Development Research Methods
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Module - 6
Lecture - 17
Logical Framework and SWOT Analysis

Hello and welcome to the week 6 and lesson 1 of the NPTEL MOOC's course on development research methods. In today's class we will learn about one of the research tools which is used in designing, monitoring and evaluation of development projects. This research tool is variously known as logical framework analysis, sometimes, it is known as logical framework approach. There are various tools within the logical framework approach, which are used for a logical step by step analysis of the research that we are undergoing.

Now, the logical framework approach or analysis began mostly in the context of international development projects, primarily being designed for US AID in the 1960s. However, since the 1960s, there have been various progresses in the method of logical framework approach and analysis. And it is now being used as a method of project planning and management by various corporates and also in market analysis, as well as development research methods. However, the root of logical framework approach and analysis is in the area of international development research and development projects.

So, what we will do in today's class is to have a very brief introduction, very simplified introduction to this tool of logical framework approach. I will get into a very generic discussion of what are the different formats that are kept in mind when we are doing logical framework analysis. However, these formats can of course be adapted to the research question that we are investigating. So, let us get down to what are we doing in today's lecture.

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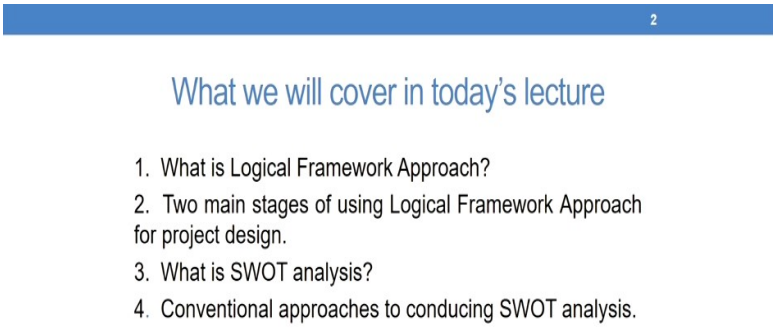

So, we will first see what is logical framework approach. We will focus on two main stages of using logical framework approach for project design. There is a tool referred to as SWOT analysis, which basically looks at the strengths, weaknesses, opportunities and threats that are entailed within a problem that we are looking at. So, sometimes, a SWOT analysis is taken up separately as a research tool all together. And often times, it is also used as a method within the logical framework analysis. So, you would see that, there are development research textbooks or materials that focus on SWOT analysis as a separate method of research tool. Whereas, in this class, I have combined the logical framework with SWOT analysis. Because, often it is made a part, SWOT analysis is made a part of logical framework analysis. So, we will study what is SWOT analysis and we will end today's lesson with the conventional approaches to conducting a SWOT analysis.

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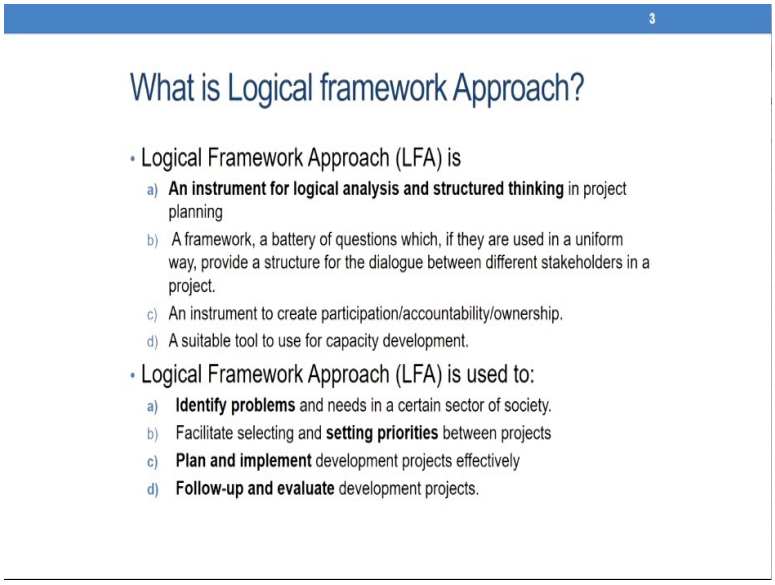

Now, let us first look at what is logical framework approach. Now, as I said, the logical framework approach is variously referred to as, sometimes as approach, sometimes as to an analysis. But the tools that are taken up as a part of logical framework approach is referred to as a logical framework matrix, which we will look at in some time. But one of the things to keep in mind is, when we are looking at logical framework analysis we are essentially trying to have a very logical understanding, a very iterative process of looking up interlocked concepts within the research question that we have taken up. And we are trying to build up a problem in the form of a problem analysis, very logically and very methodically. So, irrespective of whether we are carrying out a project or we are designing a project or monitoring a project, logical framework approach also helps us to understand our research questions better.

So, what is logical framework approach? It is basically an instrument for logical analysis and structured thinking in project planning. You can look at it as a framework or a battery of questions, which if used in a uniform way, provides a structure for dialogue between different stakeholders in a project. In some time, we will take an example of stakeholder analysis and see how it is done. It can also be looked at as an instrument to create participation or accountability. And it is a suitable tool to use for capacity development.

In terms of its uses, they are used to identify problems and needs in a certain sector of society. They are used for facilitating, selecting and setting priorities between projects; planning and implementing development projects effectively; and follow up and evaluating development projects. So, this in a nutshell is how the logical framework analysis is used.

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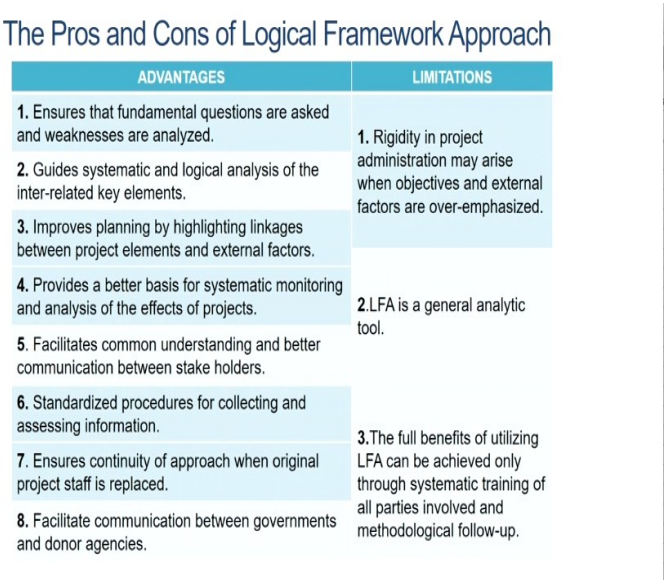

Now, there are various pros and cons of the logical framework approach. Since this tool is being used in various sectors these days, of course, the sector specific problems will also apply even we are looking at pros and cons of logical framework approach. But some of the generic advantages and disadvantages or limitations can be looked up in such a manner. With respect to the advantages, it ensures that fundamental questions are asked and weaknesses are analyzed. It guides a systematic and logical analysis of the interrelated key elements. It improves planning by highlighting linkages between project elements and external factors. Provides a better basis for systematic monitoring and analysis of the effects of projects. These days, with the complexity of research projects that are being carried out, monitoring and evaluation of the projects has become a task in itself. And you would see that these tools, the log matrix, as a part of logical framework analysis is increasingly being used in the monitoring and evaluation exercises.

This approach also facilitates common understanding and better communication between stakeholders. There are standardized procedures for collecting and assessing information. And this is one of the very key advantages of the logical framework analysis. There are certain standardized procedures that the log frame matrix forwards that can be used very objectively by the researchers. It ensures continuity of approach when original project staff is replaced. And it facilitates communication between governments and donor agencies. In fact, most international donor agencies these days, starting from the UN organizations to various other international development organizations, when they are working with their local

partners in various countries across the world, they ensure that logical framework analysis is taken up, which brings about a better fostering of relationship between the donor agencies and their local partners. So, this is a very integral part of project design and monitoring and evaluation.

However, there are certain limitations of this approach as well. One is of course, that there is rigidity in project administration that may arise when objectives and external factors are overemphasized. When we emphasize on the objectives of the exercise quite a lot in a very structured manner, that may lead to rigidity in the project. In the sense that, there is not much scope to change things, that it becomes quite inflexible and that is one of the limitations of this analysis. It is also a very general analytical tool. And the full benefits of utilizing logical framework can be achieved only through systematic training of all parties involved and methodological follow up. So, it is a very labour intensive task of following up with systematic training of all parties; the stakeholders that we are talking about.

Okay. So, how do we use the logical framework approach for project design? Now, there are mainly two phases of using the logical framework approach.

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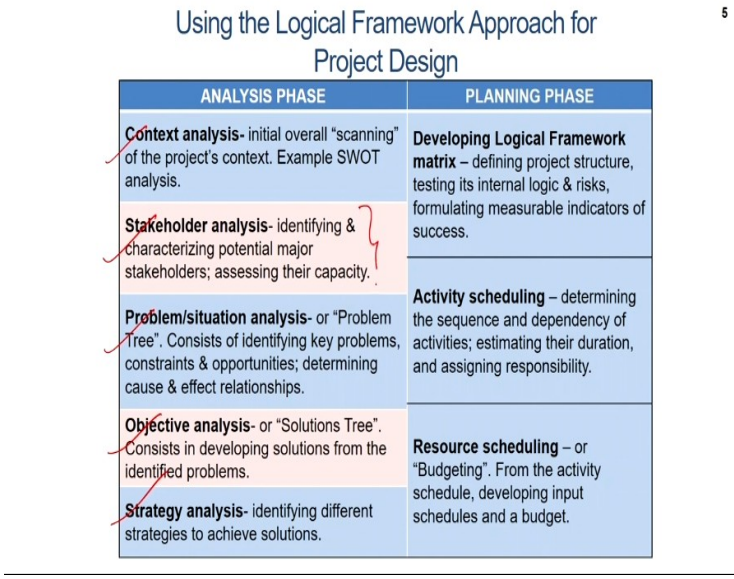

One is the analysis phase and the second is the planning phase. We will take up this phase in detail. But let us first look at what is contained in each of these phases. In the analysis phase, we do a context analysis, a stake holder analysis, problem analysis, objective analysis and strategy analysis. So, if you look at each of these terms very closely, you will see that each of

these terms is focusing on very important components and actors, when we are taking up development projects.

A context of a project is very important. And that is something that is taken up in the analysis phase. The stakeholders: Who are the different actors when we are carrying out a project and how do we carry out stakeholder analysis, is something which is again the focus. The problem analysis: What are the problems that the different stakeholders are facing and what is the larger problem that is coming out of the individual problems that we are looking at. So, context analysis gives us an initial overall scanning of the project's context. And this is where the SWOT analysis is often used for understanding the context. Because we are looking at the strengths, weaknesses, opportunities and threats that are inherent within the research problem that we are studying.

Stakeholder analysis helps us in identifying and characterizing potential major stakeholders and assessing their capacity. Problem analysis, also called situation analysis, results in a problem tree kind of a thing. So, we move from one step to the other and create a problem tree which consists of identifying the key problems, constraints and opportunities; determining cause and effect relationships and so on. Objective analysis is also called the solutions tree, which consists in developing solutions from the identified problems. And then, you have strategy analysis which helps us in identifying different strategies to achieve solutions.

In the planning phase, we develop a log frame matrix, also referred to as logical framework matrix. And here, we are defining the project structure, testing its internal logic and risks, formulating measurable indicators of success. So, this bit, when we are formulating the measurable indicators of success, there is the risk of running into rigidity with respect to the designing of the project. Because it becomes quite inflexible if we are suggesting measurable indicators of success. But often, in the case of international development projects, it becomes important to identify and formulate measurable indicators of success, for evaluation studies. When we are carrying out evaluation studies, measurable indicators of success become of utmost importance. And this analysis tells us how to design these measurable indicators of success as well.

In the planning phase, we also have activity scheduling, where we are determining the sequence and dependency of activities. We estimate the duration and assign responsibilities.

And there is resource scheduling or budgeting. Basically we are looking at, from the activity schedule, developing input schedules and a budget. So, these are 2 major phases of using the logical framework approach for project design.

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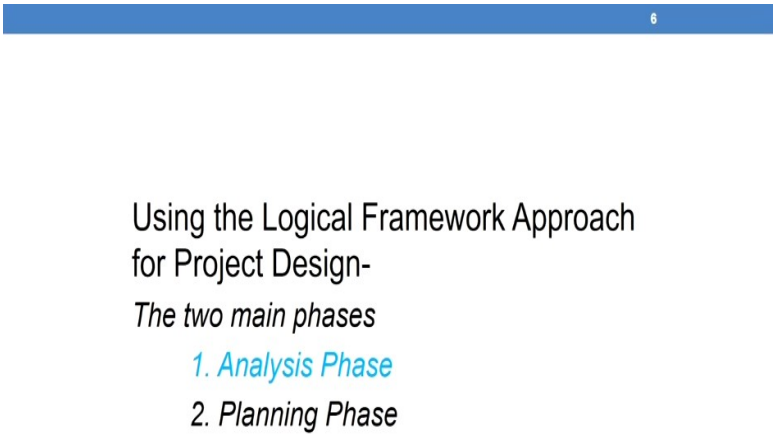

So, let us look at some more details of these 2 phases- the analysis phase and the planning phase.

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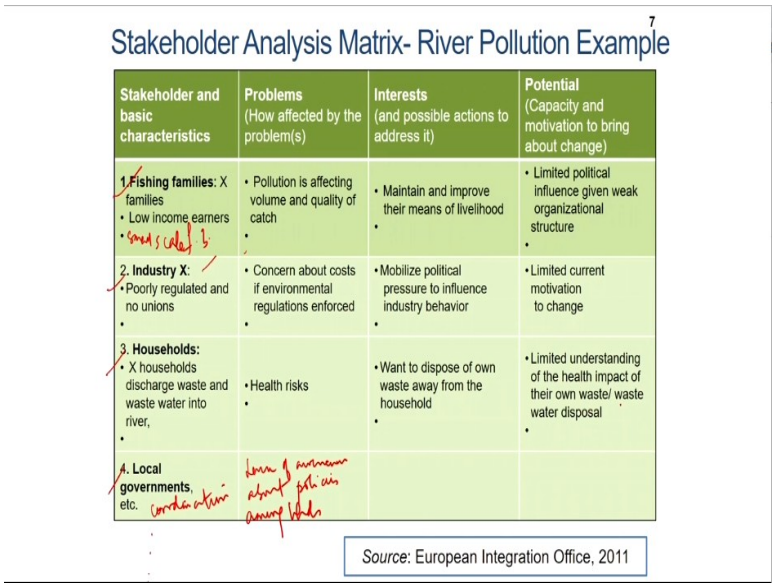

So, what is showing on your slide now is a stakeholder analysis matrix. If you remember, in the last slide, we talked about the components of; these are the different components of the analysis phase, the context analysis, stakeholder analysis. So, we are beginning with this component, where we are studying the stakeholder analysis matrix.

So here, the example that I have taken is that of river pollution. This is an example that we have taken from the European Integration Office, 2011. The references for this lesson and all the tables are provided at the end of this lesson. So, I request all the students to go through the details of those references.

Coming back to the stakeholder analysis matrix here. What you see is in the form of a matrix. There are rows and columns. In the first column, you have the basic characteristics; who are the stakeholders and what are the basic characteristics of the stakeholders. The second column shows us the problems faced by the stakeholders or how they are affected by the problems; how the stakeholders are affected by the problems. The third column shows us what is the interests of the stakeholders concerned. So, you have all these stakeholders; and what is their interest; and what are the possible actions that they can carry out to address the problems that they are facing. And the fourth column talks about the potential or the capacity and motivation to bring about change, with respect to the stakeholders.

So, with respect to river pollution, let us say we take the first stakeholder as fishing families. So, which means, we are looking at X number of families, maybe we are looking at low income earners. We can also look at small-scale family businesses, organized into informal cooperatives. We can also look up women actively involved in fish processing and marketing. So, in a standard stakeholder analysis matrix, the bullet points that you see here empty, you can add on the stakeholders here. So, you start with low income earners. And then, you can add a small-scale family business for example. And then, you can keep adding in the bullet points to these with regard to the stakeholders that you want to look at.

The second stakeholder here is, let us say the industry X. Now, what happens with regard to industry X? Is it a large-scale industrial operation? Is it a poorly regulated and no unions; influential lobby group; poor environmental record and so on. So, this is another stakeholder of the same problem. So, in the river pollution, fishing families are one of the stakeholders. Industry is one of the stakeholders. Households are one of the stakeholders. Households, meaning those who are not fishing families, but they are a part of the ecosystem of the river

pollution that we are talking about here. And then, of course, there are local governments. And if there are more stakeholders to a certain problem, we can keep on adding the stakeholders here to the matrix that we are talking about.

Now, if you look at the column on problems, the next question is with regard to what are the problems that the stakeholders are facing. So, with regard to the fishing families, the problems are, pollution is affecting volume and quality of a catch, let us say. Similarly, if we are looking at small-scale family businesses. Maybe the problem that they are facing is with regard to the health of the family; or family health is suffering. With regard to women actively involved in fish processing and marketing, the problems may be with regard to the mothers' and children's health and so on. So, depending upon the stakeholders that we are taking, what are the problems that the corresponding stakeholder is facing is what we need to write down here in the column on problems.

So, in our example here, low income earners, pollution affecting volume and quality of a catch. So, with regard to industry, some industry X, poorly regulated and no unions, concerns about costs if environmental regulations are enforced. So, what if environmental regulations get enforced and the costs of production goes to be very high, so, what is the effect of that on workers let us say. Households: households discharging waste and wastewater into the river. So, what are the health risks? Local governments: You can think of let us say the problems of coordination, coordination in the hierarchy. And the problems that the lack of coordination give rise to; say lack of awareness about policies among households, due to a lack of coordination in the hierarchy of our local governments.

The third column talks about interests and possible action. So, in here, with regard to low income earning fishing families, the problem that they were facing is, pollution is affecting volume and quality of catch. With regard to interests then; of course, their interest is to maintain and improve their means of livelihood, because any amount of river water pollution directly affects their livelihood options. Therefore, their interest; and therefore, the possible actions that they may want to cooperate in could be with regard to maintaining and improving their means of livelihood. Unions: Their interest could be to mobilize political pressure to influence industry behavior. Households: Their interest could be to want to dispose of own waste away from the household. And therefore, depending upon their interest area, in the sense that what is the stakeholders' interest in this particular problem they might want to coordinate and therefore contribute to the solution of this problem.

The potential- capacity and motivation to bring about change. With regard to the low-income earning fishing families, limited political influence given weak organizational structure. Poorly regulated and no unions, limited current motivation to change. And households, limited understanding of the health impact of their own waste, wastewater disposal.

So essentially, what we are doing in a stakeholder analysis matrix is to list out who are the different stakeholders in the problem that we are taking up. I have taken example of complimentary feeding practices in the earlier classes. So, let us say, we are trying to understand the problem of nutrition in a certain region or a certain locality. And we want to carry out a stakeholder analysis matrix in this case. So, we may identify the stakeholders first as children themselves; second as the families; third, the mothers; fourth as the local administration; fifth, within local administration, we can identify the frontline workers such as the Anganwadi workers, the ASHA workers, and so on. So, in stakeholder analysis matrix, we are basically listing out the stakeholders, what are the problems that the stakeholders think they are facing, and how they are getting affected by a larger problem.

So, in the nutrition case, the problem could be that of massive undernutrition or massive malnutrition in a certain region, and how that is affecting everybody else, how that is affecting the entire ecosystem of a region. And so therefore, the problems, how the stakeholders are getting affected by the problems. And then the interests; and then the potential or the capacity and motivation to bring about change. So, that gives us an initial sense about who are the stakeholders; what are the problems; what are their interests; and what are those areas where they might want to come together to coordinate to be able to provide a solution to the problem that we are facing.

Now, the next step is to conduct a problem analysis by creating a problem tree. In this, we go step by step.

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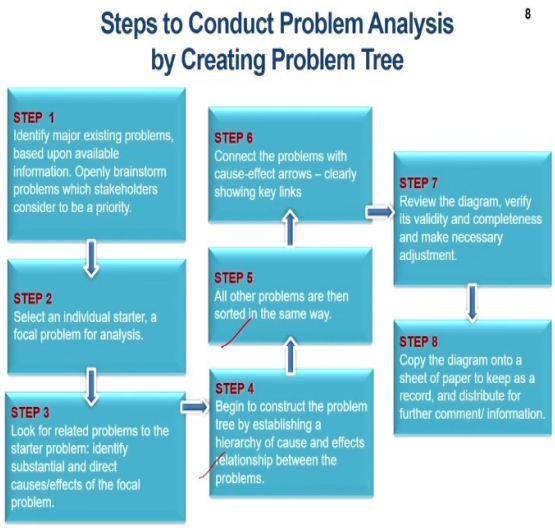

In step 1, we start with identifying major existing problems based upon available information. We openly brainstorm problems which stakeholders consider to be a priority. In step 2, we select an individual starter, a focal problem for analysis. So, in the case of nutrition project that I am talking about, the individual starter could be the children themselves. And the massive undernutrition and malnutrition being faced for the children themselves and that could be a starter, the focal problem of analysis. Step 3, we look for related problems to the starter problem; identify substantial and direct causes and effects of the focal problem. In Step 4, we begin to construct the problem tree by establishing a hierarchy of cause and effects relationship between the problem. This is step 4. In Step 5, all other problems are then sorted in the same way. In Step 6, we connect the problems with cause effect arrows clearly showing key links. Step 7, we review the diagram, verify the validity and completeness; and make necessary adjustment. And in step 8, we copy the diagram onto a sheet of paper to keep as a record and distribute for further comment and information. So, these are the general steps that needs to be carried out for creating a problem tree. So, in the case of the river water pollution that we just saw, the problem tree may look something like this.

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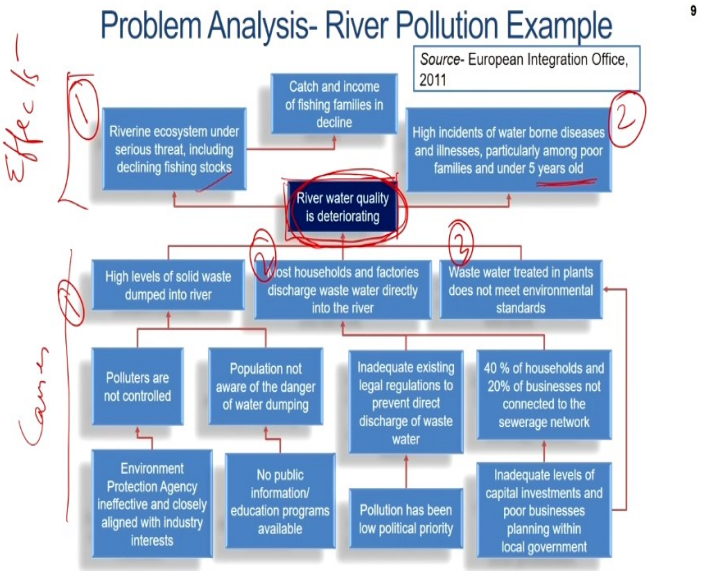

This is how the problem tree may look like, as far as the river water pollution is concerned. So, this is also referred to as a problem analysis. So, the focal starter in our case is river water quality is deteriorating. We start with the problem, that we want to understand the problem of river water quality deteriorating. So, what are the effects? What are the causes? And what are the solutions that we can come up? Who is getting affected? And what are the solutions that we can come up with?

So, this is the focal point. And then, what is river water quality deterioration leading to? One is riverine ecosystem under serious threat, including declining fish stocks. And declining fish stocks affects the fishing families very adversely; who are the low-income earning fishing families, who are one of the important stakeholders that draw livelihood from river water. Here, another effect is that, high incidence of waterborne diseases and illnesses, particularly among poor families and under 5 years old children. Now, obviously, when river water quality affects the health of under 5 years old children, that affects the overall health of the growing economy. Because, today's children are tomorrow's workforce and therefore, the undernutrition or health matters of children are looked up very seriously. So, that affects the larger economy as a whole. So, the deterioration of the riverine ecosystem, then leads to catch and income of fishing families decline.

Now, this is one part of the story. The other part of the story is, what led to the river water quality deterioration in the first place. The first bit is the effects bit of it. But, what led to this in the first place? These are some of the reasons which led to. These are the causes and these are the effects. So, in the causes bit, you have high levels of solid waste dumped into the

river. That happened primarily because, polluters are not controlled, population not aware of the danger of water dumping. This population not aware of the danger of water dumping, because there is no public information, education programs available. Polluters not controlled, because Environment Protection Agency is ineffective and closely aligned with industry interests. Another effect is, most households and factories discharge wastewater directly into the river. This is because there are inadequate existing legal regulations to prevent direct discharge of wastewater. 40% of households and 20% of business is not connected to the sewerage network. Now, inadequate existing legal regulations, because pollution has been low political priority. Businesses and households not connected to sewerage network, because inadequate levels of capital investment and poor businesses planning within local government. And, this is also the reason for wastewater treated in plants does not meet environmental standards.

So, you see here that, we began with one focal problem of studying river water quality deteriorating. This is one effect that we came up with. This is a second effect. This is a livelihood option effect. And this is a nutrition and health effect that we are studying here. The causes, we have identified 3 important causes: 1, 2 and 3. And we have also identified some of the policy issues that might have contributed to these effects. So, this is how we come up with a problem analysis or a problem tree. This is referred to as problem tree. And how did we come up with analysis, this problem tree? We came up with this problem tree, because we started with a stakeholder analysis or the stakeholder matrix in the first place. And each of these branches, if we may call of this problem tree can lead us to decide which part of the problem are we trying to address through the project that we are trying to undertake.

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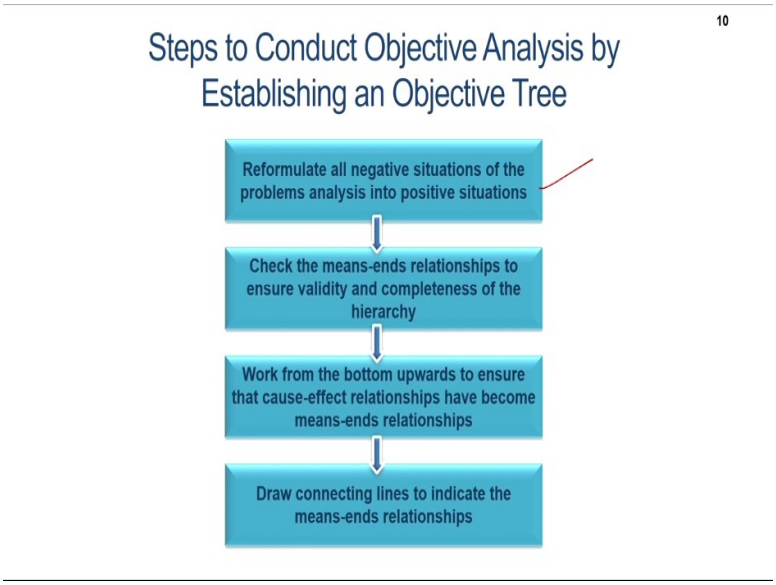

So, these are the steps to conduct objective analysis by establishing an objective tree. Now, from problem tree note here that we first started with stakeholder analysis matrix. Then we went on to problem tree, the problem analysis. Now, from the problem now, after we have identified what are the different problems of the research, a focal point that we started, from there, now, we then go on to build the objective tree by conducting an objective analysis. So, we establish the objective tree.

Now, you will see how we turn the problems into objectives. So, how do we do that? We first begin by reformulating all negative situations of the problem analysis into positive situations. Then we check the means-ends relationships to ensure validity and completeness of the hierarchy. We work from the bottom upwards to ensure that cause-effect relationships have become means-ends relationships. And then, we draw connecting lines to indicate the means-ends relationship.

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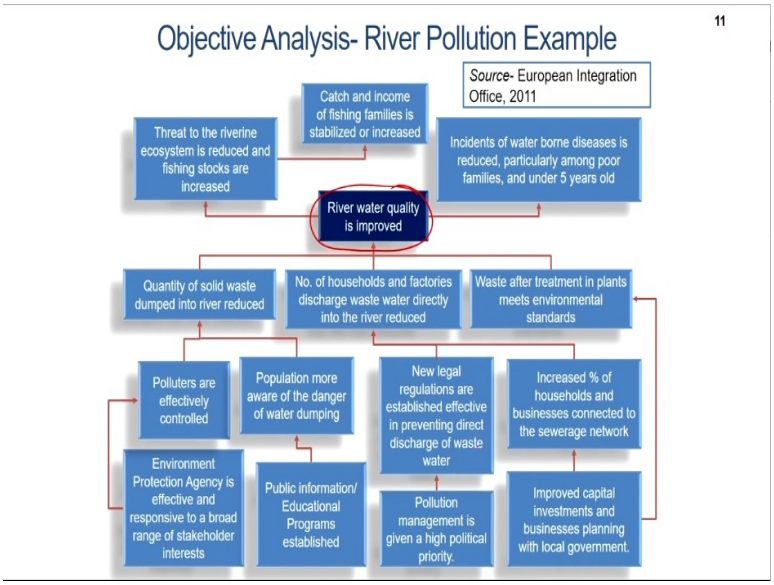

So, this is how. Now, you see, a similar kind of a thing we saw in the case of problem analysis. We created a problem analysis or a problem tree. And now, we are entering into an objective analysis. So, in the problem analysis, we started with the focal point, river water quality is deteriorating. In the objective analysis, we start with the point, river water quality is improved. So, the objective of our study could be that the river water quality needs to be improved. Because there is a threat to the riverine ecosystem and what does that result in? It results in threat to the riverine ecosystem being reduced and fishing stocks increase. Incidence of water borne disease is reduced, particularly among poor families and under 5 children. And this leading to increase in catch and income of fishing families.

With regard to the effects bit, quantity of solid waste dumped into river reduced. This can happen because of these things. Number of households and factories discharge wastewater directly into the river reduced. Waste after treatment in plants meets environmental standards. This is possible because of the policy changes, polluters are effectively controlled, because Environmental Protection Agency is effective and responsive to a broad range of stakeholder interests.

The second bit about population more aware of danger of water dumping. Public information, educational programs are established. New legal regulations are established effective in preventing direct discharge of wastewater. So, you see that we reformulate all the negative situations of the problem analysis into positive situations here.

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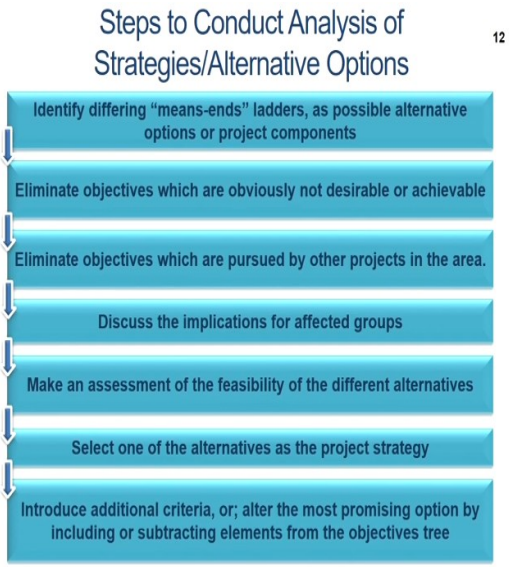

Then there are steps to conduct analysis of strategies or alternative options. So, we identify differing means-ends ladders as possible alternative options or project components. We eliminate objectives which are obviously not desirable or achievable. We eliminate objectives which are pursued by other projects in the area. Discuss the implications for affected groups. Make an assessment of the feasibility of different alternatives. Select one of the alternatives as the project strategy and introduce additional criteria.

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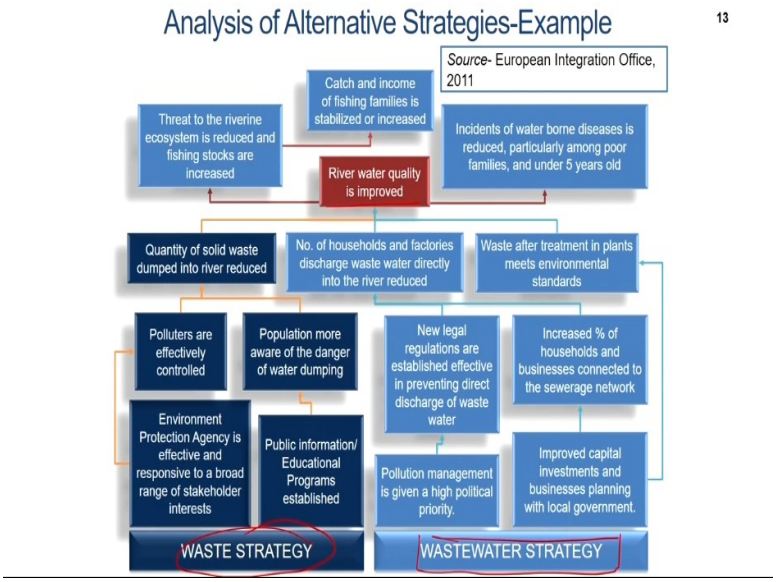

So, this is again an analysis of alternative strategies. So, what are the different strategies of improving river water quality? Whether we want to focus only on the legality of it or we want to come into industrial planning and so on. So, if you look at the focal point or the river water

quality is improved. Now, the alternative strategies could be: because quantity of solid waste dumped into river reduced; because of the Environmental Protection Agency and public information. So, this is a waste strategy. Whereas, this is a wastewater strategy. So, waste strategy is a strategy of reducing pollution by controlling for Environmental Protection Agency and public information, educational programs; and wastewater strategy by giving high political priority to pollution management, improved capital investments and business planning and so on.

So, the flow of thought, we flowed very logically with respect to the problem that we are studying here. We begin with stakeholder analysis matrix; then into problem analysis; then we go into the objective analysis; and then come up with strategies analysis. So, this is the analysis phase of the logical framework approach for project design.

Now, let us look at the planning phase. And the planning phase is where the logical framework matrix or the log frame matrix is usually used, where we start thinking in terms of the measurable outcomes. In the first part in the analysis phase, we are trying to understand the problems and the different strategies that we can take up to address the problems that we have identified. But in the next stage, we start thinking in terms of what are the measurable outcomes. And, when we are thinking in terms of measurable outcomes, we obviously will have a certain set of assumptions as well. So, let us again first look at what are the components of the logical framework matrix or the log frame matrix. There are formats and processes of preparation.

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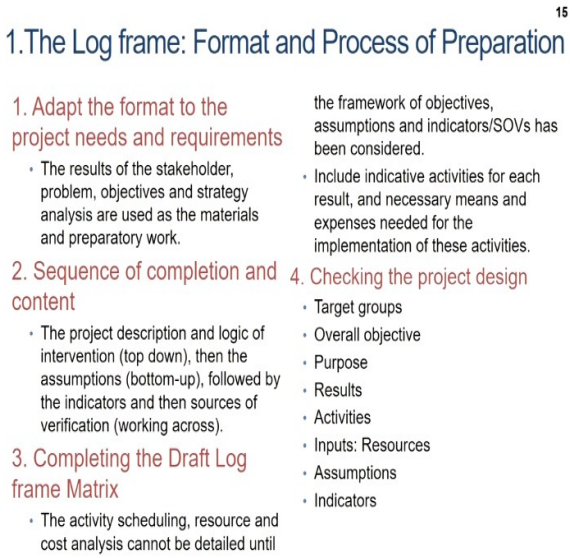

So, one is, we adapt the format to the project needs and requirements. The results of the stakeholder problem, objectives and strategy analysis are used as materials and preparatory work. So, all that we did in the analysis stage can be used as preparatory work. So, we adapt the format to the project needs and requirements. In the second stage, a sequence of completion and content. Here the project description and logic of intervention, top-down; then the assumptions, bottom-up; followed by the indicators; and then, sources of verification. The third is completing the draft log frame matrix. Here, the activity scheduling, resource and cost analysis cannot be detailed until the framework of objectives, assumptions and indicators has been considered. We include indicative activities for each result. And necessary means and expenses needed for the implementation of these activities. And finally, then we check the project design. So, we know who are the target groups, overall objective, purpose, results, activities, the resources used, assumptions and indicators.

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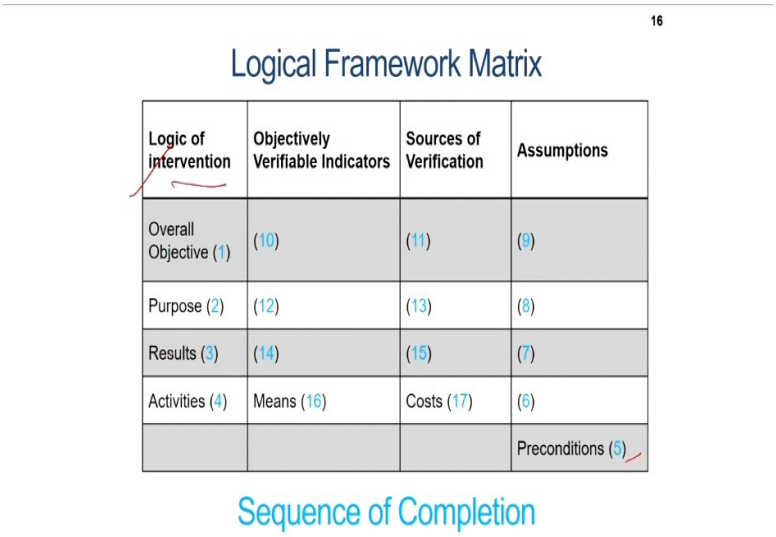

So, this is how a logical framework matrix looks like. There are 4 columns. Starting with logic of intervention, objectively verifiable indicators, sources of verification and assumptions. So, the sequence is- we begin with overall objective, purpose, results, activities; go on to the preconditions; then the assumptions; then coming to objectively verifiable indicators; sources of verification and so on; ending with let us say means and costs. We will come to each of these columns in the next slides.

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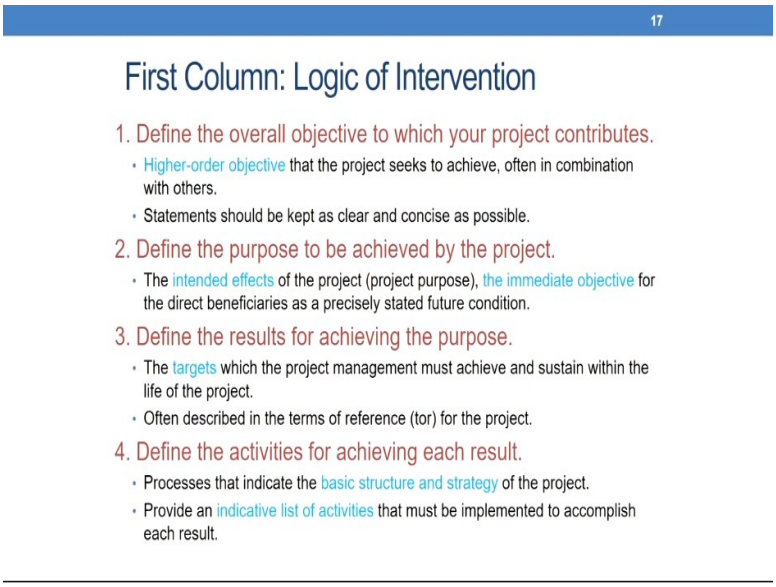

Let us first try to understand the first column; the first column of logic of intervention. What are the different components of this first column of logic of intervention? So here, we first define the overall objective to which our project contributes. The higher order objective that

the project seeks to achieve, often in combination with others. And statement should be kept as clear and concise as possible. Secondly, we define the purpose to be achieved by the project. The intended effects of the project, the project purpose, the immediate objective for the direct beneficiaries as a precisely stated future condition. Often in project management, we also refer to as primary objective, secondary objective. When doing public economics, public policy, we also refer to the intended consequences and the unintended consequences. So, we are basically looking at the project purpose.

Number 3, we define the results for achieving the purpose, the targets for which the project management must achieve and sustain within the life of the project, often described in terms of reference for the project. And finally, we define the activities for achieving each result. Processes that indicate the basic structure and strategy of the project and provide an indicative list of activities that must be implemented to accomplish each result.

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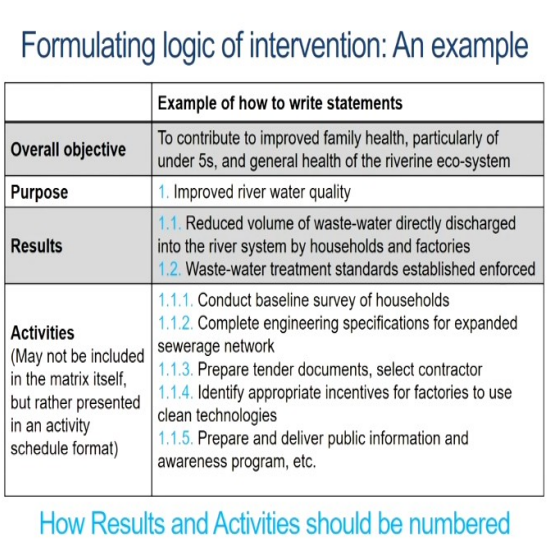

So, this is how we look at that first column, some of the examples of how to write the statement. So, this table that is showing on your slide, basically caters to this column on logic of intervention; and they can be filled in, in each of these cells. So, for example, the overall objective could be to contribute to improved family health, particularly of under fives and general health of the riverine ecosystem.

Keep in mind the example that we have just considered of river water pollution. So, in the context of that example, overall objective of the study could be to contribute to, the project I

mean, could be to contribute to improved family health, particularly of under-fives and general health of the riverine ecosystem. Purpose is of course improved river water quality, because improved river water quality will lead to the effect of all of these; increasing fish catch for low income families; increasing a better health for under-5 children in the locality and so on. So, improved river water quality can lead to all of these. Therefore, that is the purpose of the project. Results: There are 2 identified results: Reduced volume of wastewater directly discharged to the river system by households and factories. And second, wastewater treatment standards established enforced.

Now, what the activities that can be identified? They may not be included in the matrix itself, but rather presented in an activity schedule format. Activities need not be presented in the log frame matrix; however, we can have a separate activity schedule format. But the activities may also be listed up in such a manner. For example, conduct baseline survey of households, complete engineering specifications for expanded sewerage network, prepare tender documents; select contractor; identify appropriate incentives for factories to use clean technologies; prepare and deliver public information and awareness program, etcetera. So, this is how results and activities should be numbered, when we are looking at that column of logic of intervention in the log frame matrix.

In the sequence of completion, you would see that we moved from the logic of intervention column to the assumptions column. So, now, let us look at examples of assumptions.

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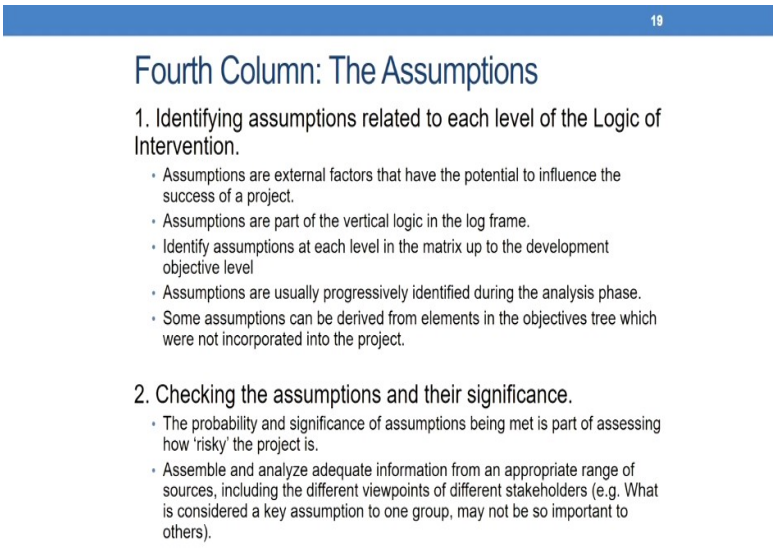

So, one is identifying assumptions related to each level of the logic of intervention. Assumptions are external factors that have the potential to influence the success of a project. They are part of the vertical logic in the log frame. Identify assumptions at each level in the matrix up to the development objective level. Assumptions are usually progressively identified during the analysis phase. And some assumptions can be derived from elements in the objectives tree which were not incorporated into the project. We then go on to check the assumptions and their significance. The probability and significance of assumptions being met is part of assessing how risky the project is. Assemble and analyze adequate information from an appropriate range of sources, including different viewpoints of different stakeholders. Example: what is considered a key assumption to one group may not be so important to others.

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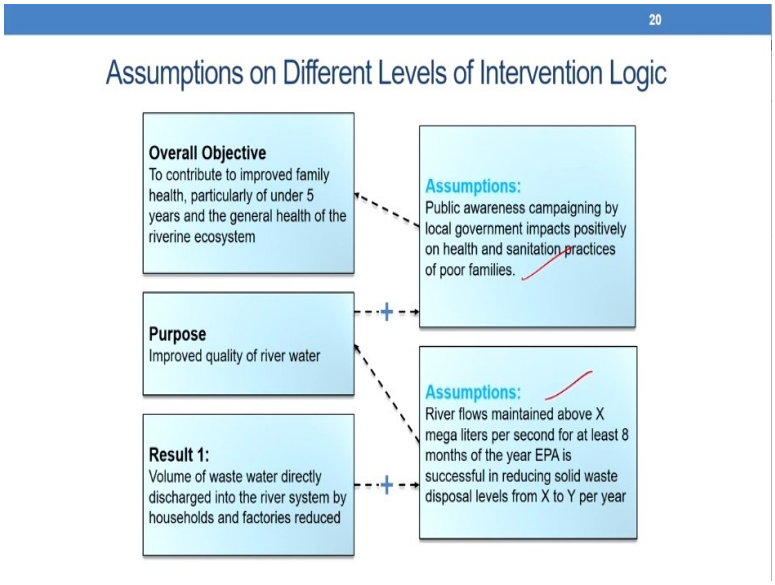

So, these are the assumptions on different levels of intervention logic; overall objective let us say. So, if the overall objective is to contribute to improved family health, particularly of under 5 years and general health of the riverine ecosystem, the assumption is that public awareness campaigning by local government impacts positively on health and sanitation practices of poor families. We could begin with this assumption. When we are looking at the purpose of improved quality of river water, this can also be an assumption. And an additional assumption could be that river flows maintained above a certain mega liters per second, for at least 8 months will be successful in reducing solid waste disposal levels from X to Y per year. And the result that volume of wastewater directly discharged to the river system by

households and factories reduced. This could again be the assumption for the result. So, for overall objective, purpose and results, for each of these, we have assumptions on different levels of intervention logic.

Now, this is a decision-making flowchart for checking assumption.

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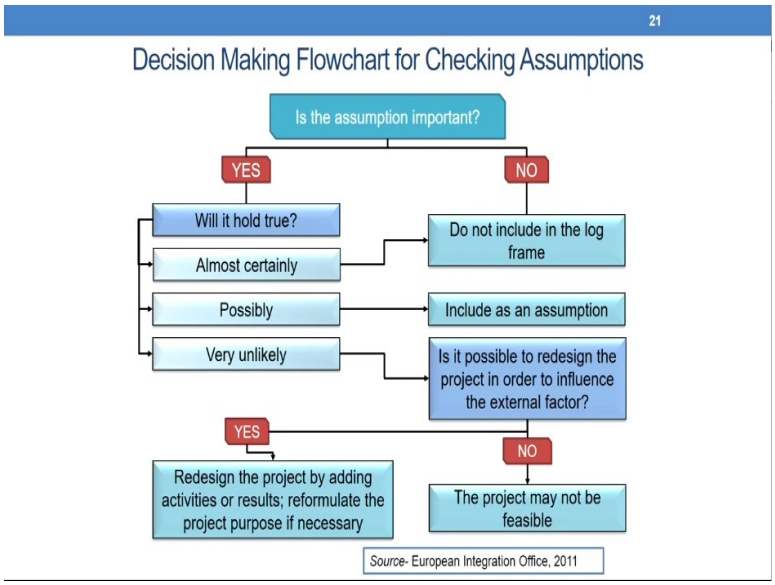

This is an optional thing that can be used as a part of the entire exercise. When we are asking the question- is the assumption important, if yes, will it hold true? If no, then do not include in the log frame. If almost certainly, then do not include in the log frame. Possibly: include as an assumption. Very unlikely: Is it possible then to redesign the project in order to influence the external factor? Is it possible to redesign the project in order to influence the external factor? Yes? No? If yes, redesign the project by adding activities or results. If no, the project may not be feasible. So, these are different kinds of decision-making flow charts that can be made for checking the assumptions that we are taking for the different levels of intervention logic.

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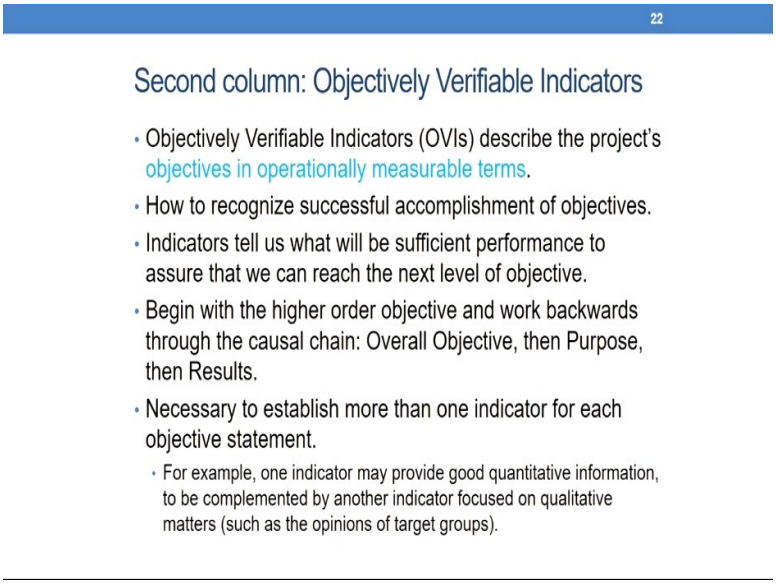

Now, let us come to the second column. What are the things that should be included in the second column that we studied on objectively verifiable indicators. And, this is again of something which is very important as far as a log frame matrix is concerned, because here we are talking about measurable outcomes or measurable indicators. So, let us look at the second column. Objectively verifiable indicators or OVIs; they describe the project's objectives in operationally measurable terms. How to recognize successful accomplishment of objectives. These indicators tell us what will be sufficient performance to assure that we can reach the next level of objective. We begin with the higher order objective and work backwards to the causal change. Overall objective, then purpose, then results. And it is necessary to establish more than one indicator for each objective statement. For example, one indicator may provide good quantitative information to be complemented by another indicator, focused on qualitative matters such as opinions of target groups.

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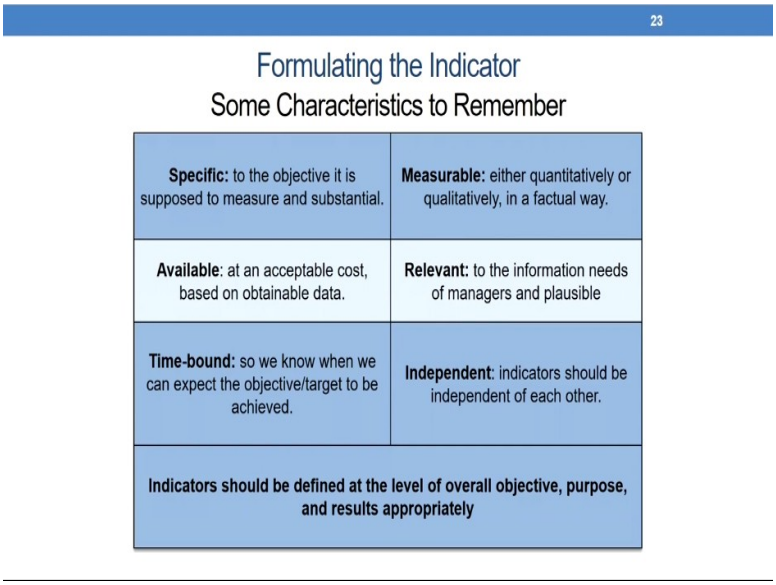

So, for formulating the indicator, some of the characteristics to remember. Specific: We have to be very specific to the objective it is supposed to measure and substantial, because that will then ensure measurability. So, first is specific. Available: What we are trying to measure should be available at an acceptable cost based on obtainable data. Should be time bound, so we know when we can expect the objective or target to be achieved. It should be measurable, either quantitatively or qualitatively in a factual way. Relevant to the information needs of managers and plausible. And indicators should be independent of each other. So, these indicators should be defined at the level of overall objective, purpose and results appropriately.

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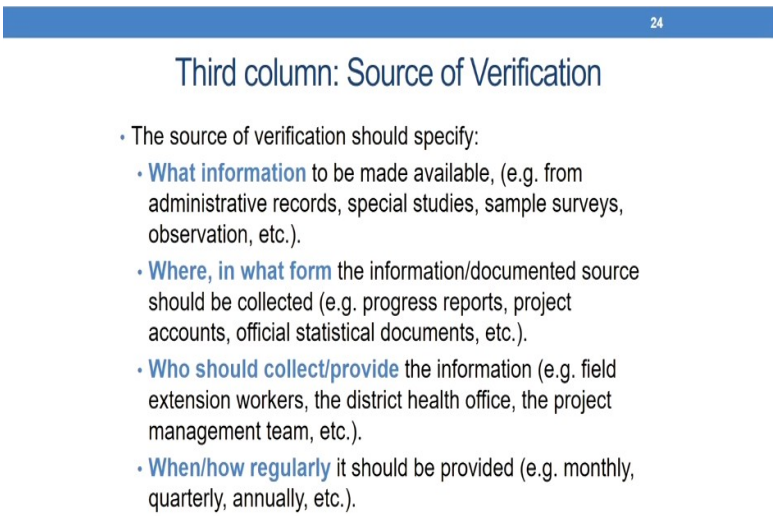

The third column, source of verification should specify the following. What is the information that is to be made available? Example: from administrative records, special studies, sample surveys, observation. Where and in what form- The information, that is documented source should be collected. Example: progress reports, project accounts, official statistical documents. Who should collect and provide the information? Example: field extension workers, district health office, project management team, etcetera. When and how regularly it should be provided. Example: monthly, quarterly, annually and so on.

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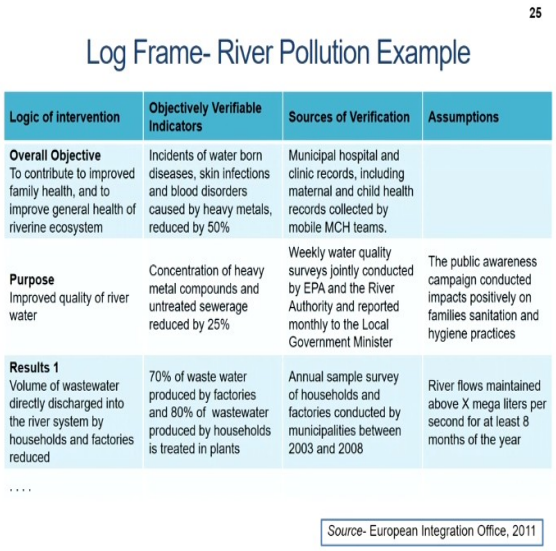

So, we will end the logical framework discussion with this final log frame matrix of river pollution example. The logic of intervention column looks at overall objective purpose results. So, the overall objective is to contribute to improved family health and to improve general health of riverine ecosystems. The objectively verifiable indicator for that logic of intervention: Incidents of water borne diseases, skin infections and blood disorders caused by heavy metals reduced by 50%. Sources of verification: For that, municipal hospital and clinic records including maternal and child health records collected by mobile MCH teams. Purpose: Improved quality of water. Results: volume of wastewater directly discharged into the river system by households and factories reduced. Then you go to the assumptions column. Beginning with river flows maintained above X mega liters. Public awareness campaign conducted impacts positively on family sanitation and hygiene practices. Then you go to the objectively verifiable indicators. Incidents of waterborne diseases; municipal hospital and clinic records; for the OVI concentration of heavy metal compounds. Sources of

verification: Weekly water quality surveys. For the OVI, 70% of wastewater produced by factories and 80% of wastewater produced by households treated in plants. Annual sample survey of households and factories conducted by municipalities between 2003 and 2008.

So ultimately, with the help of the stakeholder matrix analysis, the problem analysis, the objective analysis and alternative strategies analysis, we come up with a log frame matrix that helps us to come up with some objectively verifiable indicators. There are, some of the points that we must ensure when we are checking the project design with regard to the content of log frame matrix.

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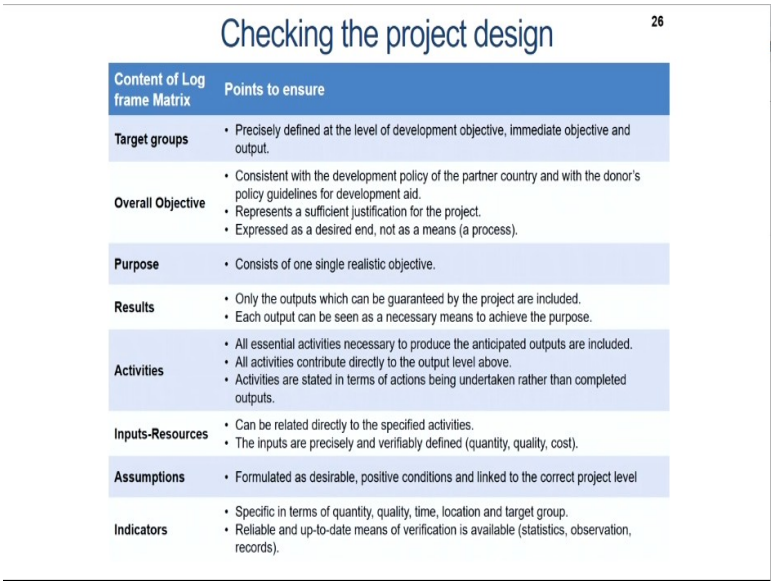

So, these are the contents. Target groups, overall objective, purpose, results, activities, inputs resources, assumptions and indicators. Target groups need to be precisely defined at the level of development objective, immediate objective and output. Overall objective should be consistent with the development policy of the partner country and with the donor's policy guidelines for development aid. Now, here there is reference to partner country and donor's policy guidelines for development aid, because this design is adapted from the International Development Project sponsored by the donor agencies.

Represents a sufficient justification for the project. Expressed as a desired end, not as a means. With regard to purpose, consists of one single realistic objective. Results: Only the outputs which can be guaranteed by the project are included. Each output can be seen as a necessary means to achieve the purpose. With regard to activities, all essential activities

necessary to produce the anticipated outputs are included. Input resources: The inputs are precisely and verifiably defined. Assumptions: Formulated as desirable, positive conditions and linked to correct project level. And indicators: Specific in terms of quantity, quality, time, location and target group.

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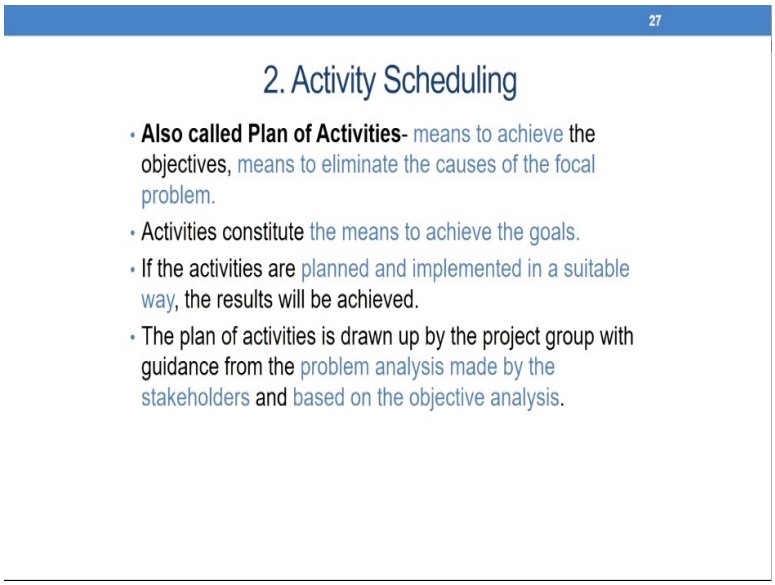

Second bit is an activity scheduling. So, we also call plan of activities that we had talked about. So, you can look at means to achieve the objectives, means to eliminate the causes of focal problem. Activities constitute the means to achieve the goals. If the activities are planned and implemented in a suitable way, the results will be achieved. And the plan of activities is drawn up by the project group with guidance from problem analysis made by stakeholders and based on objective analysis.

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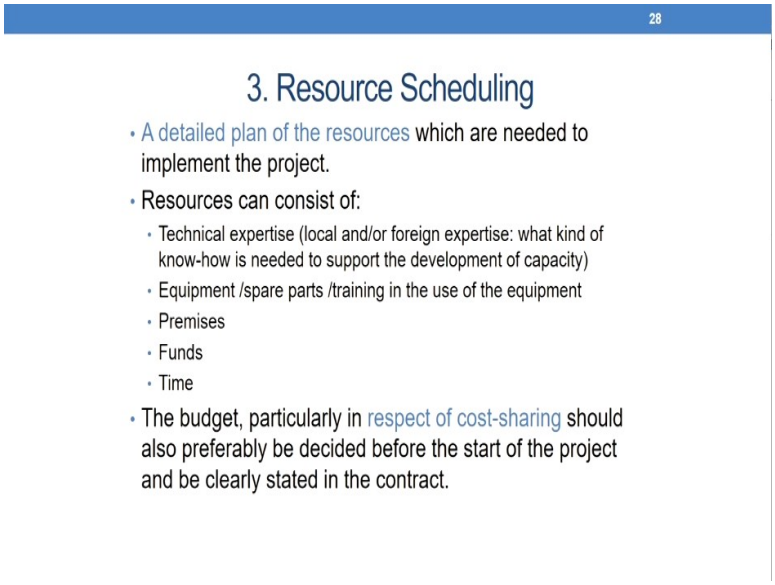

The resources scheduling: A detailed plan of the resources which are needed to implement the project. Resources: It can consist of technical expertise, equipment, premises, funds, time. And the budget, particularly in respect of cost sharing, should also preferably be decided before the start of the project and be clearly stated in the contract.

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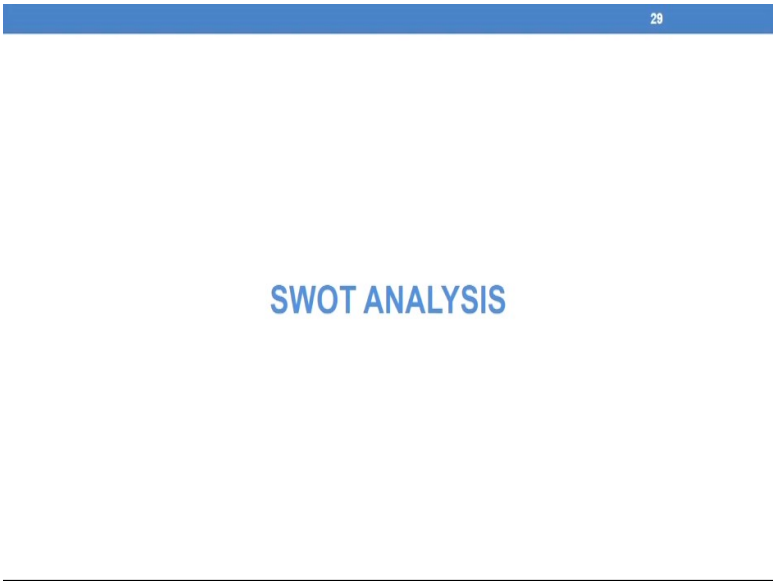

So, this is just a beginning to logical framework approach. This lesson tried to initiate the student of development research to how to enter the field of logical framework approach and analysis. And how we can come up with problem tree and solution tree with regard to the development question that we are studying. And as I said that this approach or this analysis can be adapted to the research question that we are studying. And therefore, the assumptions,

the objective, the purpose, the objectively verifiable indicators or the measurable indicators need to be very carefully planned out. It gives us a sense of how to logically start thinking and structuring our ideas about the research problem that we are considering.

Now, let us end this lesson with a brief foray into SWOT analysis. As I said in the beginning of this lesson, SWOT analysis as a tool, is taken up separately, and sometimes as a part of the logical framework analysis, which is why I have put them together. Let us see what is SWOT analysis.

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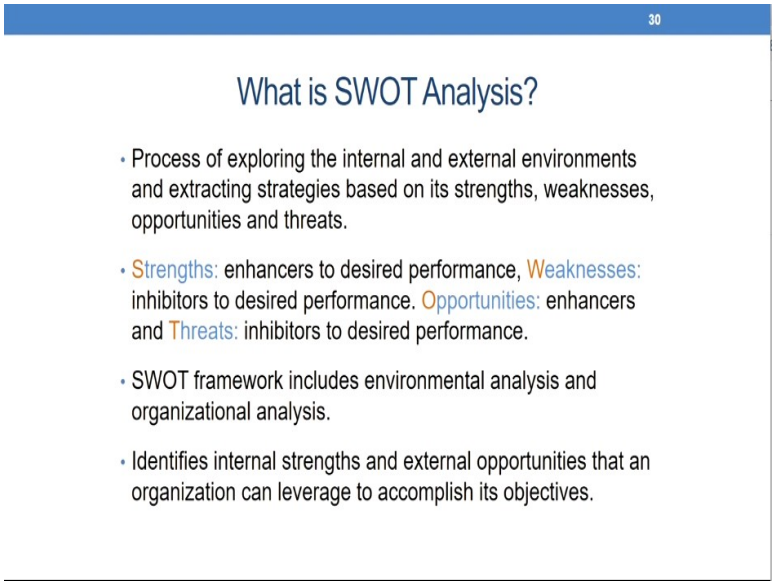

It is basically a process of exploring the internal and external environments and extracting strategies based on its strengths, weaknesses, opportunities and threats. Strengths, meaning enhancers to desired performance. Weaknesses are basically inhibitors to desired performance. Opportunities are enhancers. And threats, inhibitors to desired performance. So, strengths and opportunities are enhancers; and weaknesses and threats are inhibitors. The SWOT framework includes environmental analysis and organizational analysis. And they identify internal strengths and external opportunities that an organization can leverage to accomplish its objectives.

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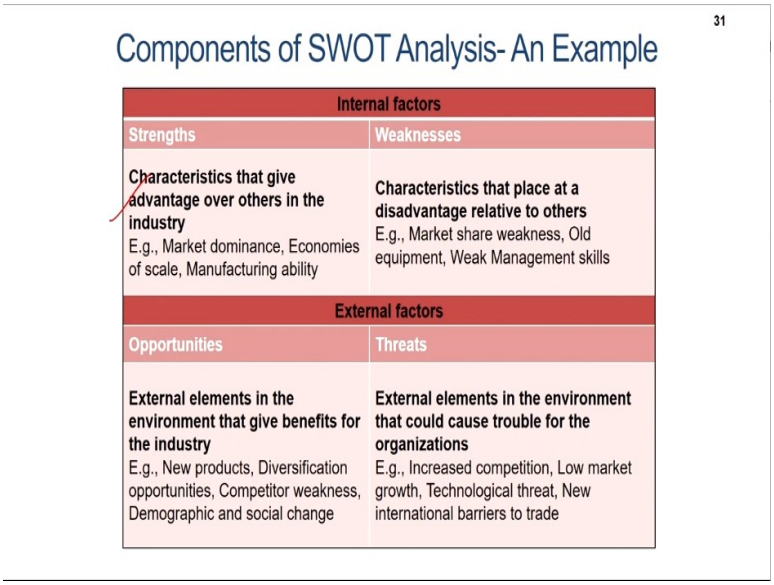

So, this is how it looks. It is also in the form of a matrix, a 2 by 2 matrix, where the internal factors, the external factors; this is just an example. So, in the strengths cell, you have characteristics that give advantage over others in the industry. Example: market dominance, economies of scale, manufacturing ability. This is in the context of the operation of the markets, technology markets. Weaknesses: Characteristics that place at a disadvantage relative to others. Opportunities: External elements in the environment that give benefits for industry. And threats: external environments, elements in the environment that could cause trouble for the organization.

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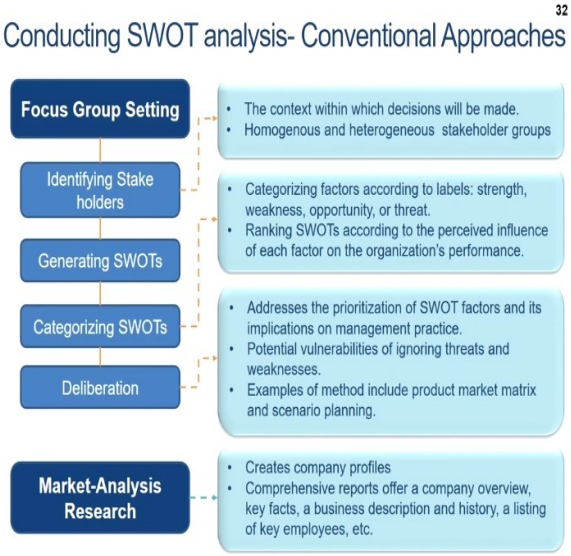

Now, the conventional approach of conducting SWOT analysis is in the focus group setting. Where we are identifying stakeholders; and then generating SWOTs, categorizing SWOTs and deliberating. When we are identifying stakeholders, the context within which decisions will be made. Homogeneous and heterogeneous stakeholder groups. With regard to categorizing the SWOTs, we are categorizing factors according to labels. Ranking SWOTs according to perceived influence of each factor on the organization's performance. And when we are deliberating on it, we are addressing the prioritization of SWOT factors and its implications and management practice. Potential vulnerabilities of ignoring threats and weaknesses. Examples of method include product market matrix and scenario planning.

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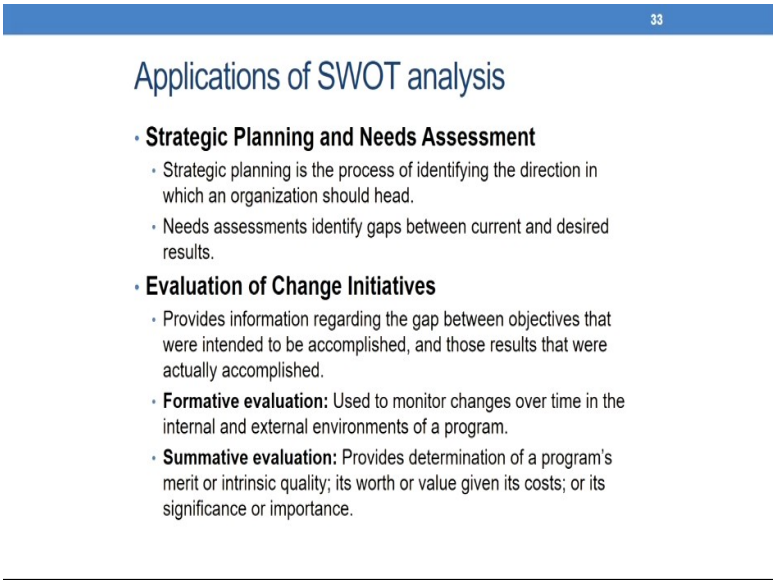

Some of the applications of SWOT analysis is in strategic planning and needs assessment, which is the process of identifying the direction in which an organization should head. Needs assessments identify gaps between current and desired results. An evaluation of change initiatives, which provides information regarding gap between objectives that were intended to be accomplished and those results that were actually accomplished.

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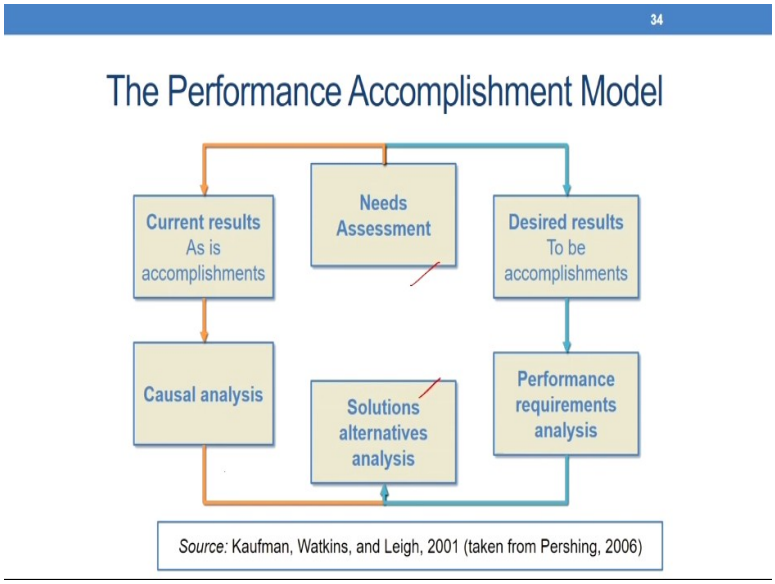

The performance accomplishment model. So, you have needs assessments and solutions alternative analysis. So, you look at the current results, the desired results, the causal analysis and performance requirement analysis.

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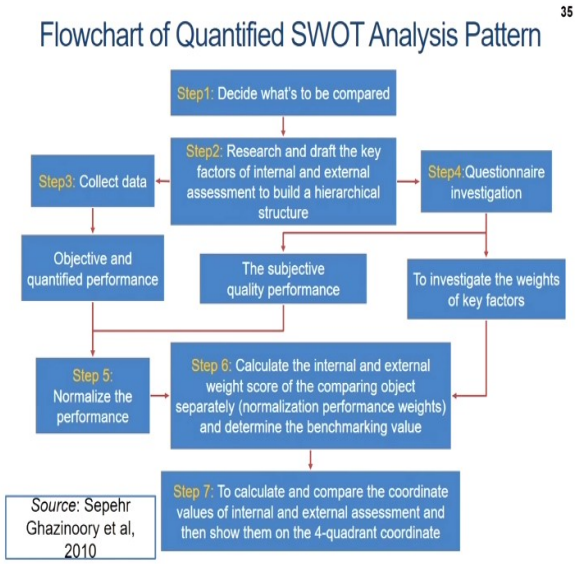

This is a flowchart of quantified SWOT analysis pattern, the steps. This can be taken as some kind of a framework, which can be adapted to various research problem areas that we decide to take. In the step 1, we decide what is it that is to be compared. Step 2, research and draft- the key factors of internal and external assessment to build a hierarchical structure. In Step 3, we collect the data. Step 4, we carry out the questionnaire investigation. What is contained in this step 3 and 4 is, when we are collecting data, we have to look at the objective and

quantified performance, questionnaire investigation, subjective quality performance, investigate the weights of key factors. In step 5, we normalize the performance. And in step 6, calculate the internal and external weight score of comparing object separately. And in step 7, to calculate and compare the coordinate values of internal and external assessment and then, show them on the 4-quadrant coordinate.

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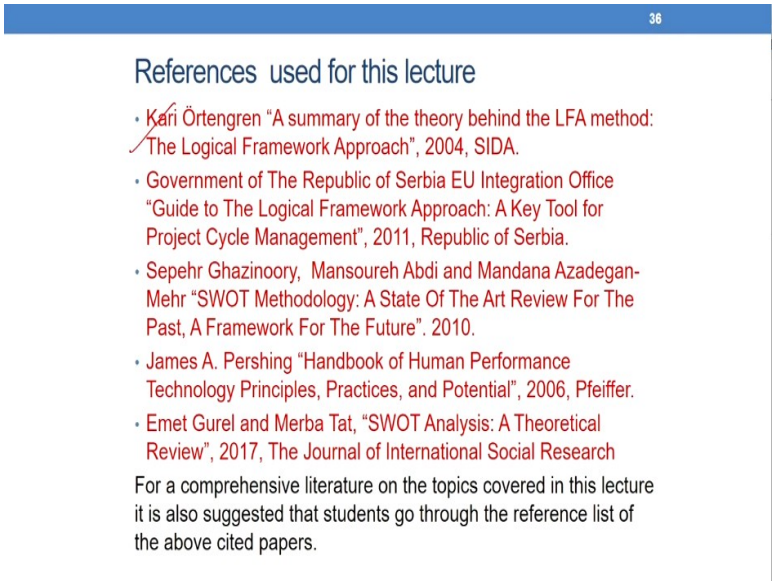

So, these are the references that I have used for this lesson. Students who are interested in looking at the details of logical framework approach and how it can be best adapted to the development research questions are asked to look up the writeup on a summary of the theory behind the LFA method, the logical framework approach. This is open access available online. And for a more comprehensive literature on the topics, I request you to go through the reference list of these, all of these above cited papers.

Thank you very much. I will see you in the next class.