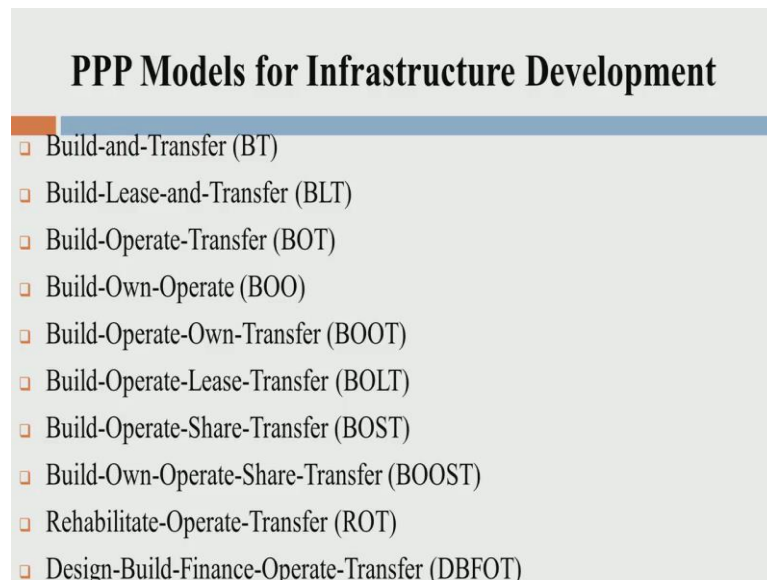


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**Module – 05**  
**Lecture - 18**  
**PPP Models for Infrastructure Development**

Through this lecture we are going to learn different public private partnership models for infrastructure development which is being practiced in the world today. Basically in this discussion we will find out that how different model are having different merits and why there are certain models being implemented in many country.

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**PPP Models for Infrastructure Development**

- ❑ Build-and-Transfer (BT)
- ❑ Build-Lease-and-Transfer (BLT)
- ❑ Build-Operate-Transfer (BOT)
- ❑ Build-Own-Operate (BOO)
- ❑ Build-Operate-Own-Transfer (BOOT)
- ❑ Build-Operate-Lease-Transfer (BOLT)
- ❑ Build-Operate-Share-Transfer (BOST)
- ❑ Build-Own-Operate-Share-Transfer (BOOST)
- ❑ Rehabilitate-Operate-Transfer (ROT)
- ❑ Design-Build-Finance-Operate-Transfer (DBFOT)

So, these models are basically Build and Transfers, Build Lease and Transfer, Build Operate and Transfer, Build Own and Operate, Build Operate Own and Transfer, Build Operate Lease Transfer, Build Operate Share Transfer, Build on Operates Share Transfer, Rehabilitate Operate Transfer and Design Build Finance Operate Transfer. It is really difficult to remember all these models but out of these models we will have a separate discussion on build operate own and build operate transfer, which is mostly practiced as a part of public private partnership in the world today.

But, at the same time we also going to discuss little bit about all these models, because it is difficult to really understand the merits of these models without having a brief discussion on these models. So, if we will have the separate discussion on Build Operate,

Build Own Operate, and Build Operate Transfer, it will be very good experience to have the background understanding of these different models, which is being adopted as the part of public private partnership.

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## Build-and-Transfer (BT)

- ❖ PPP model based on the contractual agreement in which concessionaire is responsible for financing and the construction of the infrastructure facility. After the completion of the project, the facility is handed over to the government or the government agency.
- ❖ The government/government agency pays the investments incurred in the project and agreed rate of return after the completion of the project.
- ❖ This type of model is mainly used for critical infrastructure facilities for strategic or security reasons and mandated to be operated solely by the government

Let me begin with Build and Transfer model. This particular PPP model, which is based on the contractual agreement in which the party is responsible for financing and the constructing of the infrastructure facility and after the finishing or completion of the project, the infrastructure or the facility is basically handed over to the government or to the government agency.

So, the purpose of this type of model is to build the product and to transfer it to the government or to the government agency. The government agency pays the investment incurred in the project and agreed rate of return after the completion of the project. This type of model is mainly used for the critical infrastructure facilities for a strict strategic or security region, such as defence related infrastructure and mandated to be operated solely by the government.

Because government may take the help of private parties to build up these... such construction, such infrastructure. But when it comes for the operation, when it comes for the practical day to day maintenance or to have the complete control on the functioning of some of the infrastructure, such as which is related to law and order and defence, government is not allowing any other private partner to really run such infrastructure.

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### Build-Lease-and-Transfer (BLT)

- ❖ In this model the private party/developer designs/built and finance the complete infrastructure facility.
- ❖ Upon completion, the facility is leased by the developer to the government for a fixed time period, then after the expiry of the lease, the facility is automatically transferred to the government.

After this, we can also have a look on the Build Lease and Transfer model. In the model, the private party or the developer basically design or construct or build and also finance the complete infrastructure facility. So, this is little different from the previous model in the sense that upon completion, the facility is leased by the developer to the government for a fixed time period. In the previous model, Build and Transfer model, there was not any facility to lease by the developer to the government for a fixed time period and in this particular model Build Lease and Transfer model, only after that fixed period of time, after the expiry of the lease, the facilities automatically transferred to the government. So, lease comes in between the Build and Transfer. So that is why it is called Build Lease Transfer. In our previous model, it was only build and transfer.

So, the contractor has to build the infrastructure and then it has to transfer. But in this model, contractor has to build the infrastructure, then it has to lease to the government and then after the expiry of the lease, it has to transfer to the government. So, this is the second model.

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## Build-Operate-Transfer (BOT)

- ❖ In BOT model, private entity is entitled by the contractual agreement to design, finance and construct the infrastructure facility.
- ❖ After the completion of the project, the private entity operates the facility to recover the investments, other operating and maintenance costs and make profits as agreed upon.

Now the third model, which we can also see here as the Build Operate Transfer model, BOT model. In BOT model private entity is entitled by the contractual agreement to design finance and construct the infrastructure facility. Just like the previous model in which we have also seen that the contractor is supposed to build design and finance and construct the facility.

But, there is a slight difference between BLT and BOT. After the completion of the project, the private entity operates the facility to recover the investment, other operating and maintenance cost and make profit as agreed upon.

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## Build-Own-Operate (BOO)

A PPP model based on contract in which

- the private party is authorized to finance,
- carry out construction,
- own the establishment,
- operate and maintain an infrastructure facility and
- recover the total costs of the investment including operation and maintenance costs and
- reasonable returns in the form of toll-taxes, fees, rentals or any other charges from the users.

So, compared to the previous model, this model is little different, because in Build Operate Transfer the party is really constructing, financing, designing the infrastructure. And after that it is being transferred after the completion of the project, the private entity operates the facility to recover the investment and other operating maintenance cost and make profits as agreed upon and after that, it is basically transferring that property to the government.

In case of Build Own Operate, this particular public private partnership model is based on a contract in which the private party is authorized to finance the particular infrastructure projects. Again carry out the construction like the BOT on the establishment. That is different from the BOT and that is also different from the BLT and that is also different from the BT model.

In BT model, the contractor is just building the infrastructure and transferring it, in BLT model, contractor is building the infrastructure and then giving it on lease to the government and on the expiry of the lease it is basically transferred to the government. In BOT model, infrastructure is build up, it is owned for some time and then, it is transferred to the government.

In case of Build Own Operate, the infrastructure is build up and carried out for the construction and the contractor is owning the establishment, operating and maintaining the infrastructure facility and recovering the total cost of investment including operation

and maintenance cost and reasonable returns in the form of toll taxes, fees, rentals or any other charges from the users.

So, that way, this particular model Build Operate... Build Own Operate model is completely different from the Build Operate Transfer model, because in transfer model the project or the infrastructure developed is basically transferred after sometime. Also, in BLT model, Build Lease Transfer model, after a certain period of lease or the expiry of the lease project is basically transferred to the government. But, in this case, in case of Build Own Operate the facilities is being build up, then it is being owned by the government and at the same time it is being operated and maintained, not by the government but by the contractor forever. So, the next model... which is basically Build Operate Own and Transfer.

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### Build-Operate-Own-Transfer (BOOT)

- A project based on the granting of a concession by a Principal (the Union or Government or a local authority) to the concessionaire, who is responsible for the construction, financing, operation and maintenance of a facility over the period of the concession before finally transferring the facility, at no cost to the Principal, a fully operational facility.
- During the concession period the promoter owns and operates the facility and collects revenue in order to repay the financing and investment costs, maintain and operate the facility and make a margin of profit.

A project based on the granting of a concession by a principle to the contractor, who is responsible for the construction, financing, operation and maintenance of facility over the period of contract, before finally, infrastructure facility, at no cost to the Principal, a fully operational facility. In this particular model, during the concession period, the promoter owns and operates the facility and collects revenue in order to repay the financing and investment cost, maintain and operate facility and make a margin of the profit.

So, in this particular model, the transfers comes in the last but at the same time before transfer, the owner has all operational ownership, all operational possibilities for the infrastructure. And at the same time, they have the complete control on owning the particular infrastructure and it will be transferred only after collecting all the expected revenues and the returns on the particular maintenance... on the particular infrastructure development. Because certain investments are being made for producing those infrastructures. So, compared to BT model, compared to the Build and Transfer model, this particular model is again including the ownership and operation activities. And this can be really used in non-strategic sector and non-defense sector, because government can rely on the contractor for providing the... maintaining infrastructure, financing the infrastructure, operating and day to day take care of such infrastructure in certain fields. Because when other strategic matters are not really included, then for urban development and for other infrastructure facilities being developed in rural areas and also in urban areas, such operations, such models are being placed.

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### Build-Operate-Lease-Transfer (BOLT)

- In this non-traditional procurement model for financing an infrastructure facility, private party is entitled to design, build, own, operate and lease the facility and finally transfer the ownership to the government at the end of the lease period.

So, after this, we can also see here Build Operate Lease Transfer model in this non-traditional procurement model for financing and infrastructure facility, private parties entitled to design, build, own, operate, lease the facility and finally, transferred the ownership to the government at the end of the lease period. So, in BLT model, Build Lease Transfer model, we had this contractor had the opportunity to build up, to lease it to the government and to transfer it.

But here after building the infrastructure, the contractor or the party involved in building such infrastructure is ready to own it for some time and then again, it is going for leasing out. And then again, finally it is going to transfer that particular property to the government. So, this particular models, especially BOLT model, BOO model, these models are basically models where you have to have more time for implementing such models. While in case of Build Transfer model, contractor has nothing to own, nothing to lease. So, it is more short period of PPP model where one can just build up and just transfer. But here in case of... in BOLT or BOT or BLT or BOO model, in these models contractor has little more time to continue in the projects, because it is not only the building up and transferring it to the government, but it is also to build up, to own for some time, to lease out and again to transfer. So, four steps: building, owing, leasing and transfer. While in case of other models three steps, while in case of BOO model, again four steps.

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### **Build-Operate-Share-Transfer (BOST)**

- In this model the private entity is entitled to finance, construct, operate and maintain, share a part of the revenue with the government and transfer the infrastructure facility at the end of the period according to the Contractual Agreement.
- The private entity is allowed to recover its total investment, operating and maintenance costs plus a reasonable return by collecting tolls, fees, rentals or other charges from the users of the infrastructure facility.

Now, the next model is Build Operate Share and Transfer model. In this model, the private entity is entitled to finance, construct, operate and maintain. And these private entities are again entitled to share a part of revenue with the government and transfer the infrastructure facility at the end of the period according to the contractual agreement. So, this particular model is completely different from other models, because here this is the model where government and private party both are sharing certain infrastructure facility.



And there is a contractual agreement between the contractor as well as the government to share such infrastructure facility. So, the private entity is allowed to recover its total investment, operating and maintenance cost plus reasonable return by collecting fees, rentals and other charges from the users for the infrastructure facility. So, like other models also this particular model, this PPP model, also allow the contractor to charge certain fees and toll taxes and rentals for the infrastructure, which they have developed.

But, at the same time, the share part is the newness of this particular model, because government and private parties both are sharing certain facilities, sharing certain revenue, sharing certain maintenance cost, sharing the operational mechanism. And that way, this particular model is different.

The next model is Build Own Operate Share Transfer.

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### Build-Own-Operate-Share-Transfer (BOOST)

- In BOOST model, the contracting private party is authorized to finance, construct, own operate and maintain, share a part of the revenue and transfer the infrastructure facility at the end of the agreed period.
- The private party is allowed to recover its total investment, operating and maintenance costs plus a reasonable return thereon by collecting tolls, fees, rentals or other charges from the users.

In this particular model, the contracting private party is authorized to finance, construct, own, operate, and maintain, share a part of revenue and transfer the infrastructure facility at end of the agreed period. Compared to the previous model, where we have seen that in the case of Build Operate Share Transfer model, the contractor is not owning that particular infrastructure for any time. But, in the next model... in this particular model, the contractor is really owning the infrastructure facility which is developed and the private party is also allowed to recover its total investment, operating and maintenance cost, plus a reasonable return their own by collecting fees, toll taxes, rentals and other

charges from the users. So, compared to the previous model, where there is no owing part, there was only sharing part. Here, in this model, there is also owing part and sharing part. So, that is the new edition compared to the previous model.

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### Rehabilitate-Operate-Transfer (ROT)

- It is a model of PPP in which the private entity rehabilitates an existing facility, then operates and maintains the facility at its own risk for the contract period and finally transfers to the government.
- Suitable for the projects that involve a significant investment/operating content
- Market risk is lower because there is a demand history

The next model is the Rehabilitate Operate Transfer model. It is a kind of private public model in which the private entities rehabilitate an existing facility. Then, operate and maintain the facility at its own risk for the contract period and finally, transfer to the government. So, rehabilitate an existing facility means, whatever facility... infrastructure facility was existing or is existing; that as to be rehabilitated first. Then, it will be operated and then, it will be maintained and the facility at its own risk for the contract between contract period and finally, transfer it to the government. So, the private party take the risk of rehabilitating, operating, maintaining and sometime majority of the risk is covered by the private party. But, in some cases private party and government do share the risk together and this particular model of public private partnership is suitable for the projects that involve a significant investment and operating content.

Market risk is lower because there is a demand history of such rehabilitation activities. The next discussion on different type of model is the Design Build Finance Operate Transfer.

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### Design-Build-Finance-Operate-Transfer (DBFOT)

- In this PPP model the private party covers the entire obligation for the design, construction, finance, and operate & maintain the project for the period of agreement.
- The private participant to the project will recover its investment and return through the concessions granted or through annuity payments etc.
- Finally, the establishment is transferred to the public sector.
- The public sector may provide guarantees to financing agencies, help with the acquisition of land and assist to obtain statutory and environmental clearances and approvals and also assure a reasonable return as per the contract.

So, there are five steps in this particular model. As it is clear that in this particular model, the private party covers the entire obligation for the design, construction, finance, operate, maintain the project for the period of agreement. The private participant to project will recover its investment and return to the concessions granted or through annuity payments etcetera.

Finally, the establishment is transferred to the public sector. So, as we can just see here that compared to the previous model, especially Build Own Operate Transfer model and the Build Operate Share Transfer model, we are finding that compared to these two models, this particular model is also involved in designing, building, financing, maintaining, operating and then, transferring the infrastructure to the government.

So, the public sector may provide guaranteed to financing agencies, help with the acquisition of the land and assist to obtain statutory and environmental clearance and provides approval and also assure a reasonable return as per the contract. So, we can see here that in this particular model, there is a sense of sharing the responsibility by the government. And for many reason, for example for the acquisition of the land and providing the resistance for obtaining statutory and environmental clearance and for the approval and also assurance for reasonable return, government is one of the guarantor in this particular model.

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## To Sum-Up

- Different models are being practiced as per the economic/political and social conditions of the economy.
- Success of these methods are dependent on successful regulations of infrastructure development.
- Success of one method in one economy is not the guarantee of the success of the same method in other economy.

So, to sum up, we can just see here that, these models are being practiced as per the economic, political, and social condition of the economy. As we can see, if the government is... in least-developed countries are really not in the position to take care of the financial responsibility in that case, they cannot really share the financial burden with the company. So, they will go for maybe the Build Operator Transfer model or the Build Operate Own model or to have the Build Transfer model, if they have the finance support from other infrastructure... multinational infrastructure companies or maybe some international agencies. So, some of the models are subject to the place, the region, the political condition, the social condition, the economic indicators.

And these models cannot be... cannot be really implemented without taking care of the different preconditions of the society, preconditions of the political and economic level in a particular economy. So, success of these methods, these models are depended on how successful the regulatory conditions of the infrastructure development. Suppose, government is in contract with a private party and the private party is suddenly facing certain problem. And in that case, if the government is a back tracking in the role as a facilitator as a provider of the services, as the provider of law and order, as a provider of the guarantee on the finance imbalance or something in that case the private party will be completely helpless. So, it all depends on what political regime a country is having, what type of political reform a country has really practiced. Apart from the economic reforms, which a country should continue compared to the previous conditions of the economic

regulations and restrictions. So, if the country is really having a successful regulation of infrastructure development, a country will certainly get the certain returns. And if the countries more rigid in terms of the political ideology or more rigid in terms of... not allowing many infrastructure company to invest or even if there are investing lots of protests are there in terms of land acquisition or something. In such a situation, the success of any model is subject to the local condition.

So, when these models are being discussed, when these models are being implemented in some of the states in India or in some other country of the world, people do cite the successful examples of such models. And people do share the experiences in other country, but the fact is that these models are not successful as long as local economic conditions and the political ideology or the developmental models... countries' developmental model is not really well discussed and well... is not really clear. In such a situation, investment, whatever investment is coming, it is not really giving us better result. As we have seen in case of Enron which was one of the biggest investment in the history of India. Soon after the India's economic reform process. But, this was biggest investment in infrastructure, the electricity infrastructure, but finally the result is not really fruitful for India.

And such indications are reaching to the world community, the investors' community and at same time, we are not giving any convincing answer to the investors that what was the main reason, why one government has signed the contract and other government has refused to continue with that contract. Why one government has allowed Enron to again continue with a reformed contract and then, after sometime government has started backtracking.

So, the political regime, political ideology is again one of the important factors, when we are really talking about public private partnership model. So, the success of one method in one economy is not the guarantee of the success of the same method in other economy. So, one can say that, these models are being implemented in different economy. But, before implementing these models, it is also important... it is imperative to find out the local conditions and local support in terms of economic indicators, in terms of social indicators and in terms of political indicators. If all these supports are available, any model can be a successful model with a proper regulation and proper care. I think with this background, we can really say that how public private partnership works and how

different steps are being taken to implement different models of public private partnership.

Thank you.