Project and Production Management
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Lecture - 4
Project Appraisal: Part 1

In this lecture we are going to be talking about the next important phase in the life cycle of the project namely project appraisal.

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Project appraisal is a very important part because it determines the effectiveness of the project and it makes sure that you have in fact, chosen the right kind of project for implementation and all the subsequent success of the project in its right implementation is then governed by this particular stage.

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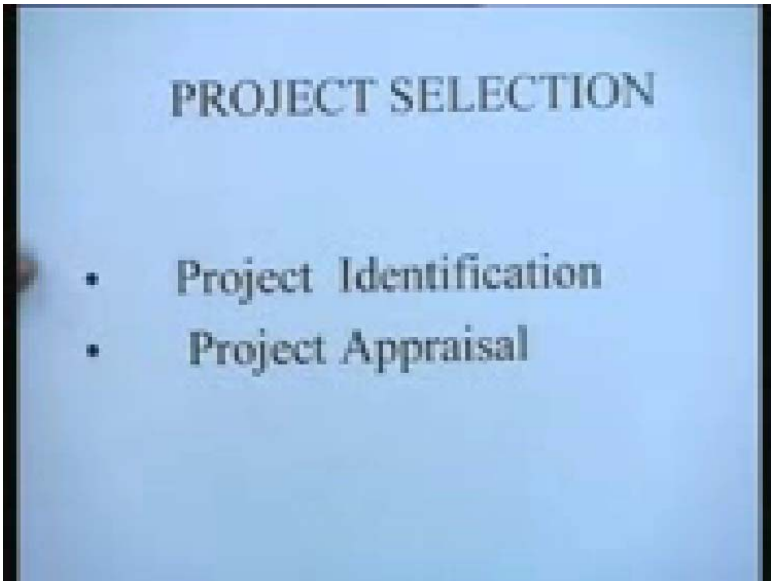

In our last lecture we had looked at the problem of project selection in detail and we had in fact seen that project identification was the first stage where ideas were generated and these ideas after being generated were subjected to a preliminary screening. You came up with a list of worthwhile ideas and this list of worthwhile ideas now has to be investigated in greater detail through what we call a project appraisal. It is this project appraisal that we are going to be talking about in this lecture. In fact as I indicated to you in the earlier lecture, project appraisal is a very necessary part of preparing a project feasibility report. As you know any large project involving good amount of capital investment has to have a project feasibility report which is going to study whether the project is worthwhile as far as the demand, financial implications, socio economic implications and the ecological considerations are concerned. So basically a project appraisal is essentially a consideration of the market analysis, the demand analysis for the product, the financial analysis, the economic analysis, the technical analysis, the socio economic analysis as well as the ecological analysis of the project and obviously the techniques would vary depending upon the kind of project that is involved. But we spell out the broad guidelines for undertaking project appraisal.

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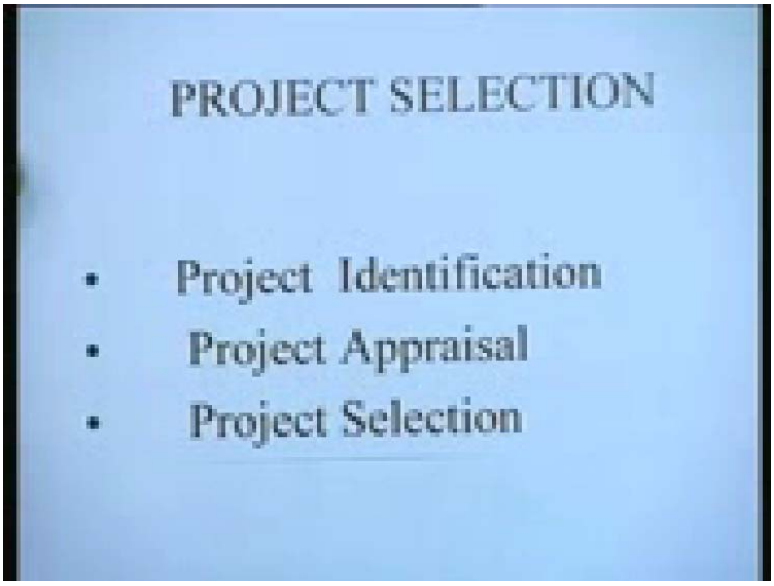

Once the project is appraised, the next stage is the stage of project selection where after having a detailed analysis done of the various performance parameters of the project, we would like to select the one project which is probably the best. This is the whole idea in this exercise. Let us try to recapitulate briefly what we had done.

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When we were talking about the project identification phase; you saw that the project identification phase was actually governed by the objectives that you are setting out to achieve. These objectives along with the analysis of the strengths and weaknesses, the opportunities and threat which exist in the market, both from the internal environment of

the system or the external environment existing, would have to be taken into consideration in a brainstorming session to identify various project possibilities and these project possibilities after screening on various important criteria would give you the candidate project proposals. These candidate project proposals are the essential input to the project appraisal phase which we are talking about.

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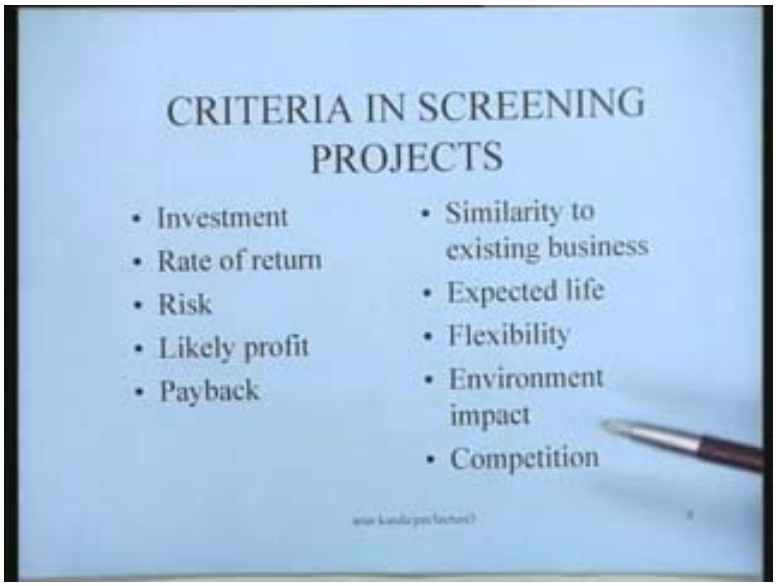

Now just to gain some idea about the criteria because after all an appraisal has to be based on some criteria. In fact even the screening phase of project identification used many criteria and these are very relevant criteria. Is it worthwhile to look at this list again? These criteria would be things like investment, rate of return, the risk, the likely profit, the payback similarity to existing business. This could be important criteria for an entrepreneur who is probably thinking in terms of setting up a new venture. He would probably like to utilize his experience, the expected life of project; the amount of flexibility. Flexibility is emerging as a very dominant objective these days, primarily because the markets are very dynamic. You would like all production systems or all projects to be able to respond quickly to changes in the market. Customer tastes can vary, Production requirements can vary and therefore a system which has flexibility would be a worthwhile one.

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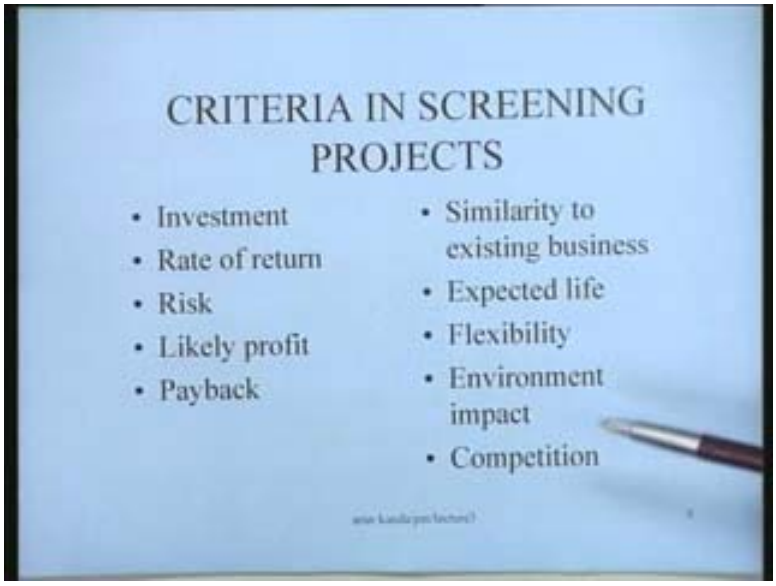

The environmental impact of various projects, the state of competition is all factors which are important when you are trying to appraise a particular project.

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As I indicated to you earlier, the project appraisal could conventionally be divided into,

1. A market appraisal, the purpose of a market appraisal is to identify the market for the product, to identify who the customers are and to find out the quantum of demand and also the nature of demand, whether it is a static demand, whether it is

a fluctuating demand, are there any seasonal considerations in demand and these kinds of issues which are very relevant there.

It is not only this, but it also tries to identify who are the other players in the system of the total demand, who are the other players in the system, i.e., what is your market share likely to be and what is the nature of competition. Is your market share likely to be affected by an aggressive advertisement campaign or a policy of this nature? All these issues become very relevant when you are trying to do a market appraisal of a project followed by the technical appraisal.

2. The technical appraisal looks after the engineering aspects of the project, whether the project is worthwhile? Have the right decisions been taken with regard to the location, the size, and the processes and so on and whether the whole thing is viable from a technical point of view.
3. The financial appraisal is generally one of the most important appraisals in the appraisal of the project. In fact is concerned with things like return on investment. What are the risks involved? What is the profitability? What is the dead service capability of the project and issues pertaining to financial implications which are there with the project?
4. A socio economic appraisal in a project is generally concerned with issues which are affecting the society at large. Setting up of a hydel project for instance could displace a large number of people from their homes. So there is a social cost associated with that. A project of this nature could also result in redistribution of income among the society. So we have to be concerned about those issues and it is essentially an evaluation on the shadow costs which is relevant in the socio economic appraisal.
5. Ecological appraisal is assuming prominence these days because the world is concerned about the environment. You could be worried about the depletion in the ozone layer or you could be concerned about the poor quality of air or various kinds of emissions which might pollute the water or noise pollution. All these are aspects which have to be considered and they might be more important for some projects than for others. Let us now look at the issues involved in the various kinds of appraisals in a little greater detail.

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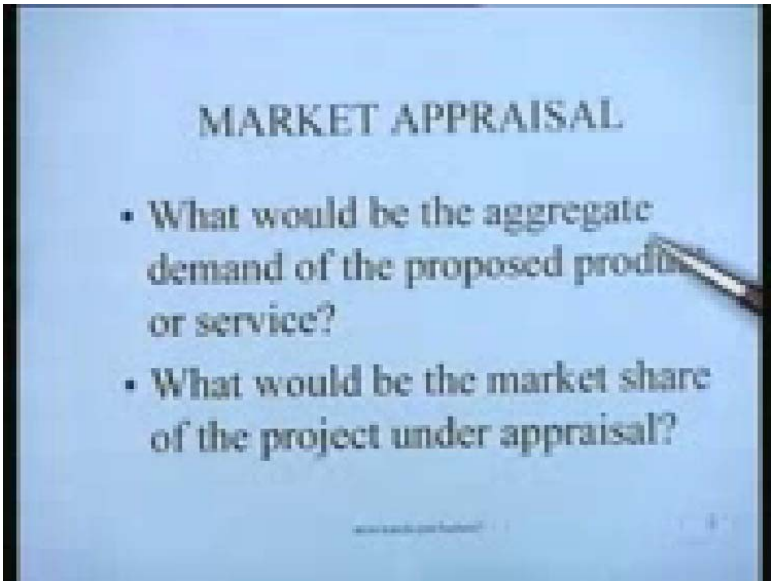

By and large the market appraisal of a project is actually concerned with two broad questions. These questions are what would be the aggregate demand of the proposed product or service? So you are talking about the total demand for a product or service which your project intends to reduce and the second issue is what would be the market share of the project under appraisal. So you have to basically conduct an analysis to establish what the total demand is and because that is going to be the lion's share and then you have to estimate the total demand you are in a position to capture, that is the market share and both these things are dynamic. You could be changing too. They could be changing and it might be very difficult to estimate these things especially with regard to products which are new. For instance what might happen is something like this. Let us take an example of an existing product.

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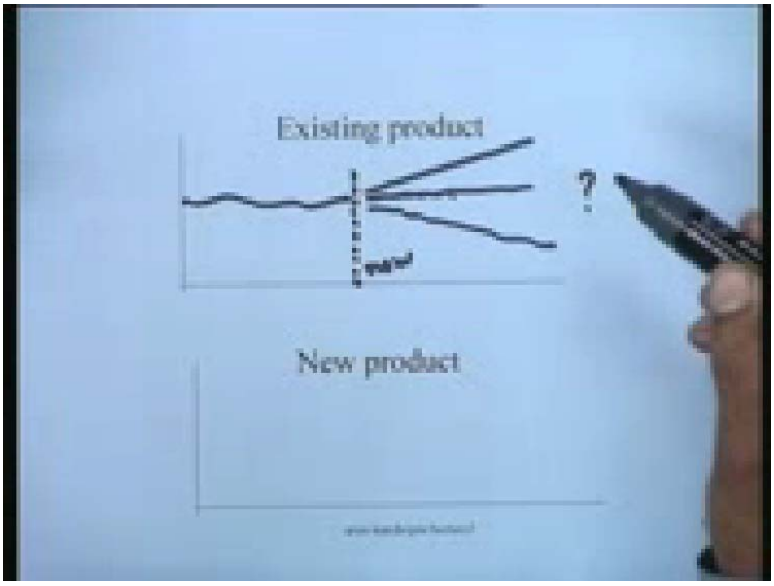

This is an existing product (Refer Slide Time: 12:00), so it probably has some kind of a product demand history. Let us say this is the time, now the current time we are here. Now the problem of finding out the total demand would be to look into the future. It will be very difficult to find out what is going to happen in the future. But at least you might say you might consult people and they might say that there could be a growth of 5 percent or the demand could remain stagnant or the demand could in fact be falling. So we could think in terms of either an optimistic scenario or a most likely a pessimistic scenario. At least try to estimate these kinds of trends of demand as you go along. In making these estimates you can use forecasting techniques. You can use for instance regression; you can use exponential smoothing, moving averages, you can use various kinds of causal models because you have the advantage of history that is going to be available with you. Therefore forecasting the demand and the market share for existing products is generally simple and you can use various demands forecasting methods which are available.

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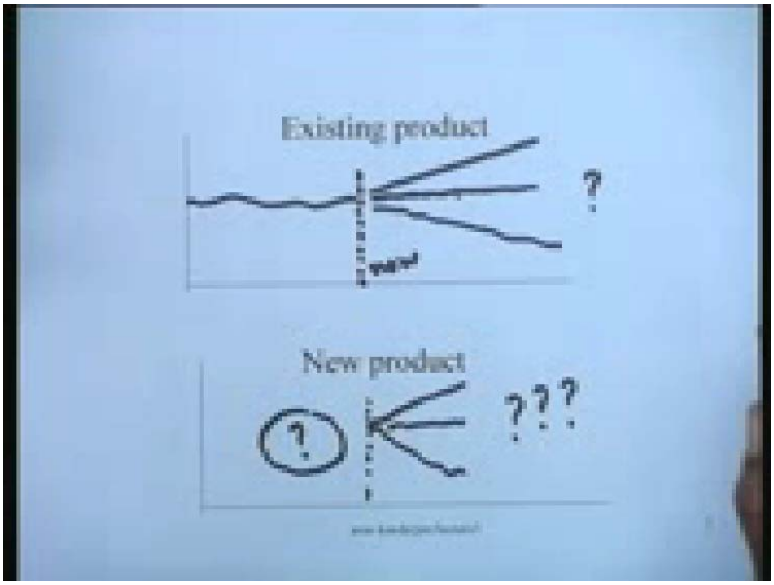

But if you talk about a new product, you have nothing here. It is a vacuum. There is nothing available here. You do not know what happened here because it was not an existence. So you now take a jump and estimate the demand. These are more wild guesses. You do not know what is going to happen. The success of these guesses is open to a greater amount of uncertainty as compared to the guesses you made in the case when you had existing products. However even in situations like this you can report to expert opinions. You can take report to methods like Delphi, questionnaire surveys, opinion polls and similar things. Essentially we try to get the opinion from different knowledgeable people and try to make some kinds of estimates here (Refer Slide Time: 14:26).

These are actually issues which one has to keep in mind, when he is trying to do a market survey.

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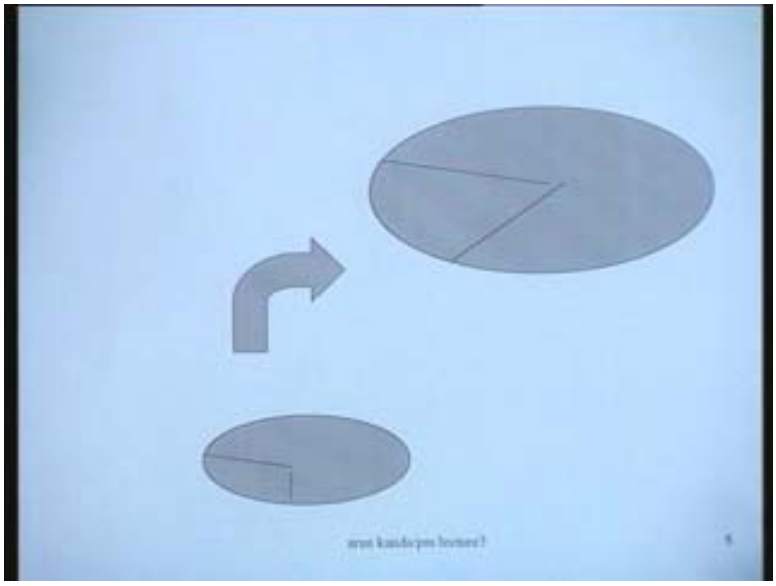

Another way to look at the whole problem in the market analysis is something like this: there are two important parameters:

One is what the total demand is; the total demand itself is fluctuating and your share of the demand. What slice you get out of the total cake that share itself could be fluctuating. It could be going up or going down depending upon how your company has performed over the past. This problem is actually a quite a tricky problem of trying to estimate how the total demand changes and then how the overall share could diminish or increase depending upon how it is. So estimates of this nature constitute the basis of a market appraisal. Let us try to look at some of the major issues which are involved in a market appraisal.

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In a market appraisal of a project, we would be interested in past and current demand trends. What has been the demand like in the past it has been erratic, stagnant, has it shown a steady increase or a steady decrease and things of this nature. Based on this what are the current trends in the demand? Similarly, an understanding of the past and current supply position is also very important. I mean if you are operating in a monopolistic situation then you might not really be concerned about this really. But then if there are multiple suppliers and you have to find out what the total supply is whether you are following short of the demand, what is the potential in the market and things of this kind, this becomes an important subject for analysis. What are the various production possibilities and constraints? This would be another issue when you are trying to talk about market appraisal. You could talk about the likelihood of imports and exports in this area. You could be talking about the nature of competition.

You see the nature of competition means for instance, how are the player's capabilities towards the game, with regard to you? That is the nature of competition. You see for instance when the multinationals came on the scene in India, many of the small scale entrepreneurs vanished and they were forced to close them. This is because the competition was so severe and these multi national companies could actually afford to launch the kind of aggressive tactics which the small entrepreneurs would not be able to withstand. One has to clear about what is the nature of competition, what kinds of policies can be adopted by them, what is the existing cost structure of the various factors, what is the elasticity of demand. This again is a very important question because how does the price respond to demand or how does the demand respond to the price? If you change the price, is there going to be a change in the demand for products or not? One would generally expect that for essential commodities, the demand would not be affected by price or would be affected only marginally by price but maybe for luxuries, good it could be effective to a much greater extent. These are some of the issues which one would have to talk about when one is talking about a market appraisal.

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Then there would be other issues like what is the consumer behavior, what are the factors on which the consumer bases the decision to buy a particular product. So we would talk about the motivations of the consumer, his attitude, and his preferences, his requirements, what distribution channels exist in the market for shipping the product, do you have a network of distributors spread out in all the cities of the country to distribute the product, or you are going to have one person who is probably one person or agency which is going to coordinate this for you. So as far as the distribution channels are concerned you should be concerned about marketing policies. You should also be talking about administrative technical and legal constraints which might be there in the system. These could become very important because government may have imposed certain restrictions on certain kinds of projects and certain kinds of products and these would therefore govern the operation of the markets as far as those are concerned and awareness of them should be present at least when you are trying to look at the project as a whole.

You are going to determine the marketing environment for the project. You should be concerned about these issues. Let us now talk about the technical appraisal of a project. Obviously I think as the name suggests, the technical appraisal is more concerned with the engineering aspects and the fact that you are trying to utilize the proper economies of scale. Have you chosen an efficient design and things of this type?

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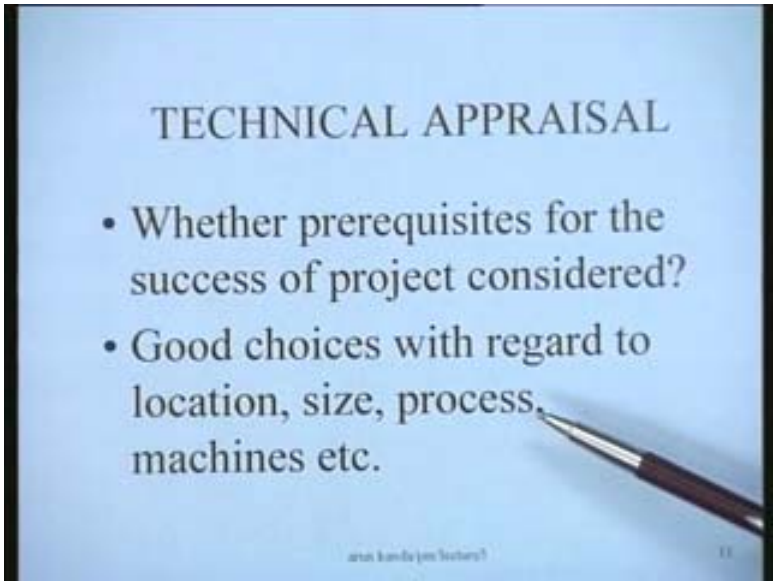

So basically we are talking again about these 2 major issues. One the first issues is whether the prerequisites for the success of the project have been considered broadly in terms of looking at the project as a whole and then secondly, have good choices been made with regard to location, size, process, machines, etc in the overall project selection exercise.

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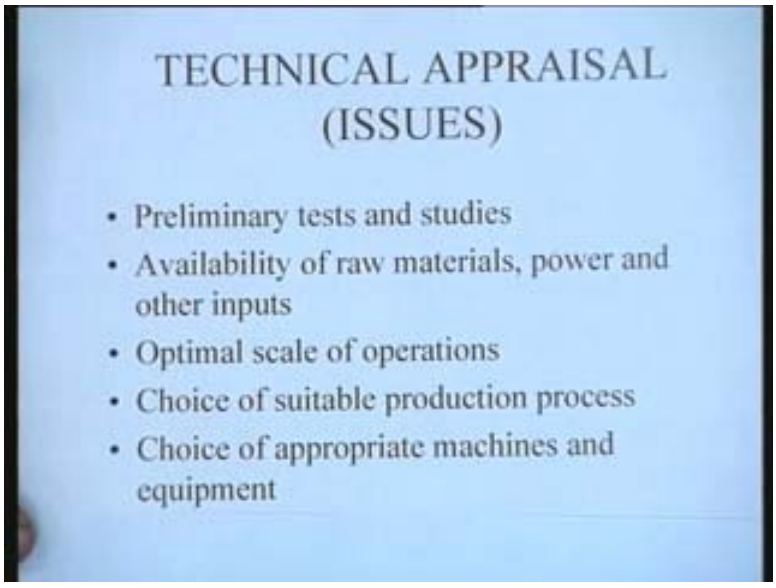

Some of the major issues in the technical appraisal would be to find out whether the preliminary tests and studies have been done, what would this mean? This would essentially mean for instance that in making the building, have the soil tests been done? Is the structure of the building adequate to cope up with the soil's strength and are the design adequate and these kinds of issues. Then we would be concerned with things like availability of raw material, power and other inputs. Now this is a very important thing to check because we would like to make sure all the raw materials which are needed for running the project of the product in the factory in whatever way, the power and the other kind of inputs are in fact available. So we are just trying to make a check that these things are available or could be procured during that project. Are you operating at the optimal scale of operations? Or have you made the right decisions in terms of the size, the sizes, that you have chosen, the level at which you want to operate; it might be uneconomical to operate a process at a very low level. Similarly may be at a very high level too, it might not be economical to operate a process. So are you trying to make sure that you are operating your processes at the optimal levels? These kinds of things are important when you are doing a technical appraisal. Have you made the right choice for suitable production processes?

The particular product may be made by a number of different processes,
Different processes would have different requirements. So there would be economical situations of course. There would be other technical considerations in terms of the quality of the product that you may be getting. So have you made the right choices there? This becomes an important issue and have you made an appropriate choice of the machines and equipment which is going to needed for that kind of project? So this is something very vital when you are trying to do a technical appraisal.

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Some of the other factors which are important when you are talking about the technical appraisal are, have you ensured that there is a project arrangement for disposal of

effluents in wastes? This is very important. You should try to have a proper system. Is your chimney of the right height? Are you trying to dispose of your smoke at the appropriate level so that you do not pollute the atmosphere beyond what is actually permitted by law? So considerations like these are important. Do you have a proper layout of plants and buildings? This becomes again a very important aspect because after all if you have a poor layout of a plant and a building, you unnecessarily have much greater effort in terms of movement of men and materials and this is going to be a lifelong affair. So a wrong decision of a layout is going to cost in terms of movement of men and materials. May be you have more of movement of men and materials and you would probably like to curb that down. Have you setup realistic work schedules? This is also a very important technical aspect. Even in the setting up of a work plant, somebody might say that we will erect this machine and do the whole thing in 5 days. You have to make sure that it is realistic. It is probably not possible to do it in 5 days. You might have to spend much more time on this. So make sure that your schedules are as realistic as possible. This is again for instance, you should not be tempted when somebody says I can set up the project in may be 1 month. It can give you 1 lakh rupees per week or something like that. You must get convinced that in fact the project would start earning revenue after this period of time. That is a very important part of the technical appraisal. Do you have a socially acceptable technology?

I think concern for human welfare is gaining greater and greater importance, as the society is becoming more educated and therefore this is an important thing. These are therefore some of the major issues involved when one is talking about the technical appraisal of a project.

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Let us now talk about the economic appraisal of the project or the socio economic aspects in the appraisal. In fact we will talk about an economic or a socio economic appraisal. I will be talking about the financial appraisal later because that probably deserves a separate treatment. So we will talk about that later. One of the things here is what is

generally known as social cost benefit analysis. Social cost benefit analysis addresses these issues of how the project is going to affect the society at large. It might displace some people; it might provide opportunities for employment for a large number of people and so on. So there are both benefits and costs associated with a project at a social level and investigation of these costs, not from the monitory point of view but on what is likely to be the benefit of a Hydel power project to the people that are going to be displaced. These kinds of issues are becoming very relevant. So we are actually concerned about the direct economic benefits and costs in terms of the shadow prices. You all know what a shadow price is. You know how a shadow price differs from the market price of a product. You know in linear programming for instance, when you talk about the shadow price of a particular constraint, what does it means? The dual variable of the shadow price, the implication will be the contribution on increasing that particular resource level to the overall objective function. We use that interpretation when you are doing a socio cost benefit analysis.

What is the benefit of occupying so much of land in a certain project to the overall objective function? Is that benefit actually more than the cost than it is worthwhile? That is what we mean by social cost benefit analysis. Then the project would be having some impact on distribution of income in the society. Especially a large government project which probably is going to provide employment to a large number of people should look at these aspects. It should try to find out how the distribution of income will be affected as a consequence of this. Obviously if you are talking about social harmony, social order, you should try to have projects which try to make sure that the distribution of income is made as uniform as possible, rather than creating pockets of very wealthy people and creating pockets which are very poor people. This is because that would not be the right kind of atmosphere for a social order. It would lead to greater social discontent and would probably not be the right thing to do. You know when Amartya sen, our Nobel laureate is talking in terms of these issues, he is talking essentially about removing poverty and bringing about social order. What he says is that all projects that the government is undertaking, should bring about more equitable distribution of income in the society and try to reduce the poverty. There is a dimension to projects and what is the impact on the level of savings and investments in society. So there could be certain projects which might force you or which might motivate you to save more money. When our own government had various financial schemes which were like projects of the government, national savings scheme certificate and there were incentives on saving. Those projects were in fact trying to motivate the level of savings and various kinds of investments in society. Those are again some of the issues which one has to consider in an economic appraisal.

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The economic appraisal has to look at the broader issue of its impact on the fulfillment of national goals especially from (Refer Slide Time: 32:19) projects. These could be self sufficiency. If you setup a factory for making some equipment which you were probably importing, then it is a project in the direction of self sufficiency. The ISRO's program for missile development is a step towards self sufficiency in the area of development of nuclear weapons. So these are again issues. What is the potential as far as generation of employment is concerned? This is another thing which has to be considered. What is the impact of this project on social order? This is an important issue too, because again this is very much linked to the situations like, if you generate or if you implement projects in which the gulf between the rich and the power becomes wider, this would lead to greater social unrest and disorder. So you try to access whether these kinds of projects would in fact lead to greater social order. So these are broadly the issues which one would talk during the economic appraisal of a project. Let us now talk about the ecological appraisal of a project.

As I indicated to you in the beginning, this particular appraisal is becoming more and more important because the world at large is becoming more and more aware of the environment and is now realizing that the resources are limited. We should not be spoiling our environment. So what are the things that we should be talking about? When we are talking about project appraisal, we should be talking about the impact of projects on the quality of the air that we all breathe. What is the impact of the project on the quality of the water that we all have consumed? What is the impact of the project on the quality of noise in the vicinity and other places? What is the impact of the project on the quality of vegetation that grows all around you? What is the impact of the project on the quality of human life in general? I am just trying to create awareness that these are the various factors. In fact as you all know, international standards exist in each of these cases as to what would be the tolerable level of pollution of air or water or so many ppm of water and so much carbon monoxide in the air and similar issues. What is the decibel

level of noise? Etc. So the essential thing really is that when a project is being appraised for these reasons, the appropriate standards must be looked upon and you must try to find out whether the project is actually conforming to the kinds of standards and expectations of these projects.

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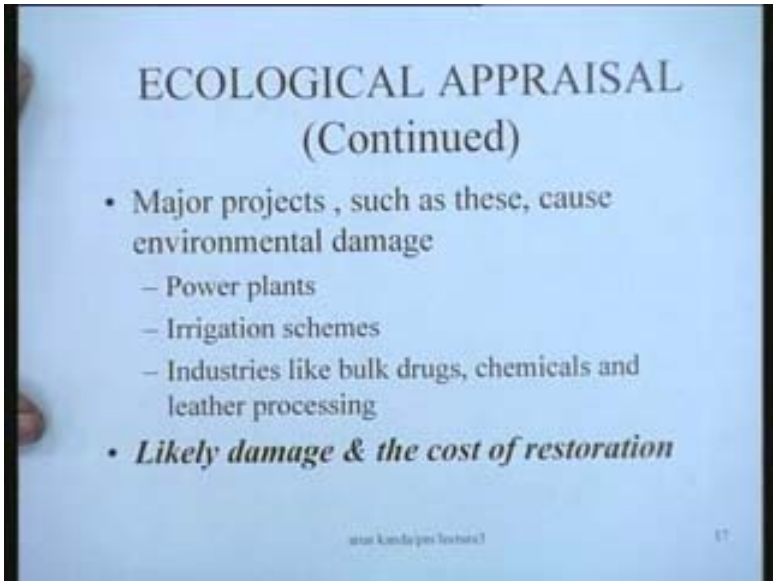

Then we can look at other issues in ecological appraisal. For instance major projects are the above. It can cause environmental damage. Large power plants, major irrigation schemes, industries like bulk drugs, chemicals, leather processing. Whenever these projects are potentially harmful to the society, the important thing for us to do is when you are assessing these projects; it is the likely damage that is to be done and also the cost of restoration. I think this is very important. The key issue that we are taking is the adequate amount of steps to restore the quality of life. We produce effluents and throw them into the river. Rather than throwing them into the river we can estimate the cost of reprocessing them and we try to make sure that they do not cause harm. It is important to discuss both these things. The damage and the cost of restoration is essentially what the ecological appraisal of a project is concerned about. Finally let us come to what is known as the most important appraisal of a project namely, the financial appraisal of a project.

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In fact this is the key to project appraisal and volumes have been written on financial appraisal of projects. We are trying to compute various kinds of performance parameters and financial ratio, so as to find out whether the project is really worthwhile. The financial viability of a project is governed by two major considerations. One is whether the project is really capable of servicing the debt requirement. In order to implement a project invariably, most companies and firms have to raise capital and they normally take loans from financial institutions and what has to be ensured is that the project has an intrinsic capacity to pay back those loans. So there is a special kind of analysis that can be done on the project, to find out whether the project is capable of servicing the debt that you take. In fact almost all financial institutions before they give you any loan will try to find out the servicing debt capability of your project. The second thing that is most important is that the project meets your return requirements. Does it give you an appropriate return on your investment? After all you are spending so much of money trying to do so much of effort. Is it giving you some returns for that? You have to find out what those returns are and whether the project is really worthwhile. This is the sort of crux of financial appraisal. Now the financial appraisal often talks about a number of things.

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We have generally looked at things like what is the investment in the project, what is the phasing of the total cost, are we required to give the entire investment at one go or is it spread out in three phases, over the next five years? This is one of the important things that you have to consider during the investment. Then what is going to be the means of financing the project? From whom are you going to get the loans and what is the quantum of the money that you are likely to get from various sources? So how are you going to raise the finances? Here primarily we are talking about the sources and means of financing. These are very important issues which must be spelt out in the project feasibility report. Then we have the cost of capital. The cost of capital is very important in terms of the interest rate. It depends on the cost of capital. It could it be different from different sources? You might be able to raise capital from 1 source, say 10 percent. Perhaps, if you go to the market, you would be required to pay a rate of 18-20 percent.

So the cost of capital depends upon the source from which you raise the capital to a very large extent. What is your projected profitability? What is likely to be your breakeven point? This is a very important issue too, because you would know at what level or what scale of operations would be minimum for you to be able to at least make both ends meet or at least recover your costs, 0 profits. Then your objective is to always try operating at points higher than the breakeven points so that you are trying to get some money out of it. What are cash flows in the project? Actually all analysis is ultimately concerned with establishing what the cash flows in the project are, what is the investment, how do you reduce, what are the likely returns and so on and ultimately you get what are known as the cash flows in the project. I put in so much and I get so much. So on the basis of this cash flow, I make certain decisions and I calculate certain parameters.

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What I want to find out first is, is the investment worthwhile or not and how do I find out if the investment worthwhile? In order to find that out, I can compute some important financial parameters. One of them for instance is the net present value. This is single most important financial parameter for a project, compute the net present value, and compute the internal rate of return for the project, compute the payback period and then the second thing is we are talking about the loan returning capability of the project. The loan returning capability of the project is measured in terms of, for instance the debt service coverage ratio is the most important ratio used for this purpose. If the debt service coverage ratio is more than about two, the project is considered worthwhile as far as its debt service is concerned. The third thing is the level of risk. The level of risk would talk about the chances of making a certain amount of money. So maybe you could use probability theory to express your returns in the form of a probability distribution and that would actually tell you that this project is risky or how risky it is. Now for instance let us see what the problem is like. See the problem really is that we have an extreme availability of cash flows.

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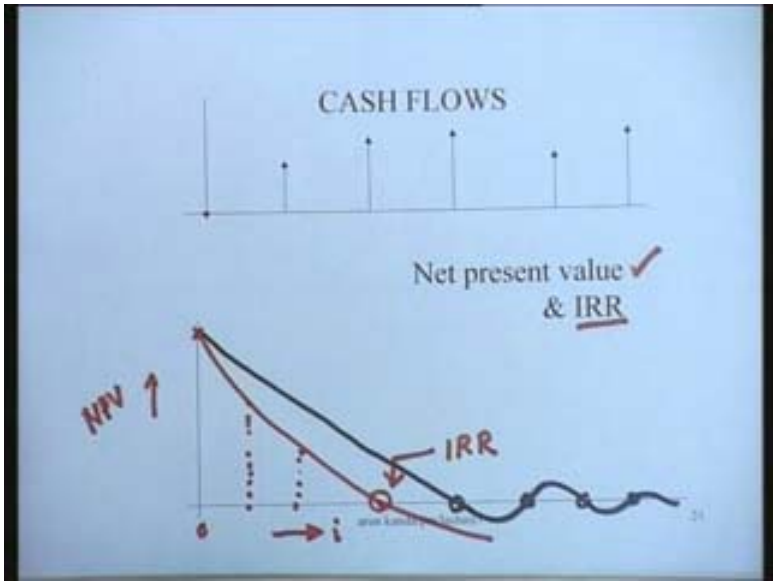

We know that this is the investment and we have certain returns. These returns could be unequal over the time periods because initially you could get a lesser return, followed by more returns, then the returns could also fall and so on. So let us say over these periods, extreme of cash flows is available to us. What can be done is, we try to find out for instance, if the interest rate is 0, the total amount of money that could be taken, could be computed as the return in the first period, plus the return in the second period, plus the return in the third period and so on, minus the total cost. Maybe I make this much money, so if I plot here I could say this is the amount of money I have at 0 percent rate of interest. Obviously if I use the higher value of interest, this kind of rate of return, this kind of NPV for this project is going to go down in this manner (Refer Slide Time: 45:14).

If I have an interest rate i, if I successively choose higher values of the interest rate my total net present value (that is what we are talking about), so the NPV of the project is actually dependent upon the rate of interest. If you choose a particular rate of interest from the stream of cash flows, you can establish what it is and the point where the NPV is 0, this particular point, (Refer Slide Time: 45:53), the value of i, defines my internal rate of return, the IRR here. The computation for the NPV and the IRR is actually derived from the stream of cash flows in this manner. In fact if you compute the NPV for different values of i and plot this, there would be a point where the IRR would be where this curve would have 0 NPV and that is the internal rate of return. The physical meaning of this particular internal rate of return is that it is (this particular investment proposal or this very project) is offering us so much return on the capital. So if the internal rate of return is higher than the bank rate of interest, then this project is really worthwhile because it gives you a higher rate of return than the bank rate of return or for that matter any rate of return that you are capable of earning easily. This is one of the things that you can actually do.

Of course there could be complications to the IRR. This is what we considered. There was a single element of cost and there were variation in terms of the revenues that were in the same direction. However if there were costs, some other costs, some other revenues, the complication could arise in this and the complication could be of this nature. You could have a situation where the net present value goes down and then tends to oscillate. If it tends to oscillate, this would happen. If you have the cost here, then revenue, followed by a cost and then followed by revenue and so on, i.e., if there was this kind of possibility then it would not be clear as to what the internal rate of return is because there would be multiple rates of return. In fact this is one reason why the internal rate of return is generally not a preferred index. Rather we use the NPV for a specified value of i as an index to find out.

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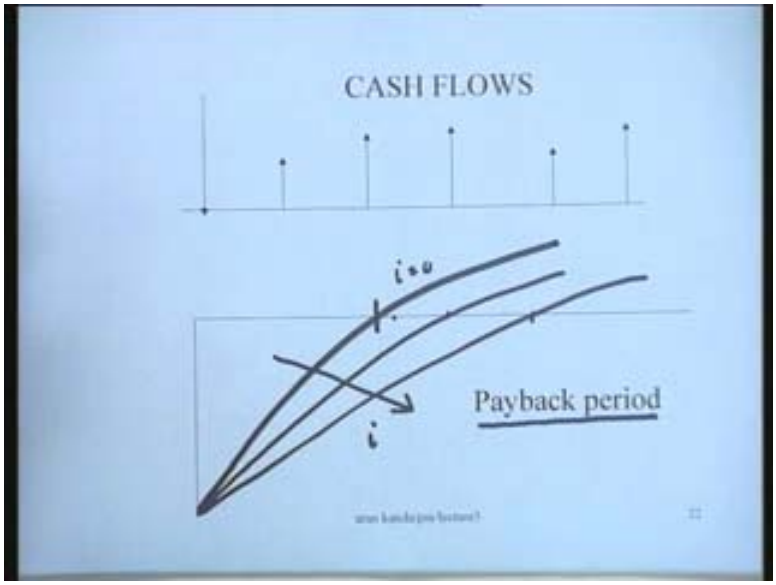

Similarly let us see for instance another important financial parameter which is the payback period. What happens is again we start with a stream of cash flows and here we talk about the unrecovered money in this axis. So in the beginning everything is unrecovered. The whole thing is unrecovered and over time let us say this money in this case would be recovered. Let us say somewhere here. You would think of this kind of a period of recovery. So this is the unrecovered money and this is the time period. So at this particular point of time you have been able to recover the entire money. So this is known as the payback period. This is the payback period. Let us say this could be the payback period for a certain value of i. Say i = 0, that is, this is the undiscounted payback period. What could happen is if you want to use discounting, you would have something like this and this is the increasing value of i. What is going to happen is really if I use different values of i, my payback period would be increasing from this value to this value to this value (Refer Slide Time: 49:40). Because what is effectively happening is the present value of these future returns is declining. So you are going to recover your initial investments later. This is really the effect of the interest rate on the discount. So again choosing the value of i, i is also an important parameter. We said that i is the cost of

capital. Cost of capital has to be determined realistically and then you can choose to perform these kinds of analysis. Now actually financial analysis is much more involved and you get a lot of detail. In the next lecture we are going to devote ourselves primarily to only the financial appraisal of projects in greater detail.

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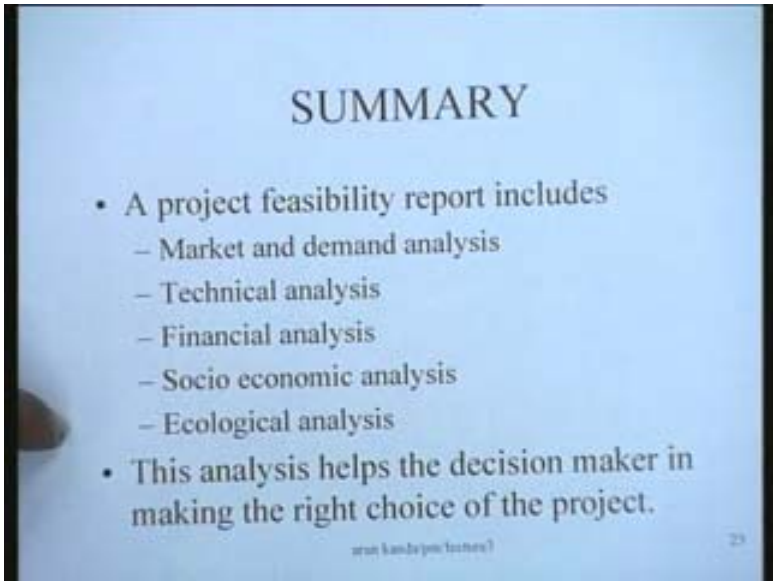

In conclusion we can say that when you are talking about a project feasibility report, this includes market and demand analysis, this includes technical analysis, this includes financial analysis and this includes socio economic analysis besides ecological analysis. So project feasibility report will actually give us this and the purpose of this entire analysis is that it helps the decision maker in making the right choice of the project essentially. Your project feasibility report is a document which gives you the appraisal for various kinds of projects and you have this type of analysis going on. Let us try to summarize some of the key issues in project appraisal which we talked about in this lecture.

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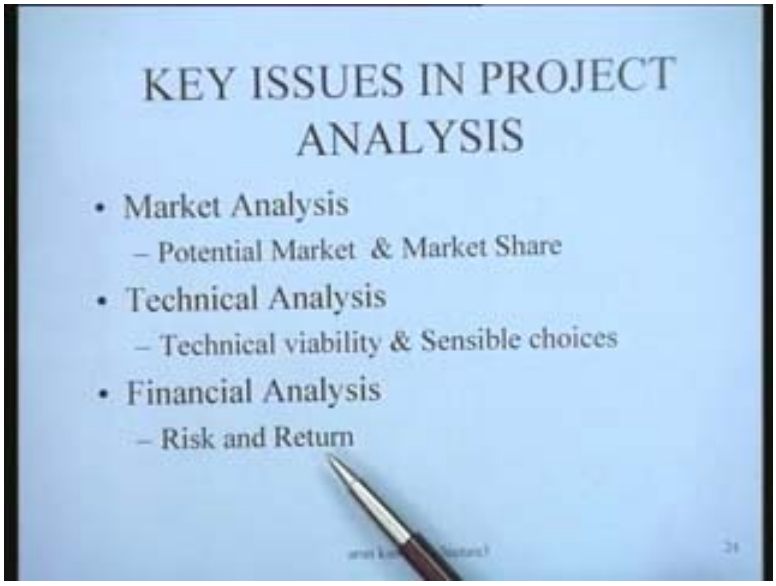

Some of the key issues are for instance in the market appraisal of a project, in the market analysis, we are talking primarily about these two things: the potential market and the market share. In the technical analysis we are talking about technical viability and making sensible choices. In the financial analysis we talked about risk and returns, primarily in the economic analysis of a project, we talked about benefits and costs in shadow prices and other impacts on the society.

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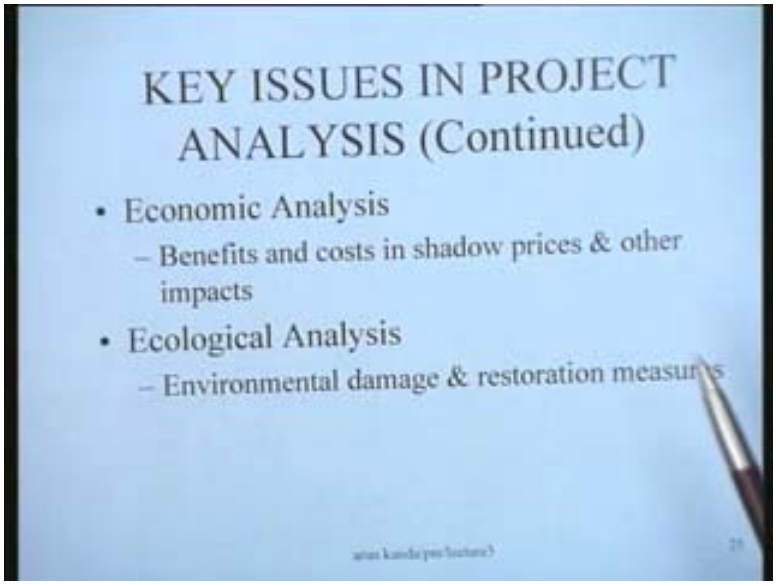

In the economic analysis and in the ecological analysis, we talked about the environmental damage and the restoration measures which can be done to the project.

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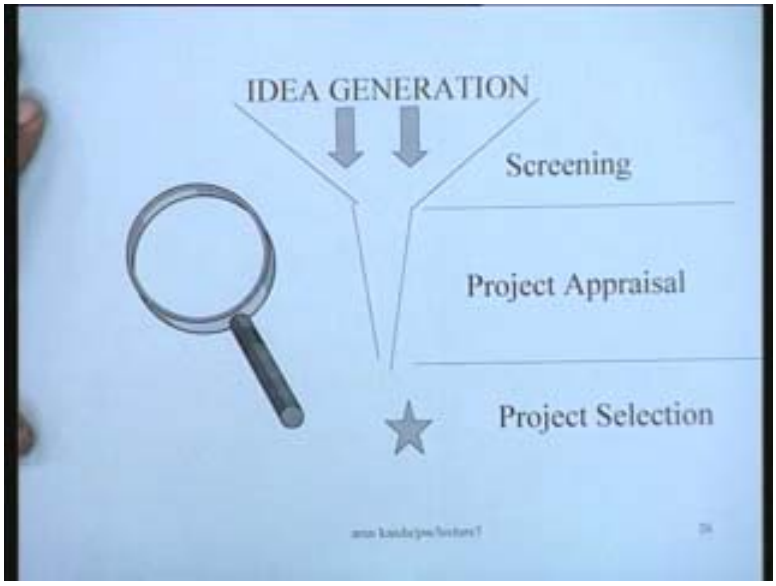

So we can see actually that the process of project selection is actually a process that begins with the process of project identification which involves idea generation. This is going through a funnel which is the process of screening and this screening leads to a smaller number of ideas which are now subjected to project appraisal. So we talked about project appraisal. The project appraisal is a detailed microscopic look through a magnifying glass at the various aspects of the marketing, demand, ecological issues, financial issues and other issues pertaining to a project. Once the project appraisal is complete we select one star project and that is the purpose of the whole exercise that you choose when you choose the best project selection. So this is what the whole exercise of project selection is all about.