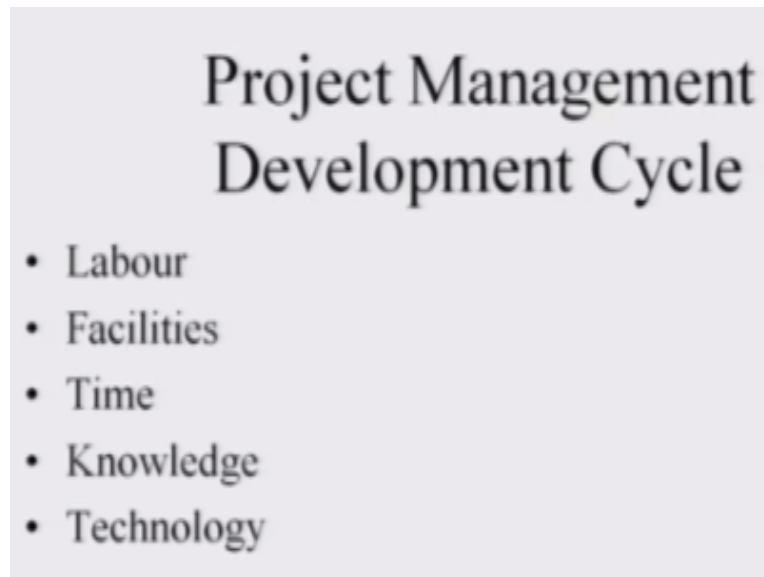


**Project Management**  
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**Module No # 1**  
**Lecture No # 05**  
**Project Management Process for a Project – III**

Welcome back to all my students who are taking this project management course this is the fifth lecture each lecture being of half an hour in the area of project management and as I was discussing in the end of the fourth lecture it was related to project management development cycle.

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So the project management development cycle if you see in the slide it consists of the labor, the facility, the time, the knowledge and the technology. So labor can be related to man power can be related to technical information can be related to the different type of machineries different of equipment's which are being used the facilities can be you are trying to basically use a building or you are trying to use the facilities of research lab.

So those can be as a part of the facilities time would be that you are going to consume the first month of January two thousand seventeen obviously that come into the time. Because time would be basically mean what is the rate of payment which you will make to the laborers

whether the engineers or whether the technicians or general managers whoever is giving their knowledge their information their labor to do the work for the project management they would be knowledge.

So knowledge would be related to how the reinforce concrete cement should be poured how the structure should be build up how COG will serve of the day of the gear to be designed how the least spring of the car shashi should be designed what should be the temperature of the coolant which you are trying to utilize to cool a certain machine which is working at a high speed.

So all these things should be basically be utilized the knowledge front and technology would be one knowledge and the technology front and obviously mean that if new technologies have been utilized. So how they are being utilized what are the payback time whether the new technology is going to really bring benefits in trying to basically cut down both the cost to both the material cost as well as the labor cost as the time for the overall project.

Such that the overall objective of the project plus the business environment and the business objective plus the social objective are met at the same time. The project management development also consist of basically the conception the in the initial phase of the project and then you will basically do a feasibility detailed study of the project.

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## Project Management Development Cycle

- Conception: Project Initiation
- Project Feasibility
  - The use should state the needs very clearly
  - Ask a set of questions to the user to understand his/her needs clearly
  - Conduct research to understand the need
  - Give the restated needs to user
  - Keep in mind needs do change

Which they should where the project manager should use and the use should be such that six states that needs very clearly what are the things needed to be do we done for the project to complete successfully. The in the under the project feasibility study one should ask a set of questions to these user to understand his or her needs his or her means the customer needs.

Based on whose criteria? Whose demand? Or whose requirement the project has been built? We should also conduct research to understand these needs and how they can be implemented. Say for example if the implementation schemes are such that the demands are absolutely not possible. Then obviously we would not be in a position to implement those demands into realities.

The project feasibilities should also consider and give the restated needs to the users to the maximum possible extent such that there is no diatomic in what that user or the customer want and what I am as a project manager or the project team I am able to deliver. One should keep in mind the needs do change and as the need change the objectives or the goals based on which the work is being done should be made in such a line that it means the customer requirements to the maximum possible extent.

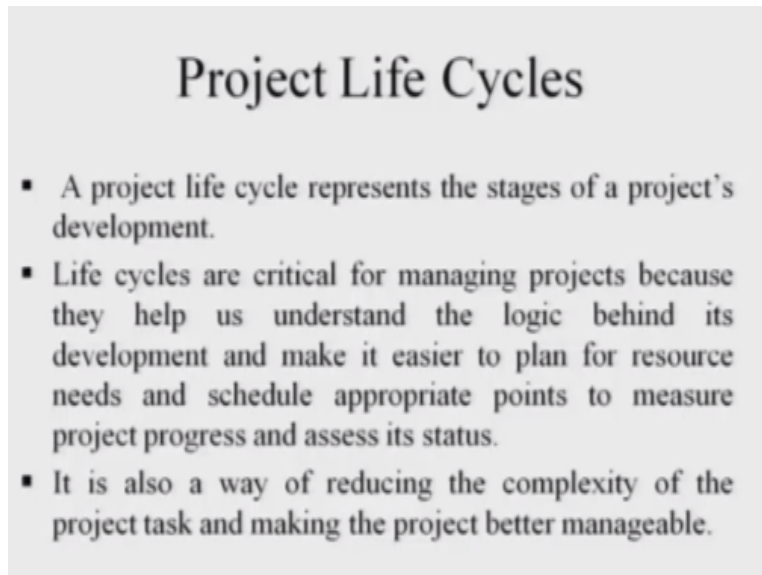
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## Project Management Development Cycle

- Feasibility
  - The use should state the needs very clearly
  - Ask a set of questions to the user to understand his/her needs clearly
  - Conduct research to understand the need
  - Give the restated needs to user
  - Keep in mind needs do change

Feasibility under project management development cycle should also be that their the set of questions which we have discussed are generally circulated amongst the customer and amongst the project management team such that the overall benefit is accrued.

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## Project Life Cycles

- A project life cycle represents the stages of a project's development.
- Life cycles are critical for managing projects because they help us understand the logic behind its development and make it easier to plan for resource needs and schedule appropriate points to measure project progress and assess its status.
- It is also a way of reducing the complexity of the project task and making the project better manageable.

A project lifestyle cycles which we are discuss now it basically represent the stages of project development. So if you remember in the end of the fourth class fourth lecture to be precise I did mention that for any project or a product there is a phase where there is a huge demand of the product then there is a phase where the product requirement basically starts dipping down or basically become stagnant and after the certain phase the overall demand of the product or slowly dies down.

So consider the typewriter so initial time the people used to basically write so once the typewriter came so there is a huge demand and then it is demand basically surged in such a way that everybody used to use a typewriter. But slowly as the computer came the life of the typewriter becomes almost defunct now it is almost dead.

Or else consider the use of CD players so initially we have the tape recorder it is basically life increased in such a way there was a huge demand then there was a stagnation of the demand and then we saw later on and as we see now a days the life of the tape recorder need of the tape

recorder almost dwindle. Obviously there are cases where people do use tape recorder or LP record player so store the song but that is a different reason.

Life cycles for the projects are critical for managing projects because they help us to understand the logic behind its development. Why it is being developed? How it is being developed? And makes it easier for us to plan for resources and the whether time or different type of material resources so and so hence forth.

And schedule appropriate points to measure the project progress and analyze it whether it is going on the right direction and take corrective actions if needed. Project life cycles also helps us it in a way that it is also a way of reducing the complexity of the project task and making the project better manageable. So that means if we know the project cycle and where we are, able to plan our work accordingly.

So if the demand is slowly increasing obviously we will try to basically utilizes resources in such a way that we are able to finish the project much beforehand. So that it accrues maximum benefit from day one or if say for example we think that the demand of the product is slowly tapering down is falling down. So obviously it would not make any sense to basically invest money for a new project which may increase the production line of that product which is slowly on a diminishing rate of return and it is phase is decreasing.

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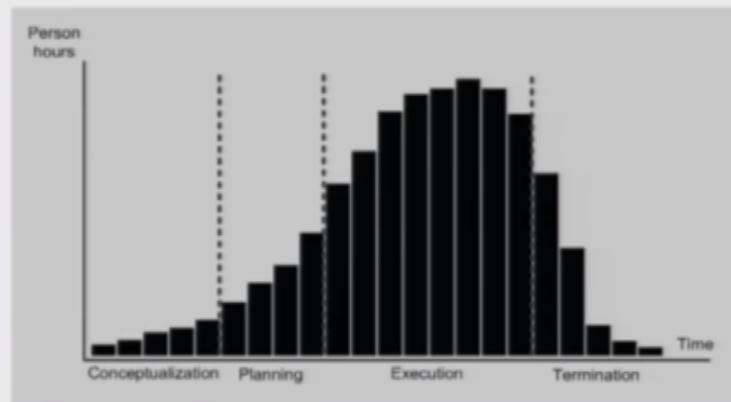
## Project Stages

- Starting the project
- Organizing and preparing
- Carrying out the project work
- Closing the project

Project stages basically means starting the project organizing and preparing the project carrying out the project work to a string logically conclusion and then closing the project when the overall objectives are met.

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## Project Life Cycle



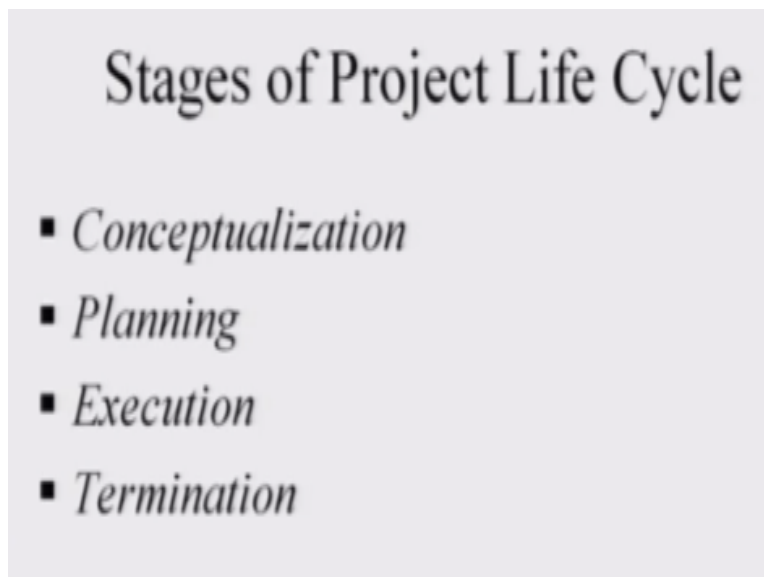
So if you see the graph which gives you a project life cycle so on the y axis you have the person hours or the total quantum of utilization of resources whatever it is and on the x axis you have the time. So on the y axis different concepts can be brought into the picture the selling price it can be that the total demand it can be total number of person hours utilized so and so henceforth.

So the curve means if you see the first two parts the conceptualization in the planning basically it is an exponential almost exponentially increasing graph. So I am going to draw a but I came going to mark how the graph moves so in the initial stage of consideration it is slowly increasing and in the planning phase and also till the end of the execution phase. If you see these three portions it almost increases exponentially then after the execution part.

So obviously we are trying to basically you not go into the details of what is the demand of the project but the project life cycle basically means the delivery of the project has happened somewhere here and then the objectives is have been made and then the overall project will be taper down and closed.

So if we use the overall number of person hours utilized for the project which is there on the y-axis then you see the utilization basically increases exponentially and then falls exponentially down and then tapers down to zero. So the overall utilization of the man awards is basically till the execution phase and then as you phase out the total numbers of man hours are the number of people who are who are being utilized for the project decreases almost drastically.

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So the stages of the project life cycles are conceptualization how you will basically implement the project plan it in in a very scientific manner. So that you will decide that what is the total

number of machines required who are the people who will be prepared? What are their qualification? How many engineers will be utilized and so and so henceforth.

Then you utilizing those planning concepts and whatever you are done you basically plan which states stages should come after what and then you go for the execution state. Once it is executed you exhaust or utilize all the resource and during the termination phase you will basically wind up the project.

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## Project Execution Mode

- Splitting the project into a number of phases forms the basis for a *project execution model*. Such a model will in addition include:
  - ❖ Decision gates
  - ❖ Acceptance Gates

In the project execution mode you basically have and we try to basically focus the splitting concept is important because by splitting the project into a number of phases forms the basis for a project execution model which means that rather than looking at the macro level you basically break down into micro sub levels. Such that is easy for project manager and his or her team to do the work in such a way that the micro management of each sub models.

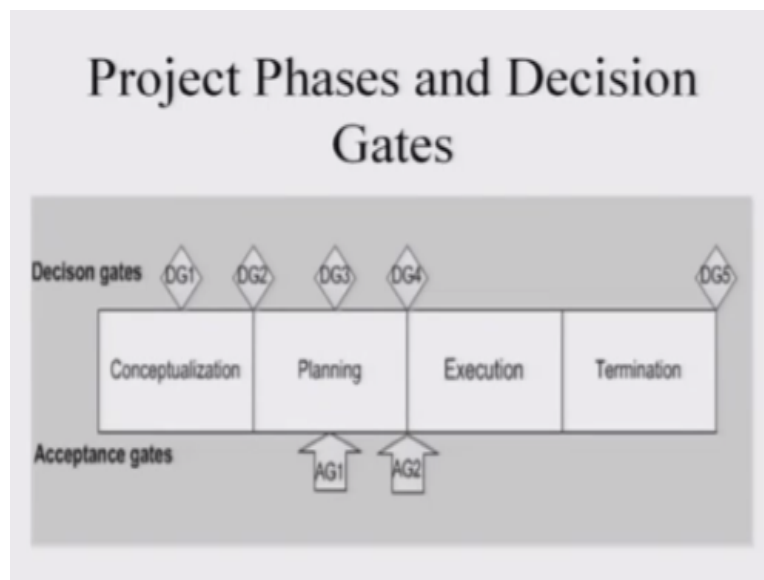
What I am saying is their sub modules means as part of the project are managed in such a way that the dovetailing of each and a sub module is done to the to the best satisfaction of the customers as well as trying to meet the objectives such that the project objectives the business objective and the social objective are met.



Such a model will have including additionally it will basically have the decision gates where you make a decision at which stage you make a decision and what the decision is whether you want to go ahead in the next phase. What are the cost whether the cost implications are too high or too low whether you should bring different technologies so on and so henceforth.

And once the decision is made you will basically you have an acceptance gate or acceptance phase where you basically decide yes you will go into a next phase or basically hire a different type of people to do the work or try to be basically offload the machining work. Say for example in the machine you work to a different company so on and so henceforth.

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So if you look at this diagram the project phase and the decision gates and the acceptance one you see that starting from the conceptual arrangement phase that means the diagram where the utilization of him and that man hours are the maximum was increasing exponentially when into the planning space in the exhibition phase versus on the maximum and then it tapered down.

So if you three if you look at this blocks now remember the blocks are not drawn to scale the utilization of the overall concept the energy the manpower the time resources can be different for different phases. But we have tried to drawn them in such a way that they give a nice picture of how overall acceptance and the decision phases or the gates are there. So say for example in the

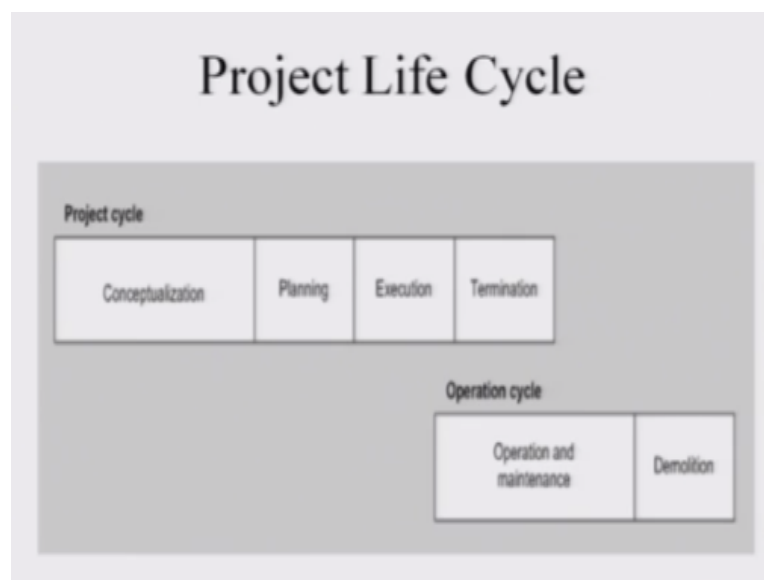
conceptual case if stage you have basically the decision which is DG1 and DG 2 these are just hypothetical examples.

So DG1 means that in this conservation stage you do a study at a certain point of time that point is arbitrary here also then you make a decision that whether the work is going on accordingly. Then you go into the DG2 decision two phase where the conceptual phases has ended as you are trying to start off the planning phase it goes on till DG3 in the planning phase DG4.

Where you end the planning into the exhibition one and then obviously there can be more DG's that means decision phases or gates in between but we basically show it at the end which is DG5 here. Now the acceptance phase again we have added arbitrary we have the AG1 which is acceptance gate number one or two and so henceforth.

Where you are trying to basically have a major decision being taken add the planning the phase or at the end of the planning phase can be at the end of the constitutional phase also based on which we try to understand that the decisions which you have taken with respect to the acceptance whether they are really making sense based on the objective on which the overall project was taken up.

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The project lifecycle if we see would basically in itself would also have some implications for the operation cycle. So in the last diagram when we are discussing the acceptance gates and the decision gates we had the conceptual phase the planning phase, the execution phase and the termination phase. So again for the better understanding of all the students and my viewers the overall first part in the diagram which we see in this slide consist the project cycle.

Now in the later half or in the bottom part we have the operation cycle which means that you have under the operation cycle for the time being and the considering the operation and maintenance and the demolition of the project or the demolition of the overall phase based on which the project was built and you basically want to demolish the other parts which are not part of the project.

Like if you see when you are very big building is coming up so there are different small huts which basically has the civil engineer working there or the construction workers staying there so those are even though that would not make much sense for these examples those are the things which need to be demolished after the project which is building of the building is finished.

So those who need to be demolished or those things need to be removed such that basically the overall project is finished the accessory based on which the project was built up or removed in the end such that your main motive or the objective was to build up the building which has clearly comes up. So the operation cycle and the project cycle would go in such a way.

So if you place them side by side the project cycle is ending at that stage of termination and before that here of the execution. So the operations and the maintenance of the overall project for which the project management team was build up should start in such a way. So as your project management work slowly ending people should be there to take over or take care of the operations and management or the project which is now on a long term basis consider this build bridge was built.

So accessory based on which the bridge was built or removed the bridge has to be maintained so after or at the phase when the bridge is being completed the project for building the bridge is

being completed. There the operation in the maintenance phase will start and the demolition of the all the structures as I just mentioned will take place such that it basically becomes under part of the person often ongoing and existing structure.

So project capital values process would basically have now both the project cycle which is the second horizontal bar. The third one is obviously as we know from the last side slide is the operation cycle. And the first bar which basically is the business cycle consists of speeding the business opportunities the bid preparation and the negotiations.

So if you see the first part of the business cycle and the second part which is the process cycle it will make sense that you actual project objective is based on the fact that it should basically dovetail and meet the requirements of the business objective. So obviously you can also add social objective here but what I am trying to imply to all my students is that. When you are trying to basically draw the project management so called cycle is should also have within itself or the side of itself.

The business cycle and the operation cycle such that you can understand how they are places beside each other without going the details or the sizes such that when you are trying to basically finish off the planning phase it does not mean the operation in the maintenance should immediately start.

So technically the operation the maintenance main phase of the official cycle it should start in such a way that as your overall project is being executed and ended the operation cycle should start and takeover of the maintenance work such that as the project cycle slowly phases down the operation cycle takes care of the overall project based on which the project management work has started.

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# Management of a Project

*"is a discipline which now transcends its earlier, more mechanistic focus. It is now about defining and delivering successful projects to clients--projects which give optimal value. It is developing fast, evolving in a Total Quality, process improvement environment towards new levels of performance which demand new work styles and new attitudes. Technology, finance, environmental responsibility and commercial astuteness figure prominently in this new era, as of course does management itself. Project management professionalism--project managers acting professionally in their clients' best interests--is increasingly significant."*

So management does the project to use quality of the words I just read it from the slides as it states it is basically a discipline which now transcends it is earlier more mechanistic focus like you had only the graphs only the time cycle based on which you would like to plan a project now it is about defining and delivering successful projects to clients or the customers such that the projects which give optimum value are developed and delivered.

So optimum value may mean that it basically meets the requirement for the project objective the business objective and the social objective. Management of the project is developing fast evolving into a total quality process improvement and environment towards new levels of performance which demand new work styles and new attitude of how to do work and how to do work for the project.

Technology, finance and environment responsibility and commercial astuteness figure prominently when you do a good project in this new era as of course does project management on management itself. Project management professionalism project managers acting professionally in their clients are the are to do their work in the best interest to basically give increasingly significant benefit to the customers.

The customers can be anybody it can be government it can be the societies so and so. So project management stake holders as we already been discussing from the first class even though I did not mention in time and again but they were fitting examples for that.

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## Project Management Stake Holders

- A stakeholder is a person or an organization actively involved in the project or having an interest in or conflict of interest with the project execution or the project end result.
- There are three obvious stakeholders: the *project owner*, the *project organization* and the *society*.

A stake holder is a person not as a group of person or an organization actively involved in project or having interest or in or conflict of interest with the project execution of the project and results. So stakeholders say for example you are trying to build up a dam in the silent valley region or say for example you are trying to build up a dam in an area where nature is the main area. Say for example in the tropical rain forest so obviously the stake holders may be the people who live in the city.

But they can be the stakeholders who are adversely affected in trying to build up the dam they may be the locals. So how you basically analyze the project both from the people of the stakeholders who a Q positive benefit who do not get any positive benefit has to be analyzed. So there are three obvious stakeholders the project owner who is basically running the project the project organization and the society.

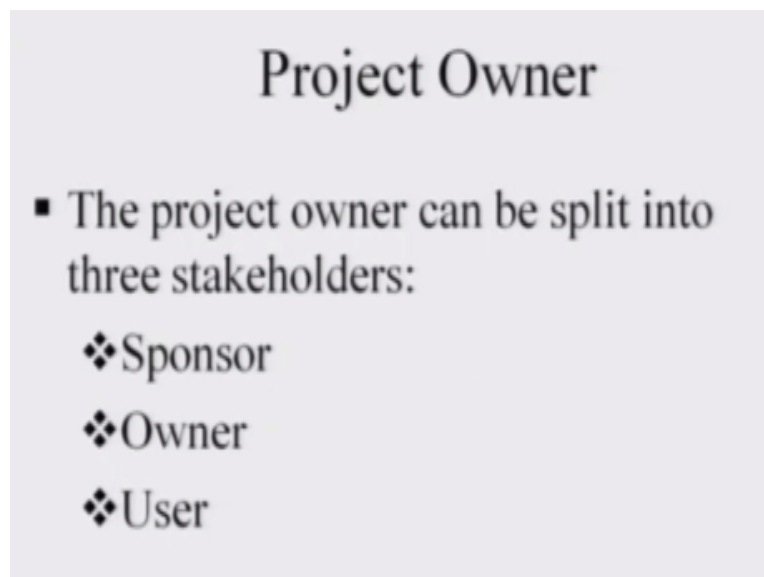
So the society can have as o just mentioned just few minutes back have both type of stake holders first it set of stakeholders would be who are at conflict with the project and the set of other stakeholders are people who are not at a conflict like urban dwellers for a dam get their

benefit of electricity while people in the village and the forest get negatively effected because the overall area where they live in gets flooded.

The project organization may be positive may be negative say for example in a sense that if an organization is trying to build up a factory in certain areas and the project really would give the best products but in the long run it may happen that some of the employees who are employed by the company may have to be it ranged. So obviously they are the stake holders in the overall project organization who gets negatively benefited.

So for any type of projects obviously they would be positive and negative but will try to basically analyze the problem from the overall scheme such that it gives the maximum benefit as I had been mentioning time.

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So the project owner as we as we have been discussing can be split into three stakeholders the sponsor the owner and the user. So with this I will try to hand this fifth class and considering that we have discussed the concept of the project the project management who are the stakeholders and so on and so henceforth. We will in the next class start of discussing the project owner and how it can dovetail the concept of the project cycle, the operation cycle, the business cycle.

And how the concept of acceptance gate is the decision gate can be considered in order to basically slowly plan the project such as the concept of precedence jobs or activities or work and the succeeding jobs and activities is can be done in such a way that they can be scientifically managed with some simple mathematical tools to give us a good understanding how a project is implemented in its initial phase.

So thank you very much for the patience and with this again I am just repeating I am ending this fifth class and I will start of the sixth session of half an hour in the next session thank you very much.