MINERAL ECONOMICS AND BUSINESS

Prof. Bibhuti Bhusan Mandal

Department of Mining Engineering

IIT Kharagpur

Week 1

Lecture 03 : Globalization and FDI

Hello everybody, welcome to the NPTEL course Mineral Economics and Business. And this is the third lecture of the introductory series. Here we will be talking about Globalization and Foreign Direct Investment. As I have told and emphasized in the first lecture that the ah the foreign direct investment has played a ah much greater role than the conventional financing in this business.

And in the context of globalization how we are performing that also will be seeing and what are the challenges that we want to that we encounter during the process and how to improve the foreign direct investment in mining sector that also will be looking into. Now the concept that will be covering the globalization as an economic phenomenon and in mining sector especially and what is the impact of the globalization on India's mining sector. The foreign direct investment as a topic for discussion and what is this impact on the host country. Then what are the entry routes of the FDI and what are the drivers of FDI, I mean how we are encouraging FDI in mining industry, how it is related to free trade, what are the laws, governing laws, we will be just touching these things. You need to study these things through other available material I have given the references to this at the end of the ah lecture.

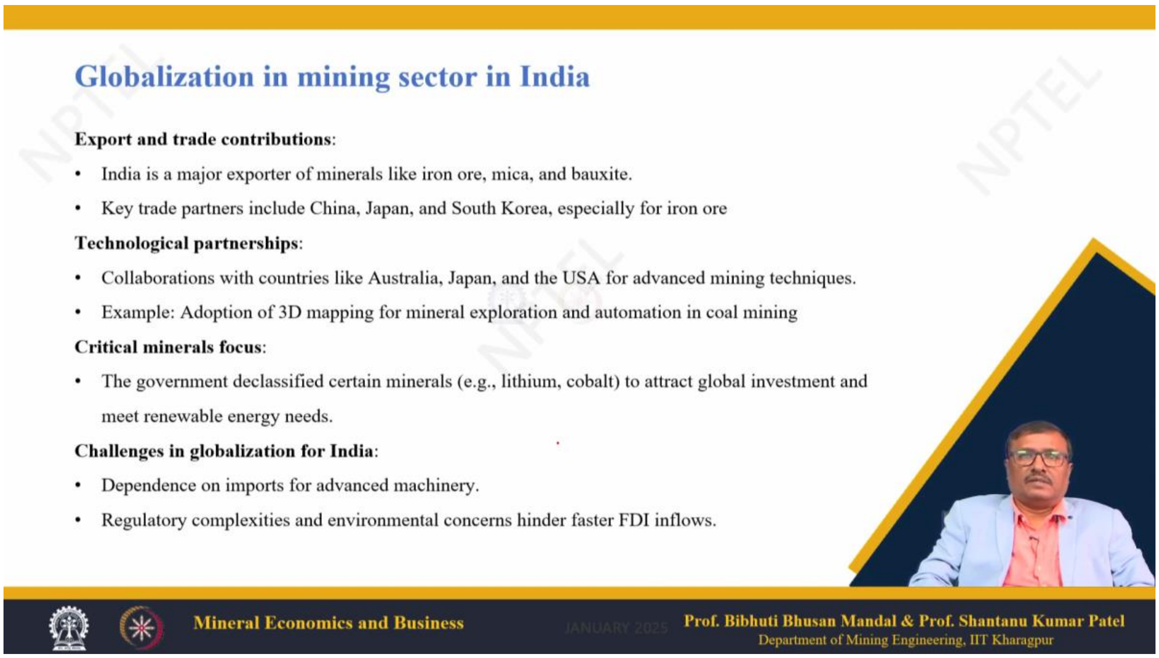
And especially you need to know more about the FDI in mining sector in India how it is performing that also will be seeing here. Globalization as we can say that this is ah an increasing integration and interdependence of world economies. That means, it is not working in isolation, it is interdependence, it is an exchange between different countries and cultures. driven by advancements in technology and trade both. Not only the trading principles or trading norms that that we follow, but also we ah take advantage of the advanced technologies and then together we grow that is the that is the idea.

Now, what are the key features of this globalization? One is the free flow of goods, services, and capital. That means not only the import and export of goods and services, but also how capital flows to different countries or how we are participating in business from one country to another. The spread of technology and cultural exchange means that we are sharing advanced technologies from one country to another. So, other countries can benefit from it, and then people invest there and profit from it as well.

So, the formation of global supply chains It becomes much broader in the sense that we have more participating countries, and there are many international organizations controlling and helping this grow further, like the WTO (World Trade Organization). What are the important impacts? It will boost economic growth in general, foster innovation because faster growth requires innovative ideas, and facilitate cultural exchange as we migrate from one place to another and interact with each other. Also, mixing societies with a large number of people participating in another country's work. But this also has challenges like inequality and environmental strain. When you open up everything and allow everyone to compete on the same ground, not all parties

are on a level playing field. Some people have more money, and some have more advanced technological growth. So, when we are opening up for competition, the smaller parties may face bigger challenges. And it will create a workplace or economic environment that is more strained than expected.

In the mining sector, minerals like gold, iron, and rare earths are critical for global industries, fostering international trade. These are very important, like even bauxite and cement, which also play a great role. In mining, increased investment in resource-rich regions like Africa or South America will show that a lot of investment is coming from other countries because they are resource-rich. There are other factors also, like technological integration. Sharing of innovations like automated mining processes and exploration techniques globally, especially in exploration, has seen a lot of investment to identify economic reserves.



For that, billions of dollars are being spent by multinational corporations in various countries to identify reserves for further mining investments. Now, technological integration means automated mining, as I said. For example, in China, you can conduct mining activities in minus 45-degree centigrade conditions in the north and control them from cities comfortably. So, this automation is an extreme example, but there are many automations in other activities as well. This leads to higher productivity and better quality control. What kind of environmental influence does it have?

We have to adopt global standards when investing in other countries or inviting foreign participation. Free trade requires following global standards for sustainable availability and social responsibility. Otherwise, we will not attract many investors in the sector. Now, regarding export and trade contributions in the mining sector, our country is a major exporter of minerals like iron ore, mica, and bauxite. Our trade partners include China, Japan, and South Korea, especially for iron ore. In technological partnerships, we collaborate with countries like Australia, Japan, and the USA for advanced mining technologies, such as 3D mapping for mineral exploration and automation in coal mining.

In critical mineral focus, the government has declassified certain minerals like lithium and cobalt to attract global investment and meet renewable energy needs, especially for batteries in electric vehicles. Now, what are the challenges that we are facing? Dependence on imports for advanced machinery because, for faster mining and utilization of the investment from foreign countries, we need more advanced machinery for faster production. And then, quick decision-making procedures, like in many modeling activities—economic modeling or technical planning—we need to plan those things much faster. And all those things, both hardware and software—machines everywhere—we need to have good-quality hardware and software machines, but we are depending on imports for that.

Now, the regulatory complexities and environmental concerns. So, what happens is that if you have complex regulatory laws, rules, and regulations that are too stringent or difficult to understand compared to other countries. In that case, FDI will not be encouraged because they have to go through all the processes. Now, since applications and other things can be done online, and the information has been made available to global partners or any business entrepreneur online, you can get much information from our website—

where the minerals are available, who your neighbors are, what the environment is like, where the forests are. Where you have water bodies, where you have rail connectivity, how far the port is—that we can visualize from the mining tournament system launched by our government.

So, from there, we have tried to reduce the strain faced by the investor initially so that they are encouraged to invest and make decisions much earlier. And regarding environmental concerns, we must ensure that all regulatory requirements are followed by all investors and companies here. So that mining activities do not lead to environmental degradation. So, we need to take care of that and make rules and regulations easier to follow.

So, we do not discourage these people who are trying to come and join hands with us. We have a lot of opportunities. We have access to global markets for Indian minerals. We have a good amount of iron, bauxite, cement, and adoption of best practices because we can import those best practices for sustainability, especially in technology. And, we boost local economies, we attract foreign investment, and then we can enhance the local economies with the help of foreign direct investment. Now, if you are trying to meet global demands, then you may be over-mining, which means much faster than previously planned. That means you may complete the mining process much faster than you thought.

So, these are the things—the conservation and development—are still, fortunately, under government control. They are looking into how

So, optimally, this is depleted and utilized. So, unnecessary over-mining will definitely be restricted. Stricter international sustainability norms increase operational costs. So, we have to make the norms in such a way that they are easier to follow and user-friendly, like investor-friendly. So, global mining projects in India often lead to the displacement of local communities. We have to take care of that—we should not displace the tribals and bring people from outside, as there is a cultural conflict, especially with the tribal population. It is our responsibility to look into the balance and not force the displacement of the local community.

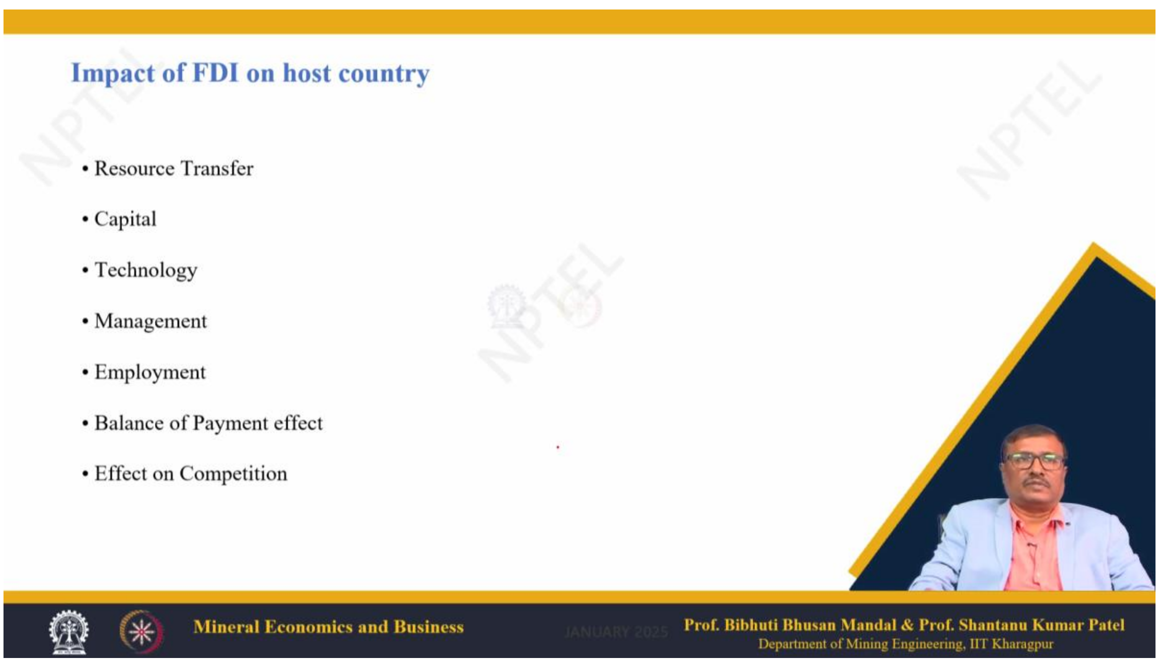
Now, when foreign players enter the domestic market, the domestic players will definitely face fierce competition. So, we need to help them, and we also need to learn how to compete, how to survive, and how to sustain the business in a global competitive environment. It has good future scope, like leveraging globalization to develop sustainable mining practices because we have now joined hands—our capabilities, our resources, our money, and foreign technology and foreign money. And so, we continuously and jointly grow, and we promote India's critical minerals in global supply chains for the first time. Here, what are the roots? I mean, how does it actually work? We will see because we need to understand the basic topics in mineral economics.

That it it it occurs when   the firm invest directly in facilities in a foreign country. That means, you are you are you are trying to invest something in mining you are directly doing it not through any channel. Now, this involves ownership of entity abroad for the purpose of production, marketing or service, R and D also, the raw materials or other resource access. So, the degree of direct managerial control since you are investing how much you are having the managerial control. So, the degree of the direct managerial control depends on the extent of ownership of the foreign entity how much you own that business.

If it is through equity then also it will follow the same rule like what percentage of equity we have. And on the contractual terms of the FDI what is the contract between the local company and the outsider who is investing in this. And then this thing this is basically mostly they are coming from the multinational big conglomerates and who are having experience in the business of doing these things in various countries that is mostly these are coming from those organizations. How it what are the different types of FDI? Like it can it can come in the form of acquisitions like a company was existing, then then some foreign country some company is coming from other country which with investment and technological advancements they want to   ah grow further that means, increase production or business size.

So, this is a complete acquisition of the company that was existing ah earlier. Then it can be a greenfield investment we have explorations ah results research resource and reserves. So, we set up a new company from the ground in the in a foreign country. Like say here we are saying the Exxon Mobil invest money in India and builds a new plant to produce lubricants. So, this is basically completely ah ah greenfield investment money is coming we are having a new company new plant where we are producing a ah certain things we are directly invest investing in that.

Now, the wholly owned subsidiary means occurs when the company in the foreign country is entirely controlled or owned by one single company. This is called the wholly owned subsidiary. In that case, the FDI also occurs. In joint ventures, we can have two or more companies together. They form a new company in the host country. For example, Maruti Suzuki is a good example—not from mining, but we have many examples we will come to later. When we have a company and two or more companies join together to form a new company in the host country, the FDI is targeted to increase production or perform better or greater.



Now, see the impact of FDI—how it helps in resource transfer both ways. It can transfer from one country to another, from our side to outside or from outside to our country. The capital flow definitely increases—I will show the figures also. Technological advancement is a very important thing. The management changes in style of functioning because when dealing with foreign investment, they have their own interests, and we have ours too. We need to know these things very clearly, come to a particular contract between the companies, and manage the company in such a way that the interests of both parties or all participants are protected. We can increase employment.

Because when we bring money from outside, we invest and expand our business. So, we are creating more employment too. Now, you see in India that many private companies are in coal and metal both, and you see the number of organizations coming and bringing their own people to work in the mining companies. Then the balance of payment effect—this will also be learned later in the course—and the effect on competition. Competition grows when outsiders come—foreign direct investment is coming to our country or we are investing somewhere else.

Then what happens is there will be immediate competition, especially with the local companies. At the same time, when you are working as a company composed of two or three different countries, then naturally our target will be to compete with the global market because now it is open trade. So, we have to we have to make a profit or perform at such a level. So that we can compete with other companies in the world.

So, this competition is not only local or domestic; we have to compete with the international market as well. What are the routes that we have for FDI in India? Automatic route—just try to understand that no prior permission is required. It can come, but there is a slight recent modification in this. You have to inform the Reserve Bank of India within 30 days of the inflow of the investment; you must tell them. And we need prior permission from the Foreign Investment Promotion Board (FIPB) to control, monitor, or know how much foreign direct investment is coming in this area.

So, we just go through the Foreign Investment Promotion Board, we can invest, and within 30 days, we should inform the Reserve Bank of India if any party is bringing the investment from outside. The availability of mineral resources is a great driver—that means it encourages and attracts foreign direct investment in India because what happens is all countries that have abundant and diverse mineral reserves will always attract FDI compared to other countries where mineral occurrence is scarce. Now, examples of this are Africa's reserves for precious metals and China's rare earth minerals. So, where you can—and in China also, there is a lot of investment in Africa and South America, which also has a lot of investment. Now, the stable legal and regulatory framework is, in my opinion, a very important point.

Unless we have a very clear and consistent mining laws easily understood also the tax policies are very clear. And, not overburdening the these things your the investor and the land use rights also are essential to attract foreign investors. If you make it very complex then people will avoid it and try to find some other route where they can invest.

So, for example, Australia and Canada they are preferred because the predictable regulatory environment very clearly laid and you will see that it is happening there since long. In our country you must be observing that in last year few year say 5 or 10 years you have been seeing the continuously we are modifying and making our laws more concrete

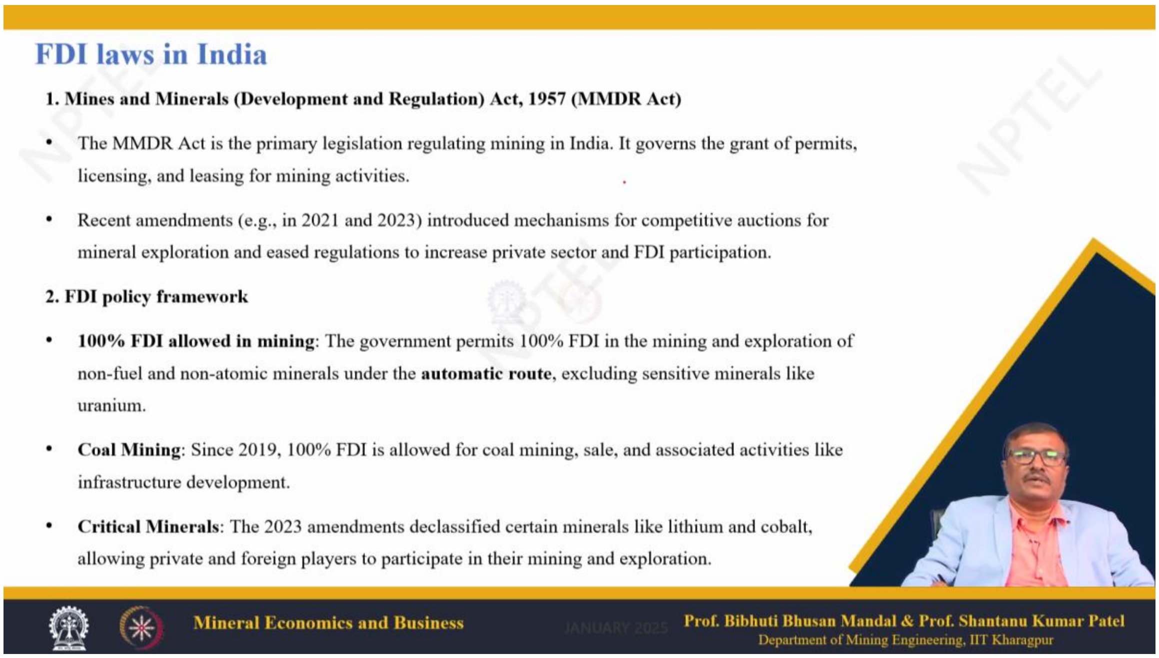
and easily understood and it is we are making them more user friendly or rather investor friendly. Otherwise the so many complexities and then so many formalities to be completed before you can invest then people will not be attracted. Two things, one is mineral must be there in abundance and also diversity because you can attract many investors who would like somebody would like to invest in coal, some of them will like to invest in iron ore like that. And the regulatory framework, the regulatory environment that must be investor friendly, these two points are very very important to attract any foreign direct investment. The economic incentive like we can offer tax holidays, we can give subsidies.

So, for first few years you do not have to pay certain water tax or the income taxes like that. So, we can relax certain regulations to attract the investment like we can create as we have we are doing in our country also the special economic zones SEZs, where if you want to set up your plant or machinery and your production plants or factories you get certain   You enjoy certain ah advantages which will keep your   bring make your business more profitable and the investors will be more attracted. So, this strategic geopolitical interest these countries will invest in foreign mining to secure critical minerals because this is strategic   these things for their industries. They will try to bring those things to their country so that that can help their countries to grow also.

Like China's Belt and Road Initiative, which includes significant mining investments abroad. In free trade and FDI, let us see how we are performing here. In 2022, the top 40 mining companies globally invested around 85 billion dollars, marking a 19.7, almost 20 percent increase from 2021. 85 billion dollars was the global investment, and that was 20 percent more compared to 2021. This is driven by the rising demand for critical minerals like lithium and copper for energy transition.

But of course, the all-time high was in 2012 when it reached 169 billion dollars. Sector-specific, like exploration spending in 2022, saw a surge with investment in lithium doubling to 467 million and copper exploration jumping to 2.79 billion dollars. Because these are mostly related to batteries or storage, or storing the energy for electric vehicles and many other devices where we need lithium batteries. Especially in mobiles, laptops, and many computing devices. So, foreign investment in critical minerals and green energy projects remains very strong with significant interest in regions rich in these.

So, naturally, where you have lithium or copper. So, people will try to invest there easily. And now, The FDI laws in India include the Mines and Minerals Development and Regulation Act, which I suggest you download and read if you do not have a hard copy. This is the primary legislation regulating mining in India, the MMDR Act.



And, there have been lot of amendment in recent years like the 2021, 2023 also that includes mechanism for competitive auctions. So, we will also learn mineral auction rules, we will study also mineral auction rules. how we have made this as a as an instrument for faster investment and growth of the of the mining sector, how we are performing that also we will definitely see. This is for not only for the production and investment, but also mineral exploration right from the unless you have the resource and reserve how do we invest. So, we also try to invest in mineral exploration and we is easy regulation to increase the private sector and FDI participants.

According to our policies 100 percent FDI is allowed in mining. This is fully liberal now in our country 100 percent FDI is allowed and exploration also in non-fuel and non-atomic minerals under the automatic route. Of course, the uranium is not included in this for obvious reason. In coal mining since 2019 100 percent again in coal mining we have 100 percent is allowed. In critical minerals in 2023 amendments declassified certain minerals like lithium and cobalt allowing private and foreign players.

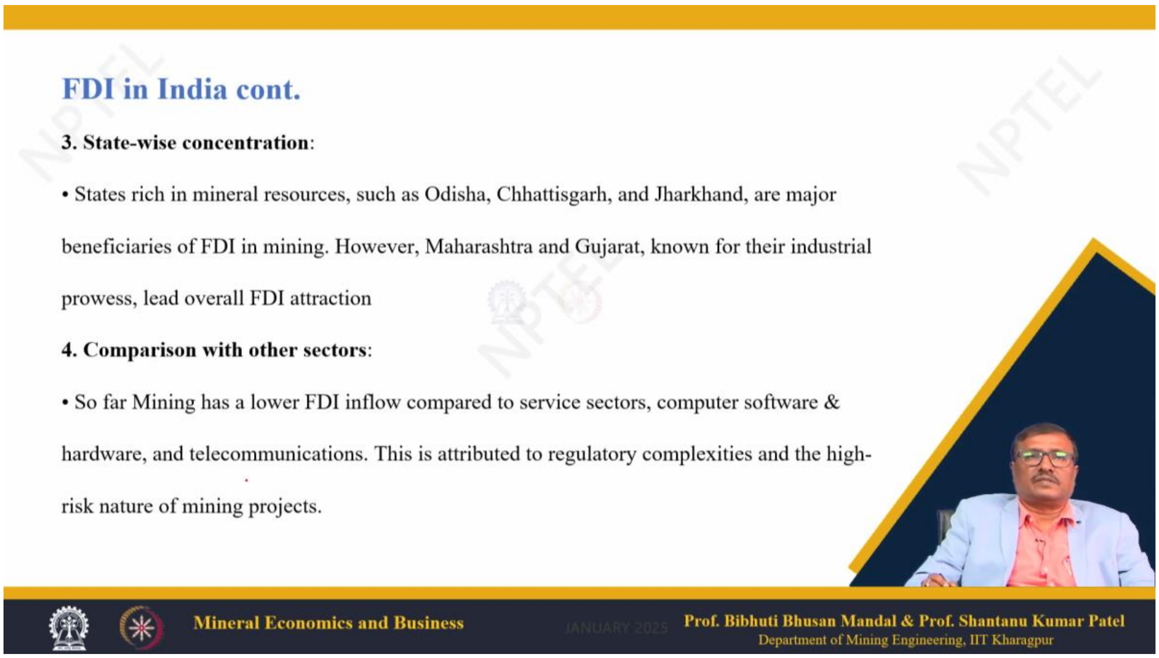
So, that they participate in their mining and exploration of this critical minerals. So, the FDI laws in India as we have been seeing that in definitely this is continuously growing in 2020 also we had we are having lot of participation from the nearby countries also. So, FDI from the countries sharing land borders with India will require prior government approval now. This provision was introduced to ensure national security and prevent hostile takeovers like whether our immediate neighbors are directly participating or getting control over the business. So, for that we need to have better control on this.

Now, the auction-based allocation, as I said, all major mining rights are granted through competitive bidding to enhance transparency and attract global investors. The 2023 Mines and Minerals Bill streamlined the auction process for exploration licenses. It is continuously evolving and changing to make it more and more investor-friendly, and it also includes strategic and critical minerals now for auction purposes. In 2019, actually, our country, India, for the first time, we gave a concrete idea about what our philosophy or aim is regarding this FDI. So, this policy promotes FDI by ensuring a stable investment environment, simplifying procedures,

and aligning Indian laws with global best practices so that we do not conflict and are at par with the best practices in the world. Now, let us see what is happening after whatever we have done so far. Between April 2000 and June 2023, the total FDI inflows into India amounted to approximately 648.3 billion dollars. This was the FDI. Now, the mining sector attracted around around 4 billion dollars, as you can see here.

So, accounting for about 0.6 percent of the overall FDI, that means we have more scope, enough scope to increase, as we are continuously striving to get more and more FDI in the mining sector. It may be modest, but we have a lot of potential, and we can expect that in the near future, we will be getting more into mining. In the 2022-23 fiscal year, total FDI inflows into India were 44.42 billion dollars. While the mining sector received 31.87 million dollars in equity inflows, further emphasizing a smaller but significant contribution in the overall FDI landscape. The top contributors to FDI in mining were from Mauritius and Singapore, but it is expanding its horizon, bringing big players from different countries.

State wise we have   rich in mineral resources like those states like Odisha, Shatisgarh, Jharkhand definitely they are major beneficiaries because of the foreign direct investment. Equally Maharashtra and Gujarat known for their industrial   prowess they lead overall FDI attraction and not only in mining the other sectors also. With other sectors if you compare mining has a lower FDI for the time being, but it is continuously growing like compared to the service sector, computer software, hardware, telecommunication, but since this   regulatory complexities are being resolved we are attracting more and more FDI into the mining sector. globalization and this foreign direct investment as I as we have studied so far, they have collectively transformed our mining industry by fostering international trade, technological advancement and sustainability. And this globalization has integrated mining into global supply chain enabling resources countries like India to export key minerals like iron and bauxite that has improved a lot.



And we are importing also advanced technology much easily than before. You will see now even the equipments the large equipments are being easily deployed this big companies are bringing all those things. Now, the dumper sizes are no more 10 tons or 35 tons you will see 100 tons or 245 tons they are applying in the in the haul roads other big machines also. So, the foreign direct investment complements this by providing the capital and expertise needed to explore and exploit critical minerals like lithium and rare earths and crucial for the which are crucial for the global transition to renewable energy. In India, the liberalized FDI policies have driven our infrastructure growth.

It has enhanced productivity and attracted global collaborations because of this new policies that we are adopting in regard to the globalization and foreign direct investment policies that we are adopting. we are participating in the economic growth as a whole. We are a part of the greater supply chains throughout the world. Of course, there will be certain challenges here because we are introducing new things. So, we will be definitely facing new challenges like the environmental impact we need to be very careful about that, faster mining, faster environmental degradation can take place.

We need to be very careful. Regarding community displacement, we must protect the interests of the local community. We cannot displace them in the name of profit or other reasons. And there will definitely be competition from multinational firms. So, by strategically leveraging globalization and FDI, as we have discussed today, we can align our mining sector with global sustainable standards. And by ensuring this, we can maintain economic growth and long-term environmental stewardship.

I must, of course, encourage you to go through the reference materials we have listed in the last slide and also read the texts available on the internet to understand the subject better. Thank you very much.