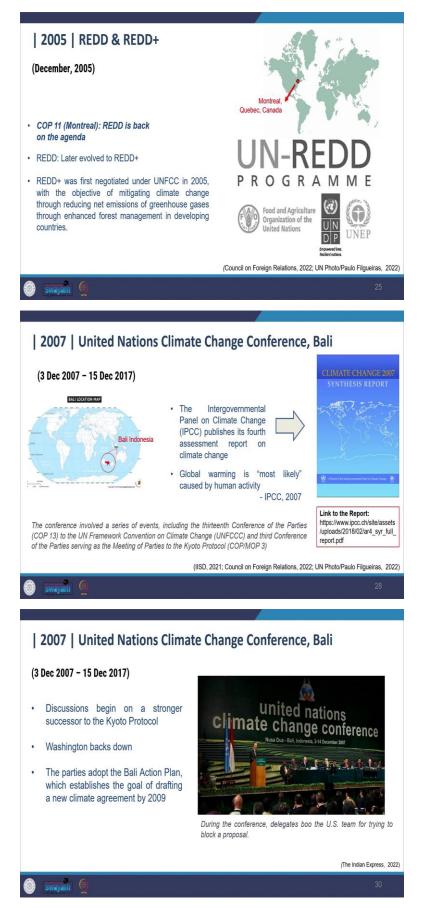
So, in 2004, we see that there is Wangari Muta Maathai, the founder of the green belts, movements in Kenya. He was the first environmentalist to be awarded a Nobel Prize. So, that recognition for the environmental aspect did happen here. So, you see that was the first time an environmentalist was awarded the Nobel Prize. It was awarded for her contribution to sustainable development, democracy and peace.

So, we see that the Kyoto Protocol entered into force in February 2005, after it was ratified by enough countries to account for at least 55 percent of the global emission. And we see that, here in the Kyoto Protocol, the US was not included, and US was the world's US is the world's leading carbon emitter. So, the European Union commits to reduce emissions by 8 percent and the Kyoto Protocol. Below 1990 levels, Japan committed to 5 percent and Russia committed to keeping levels steady with 1990 levels.

Between 2008 and 2012 even the protocol was set to expire can be set to expire and countries were supposed to reduce emissions by their pledged amounts. In 2005, we see that Millennium Ecosystem Assessments MEA was released. Experts from 95 countries provided scientific information concerning the consequences of ecosystem change for human wellbeing. So, what happens if that environmental loss happens, and then how do we lose on the services? So, that kind of assessment was undertaken and the framework was designed.

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In 2005, we see that there was also evidence suggesting the increase in the frequency and severity of hurricanes in the Atlantic and related storm damage. And which could be attributed to climate change. We also see that a

world summit took place in New York to assess progress on the Millennium Development Goals. So, that is how we had MDG Millennium Development Goals. And there were proposals to modify the targets.

Further, in 2005 itself we see that REDD and REDD plus convention also took place. REDD is the abbreviation for reducing emissions from deforestation and forest degradation. So, that is how it is abbreviated followed by REDD plus with the plus referring to the role of conservation, sustainable management of forests, and enhancement of forest carbon stocks in developing countries.

So, how REDD and REDD plus was addressing to reduction part as well as the conservation sustainability management aspect here. So, this happened in 2005, and the whole purpose was to reduce emissions from deforestation and forest degradation in developing countries. So, we see that it was negotiated under the UNFCC in 2005. And UN-REDD was launched in 2008. India did not participate in it.

Here in REDD, it defined the Bali action plan. And then also the COP 13 was held here. In 2017, we see the IPCC Intergovernmental Panel on Climate Change published its fourth assessment report on climate change. The report showed that climate change policies are best addressed by integrating them within the broader framework of sustainable development strategies. So, that all has to be integrated well. So, the IPCC report indicated that.

And in the same year, we also see that negotiations began for Kyoto 2.0. So, before COP 13 and Bali, Indonesia, the UN governmental Panel on Climate Change, the IPCC report articulated with its strongest language. So, it was emphasized that global warming is most likely caused by human activity. So, it was happening, but it was had this report emphasized that it was happening because of our activity.

So, during the conference, discussions that took place had stronger implications for the Kyoto Protocol. But they came to a standstill after the US objected to dividing the back proposal that calls for all industrial nations to cut down greenhouse gas emissions by specific targets. So, the US did not agree to that. So, the key argument US officials argued is that developing countries must also make commitments.

So, the US wanted the developing countries also to commit in place. So, they were they had to leave the US and withdraw from there.





We see in 2008, the global food price increase happened like it was 43 percent in 1 year, and there was also growing energy demand in the People's Republic of China, India, and elsewhere. Which also increased the energy prices and then the financial institutions were failing. Then there was the failure of mortgage lending in the United States as well. And there were problems in the market then also there was a recession, what we see in 2008. So, that started happening here.

And then at the same time, we see the notion of a green economy, also coming into the mainstream. And then the low carbon economy and green growth became new objectives. So, how we were aligning ourselves with the low-carbon economy and green growth? And then, at the same time, we also see the World Glacier monitoring services also indicated that there is an acceleration in the glacier melting.

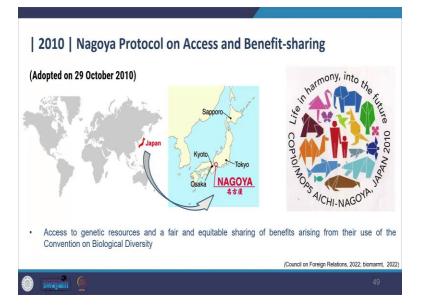
So, we have already seen this in our environmental status report. So, it was, here again, we see that the research findings were coming. The melting rate was doubling with the rate compared to the president's decades. So, the melting was accelerating here. We also find that a group of 20 finance ministers and central bank governance G20, promised to phase out fossil fuel subsidies, expert estimated that annual subsidies could amount to 500 billion equal to 1 percent of the world's gross domestic product.

So, what kind of financial commitments were being made? So, we see that happening in 2009. And then in 2009, we also saw the 15th session of the conference of the COP 15 session of COP the United Nations Framework Convention on Climate Change, which was convened in Copenhagen the domestic targets and actions of large emissions such as those of the United States and China took the center stage.

So, they became the focus, and at the same time in 2009, we saw that the Philippines experienced the worst tropical typhoon depression on record and then there were flood water levels reaching like 20 feet in rural areas.

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We also see in 2009 that, the US joined the statement at the UN and 3 months ahead of the target date of new agreement, several world leaders pledged action during the UN Summit on Climate Change, hosted by Secretary-General Ban Ki-Moon. So, the Chinese president, Hu Jintao announces a plan to cut emissions by a notable margin by 2020. This marks the first time Beijing has committed to reducing its rate of greenhouse gas emissions.

So, that happened and then the Japanese Prime Minister also pledged to reduce the emissions by 25 percent. US President Barack Obama in his first UN address, the United States is determined to act and lead but he did not offer any new proposal. Also, we see that Ban expresses hope that leaders will reach a substantive deal during the upcoming conference in Copenhagen.

So, in December 2009, there was disappointment in Copenhagen. So, nothing constructive was done. In 2010, we see that temperature target set in Cancun, the 16 sessions of con COP to the United Nations Framework Convention on Climate Change, which was held in Cancun. There was increased pressure to reach a consensus in Mexico during COP 16, after the failure in Copenhagen.

And NASA announced that 2000 2009 was the warmest decade ever recorded. So, there was evidence of global warming countries committed for the first time to keep global temperature increase below 2 degrees in the Cancun agreement. So, that agreement happened here. So, approximately 8 countries including China, India, and the United States as well as the European Union, submitted the emissions reduction targets and actions.

And they agreed on a stronger mechanism for monitoring progress. However, some researchers suggest otherwise. So, we also see the Green Climate Fund of nearly 100-billion-dollar fund that was created to assist developing countries in mitigating and adapting to climate change. However, by 2019 only 3 billion so far were it was committed for 100 billion 3 billion has been contributed.

So, further, we see that in 2010, the Nagoya protocol, the purpose of which was to access genetic resources and a fair and equitable sharing of benefits. Which arise from the use of the Convention on Biological Diversity. So, that convention was held. It agreed to the Convention it was a supplementary agreement on biological diversity.

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In 2011 BC, the Ministry of Environment of France reported very reduced like only 29 percent of the average established overall from what was from 1971 to 2000 period only 29 percent of rainfall they received. They also reported that the soils in the northern part of the country had experienced the driest conditions in the last 50 years. So, those reports were coming in. And then we see that also there was a great East Japan earthquake that hit.

And then at the same time, we see that by 2011 the population reached 7 billion. So, in 2011, we see that there was a conference in Durban, South Africa, in which the new accord applies to all countries and we see that the three biggest polluters, China, India, and the United States rejected the accord proposed by the European Union. But they eventually agreed to work towards drafting a new legally binding agreement in 2015 at the latest.

So, the new agreement will differ from the Kyoto Protocol, and it will apply to both developed and developing countries. So, in Kyoto Protocol if you remember it did not enforced on the developing countries. So, the new

agreement would apply to both developed and developing countries with the Kyoto Protocol set to expire in a few months, the parties agree to extend it to like 2017 at that time.

So, we see that in 2012 United Nations Conference on Sustainable Development gathered in Rio de Janeiro to mark the 20th anniversary of 1992. United Nations Conference on Environment and Development in Rio de Janeiro. And the 10th anniversary of the 2002 World Summit on Sustainable Development in Janette Jo, Hannah's Burg. It focused on 2 themes of green economy in the context of sustainable development and poverty eradication.

And the institutional framework for sustainable development. So, we see that there was COP 18 in Doha. Negotiators met in Doha, and then they extended the Kyoto Protocol until 2020. So, the remaining participants accounted for just 15 percent of the global greenhouse gas emissions. So, by this time Canada had withdrawn from the treaty, and Japan and Russia said that they would not accept new commitments the United States never signed.

And then the environmental groups criticized countries for not reaching an effective agreement as Typhoon Bopha slammed the Philippines which they say exemplifies a rising. Which was an example of how the climate change was happening. So, one of the conference successes in Doha amendments under which developed countries agreed to assist the developing countries mitigated adapt to the effects of climate change.

So, what was happening? So, the developed countries agreed upon that, and then the agreement also set delegates on the path toward a new treaty.

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So, we further see that, in 2013, during the first week of COP 19, in Poland, we see that the grouping of developing countries known as the group of 77, G77, and China proposed a new funding mechanism to help vulnerable countries deal with the loss and damage caused by the climate change.

So, developed countries oppose the mechanism. So, G 77 lead negotiators to walk out of the conference. So, that happened there. And talks eventually resumed and the government agreed to a mechanism that fell short of what developing countries wanted. So, there was no agreement between the developed countries and developing countries. Countries also agree on how to implement and initiate to end deforestation known as REDD Plus.

However, the conference is described by the analysis as the least consequential COP in several years. So, there was not any significant output. So, we further see in the 2015, Paris Agreement COP 21. So, the purpose was to address climate change the Paris Agreement was a legally binding international treaty on climate change. And 196 countries agreed to what experts call the most significant global climate agreement in history.

So, the Paris Agreement happened then and this was unlike the past accords, it requires nearly all the countries both developed and developing to set emissions reduction goals. So, all had to come together. However, countries can choose their targets and there is no enforcement mechanism to ensure they meet them.

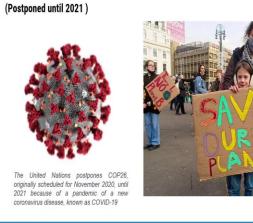
So, currently, there is no enforcement mechanism. So, under the agreement, countries are supposed to submit targets known as nationally determined contribution NDC, so how they would take care of that and the mission of the Paris Agreement, which enters into force in November, entered into force in 2016. To keep global temperature, rise below 2 degrees centigrade and pursue efforts to keep it below 1.5 degrees. So, in 2016 we see Sustainable Development Goals. The Sustainable Development Goals SDGs set a universal agenda intended to stimulate social, social economic, and environmental action.

So, many scholars consider environmental protection and sustainable development as the substantive objective of EIA, which currently is to be achieved through the SDGs with 17 integrated goals. So, we have 169 targets and 232 indicators, and achieving the SDGs requires integrated action on social, environmental, and economic challenges. So, all that needs to be worked together.

Further, in the same year, we see the Kigali amendments the purpose of which is to reduce the ozone layer depletion. So, it amends the 1987 Montreal Protocol, and it aims to reduce the hydrofluorocarbon by roughly 80 to 85 percent by late 2045.

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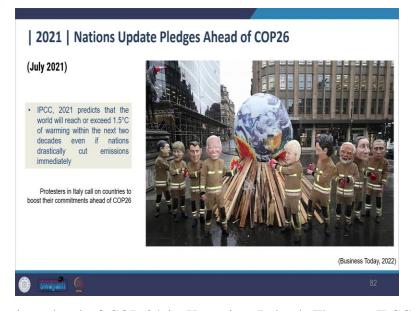




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So, in 2018, we see that just ahead of COP 24 in Katowice, Poland. The new IPCC report came up, which warned about the very devastating consequences like consequences of stronger storms and dangerous heat waves. So, if the average global temperature rises by 1.5 degrees centigrade about the pre-industrial level and projects. The report projected that it could reach that level by 2030. So, despite the report countries do not agree to strong targets.

So, they are not agreeing to the stronger targets though. They do, however, largely settle on rules for implementing the Paris Accord and covering questions including how countries should report their emissions, how they would implement it, and how they would report it. They did not agree on rules for carbon trading. But they push the discussion to 2019. So, we see later in 2018, we see COP 24.

Who is of which the core objective of the countries was to agree on the guidelines that govern the Paris Agreement. And to create a set of rules to help countries implement the national contribution and meet their targets. So, within this, we see that 15 countries signed the solidarity and just transitioned to the Celestia declaration. We see Polish presidentially declared a forest for climate policy highlighting the importance of rules of forest in solving climate problems.

So, that was done here. In 2019, we saw, UN Secretary-General Antonio Guterres organize the UN Climate Action summit for world leaders in New York. So, countries are mandated by the Paris Agreement is submit revised national determined contribution NDCs by the following year. So, the meeting to share their ideas on this and the leaders of the world's top carbon-emitting countries, including the United States, and China did not attend.

So, that did not happen. At the summit, Guterres asks countries to submit plans to cut greenhouse gas emissions by 45 percent by 2030 and reach carbon neutrality by 2050. So, we see in 2019, we see COP 25. The prime objective of COP in 2019 was to finalize the rulebook for the Paris Agreement. So, the quota-wise rule book

that was the outcome of COP 24 could not bring resolution to all the issues that resulted in global climate change action.

So, the COP met at the 25th meeting at UNFCCC to bring a finalized copy of the rulebook of the Paris Agreement. So, in 2019, December we see COP 25 marked the lack of progress on major climate issues despite like year of warnings from scientists and all the reports coming in but there was no progress in that. So, the issues that were unresolved in COP 24 were taken up in COP 25 such as carbon market greenhouse gas emission reduction targets.

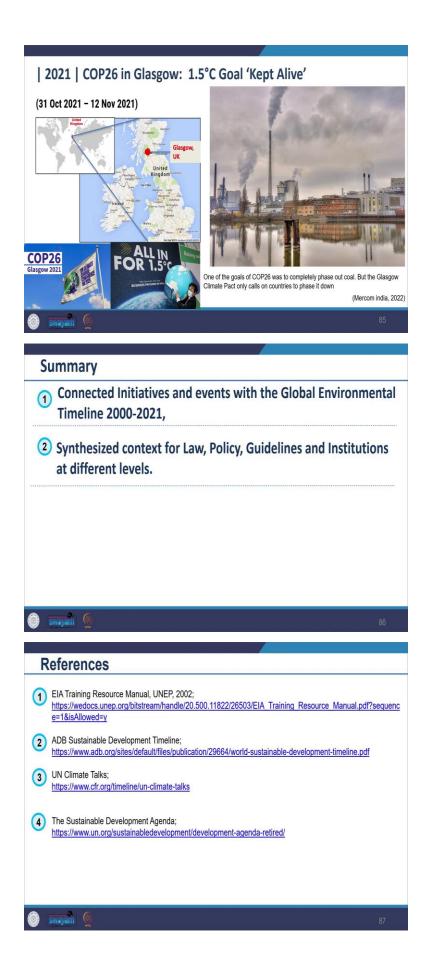
Individual targets of the member nations, the discussions, and tasks on issues yet again remain unresolved and had to be pushed to COP 26. So, in April 2020, we see that the United Nations postponed COP 26, originally scheduled for November 2020 until 2021. Because of the pandemic and then countries were expected to strengthen their emissions reduction goals set under the Paris Agreement at the conference in Glasgow.

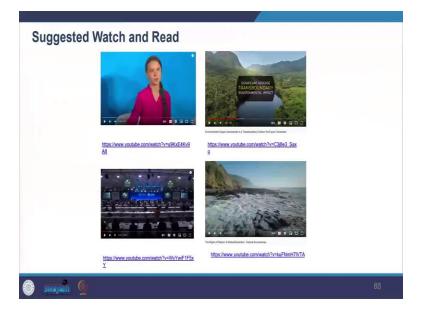
So, in July 2021, we see that more than 100 countries altogether accounting for nearly 60 percent of Paris Agreement signatories met the deadline to submit updated NDCs ahead of COP 26 in November. So, we see that the purpose of COP 26 was to bring together the world's leaders to act together to limit temperature rises commit to more ambitious targets, and then reduce the greenhouse gas emission by 2030.

And discuss measures to adapt to the inevitable impact of climate change. So, more than 100 countries altogether accounted for nearly 60 percent of the Paris Agreement. Signatories met the deadline to submit updated NDCs ahead of COP 26 in November 2021. So, some of the top emitters propose more ambitious targets. So, President Joe Biden announced that the United Nations and the United States will aim to cut its emissions by roughly half of its 2005 level by 2030.

Doubling President Obama's commitment. And then we see that China and India responsible for roughly onethird of the global greenhouse gas emission in 2019, missed the deadline. And then we also see the IPCC report 2021. It further predicts that the world will reach or exceed 1.5 degrees Celsius of warming within the next two decades, even if national drastically, nations drastically cut emissions immediately. So, that is what we see.

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And COP we see it November 2021, that COP 26. President Alok Sharma says commitments made during the conference keep the Paris Agreement goal of limiting warming to 1.5 degrees alive but it is very weak. There is some progress, but it is very weak. So, that is what we are at this stage that is what we have arrived at now as a nation and as a global context. So, here rearranged the timeline which we had seen like how the world is moving in terms of environmental considerations in the political agreement, international agreements.

And then the kind of awareness which is coming and kinds of concerns which are coming. So, summarizing, we saw the initiatives and events with the globe, from the global environmental perspective from 2000 to 2021. From the previous lecture, we started from 1970 to 2021. So, you may reflect and think about how EIA addresses the larger goals and larger problems. How much it can address?

So, we will be further looking into law policy and institutional setup in our next lecture. So, these were our references for this particular session. And these are the suggested watch and read. Please feel free to ask questions. Let us know about any concerns you have to share your opinions, opinions, experiences, and suggestions. Looking forward to interacting and co-learning with you while exploring EIA. Thank you.