Part 5
Project Quality Management

Quality has been defined as "*the totality of characteristics of an entity that bear on its ability to satisfy stated or implied needs*." The central focus of quality management is meeting or exceeding stakeholder's expectations and conforming to the project design and specifications.

Project Quality Management consists of four main processes:

- **Plan** - Quality Definition and metrics or Indicators
- **Do** - Quality Assurance, building quality in all processes
- **Check** - Quality Control and quality audits
- **Adapt** - Quality Improvements and changes to plans

Inputs: Inputs for the project quality management include the following documents or sources of information: WBS, Scope Statement, Quality Standards, Requirements of beneficiaries, Donor requirements.

Outputs: The project team will use the above information to develop three important documents for the project: Quality Standards, Quality Control Plan, Quality Variance Report

Quality characteristics

These relate to the attributes, measures and methods attached to that particular product or service such as:

Functionality - is the degree, by which equipment performs its intended function, this is important especially for clinical equipment that should function as expected.

• **Performance -** how well a product or service performs according to the beneficiaries intended use. A water system should be designed to support extreme conditions and require little maintenance to reduce the cost to the community and increase its sustainability.

• **Reliability -** the ability of the service or product to perform as intended under normal conditions without unacceptable failures. Material used for blood testing should be able to provide the information in a consistent and dependable manner that will help identify critical diseases. The diagnosis and treatment will depends on the quality of the tests.

• **Relevance -** the characteristic of how a product or service meets the actual needs of the beneficiaries, it should be pertinent, applicable, and appropriate to its intended use or application.

• **Timeliness -** how the product or service is delivered in time to solve the problems when its needed and not after, this is a crucial characteristic for health and emergency relief work.

• **Suitability -** defines the fitness of its use, it appropriateness and correctness, the agriculture equipment must be designed to operate on the soul conditions the beneficiaries will use it on.

• **Completeness -** the quality that the service is complete and includes all the entire scope of services. Training sessions should be complete and include all the material needed to build a desired skill or knowledge.

• **Consistency -** services are delivered in the same way for every beneficiary.

Quality Assurance and Quality Control

Quality Control is done at the end of a process or activity to verify that quality standards have been met. QC by itself does not provide quality, although it may identify problems and suggest ways to improving it.

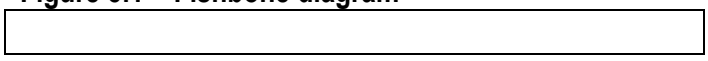
Quality Assurance is a systematic approach to achieving quality standards. QA is something that must be planned from the earliest stages of a project, with appropriate measures taken at every stage. Unfortunately, far too many development projects are implemented with no quality assurance plan, and these projects often fail to meet quality expectations of the donor and beneficiaries. To avoid these types of problems the project must be able to demonstrate the consistent compliance with the quality requirements for the project.

Quality Control Tools

Cause and Effect Diagram

This is also named as Fishbone Diagram because of their fish-like appearance, it is an analysis tool that provides a systematic way of looking at effects and the causes that create or contribute to those effects.

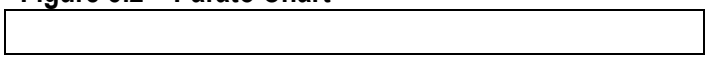
Figure 5.1 – Fishbone diagram



Pareto Charts

This is based on Pareto's rule, which states that 80 percent of the problems are often due to 20 percent of the causes. The assumption is that most of the results in any situation are determined by a small number of causes and helps identify the vital few contributors that account for most quality problems. The chart is a form of histogram that orders the data by frequency of occurrence; it shows how many defects were generated by a type of category of identified cause.

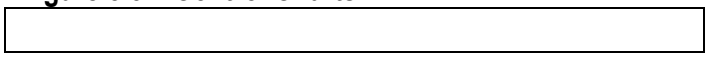
Figure 5.2 – Parato Chart



Control Charts

A graphical display of data that illustrates the results of a process over time, the purpose of a control chart is to prevent defects, rather than detect them or reject them, the chart helps determine whether a process is in control or out of control over a specified length of time. Control charts are often used to monitor the production of large quantities of products, but can also be used to monitor the volume and frequency of errors in documents, cost and schedule variances and other items related to project quality management.

Figure 5.3 – Control Charts



Part 6
Project Team Management

Project team management includes the processes required to make the most effective use of the people involved with the project. The project team includes the project manager and the project staff who have been assigned with the responsibility to work on the project. Development projects, due to its complex nature, require a diverse mix of individuals who must be integrated into an effective project team; and this should not be confused with bringing together a group of individuals to work on the team. The difference between a group and a team is on how their level of work dynamics has an impact in the overall project performance. Gathering a number of individuals together in a group is the easy part; but it requires the use of special skills, new attitudes and a strong commitment to turn those individuals into an effective team.

Team Identification

Skills identification - information on the skills needed for the project comes from the WBS and the activity definition document, the project manager develops a list of the skills required.

Organization chart - identify the structure that the project will use to manage the project team. The chart helps identify the reporting relationship among the project team members.

Team Assignment Schedule (TAS) - facilitates the identification of who does when, by providing information on the project activities; it shows when each activity occurs and who is responsible for it.

Team Allocation Matrix - can identify the resources that are working above 40 hours per week, and were some resources are not being fully used.

Job description
Team recruitment
Team induction

Responsibility Assignment Matrix - a matrix that maps project work as described in the WBS to the people responsible for performing the work.

RACI Chart (stands for **R**esponsible, **A**ccountable, **C**onsult and **I**nform) - technique used to ensure that responsibility and accountability is placed with the person who really can be accountable for specific work. Often this results in accountabilities for actions being moved down to the most appropriate level.

Responsible (R) - the person who will *complete the task or activity*; responsible for any action or implementation; responsibility can be shared and the degree of responsibility is determined by the individual who is accountable.

Accountable (A) - the person who is ultimately *answerable for the activity* or decision; includes authority and veto power; only one person can be assigned as accountable to an activity or project.

Consult (C) - an individual(s) (typically subject matter experts) that can be consulted prior to a final decision or action; a two-way communication in which input from the consulting role is required.

Inform (I) – an individual(s) who needs to be informed after a decision or action is taken; may be required to take action as a result of the outcome; a one-way communication.

Figure 6.1 – RACI Chart

Team Building

A project team does not happen by accident it is not enough to recruit people and assign them to a project. A team needs to be developed from the first day. Failure to do that may result in a team that acts more like a group of people than a team.

Team building is the process of transforming a group of people who have different interests, expertise and backgrounds into an effective and integrated work unit.

Building a project team is essentially a process of change; where the skills of the team and the goals of the project are merged transforming the group into an effective team whose total outputs are larger than the individual contributions.

The purpose of building a team is to create teamwork, in which individual interests are subordinated to the unity and efficiency of the project in a coordinated effort.

In the process of changing a group of people into a team, the project manager plays an active role as change agent and uses behavioral skills to overcome resistance to change. The project manager must first recognize that change is inevitable and unavoidable, and the focus must be placed on developing appropriate team management strategies to convert resistance to change into an opportunity. Teamwork can provide a useful way to involve team members in any change program and to increase collaborative and supportive behavior.

The effective management of the most valuable asset and resource in a project can be achieved if the project manager has the ability to use communication, teamwork, and leadership, to build an effective team and the ability to integrate the efforts of a diverse group of individuals with different needs, backgrounds and expertise.

The performance of the project manager is dependent on the results the project team is able to achieve. As the mix of skills, cultural diversity, and background increases the challenges to manage a project team increase as well. The project manager needs to give special attention to the quality of the interpersonal skills and team dynamics within the project team to understand and influence its productivity in a project environment.

Some simple and practical steps to start building a project team:

• **Build Enthusiasm:** one way to build enthusiasm is to create a set of simple tasks that provide a challenge, but have achievable goals that the team can use to work together. Make sure that responsibility is delegated to the team and not the individuals. The aspects of increased efficiency, productivity, and collaboration need to be highlighted since this will establish the criteria for success. Achieving this simple goal can provide the team with enthusiasm and better understanding of what is expected of them as a team.

• **Establish Clear Conduct Rules:** teams need rules of conduct to help them achieve their purpose and performance goals. These rules should be established as earlier as possible to let the team get used to them and allow some time to clarify the rules. Some rules include attendance, conduct during meetings, confidentiality with personal information, respect to the team and the individuals.

• **Keep Open Communication Channels:** the project manager needs to maintain a practice to keep open channels of communication with the team and among the team, there is nothing that lowers the trust of a team when there is no open communication channels, the team should feel that all information regarding and affecting the team is open for the team to discuss.

• **Reward and Recognize Teamwork:** take advantage of the power of positive feedback, recognition, and reward. Be alert to opportunities to reward the new team behavior, that sends a good signal to the team as to what is recognized as team work.

Team Development

The four stages describe the changes a team goes as it develops more maturity, ability and stronger relationships, the project manager can then change its leadership style; starting from a directing style, moving through coaching, then participating, and finishing with delegating.

• **Forming:** is the first stage of team development and one filled with a mix of anxiety, high expectations and ambiguity as the new members don't have yet a clear definition of exactly what work the team will be involved. The team individual roles and responsibilities are unclear and the level of trust is still low, building awareness and providing orientation are dominant themes in this stage as members focus their efforts on defining goals and developing procedures to perform their tasks.

The project manager must be prepared to answer questions about the team's purpose, objectives and internal and external relationships. This stage may last until the team has had a chance to learn more about the project and have a clear understanding of their roles. At this stage there may be discussions about how the team will work, and how the working relationships will be established, this can be frustrating for some members who simply want to get on with the tasks and activities.

• **Storming:** the approach by which the project will do its work begins to be defined, and some team members may feel overwhelmed by the amount of work they need to do, or in disagreement with the approach being used. Some

team members may star reacting to their roles and may be express frustration resistance in taking on the tasks.

This is a critical stage where many teams fail, if the tensions or disagreements are not resolved, the project runs the risk of taking a team that is not cohesive and may create bitterness and resentment. The project manager should not assume the tensions will go away, in this stage, conflict is inevitable and should be embraced in a productive manner and should be handled appropriately.

• **Norming:** is the third stage and the team members know each other better, they may be socializing together, and they are able to ask each other for help and provide constructive criticism. The team is developing a strong commitment to the team goal, and they start to see their contribution towards it. In this stage the project hierarchy is clearer and team members start assuming their roles and responsibilities and most critical conflicts have been resolved.

The team begins to see the project manager with to respect and authority as their leader, while others start to show leadership in their specific areas. The team starts to show a new behavior based on empathy, concern and team cohesion. There is a strong sense of shared responsibility and mutual cooperation among the project team. During this stage, the team begins to get organized and follows the established procedures; project issues are confronted and resolved, and team skills are developed.

• **Performing:** the last stage of team development is characterized by a shared vision of the project goal and a common understanding of the roles and responsibilities of all team members. The team has a high level of mutual trust and provides care and support for each other which increase the overall performance of the team.

The project manager is able to start delegating much of the work and can concentrate on developing team members. The team assumes accountability for their duties, provide ideas to improve their work support each other and achieve a higher level of performance.

Team Leadership

Leadership can defined as the ability to influence the project team so as to help achieve the goals of the project. Leadership is one the critical skills a project manager must possess and it is one that must be earned. A project manager is not a team supervisor, but a team leader.

Every team needs a leader and the leader's ability is reflected in how he/she is able to convert a group of people working together into a team committed to each other and to the project goals. A high performance team is characterized by their deep commitment to each other's success, and that can be reflected in their ability to share many of the management functions such as planning, organizing, setting performance goals, assessing the team's performance, developing their own strategies to manage change and coordinating their own work.

There are various leadership styles that can be employed dependent on the culture of the organization, the nature of the project, the nature of the team and the personality and skills of the leaders. The management style is dependent upon the prevailing circumstance; project managers should exercise a range of management styles and should deploy them as appropriate.

• **Directing:** at the very start of the project the team needs a leadership style that helps manage the initial anxieties, tension or confusion between the goals of the project and the role of the team and its responsibilities. During this time the project manager's style is directive to provide a course of action and in some instances make us of its authority to assign tasks and activities. The level of interpersonal relationship and trust on each other is low. Objectives and tasks are set and the team is expected to do exactly as required. The communication involved with this style is mainly downward, from the project manager to the team member.

• **Coaching:** as the project team makes progress and its level of understanding progresses, the team feels more confident about its role and the objectives of the project. In this phase the leadership style is one of coaching, the project manager and the team start building stronger relationships based on mutual trust.

• **Participating:** the leader now can use the relationship and trust with the team and start delegating authority and responsibility; there is an increased participation of the team in management decisions. The team doesn't need directions and know enough and feels confident and motivated enough to do the work.

• **Delegating:** in this stage the team is confident about its ability and is trusted to carry the work with minimal supervision, most work has been delegated and the team performs and self adapts. The project manager monitors the performance of the team and assumes a full leadership role.

Team Performance

There are 4 steps for creating a *Team Performance Evaluation Plan*:

1. Identify performance expectations
2. Develop a standard evaluation form.
3. Develop feedback guidelines
4. Set an evaluation schedule

Managing Conflict

Types of conflicts:

1. **Structural conflicts -** deal with power, priorities, objectives, resources and politics.

2. **Technical Conflicts -** are differences in technical approaches, opinions, methodologies and procedures.

3. **Personality Conflicts -** arise mostly from behavioral, social and cultural differences.

Conflict Resolution Models:

Forcing

This involves imposing a decision and makes use of the formal authority vested in the project manager; mostly used when time is of the essence, and resolving the issue is vital to the well-being of the project; may use it if they need to take the decision in order to move things forward; is appropriate when quick decisions are required or when non-negotiable issues such as budget cuts or staff changes are essential in a project; usually resolves the conflict quickly, but it leaves hard feelings among the people involved to accept the decision; this approach should be used only as a last resort.

Avoiding

This refers to the refusal to deal with the conflict, or ignoring conflict as much as possible; can be useful sometimes when there is a need for additional time to gain better understanding of the conflict, or is used as a way to avoid making a difficult decision in the hope that the cause of the conflict will just go away or take care of itself; should not be used if the conflict deals with an issue that is of immediate concern or is important to the successful completion of the project.

Accommodating

This involves avoiding points of disagreement while emphasizing areas of agreement; appropriate to initiate a positive start and avoid any increase in the conflict; tends to keep peace only in the short term but it fails to provide a permanent long-term solution to the underlying conflict; used as a method to slow down the situation and keep it from getting worse and build on the areas of agreement; just like avoiding, if the conflict is not handled and resolved in a timely manner it will likely lead to more severe and intense conflict in the future.

Collaborating

A technique that involves incorporating multiple ideas and viewpoints from people with different perspectives, it is used when a project situation is too important to be compromised, or delayed; the parties involved work to find alternative solutions and the best solution is found in a way that would not have been generated by a single individual; active collaboration by both parties in contributing to the resolution makes it easier to get their consensus and commitment; is not very effective when more than a few players are involved and their viewpoints are mutually exclusive; requires time and effort.

Compromising

A method to find a balance by offering something in return; involves using negotiations and searching for solutions that bring some degree of satisfaction to both parties involved in the conflict; neither party wins, but both get some degree of satisfaction out of the situation; temporarily, both parties may feel hurt because they had to give up something that was important to them, but compromising usually provides acceptable solutions; sometimes, important aspects of the project might be compromised in order to achieve personal objectives; can also be used as a temporary solution when there are time constraints.