**CHARACTERISTICS OF A PROJECT CYCLE**

1. The project is divided into several distinct phases or stages.
2. Each stage is marked by a number of deliverables/phase output.
3. Usually 1 phase consist of several sub-phases or activities.
4. The stages are progressive –Each phase should have a phase exit or completion point that allows the next stage to be tackled with success.
5. Common terminologies is used to describe a project cycle eg.Programming, identification, Formulation, Financing and evaluation. (Words used to describe various stages may differ slightly but the way of thinking remains the same.)
6. A technical review should be carried out at the end of each phase to review all the phase output have been achieved.

**CONCLUSION**

-It should be noted that in all types of project management especially for community development because it potentially promotes of the achievement of poverty reduction goals by enhancing a result based service.

**EXAMPLES OF DEVELOPMENT ACTIVITIES WHERE A PROJECT IS USED**

-Project are used as a means of achieving an organizations or a community development strategic plans.

-Projects are undertaken at all levels of the community and they can involve a single person on many people.

-There duration ranges from a few weeks to several years.

-Projects can involve 1 or many organization units.

EXAMPLES OF PROJECTS INCLUDE, BUT ARE NOT LIMITED TO;

1. Developing a new product or service.
2. Effecting a change in structure, staffing or style of an organization.
3. Designing a new transportation vehicle.
4. Developing or acquiring a new or modified developing system.
5. Constructing a building or a facility.
6. Building a water system to a community.
7. Running a campaign for political office.
8. Implementing a new business procedure or process.
9. Responding to a contract solicitation.

-Project Design involves determination of the project goals, objectives, inputs, outputs & activities.

-The project Design document is prepared by the feasibility study team.

-Some time project design is attached to planning and therefore the process treated as project Design & planning.

-However one can separated design and planning because before planning for the project one has to determine the project goal,objectives,their relationship & indicators of change( verifiable indicators & the means of verification)

-Project Design answers the following questions:

* What to be done?
* What to do?
* Why to be done?
* Why to measure a change?
* What we will indicate a change?

PROJECT DESIGN CAUSE, EFFECT, R/SHIP

* A as a means of achieving development activities is traced back to certain problem identify during the stage of project identification in the life cycle.
* Project identification involves identifying environmental problems to be addressed and the needs and interest of possible benefiaries and stalk holders.
* The problems and the most realistic and effective intervention are analyzed and ideas for projects and other actions are identified and screened.
* For one to have a project there must be a problem identified as affecting the beneficiaries to the community. In this case the solution to the identified problem is the design of a project on the bases of Cause, effects & r/ship of many factors.
* Before one design a project a problem must have been identified.
* The party(s) to this problem must have a dream (vision) of the future after the intervention.
* In a project design one has to determine the long time objectives (goal),project purpose statement, expected output(deliverables)& the inputs.
* Although project design involves determination of long term objectives, purpose, expected outputs and input.
* When designing a project those are not enough since one has to make some assumption & determine the verifiable & evidence indicator.
* The project design cause effect r/ship can be explained by use of illustration below.

NB.

NB;when monitoring and evaluating a project, it is important to note that monitoring and evaluation should be based on project design therefore a project.

**THE DIAGRAM BELOW IS AN ILLUSTRATION OF THE CAUSE EFFECT R/SHIP IN A PROJECT DESIGN.THIS RELATIONSHIP DEFINES THE PROJECT LOGIC MODEL**

|  |  |  |  |
| --- | --- | --- | --- |
| **DESIGN SUMMARY** | **INDICATORS OF CHANGE/VERIFIABLE INDICATORS** | **MEANS OF VERIFICATION(HOW CHANGE WILL BE MEASURED)** | **ASSUMPTION/RISKS** |
| **GOAL:(**state the goal**)** |  |  |  |
| **OBJECTIVE:(**state the objective**)** |  |  |  |
| **OUTPUT 1** |  |  |  |
| Activity 1.1 |  |  |  |
| Activity 1.2 |  |  |  |
| Activity 1.3 |  |  |  |
| **OUTPUT 2** |  |  |  |
| Activity 2.1 |  |  |  |
| Activity 2.2 |  |  |  |
| Activity 2.3 |  |  |  |
| Activity 2.4 |  |  |  |
| **INPUTS** |  |  |  |
| **1.** |  |  |  |
| **2.** |  |  |  |
| **3.** |  |  |  |
| **4.** |  |  |  |

**ACTIVITIES IN PROJECT DESIGNING**

* Project logical model approach – **logical framework & project designing summary**. This are statement of project goals objectives or purpose outputs indicators and inputs developed in hierarchical order cause effect r/ship.

**IMPORTANT TERMS AND CONCEPTS IN PROJECT LOGICAL MODEL DESIGN**

1. **Project logical matrix** – It’s a table that summarizes the final design of a project and usually comprises of 16 frames organized under 4 major headings (Project design summary which constitute project goal purpose, output & input.)
2. **GOAL** –This is a long term objective sought by the project. There are usually programmed,sectrol,sub- sectrol objectives, They provide the umbrella logic and rational of the project and they are not specific because they are influenced by many factors and are achieved over a long period of time and other projects elsewhere contributes towards it.
3. **OBJECTIVES.-**Specific, measureable, Achievable, Realistic & time bound description of an intended outcome. This definition implies that an objective must be smart.
4. **PROJECT PURPOSE.-**This is an immediate objective of the project (End of project impact.)It is an anchor of project design because it indicates the level of achievement that the project must deliver. It is the starting point of project design since project inception begins with a purpose.

-The project purpose defines the project immediate impact on benefiaries or institution and related changes in behavior of project beneficiaries and institutional function

1. **OUTPUTS.-**These are goods, services or process to be delivered by the project given some inputs and assumption by the end of the project implementation period.

-Outputs must provide condition necessary to achieve the immediate project objectives.

**Categories of project outputs**

1. Infrastructural inputs e.g. Building roads, plants, schools etc.
2. Service type outputs eg.Health care, Extension service, Research findings, Awareness education etc.
3. Policy type outputs e.g. Constitutional review, policy development/change, new laws&policies etc.
4. Institutional strengthening type output.eg includes institutional diagnostic studies for improving the current system e.g. strategic plan, standardization process, certification process etc.

**NB:** The infrastructure, services, policy & institutional strengthening outputs are complimentary to each other.

1. **INPUTS**.-these are resources available for project implementation. They include money, equipments, Technology &Human resource must be good, services or process used as requirement in order to give outputs given as assumption in risks.

**PROJECT DESIGN INPUT CATEGORIES**

1. SALARIES.
2. SOFTWARE.
3. EQUIPMENT.
4. CIVIL WORKS.
5. CONSULTANCE.
6. PROJECT MANAGEMENT.
7. TRAINING OF STAFF.
8. **ASSUMPTION. -** This are hypothesis for the project success.

* They are factors which are outside the control project but which never the less influence the coarse effect r/ship integral project design.
* Assumption are applied to all level of design summary e.g. Assume that the staff is competent, weather will be favorable.

**IMPORTANT AREA WHERE THE ASSUMPTION MAY INFLUENCE THE PROJECT**

* Market/price
* Macro – economic policies e.g. fiscal policies & monitoring
* Political & social conditions.
* Sector policy & conditions
* Environmental conditions.
* Private sector capabilities.
* Govt administrative capabilities.
* Community & other development support partners.
* Donors & other funding bodies.

1. **THE VERIFIABLE INDICATORS/PERFOMANCE TARGETS.** - This are measures to establish the accomplishment of inputs, outputs, purpose and goals of a project.

**-**They indicate in specific measureable and tangible terms of the performance to achieved at each level in project design.

**-**VPI (verifiable performance indicator) clarifies the minimum achievement requirements for input to cause the output & the output to cause the envisaged (imagine/visualize).

**-**VPI measures results not just a process but in the following dimensions:

1. Expected quantity.
2. Expected quality
3. Time period
4. Location

NB: An effective indicator must meet the above condition i.e. QQTL

1. **MEANS OF VERIFICATION/MONITORING MECHANISMS.**

-These are the data source and reporting system will be used to verify the status of each indicator.

-Means of verification shows what is accomplished with respect to inputs, outputs. Purpose & goals of the project.

-Provide evidence that the objectives have been achieved.

-Factors to consider when designing the project means of verification:

1. Data availability
2. Data reliability
3. Timeliness of the data
4. Cost of special Data if needed
5. **IMPACT**

* The positive/negative change produced directly or indirect of a program or project implementation.

**STEPS OF PROJECT DESIGN USING THE LOGICAL MODEL**

-In summary the project design may take the following steps:

1. Identification of the project purpose i.e. immediate objectives of the project.
2. Determine the project goal with regard to the sectoral, sub –sectoral or programme objectives.eg National plan, millennium development goal & company goals.eg of goals Increased productivity, increased income, employment creation, creating awareness, improve profitability, reduced HIV/AIDS spread, alleviate poverty.

**PRINCIPLES OF DEVELOPING PROJECT GOALS**

1. There should be a direct cause effect r/ship

2. The purpose should make a reasonable significant contribution to the goals

3. If more than one goal specified there should be a cause effect r/ship between them.

1. Determine the project outputs – this involves determining how the project objectives both long and immediate would be achieved by the project.

iv. Determine the expected deliverables in terms of tangible goods, services or a process.

V. Determine the project inputs. This are resources in terms of money (budget), Equipments, technology & human resource.

VI. Determine the objectively verifiable indicators for each design level. This indicators must meet the QQTL criteria.

Vii.Detrmine the mechanism/means of verification for the performance. Means of verification must based on the following factors:

1. Data availability

2. Data reliability

3. Timeliness of data

4. Cost of gathering information.

**NB:** Before this is designed there must be an appropriate baseline Data.

ix. Determine the project assumption and risk.

**STEPS OF DESIGNING PROJECT USING LOGICAL MODEL APROACH**

REASONS FOR USING LOGICAL MODEL

-The logical frame work is a toll that helps you – 1) Organize your thinking

2) Relate activities and investment to expected results.

3) Set the performance indicators.

4) Allocate responsibilities.

5) Communicate information on the project concisely and unambiguously.

**STEPS:**

1. DEFINE THE OVERALL GOAL TO WHICH THE PROJECT CONTRIBUTES

-In the 1st phase of logical framework development, you should prepare a general description or narrative summary for the project.

1. DEFINE THE PURPOSE TO BE ACHIEVED BY THE PROJECT

-You should normally have 1 purpose in a project. The reason for this is very practical.

-Experience have shown that, it is easier to focus project outputs on a single purpose.

-If you have several purposes effort become diffused and the design is weakened.

-Although the purpose describe the reasons why the outputs are being undertaken it is outside the control of the project team.

-You can hold a project team responsible for producing a certain results but not for what people or institutions will do with those results. This means that you can insist that the project team achieve certain output which will help to bring about the desired impact but you cannot hold them accountable for achieving the impact.

-You may design a project with the purpose of improving food production by farmers.

-You may design it to provide the farmers with the new skills & inputs.

-Although the team will achieve all these planned outputs they cannot be held responsible if farmers decide to do something completely different.

1. DEFINE THE OUTPUT FOR ACHIEVING THIS PURPOSE.(REFER TO THE DEFINATION ABOVE)
2. DEFINE THE ACTIVITIES FOR ACHIEVING EACH OUTPUT.

-Remember the project management involves carrying out certain activities.

-You must include this activities in your logical framework.

-Provide a summary schedule of periodic meetings monitoring events and evaluations.

-Some planning teams’ emphasis this activities by including an initial output called the project management system installed & operational.

1. VERIFY THE VERTICAL LOGIC WITH THE IF /THEN TEST

-IN well planned logical framework at the lowest levels of the logical framework you can say, what if the activities are carried out you can expect certain outputs to results.

-There should be the same logical relationship between the outputs and the purpose & between the purpose & goal.

-The logical framework forces you to make this logic explicit.

-It does not guarantee a good design because the validity of the cause & effect logic depends on the quality and experience of the design team

1. DEFINE THE ASSUMPTION RELATED TO EACH LEVEL

-The assumption may describe important natural condition such as 20cm of rain falling between may & October, They may be human factors such as no labor strike during the startup of project, timely release of budget, farmers willing to try new methods such as crops price remaining stable.

-They may relate to each other project that must be carried out in conjunction with this project .e.g. Like a World Bank irrigation project remaining schedule, or U.N fertilizer project completed by startup.

-The narrative summary describe the If/then test logic that is necessary conditions linking each other.

-Assumption complete the picture by adding the “IF/AND/THEN” Logic.

-They describe condition which are needed to support the cause and effect link between each level.

-There are also known as sufficient conditions.

-If cause & effect is the co-concept of good project design necessary & sufficient condition corollary.

-The necessary condition describes the cause & effect between the activity output, Output-to-purpose and purpose-to-goal objectives for accomplishing the project objectives.

Importance of clarifying assumptions

-This are hypothesis for the project success.

-This are factors which are outside the control of the project but which never the less influences the cause effect relationship integral project design.

-Assumptions are external conditions under which the project chooses not to exert or does not have control but on which the accomplishment of the objectives depends.

-You can determine the assumption by asking, what condition must exist in addition to my objectives in order to achieve the next level.

-Assumption are applied to all levels of design summary e.g. assuming stuff is competent weather will be favorable.

-**Important areas where assumptions may influence the project include:**

* Market conditions/price
* Macroeconomic policies e.g. fiscal policies and monetary
* Political and social conditions
* Sector policy and conditions
* Environmental conditions
* Private sector capability.
* Govt administrative capability
* Community and other development support partners.
* Donors and other funding agencies etc.

WAYS OF MANAGING ASSUMPTIONS

* Do nothing if the assumptions are not serious enough to threaten the project
* Change the project design ie change outputs or inputs when the assumptions are risky.
* Add new project to minimize the effects of risk especially when dealing with environmental related risks.
* Abandon the project & risks is too great that one cannot bear.

1. **DEFINE THE OBJECTIVELY VERIFYABLE INDICATOR (OVI) AT GOAL THEN PURPOSE THEN OUTPUT THEN ACTIVITY LEVELS.**

*Qualities of effective indicators*

-The OVI’ tells us not only the accomplishment is necessary but also what will be sufficient performance to assure that we can reach the next level of objective.

-For this reason is based to begin at the end i.e. Begin with the higher order objectives and work backward through the causal chain; Goal then purpose, then output, then activity.

**MEASURE OF QUANTITY, QUALITY, TIME AND LOCATION (QQTL)**

**FACTORS INFLUENCING PROJECT PLANNING**

* Factors affecting the project planning are both internal & external as may be expected by project organization.

1. External factors

These are conditions that lie outside the control of a project.They include: 1) Act of God – These are risk factors beyond the control of human being which when they occur may cause environmental impact on project plan.

-They include Earthquake, Hurricane,lightning,volcanic eruptions etc

2) Physical processes

-These are national govt policies concerning taxation and other financial measures.

-Political decision on long aim physical processes may lead project cancellation or abandonment or downscaling or even delays.

3) Corporate strategy

-Involves decision made by top management outside and above project origin and here after affects the project planning.

*CORPORATE STRATEGY THAT ARE LIKELY TO AFFECT THE PLANNING*

1) Decision made to delay the project start mainly due to diversion in other areas.

2) Decision to hault recruitment of new stuff.

3) Directives to change project priorities.ie unwelcome & unwarranted interferences.

4) Decision to contact projects in different company within the group contrary to what was originally intended.

**4) STATUTORY REGULATIONS**

-These are factors related to National, Regional or international govt imposing extra burden on project designers and contractors which has to be taken into account at the planning stage.

-This is common where project are carried in foreign countries and before planning most important issues related to employees act welfare, technical & commercial regulations before committing resources to a plan need to be considered

**5) MARKET CONDITIONS**

-This are factors involving aggregate demand on market share of goods or services to be produced by project.

-During project planning one will need to consider factors such as:

* Consumption inerrancies
* Past and present supply
* Import & export
* Structure of competition
* Elasticity of demand.
* Consumers behavior
* Distribution channels and marketing policies.
* Administrative technical & legal constraints.

**INTERNAL FACTORS**

1) Working factors – This are factors which are most likely to affect the project management & project plan.

They include: supporting services, Technical capabilities, Attitude & culture of the people, Resources& capacities, Communication style, Procedure & operation style, Management skills, Contribution to result factors.

-This are project performance objectives which act as reference point when performing project activities.

-They include:

* Quality(specification)
* Time (Schedule)
* Scope (Deliverables)
* Cost (Budget)

***APPROACHES TO PLANNING TIME FRAME IN PROJECT MANAGEMENT***

-There are 3 approaches of planning time frame in a project:

1) Free planning approach- this is a planning approach which does not factor external constraints which compresses the time scale.

-The approach is risk because a project tends to take more times and this attracts more time cost distributed to over heads and other process.

2) Target – lead planning –This is a form of planning which factors in or external constraints and therefore suits a pre-determined target delivery requirements where all estimates must be fited to limited time frame as based as possible.

-The risk associated with this is that the planner are tempted to compress time too much that it sometimes become impossible to deliver the predetermined targets.

3) Ideal approach to planning – This considers estimation and arrangement of constituent elements of planning in their most logical sequence.

-This may involve the key participants in the proposed work or striving to meet the needs of the costumers and balancing the identified needs with the capabilities and resources of the project organization.

**PROJECT SCHEDULE**

**-**This is a step in planning which involves determine the dates of perfoming schedule activities and the planned dates for meeting the schedule.

STEPS IN PROJECT SCHEDULING

1) Entering activity duration on the network for each activity.

2) Determining the earliest start time for each activity.

3) Determining the latest completion.

4) Calculating the float on each activity.

5) Determining the critical activities.

**SCHEDULING USING THE PERT TECHNIQUE**

-Under PERT technique this is also identical to the critical path method technique except that it assumes that every activity duration as a range that follows a statistical distribution.

-Basically this means that each duration can range from an optimistic to aposematic time and awaited average can be computed for each activity.

-The weighted average technique is computed by the following formula where all variable are as previously defined.

Te =

Where: Te – Estimated completion time

a – optimistic time

m - Most Likely time

b – Constant variable

-When the estimates have been specified, this equal is used to compute the weighted average duration for each activity. The average (Deterministic) value is placed on project network as in the CPM method ad the early, late, slack and project completion time are as they are in the CPM method.

-The variability, in the activity time estimates is approximately by the following questions:

Te =

Where :– Standard deviation

-Summation

-Projects variance

Thus showing that the projects standard deviation is the summation of the individual activities variances(on the critical path)

Example

|  |  |
| --- | --- |
| ACTIVITY | DURATION(DAYS) |
| 0 – 1 | 1 |
| 1 – 2 | 3 |
| 1 – 3 | 7 |
| 2 – 3 | 5 |
| 2 – 4 | 8 |
| 3 - 4 | 4 |
| 4 - 5 | 1 |

**REQUIRED**

1)Draw the network diagram

2)Determine the critical path & activity

3)Calculate the float on each activity.

4) What is the implication of these floats?

OUTPUTS OF WORK BREAKDOWN STRUCTURE

1) WBS

2) WBS Dictionary

3) Scope baseline

4) The project scope statements (updates)

5) Project scope management plan (updates)

6) Requested changes

Steps of creating WBS

-The WBS is a tool for breaking down a project into its component parts.

-It is the foundation of project planning and communication and if done well can become the secret to successfully project management.

-The WBS identifies all the tasks in a project.

-The WBS is sometime refered to simply a task list.

-It turns one large, unique perhaps mystifying piece of project work into many small manageable task called the work packages.

-The WBS uses the outputs from project definition and risk management and identifies the tasks that are the foundation of all subsequent planning.

***NB;***WBS can either be set as graphic or outline form.

Advantages/Importance of WBS

1. Provides a detailed illustration of project scope.
2. Monitors progress - The task on the WBS become the basis for monitoring progress because each is a measureable unit of work.
3. Creates accurate cost and schedule estimate.WBS provides a detailed structure to estimate and capture cost for equipment,labor & materials for each task.
4. Builds project team. – A good WBS clearly shows team members how their work fit into the overall effort.
5. A teams commitment can be increased by having the project team participate in building the WBS
6. Provides frame work for the following;

a) Costs and budget can be established.

b)Time,cost&performance can tracked.

c) Objectives can be linked to company resources in a logical manner.

d) Schedules and status reporting procedures can be established

e) Network construction and control planning can be initiated

f) The assignment responsibilities for each element can be established

7. WBS can be used to provide the bases for:

i)The responsibility matrix.

ii)Network scheduling

iii)Risk analysis

iv)Organisational structure

v)Co-ordination of objectives

-To ensure the work package are of the right size follow this common rules of thumb:

i)The 8/80 rule – No task should be smaller than 8 or large than 80 ie it should be btw 1 – 10 days long

ii)Reporting period rule – No task should be longer than Distance btw two status point. Eg-If we hold weekly status meetings, no task should be longer than 1 week

iii)The “if its useful” rule – If breaking down a task in a certain way is not useful ie it does not make it easier to estimate, a sign or track don’t break it down.

Reasons for breaking down project work

1) To do correct estimates

2) To easily assign tasks

3) To easily track the tasks.

Qualities of effective WBS

1. Manageable in that specific authority and responsibilities can be assigned.
2. Independent or with minimum interfacing with and dependence and on other ongoing elements.
3. Intergratable- so that the total package can be seen.
4. Measurable in terms of progress

|  |  |  |
| --- | --- | --- |
| Responsibility/Management  Position | Level | Activity Description |
| Managerial level | Authorizing activity  Budget Activity  Schedule activity | Total programme  Projets  Tasks |
| Technical level | Retination of efforts  Work package definition  Individual responsibility | Subtasks  Work packages  Level of efforts |