BEEKEEPING Level - II

Learning Guide

Unit of Competence:

Implement Quality Systems and Procedures of Honey Bee Products

Module Title: Implementing Quality Systems and Procedures of Honey Bee Products

Learning Guide #13

LG Code: AGR BKG1 09 LO1

TTLM Code: AGR BKG1 09TTLM 0919v1

LO 1: MONITOR QUALITY OF WORK OUTCOME

Instruction Sheet	Learning Guide #09

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

- Identifying Quality requirements.
- Inspecting Inputs to confirm capability to meet quality requirements
- Conducting Work to produce required outcomes
- Monitoring Work processes to confirm quality of output and/or service
- Adjusting Processes to maintain outputs within specification

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to –

- Identifies Quality requirements.
- inspect Inputs to confirm capability to meet quality requirements
- conduct Work to produce required outcomes
- monitor Work processes to confirm quality of output and/or service
- Adjust Processes to maintain outputs within specification

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 3 to 20.
3. Read the information written in the “Information Sheets 1”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
4. Accomplish the “Self-check 1” in page 5.
5. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).
6. If you earned a satisfactory evaluation proceed to “Information Sheet 2”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
7. Submit your accomplished Self-check. This will form part of your training portfolio.
8. Read the information written in the “Information Sheet 2”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
9. Accomplish the “Self-check 2” in page 7.
10. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 2).

11. Read the information written in the “Information Sheets 3 . Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
12. Accomplish the “Self-check 3” in page 11.
13. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 3).
14. If you earned a satisfactory evaluation proceed to “Operation Sheet 1” in page 12. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
15. Read the “Operation Sheet 1” and try to understand the procedures discussed.
16. If you earned a satisfactory evaluation proceed to “Operation Sheet 2” in page 13. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
17. Read the “Operation Sheet 2” and try to understand the procedures discussed.
18. If you earned a satisfactory evaluation proceed to “Operation Sheet 3” in page 14. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
19. Read the “Operation Sheet 3” and try to understand the procedures discussed.
20. Do the “LAP test” in page 15 (if you are ready). Request your teacher to evaluate your performance and outputs. Your teacher will give you feedback and the evaluation will be either satisfactory or unsatisfactory. If unsatisfactory, your teacher shall advice you on additional work.

Information Sheet-1	Identifying Quality requirements

1.1 Quality requirements

Quality requirement is a common term in project management. It is defined as the condition used to assess the conformance of the project by validating the acceptability of an attribute or characteristic for the **quality** of a particular result

Quality requirement is a common term in project management. It is defined as the condition used to assess the conformance of the project by validating the acceptability of an attribute or characteristic for the quality of a particular result.

In a nutshell, the quality requirement defines the expectations of the customer for quality, the internal processes as well as the attributes of products that indicate whether the quality factors are satisfied or not.

The quality requirements in project **management** are defined in terms of the **quality criteria, quality factors,** and **quality metrics.**

- **The quality criteria** document the internal process and attributes of the product that will be monitored all throughout the project life cycle.

- **The quality factors** document the perceived aspects of the user regarding the deliverables of the project to determine if the project satisfies the expectations from customers.

- Lastly, the q**uality metrics** document the indicators used to measure the quality of the product.

- The quality requirement is used by different project management processes particularly the Quality Management Plan to create the risk register, requirements documentation, and cost-benefit analyst

1.1.2. The requirement of quality are more importance the following steps

- **Customer Focus**: Everything an organization does should have the needs of the customer as its starting point. In your work, the "customer" is the target population or the community that will benefit from what you are offering or doing. What are the needs to which you are responding? How can you meet those needs effectively, appropriately, and with respect for the people you're intending to serve?
- **Obsession with Quality**: Quality has to be something that's considered from the very beginning and built into everything a business or organization does. Planning carefully, monitoring your work, and constant reevaluation and adjustment are all extremely important. You don't ensure quality by catching mistakes before they reach the customer; you ensure it by setting up a system in which you don't make the mistakes to begin with. Everyone in the organization must understand and adopt this point of view if the organization is truly going to have quality performance.
- **Continual Improvement of Systems**: The work of an organization must be viewed as a process that is never finished. Any program can always be improved, and must be changed as the needs of the community or the target population change.
- **Unity of Purpose**: In order for quality to be achieved, everyone in an organization or business has to work together toward common goals. That means mutual support throughout the organization, not turf battles, not jealousy, not unnecessary competition. All interactions among people in the organization should be mutually helpful and aimed at achieving the best possible performance of the organization as a whole.
- **Teamwork**: Working in teams, rather than individually, people make better connections with their colleagues and the organization, and create better results. Teamwork removes performance pressure from the individual and usually coaxes better performance from everyone.
- **Employee Involvement**: If everyone in an organization is to be committed to quality performance, then all staff members should have the ability to contribute to its achievement. That means that people must have enough control over their own jobs to do them effectively, and that everyone's opinions and ideas must be respected and taken seriously.
- **Education and Training:** Achieving quality requires constant learning for everyone in an organization, and that learning needs to be part of the organizational culture. Not only should staff members be learning from others in the organization, but they should also be encouraged to take courses, to attend organization-sponsored trainings and workshops, to visit other organizations, etc., to continually learn more about their work, and to get new ideas and perspectives on it.
- **Scientific Approach**: For grass roots and community-based organizations, this means using the best research available, as well as the experience of others, to construct an effective program or initiative. That approach is much more likely to result in success and high quality than relying only on intuition or on what seems politically correct. The founders of a implementing quality standers and producing honey bees community-based outcomes financial program, with backgrounds in

both developmental issue of poorest and independence based their program, on the best available research in procuring honey bees . They made sure that the life span of human will increase and support elements of the program fit together properly, and trained staff with that in mind. Initially, since it was doing something that hadn't been done with adults before, the program was severely criticized by others in the field. The founders were accused of production and sales to the people by not using artificial honey with similar ideas. 15 years later, the program is a model for the state, but it keeps changing, responding both the owners and customers needs to new research findings

Self-Check -1	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. ----------which one of the following are The quality requirements in project management
   - **A. The quality criteria**
   - **B. The quality factors**
   - **C. the quality metrics**
   - **D. the quality procedure**
2. _____Internal process and attributes of the product that will be monitored all throughout the project life cycle.
   - A. Q, criteria
   - B. Q, measure
   - C. Q, metric
   - D. All

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1._____

____

2._____

Information Sheet-2	Inspecting Inputs to confirm capability to meet quality requirements

2.1. Quality can be broadly defined as meeting customer needs and expectations with a product. Therefore the starting point is to understand these needs and expectations with voice of the customer research.

Voice of the Customer Market Research

There are two types of needs or requirements from customers:

- Stated needs where a customer is able to state or describe what they want in a product and unstated needs.
- Unstated needs are needs or requirements that the customer takes for granted and needs that they don't realize they have or think about.

By understanding the unstated or latent needs, the developer can provide **capabilities** in the product to respond to these needs and provide excitement opportunities or an enhanced value proposition. One of the ways to identify these unstated or latent needs is by observing the customer use the product and through other voice of **the customer techniques.**

Another unstated need that a customer takes for granted is that the product will reliably perform in the environment that they operate in and the manner in which they would normally use their product. One of the challenges with product development is that across all of a product's customers, the customer's use environment can vary significantly, the level or frequency of use of a product can vary significantly, and the way the product is stored and cared for can vary significantly. It is a challenge then for the manufacturer to understand this use environment and consider this as part of the product development effort. The best way to accomplish this is to get out in the field and explore and observe customer's use environment. Then typically, the product developer will define the extreme conditions of the use environment as the basis for

the product requirements (e.g., upper and lower temperature range, upper and lower humidity level, maximum duty cycle, etc.)

Defining Product Requirements (Design Inputs)

This knowledge of the customer needs or requirements along with any regulatory requirements and manufacturer objectives for the product should be captured in a customer or market requirements document.

These customer needs or requirements are then translated into product requirements or specifications. A customer need for a “honey with good pure items ” might be translated into product specifications such as total weight, of volume much quality and quantity litters of honey , etc. A customer need for a “reliable, durable product of honey” would be translated into the planned life of the bees , the mean time between failures, average service cost over scarce of production of honey etc. To support this specification, it would also be necessary to define the environmental conditions that the bees would be subjected to and still meet the performance requirements.

One of the keys to good product requirements or specifications is to define measurable and objective requirements of specifications. It is only when a specification is measureable that one can determine whether that specification has been satisfied when verification of the product design is performed. The process of defining product requirements or specifications is critical because there are often trade-offs that must be made. A colony bees implementing and production with good higher much of honey and a powerful queen to capture and maintain additional supper queen l is not going to be as feed efficient. In a structure, there is often a trade-off between the weight of the structure and its strength.

Quality function deployment (QFD) is a good methodology for planning a product and translating customer needs into technical characteristics of the product or product requirements. Depending on the organization and the terminology, the customer needs, market needs or customer requirements along with the product requirements or specifications are referred to as “design inputs”.

These product requirements or design inputs should be the subject of a formal requirements review to

1) Gain internal agreement within the manufacturer that the requirements represent the best mix of characteristics (and tradeoffs) to meet customer needs, and

2) Confirm that the list of requirements is complete, e.g., it considers unstated customer needs, the use environment of the product, etc. These requirements or design inputs should later become the basis for a verification plan – a **plan to define the analysis and** tests that should be performed to assure that the defined requirements or **design inputs** have been met with the product design.

Product Design

Once the requirements have been defined, design technician of beekeepers should start by developing a high-level or conceptual design of the product. They should use a decomposition approach to define and design lower and lower levels within the product architecture next moving to subsystems, modules/sub-assemblies and then the components that will be required for this product to achieve the desired function and requirements. .

Design Documentation (Design Outputs)

The result of the product design activity should be various documents and files that describe the product design and how it will be manufactured (process design). These documents or files could include drawings, computer-aided design (CAD) models, parts lists or bill of materials (BOM), part or material specifications, manufacturing work instructions, quality control plans which define manufacturing inspection or test steps, etc. These documents or files are referred to as “design outputs”. A formal verification and validation plan should be prepared to define the analysis and testing that should be done to determine that the product will meet requirements (“design inputs”).

Design Verification and Validation

During development, analysis and developmental testing should be conducted to assure that the design approach will meet requirements. Some of the common verification techniques are computer-aided engineering analysis, mathematical calculations, and failure modes and effects analysis.

Supplier Responsibilities

The manufacturer should define the specifications that that the supplier must meet. The supplier is responsible for delivering the raw material or components to this agreed upon specification. The manufacturer is responsible for verifying that the raw materials or components meet its defined specifications.

It is in supplier's interest to establish quality procedures that meet or exceed their customer's quality requirements.

The supplier will typically perform some level of inspection or testing of their product in conformance with the supplier's internal procedures or the external requirements from their customers. The supplier may be required to certify that the product meets the requirements or specifications that have been imposed on them by their customer, but such requirements or specifications must be explicitly stated.

In addition to the supplier's quality control steps, the manufacturer should perform its own procedural steps to insure that they are receiving a quality product that meets its requirements. At the minimum, the product manufacturer should perform a visual inspection of the raw materials and components for damage or obvious discrepancies and a review of any test results or certification paperwork provided by the supplier to see that the raw materials and components conform to the specifications required of the supplier. Beyond these basic steps, the product manufacturer may perform its own inspection and test steps as defined in its quality plan. This could range from a selected subset of inspection and test steps on a sample on raw material or component parts to 100% inspection and more comprehensive testing for a larger number of specification attributes.

If any discrepant material is found, the product manufacturer should segregate the discrepant material, notify the supplier of the problem, and generally require corrective action be taken to prevent or minimize the reoccurrence of discrepant materials or components be provided in the future.

Manufacturing Quality Assurance

Once product and process designs have been validated, the manufacturer should define factory acceptance test or inspection procedures to insure that production of the product will continue to meet the customer's require

Self-Check -2	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

3. ----------which one of the following are The quality requirements in project management

   A. The quality criteria

   B. The quality factors

   C. the quality metrics

   D. the quality procedure

4. _____Internal process and attributes of the product that will be monitored all throughout the project life cycle.

   A. Q, criteria

   B. Q, measure

   C. Q, metric

   D. All

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1._____

____

2._____

Information Sheet-3	Conducting Work to produce required outcomes

3.1. Conducting Work to produce required outcomes

Outputs, outcomes and impact are terms that are used to describe changes at different levels from the delivery of goods and services to long-term, sustainable change in people's lives. Whilst the terminology is in common use, there is great inconsistency in how the terms are interpreted. Most organizations understand the key difference between the things they do (activities) and the ultimate changes they wish to help bring about (impact).

But the distinction is not always helpful. In order to achieve desired long-term changes, there may be many steps between an organization's activities and the desired impact. The results chain (see below) attempts to categories these steps by breaking them down into manageable stages – inputs, activities, outputs, outcomes and impact.

Outcomes The products, capital goods and services which result from a development intervention; may also include changes resulting from the intervention which are relevant to the achievement of outcomes.

Activities Actions taken or work performed through which inputs, such as funds, technical assistance and other types of resources are mobilized to produce specific outputs Inputs The financial, human, and material resources used for the development intervention.

In this results chain, inputs are used in order to carry out activities.

Activities lead to services or products delivered (**outcomes**). The outputs start to bring about change (outcomes) and eventually this will (hopefully) contribute to the impact.

For example, if an organization was providing **beekeeping** farmers, the colony of bees themselves, any transports costs, staff costs etc.

Would be inputs.

Activities undertaken would include travelling to the field to deliver **beekeeping** farmers and, possibly, conduct training with farmers.

The outputs could be the honey transporting and distributed and the people trained.

The **outcomes** could be that the farmer's beekeeping, the bees grow into crops, the honey are **harvested, and then eaten or sold**.

This might contribute to the impact, which would be a better standard of living in the long-term for farmers and their families. Another term that is commonly used is results.

A result is defined by OECD DAC as the "**output, outcome or impact** (intended or unintended, positive and/or negative) of a development intervention". 'Results' is defined differently by different organizations. . It will not satisfy every organization or situation but it will **work** as a rule of thumb for M&E practitioners.

Potential Confusions although in theory these different areas are easy to distinguish, in practice it can be more difficult.

1. **There are three areas of overlap where there is often confusion**.

- **Firstly**, there is sometimes confusion between activities and outcomes. Some activities are clearly not outcomes

-for example implementing honey management and construction quality production project , talking to different villagers to find out where a well might be **situate**d, **negotiating** with potential **suppliers of parts**, etc. But when it gets to the level of **implementing honey management and construction quality production** project ' a well' it is easier to see how there might be confusion.

The act of harvesting bees well' is clearly an activity whilst the actual well dug is often considered an output as it is a product (**deliverable**) of Outputs, treated when their outputs (or output indicators) are criticized for being too activity-based.

- **The second confusion** is between outputs and outcomes, and here the difference can be more subtle. The OECD DAC definition tacitly acknowledges this by allowing that an output "may also include changes resulting from an intervention which are relevant to the achievement of outcomes." For some, outputs can only ever be the deliverables of a project or programmed, whilst others interpret initial changes (such as enhanced knowledge of beekeeping or understanding following a training course, or community organizations engaging with government following community mobilization meetings) as outputs.

There is no real solution to this difficulty and MSE practitioners need to deal with it on a case-by-case basis. Even when an organization has very clear definitions and

guidelines on the difference between outputs and outcomes, different staff and departments may still interpret the terms differently.

- **The third confusion** is between outcomes and impact, and here it is largely a matter of judgment. This confusion appears to matter less as few organizations are really judged on their impact, so the difference becomes largely an academic argument. In this case a great deal depends on the definition. For example, the OECD DAC definition ('positive and negative, primary and secondary long-term effects produced by a development intervention, directly or indirectly, intended or unintended') allows for long-term changes in institutional capacity or policy change to be classed as impact. However, the preferred definition for many NGOs is "lasting or significant change – positive or negative, intended or not – in people's lives brought about by an action or a series of actions" (Roche, 1999), which would put the onus more onto assessment of change at individual or household level.

The preferred solution of the author, in a desire for a less complicated life, is to define outputs as the services or products delivered that are largely within the control of an agency;

Impact as the lasting or significant changes in people's lives brought about by an intervention or interventions; and outcomes as everything in between. Working with **outcomes** is usually very important for an MSE system.

This is because they provide early information on whether a project or programmed is on course or whether any desired changes are beginning to happen. For instance, if a deliverable of a project is to provide **beeping** to farmers, an early outcome might be that 90% of the colony /gathering bees have been planted by farmers. This does not mean the project or programmer has achieved its desired impact, but it means that it is on track to realize that impact. If the farmers are not planting the Beekeeping this lets project staff know that remedial action is required and the ultimate impact is not likely to be achieved. On the other hand, if an organization waited to measure the ultimate impact of the project or programmer without bothering to look at the outcomes, by the time they found that farmers and their families had not improved their living standards because they had not planted or harvested the honey it would be too late to do anything about it. Any MSE system or process designed to feed into management decision-making needs to assess outcomes on a regular basis. The danger otherwise is that an M&E system purely looks at what is being delivered on the assumption that if

products or services are delivered properly they will automatically translate into change. This is rarely the case. It is also important to remember that whilst there might be one single stated purpose of a development intervention, there will usually be many different layers of outcomes. In the example above, it is hoped that increased honey bees use will lead to improved yields, better harvests, increased cash for farmers, and ultimately better livelihoods for their families. An MSE system at project or program me level would usually hope to identify all the different layers of outcomes and assess changes on a regular basis.

Different perspectives One of the things that confuses MSE practitioners the most is that something can be an output (deliverable) and an outcome (change) at the same time, depending on different perspectives.

For example, if an intermediary NGO were to undertake capacity building with aTvet would be reasonable to consider the training itself as an output, and any improvement in the NGO's work, such as improved engagement with marginalized groups, as an outcome. But for the Southern NGO itself the engagement with marginalized groups would be an output (deliverable) of its work. The improved engagement could therefore be seen as both an output and an outcome at the same time – depending on whose perspective is being considered

Self-Check -3	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. _____Which one the following are three areas of overlap where there is often confusion. ? (4 points)

   a. Activities and outcomes.
   b. outputs and outcomes,
   c. outcomes and impact,
   d. ALL.

2. _____ define the outcomes**? (3points)**

A.

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1._____

2. _____

References

OECD (2010). Glossary of Key Terms in Evaluations and Results Based Management. OECD, 2002, re-printed in♣ 2010. Roche, C (1999). Impact Assessment for Development Agencies. Oxford: Oxfam/NOVIB.♣

Information Sheet-4	Monitoring Work processes to confirm quality of output and/or service

4.1. Monitoring Work processes to confirm quality of output and/or serviceThe competitive environment, the quality of your customer service is an increasingly important factor in nurturing positive customer loyalty. However, it remains the case that many organizations are still not Monitoring Work processes to confirm quality of output and/or service

Quality of their contact centre agents, despite the fact that a single interaction between them and the customer can make or break a relationship.

Variant recently carried out some research looking at the state of customer service in the UK. It found that despite the current economic climate, only 22% of consumers value price over service and as many as 38% of consumers admit to never contacting their suppliers, and those that do don't get in touch very often. How can you build customer relationships and create a loyal customer base if this is the case?

Organizations need to ensure that the few interactions a customer has with the contact centre are handled efficiently and leave the customer feeling satisfied.

4.1.2. Making quality the 'norm'

While the customer's personal experience cannot always be completely captured and analyzed, this information - call recordings in contact centers, customer emails and social media interactions - combined with customer satisfaction surveys, can give an organization a better idea of the customer experience. These insights will allow companies to improve their service and tailor their products precisely to what their customers want, improving satisfaction and increasing loyalty.

Unfortunately, the reality for many organizations is slightly different, and organizations often struggle to manage the basic call monitoring functions, or capture additional insight from other channels such as email, instant messaging or social networking sites. Too often the focus is put on streamlining internal efficiency-based metrics, meeting tightly monitored call routing and time SLAs, while the detailed assessment of the customer experience and the outcome of the call are put to one side.

By treating calls as one-off customer issues, the contact centre is at risk of ignoring the underlying commonalties and actually being able to identify the root-cause and possible prevention for these situations. Fundamentally, though, this can all act towards improving the customer service.

Father instance students are required to answer and ask the teacher what is need to change and give alternative feed back as they will be in the future **What needs to change**?

4.1.3 The key to effective quality monitoring includes six crucial steps:

1. **Listen to your customers by monitoring interactions**. Ask questions such as: are these interactions related to the company's goals and objectives, or are they related to specific areas of concern such as customer attrition?

   This is where analytics comes into play for the contact centre. Speech analytics identifies calls that are relevant for evaluation and text analytics identifies email and chat interactions that should be monitored.

2. **Capture all of your customer feedback channels**. Apply the same quality standard that is used for calls to text-based interactions like presenting the project programmer you like to implanting as implement **quality system of production bee colony**
3. **Ask your customer what they think.** Instead of using your organization's internal metrics to measure the quality of a call, ask the customer: "What did you think of your experience and the agent you worked with?" or "Did your service experience match the promise made in our advertising?" It's very important to implement beekeeping high-quality interactions with your customers' expectations, comparing internal evaluation scores with customer scores.
4. **Use quality monitoring to help agents improve skills**. Evaluate interactions to identify skills gaps, and provide individual learning opportunities where there are deficiencies.
5. **Do not view agent development as a one-off activity**. Provide continuous coaching that will help improve agent performance and productivity. Coaching is key to consistent customer service.
6. Measure your results and keep track of continuous feedback and evaluation to monitor and measure progress.

Outstanding competitive

By monitoring quality across multiple idea and brain storing organizations can learn from their customer interactions, leading to better decision making, service and processes. The monitoring, measuring and managing of performance and service quality must remain a priority, but the **"voice of the customer"** analytics, across multiple feedbacks is just as important.

By adopting the view that quality monitoring is a strategic process rather than a tactical one, companies will begin to see an improvement of their customers experience and their customers therefore becoming their strongest champions and success to produce quality ststem procedure of honey bees production.

Self-Check -4	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. _____Which one the following are three areas of overlap where there is often confusion. ? (4 points)

A. **Listen to your customers by monitoring interactions**.

B. **Use quality monitoring to help agents improve skills**

C. **Capture all of your customer feedback channels**

D. **All**

1. _____ define the monitoring? **(3points)**

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1._____

2. _____

REFERANCE

nhttp://www.callcenterhosting.in/blog/the-5-steps-to-improve-your-call-qu...

ttps://www.31west.net

Information Sheet-5	Adjusting Processes to maintain outputs within specification in production of bees

5.1. Adjusting process to maintain outputs with specification in production of **Honey bees can be managed to produce many products,** but they are even more valued for the major role they play in pollination of agricultural crops.

Honey bees produce or collect a variety of products that benefit people. These products include honey, beeswax, pollen, royal jelly, and propels (a sticky resin collected from buds and used as a glue in the hive). Although honey bees can be managed to produce large quantities of these products, they are even more valued for the major role they play in pollination, especially of our agricultural crops. While other insects, birds, and bats also are pollinators, people have little control over the actions or numbers of these pollinators. Honey bee colonies, however, can be easily moved and placed wherever and whenever they are needed for pollination.

Also, honey bees have additional advantages over other pollinators such as their availability in large numbers and their instinctive pollen-hoarding behavior. Without the pollinating service of honey bees, the cost of many fruits, vegetables, legumes, nuts, and seeds would be many times what it is today.

About 150,000 beekeepers manage approximately 2.5 million colonies of honey bees in the United States. Beekeepers derive income from their bees in a variety of ways. Some move their colonies several times during the season to produce a variety of honey crops and/or to pollinate various crops for a fee (apples, peaches, blueberries, or pumpkins, for instance). Some stationary beekeepers have apiaries in good honey-producing locations and make honey crops without moving their bees.

Other beekeepers sell equipment, nucleus colonies, and/ or package bees or rear and sell queens as a source of income. However, the majority of individuals keeping bees today maintain a small number of hives for enjoyment and/or the production of honey for home use and pollination of home gardens and orchards.

Around 175 million pounds of honey are produced annually in the United States. Honey is priced according to its color (water white, extra white, white, extra light amber, light amber, and dark amber), with recent wholesale prices ranging from $1.50 to $2.00 per pound in the Northeast and Mid-Atlantic regions. About 3.9 million pounds of beeswax, worth about $7 million, are also produced annually as a by-product of the honey harvest.

5.1.2 Adjusting Planning Ahead

Good planning is an important part of successful beekeeping. New beekeepers need to consider the following before purchasing honey bees and the necessary equipment to keep them and produce honey:

- Number of colonies you will start with
- Location of your apiary and the amount of site preparation that will be necessary
- How and where you will purchase your bees (package bees and nucleus colonies should be ordered the fall prior to the spring they are needed)
- Equipment needed (such as hives for bees, protective equipment for the beekeeper, and honey-processing equipment) and where you will purchase it
- Amount you can spend (your budget)
- Amount of time you have to devote to a beekeeping enterprise
- Local and state laws concerning the keeping of bees
- Potential markets for your honey, beeswax, or other products
- Registration of honey bee colonies with your state department of agriculture
- Registration of your honey-extracting facility (this is now required in some states like Pennsylvania, even if you extract in a kitchen or structure such as a garage)

- A plan for control of Varro mites and other diseases

The number of colonies you start with will depend on whether you are planning to keep bees simply for your own enjoyment and use, as a sideline for generating additional income, or as a commercial venture. Many sideline and commercial beekeepers started out keeping bees as a hobby. If you are a beginning beekeeper, you should start small and let your operation grow with your enthusiasm and experience. New beekeepers often want to start with a single colony, but it is better to begin with at least two or three colonies. While the initial cost is higher, the time required to manage two colonies is no greater than the time required to care for one, and some of the management problems you may face can be corrected with the assistance of a second or third colony.

Requirements for successful honey production:

- Strong colonies
- Young queens (preferably selected for mite resistance)
- Minimal swarming
- Good locations with plentiful food resources and strong nectar flow

5.1.3. Process to maintain output Marketing:-

Honey**Producing honey for profit is highly dependent on successful marketing. You should conduct market research to determine your competition, the amount of honey you can sell, and in what form(s) your customers prefer their honey.**

Successful marketing of honey requires a well-organized marketing plan consisting of at least the following:

- Production of high-quality honey
- Attractive containers and labels
- An effective advertising program
- Dependable service for customers

Most honey in the United States is extracted and sold as liquid honey. However, honey can be prepared and marketed in five different ways:

- Extracted honey
- Section-comb honey
- Cut-comb honey

- Chunk honey
- Finely crystallized or creamed honey

Equipment needs vary depending on the type and quantity of honey you wish to produce. Extracted liquid honey is the most profitable to produce under conditions where honey flows are generally light. Beekeepers who do not want to invest in extracting equipment can produce cut-comb honey, which is relatively easy to process. Section-comb honey, however, requires more equipment, close attention to colony management, and more frequent manipulation of bees than the production of extracted honey. In addition, beeswax--particularly crafted beeswax products (candles, ornaments, etc.)--is becoming an important source of income for some beekeepers.

Markets for honey and bee products are extensive. You should plan to start small and expand as market demand increases and you develop a better understanding of the markets for your products. For detailed marketing information and useful resources, contact the National Honey Board (see the "For More Information" section).

5.1.4. Pollination

Renting hives to growers for pollination services can be an important source of income for beekeepers. Contact fruit and vegetable grower organizations, your state or local beekeeping association, your local county extension educator, or university beekeeping specialist to inform them of your interest in renting your colonies for pollination. To avoid misunderstandings, it is important for beekeepers and growers to have a written agreement when honey bee colonies are being rented for pollination services. The following key points should be included in the contract:

- Approximate date to move bees into the crop, or the time relative to a certain condition of bloom, and the approximate date on which bees are to be removed
- Location of crop
- Pattern of colony placement
- Rental fee and the date(s) on which it is payable

- Beekeeper will provide a specified number of colonies of a minimum standard
- Grower will not apply bee-toxic pesticides while bees are in the crop; but, if necessary to do so, the beekeeper will be given a 48-hour notice
- Grower will warn the beekeeper of other spraying in the area
- Grower will reimburse the beekeeper for any additional movement of colonies in, out, or around the crop
- Grower will provide right of entry to the beekeeper for management of the bees while on the pollination site

5.1.4 Acquiring Bees

The best time to establish new colonies is in the spring. New honey bee colonies can be acquired in the following ways:

- Established colonies
- Nucleus colonies
- Package bees
- Swarms

Each of these options has distinct advantages and disadvantages. Your decision should be based on your particular production expectations and personal preference.

5.1.5. Established colonies

Overwintered or established colonies cost the most, but they can be a good buy. Before you can purchase the bees, they should be inspected by a state bee inspector to ensure that they are disease free. Avoid weak colonies and dilapidated equipment.

5.1.6. ADVANTAGES OF PURCHASING ESTABLISHED COLONIES:

- Equipment is already assembled
- Queen is present and laying (the quality of the queen can be evaluated by her brood pattern)
- A honey crop is possible the first season
- Information about the history of the colony may be available

5.1.7. DISADVANTAGES OF PURCHASING ESTABLISHED COLONIES:

- Equipment or bees may be diseased (however, inspection by a knowledgeable individual, such as a state apiary inspector, should alleviate this concern)
- Strong colonies may be difficult for a beginner to handle
- Equipment may not be standard
- Combs and frames may be old and need to be replaced

5.1.8 .Nucleus colonies (NUCLEUS) its consist of four or five frames of brood, honey and pollen, adult bees, and a laying queen. All frames should be covered with adult bees.

1. ADVANTAGES OF NUCLEUS COLONIES:

- Less expensive than established colonies
- Queens are usually new and can be evaluated by their brood pattern
- If there is a strong nectar flow, nucs usually can produce a honey crop the first year
- May be purchased locally
- Nucs are not as strong as established colonies, so they can be easier for beginners to handle

2. Disadvantages of nucleus colonies

. Overwintered or established colonies cost the most, but they can be a good buy. Before you can purchase the bees, they should be inspected by a state bee inspector to ensure that they are disease free. Avoid weak colonies and dilapidated equipment.

5.1.9. Package bees

Package bees are caged worker bees with a queen, produced mainly in the southern United States by beekeepers that specialize in producing package bees. They consist of 2, 3, or 5 pounds of bees, a queen (in a separate queen cage), and a canister of sugar syrup used for food by the bees during transport. The 3-pound package is often the best buy. Package bees should be ordered in the fall to ensure delivery by the desired early spring date. Packages are shipped in special screen mailing cages through the U.S. Postal Service or other package delivery services. Another option for beekeepers is to contact someone who will transport the bees for a fee. Beekeepers sometimes travel to bring package bees home for many beekeepers at once. Check newsletters to see if anyone is offering this service.

2. Advantages of package bees

- Cheaper than established colonies or nucs
- Easy for beginners to handle
- Little possibility of the bees having a serious brood disease

3. Disadvantages of package bees

- Little chance the bees will produce a honey crop the first year
- Because there is no brood, it is not possible to evaluate the queen
- Due to the stress of shipment, queens are often superseded, which can lead to queenlessness in the hive--a serious issue because it is necessary to have a productive queen to build the population and maintain a healthy hive
- Introducing package bees into hives may be difficult if the weather is poor
- Bees must be fed until the start of the nectar flow

5.1.10 Swarms

Swarms are another way to get started. Swarms can be easily collected and placed in prepared equipment. It is wise to requeen swarms as soon as possible since old queens head most swarms.

1. Advantages of swarms:

- Free
- Usually easy and fun to collect
- Although some swarms can be quite large, they are easy to handle

2. Disadvantages of swarms:

- Since there is no brood, the queen's brood pattern cannot be evaluated
- Depending on the size of the swarm, the bees are unlikely to produce a honey crop the first year
- Swarm availability is unpredictable

5.1.11 Diseases and Mites

Bees are subject to certain diseases, parasites, predators, and pests. Most pests and predators of bees are easy to control, but diseases and two recently introduced parasitic mites are a great threat to the industry. Diseases may be grouped into two categories: those affecting the brood, and those affecting the adult bees.

Brood diseases can be harmful and include American foulbrood (AFB), European foulbrood (EFB), sac brood, and chalk brood. The prevalence of American foulbrood makes it difficult to profitably keep bees unless this disease is monitored and controlled when identified. Adult diseases include virus and nosema. Most states have laws prohibiting the keeping of AFB-infected colonies or selling or removing infected bees or equipment. In most states, inspectors are authorized to enter any place where bees are kept to examine hives, bees, and equipment. Inspectors are authorized to prescribe treatment of diseased colonies and order the destruction of those in which the disease is too far advanced to warrant treatment.

Due to vigorous disease-control programs, beekeepers suffer few major problems with diseases. The biggest obstacle facing beekeepers today is the presence of two kinds of parasitic mites. Mites and the diseases associated with them were not found in the United States until the early 1980s. During the fall and winter, these mites can cause high mortality rates in bee colonies if not properly treated. Beekeeping, whether for fun or profit, is no longer possible without close attention to mite control.

The Varroa mite is considered by many to be the most serious honey bee pest. This mite is an external parasite that is visible to the naked eye. The brownishred, oval (shaped like a tiny clamshell) mite feeds on the blood of both adult bees and the brood. Heavy parasitism by Varroa mites results in bee mortality, subsequent weakening of colonies, and often death.

The tracheal mite is an internal parasitic mite that lives and reproduces within the thoracic tracheae, or breathing tubes, of adult honey bees. These microscopic mites penetrate the tracheae of honey bees and feed on their blood. Feeding by the mites damages the tracheal walls, which blocks the bees' breathing passages. These breathing tubes supply the flight muscles with oxygen. As a result of mite feeding, the flight muscles may atrophy, and the bees may be unable to fly or control their body temperature. Pathogens also may be introduced into the bees' bloodstream by feeding mites.

Efforts to stop the spread of these two mites have been largely unsuccessful, but research into various chemical controls and alternative control techniques, such as the use of resistant stocks, look promising. For more information on parasitic mite control, contact your county extension office or your university beekeeping specialist or visit the MAAREC website.

According to a 2007 report by the National Academies of Science, most North American pollinators, including honey bees, are in decline. Colony Collapse Disorder (CCD) is the most recent manifestation of an overall long-term decline in the managed honey bee population. CCD is characterized by the demise of honey bee colonies as a result of the rapid loss of the adult bee population. Typically, these colonies have healthy-looking brood and adequate food stores. Multiple possible causes of CCD are being studied. A combination of factors including mites, diseases, use of pesticides, environmental stresses, and migratory beekeeping may also be the cause.

Depending on where bees are kept, bears can be a serious hindrance to successful beekeeping. In areas where bears are known to be present, the construction of an electric fence enclosing the apiary is highly recommended before the bees are acquired. Additional pests that may need to be addressed include hive beetles, mice, skunks, opossums, and wax moths. For more information on these pests and their control, visit the

1. **Risk Management**

   You may now insure your honey, pollen collection, wax, and breeding stock through a crop insurance program for apiculture. The new grid-based rainfall index apiculture group-risk policy is available in selected states and counties (including all counties in Pennsylvania). Advantages of this coverage include flexibility of when to insure during the year and how much to insure (you are not required to insure all your colonies). This allows you to adjust coverage to better match the value of your beekeeping enterprise. Payments for losses under this program are based on lack of rainfall as measured by a rainfall index within a geographic grid (approximately 12 by 12 miles in area).

5.1.12. Initial Resource Requirements

First-year establishment based on a 10-hive unit in a 50-hive production system).

1. ***Apiary sites***

   Construction of An **apiary** (also known as a bee yard) is a location where **beehives** of honey **bees** are kept. ... Furthermore, an **apiary** may refer to a hobbyist's hives or those used for commercial or educational usage. It can also be a wall-less, roofed structure, similar to a gazebo which houses hives

- 10 package bees (3 lb each) plus shipping 20,00birr

2. ***Capital investment***

- Brood boxes, frames, and foundation $ 335.00-9,715birr
- Top, bottom, and inner covers $400.00-11,600birr
- Supers with frames and foundation $810.00=23490.00birr
- Protective clothing $90.00=2610.00birr
- Hive and tool/smoker $45.00=13,050
- Feeder $55.00=1,595birr
- Queen excluders $15.50=449.5
- Fume board $12.00=349
- Extractor $1,600.00=46,400
- Bottling tank (300 lb) with cover & strainer $1,000.00=29,000birr
- Uncapping tank $135.00=3915birr
- Uncapping knife $100.00=2,900

Total equipment investment: $5,097.50=147,827.5birr

3. *BUILDING*

- Adapting and upgrading existing facility $2,000.00=58,000

Total start-up cost: $7,097.50=205,827.00 birr

4. Sample Budget

- Included in this publication is an annual beekeeping budget that summarizes the receipts, costs, and net returns for ten mature honey bee colonies. It should be noted, however, that successful part-time operations aiming to generate income typically maintain fifty or more colonies. The initial resource requirements explain the startup costs. There will be no receipts from an operation until the second year. This sample budget should help ensure that all costs and receipts are included in your calculations.

  Costs and returns are often difficult to estimate in budget preparation because they are numerous and variable. Therefore, you should think of this budget as an approximation and make appropriate adjustments in the "Your Estimate" column (on right) to reflect your specific production and resource situation. For example, you may decide not to rent your colonies for pollination. More information on the use of budgets can be found in *Enterprise Budget Analysis* .

  You can make changes to the interactive PDF budget files for this publication by inputting your own prices and quantities in the green outlined cells for any item. The cells outlined in red automatically calculate your revised totals based on the changes you made to the cells outlined in green. You will need to click on and add your own estimated price and quantity information to all of the green outlined cells to complete your customized budget. When you are done, you can print the budget using the green Print Form button at the bottom of the form. You can use the red Clear Form button to clear all the information from your budget when you are finished.

Self-Check -5	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

2. _____ Which one of the following are adjusting and planning ahead of production colony management? (3 points)

A. Number of colonies you will start with
B. Location of your apiary and the amount of site preparation
C. Protect client confidentiality.
D. How and where you will purchase your

3. _____which one of the are the disadvantage purchasing established colony (settle bees)

A. Equipment is already assembled
B. Queen is present and laying
d. information may be available
E. Strong colonies be difficult.

i. _____ define five ways of honey preparation. ***?*** **(3points)**

B.

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1._____

2. _____

3._____

Operation Sheet 1	process to implement quality procedure output marketing honey

Techniques for Cleaning finished Pavers:

- Step 1- produce Production of high-quality honey
- Step 2- **make** Attractive containers and labels
- Steps 3- uses An effective advertising program
- Step 4- identifies Dependable service for customers

Refer……

- Penn State Extension, 2011.
- Grout, Roy A. *The Hive and the Honey Bee* . Hamilton, Ill.: Dadant and Sons, 1992.
- Kelley, Walter T. *How to Keep Bees and Sell Honey* . Clarkson, Kent.: W. T. Kelley, Co. 1991.
- Root, Amos Ives, Ann Harman, Hachiro Shimanuki, and Kim Flottum *The ABC & XYZ of Bee Culture: An Encyclopedia Pertaining to the Scientific and PracticalCulture of Honey Bees.* 41st ed. A I Root Co., 2007.
- Sammataro, D.,. and A. Avitabile. *The Beekeepers Handbook* . Ithaca: Cornell University Press, 2011.
- Winston, M. L. *The Biology of the Honey Bee* . Cambridge: Harvard University Press, 1991.

LAP Test	Practical Demonstration

Name: _____ Date: _____
Time started: _____ Time finished: _____
Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within 4 hour.

Task -1 Clean the location of input market
Task -2 Make the customers reliable and attractive.
Task -3 Store tools and equipment while the output offers

Reference

- *Beekeeping Resource Manual*. 2001. Available from the Department of Entomology and Applied Ecology, University of Delaware, Newark, DE 19713, for $10.00 or on the MAAREC website.
- Caron, D. M. *Honey Bee Biology and Beekeeping*. Cheshire, Conn.: Wicwas Press, 2000.
- Collison, Clarence H., Maryann Frazier, and Dewey Caron. *Beekeeping Basics* . University Park: Penn State Extension, 2004.
- Flottum, Kim. *The Backyard Beekeeper*. Rev. ed. Quarry Books, 2010.
- Frazier, Maryann. *A Field Guide to Honey Bee and Their Maladies* . University Park: Penn State Extension, 2011.
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Websites

BEEKEEPING

NTQF Level II

Learning Guide #09

Unit of Competence: Implement Quality Systems and Procedures of Honey Bee Products

Module Title: Implementing Quality Systems and Procedures of Honey Bee Products

LG Code: AGR BKG1 09 LO2

TTLM Code: AGR BKG1 09TTLM 1217v1

LO 2: Participate in maintaining and improving quality at work

Instruction Sheet	Learning Guide #13

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

- ***Monitoring*** work area, ***to ensure compliance with quality*** materials, processes and product.
- Identifying and report Non-conformance in inputs, process, product.
- Taking Corrective action to maintain quality standards within level of responsibility
- Raising Quality issues with designated personnel

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to –

- ***Monitor*** work area, ***to ensure compliance with quality*** materials, processes and product.
- Identify and report Non-conformance in inputs, process, product.
- Taking Corrective action to maintain quality standards within level of responsibility
- Raising Quality issues with designated personnel

Learning Instructions:

21. Read the specific objectives of this Learning Guide.
22. Follow the instructions described in number 3 to 20.
23. Read the information written in the “Information Sheets 1”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
24. Accomplish the “Self-check 1” in page 5.
25. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).

26. If you earned a satisfactory evaluation proceed to “Information Sheet 2”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
27. Submit your accomplished Self-check. This will form part of your training portfolio.
28. Read the information written in the “Information Sheet 2”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
29. Accomplish the “Self-check 2” in page 7.
30. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 2).
31. Read the information written in the “Information Sheets 3 . Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
32. Accomplish the “Self-check 3” in page 11.
33. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 3).
34. If you earned a satisfactory evaluation proceed to “Operation Sheet 1” in page 12. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
35. Read the “Operation Sheet 1” and try to understand the procedures discussed.
36. If you earned a satisfactory evaluation proceed to “Operation Sheet 2” in page 13. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
37. Read the “Operation Sheet 2” and try to understand the procedures discussed.
38. If you earned a satisfactory evaluation proceed to “Operation Sheet 3” in page 14. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
39. Read the “Operation Sheet 3” and try to understand the procedures discussed.
40. Do the “LAP test” in page 15 (if you are ready). Request your teacher to evaluate your performance and outputs. Your teacher will give you feedback and the evaluation will be either satisfactory or unsatisfactory. If unsatisfactory, your teacher shall advice you on additional work.

Information Sheet-1	***Monitoring* work area, *to ensure compliance with quality* materials, processes and product.**

2.1. Monitor Work area, materials, processes and product routinely ***to ensure compliance with quality*** requirements Project is a series of activities (investments) that aim at solving particular problems within a given time frame and in a particular location. The investments include time, money, human and material resources. Before achieving the objectives, a project goes through several stages. Monitoring should take place at and be integrated into all stages of the project cycle.

2.1.2. The three basic stages of monitoring work area should participate include::

- **Project planning** (situation analysis, problem identification, definition of the goal, formulating strategies, designing a work plan, and budgeting);
- **Project implementation (**mobilization, utilization and control of resources and project operation); and
- **Project evaluation.** Monitoring should be executed by all individuals and institutions which have an interest (stake holders) in the project. To efficiently implement a project, the people planning and implementing it should plan for all the interrelated stages from the beginning.

In the in the way of implementing quality system and procedure of **honey bee's** construction the following we said the ***key questions*** of planning and management for work monitoring issues

(1) What do we want?

2) What do we have?

(3) How do we use what we have to get what we want?

(4) What will happen when we do?

They can be modified, using "where," instead of "what," while the principles are the same. In order to evaluate the activities that needs to undertake and immediately the questions become:

1. **Where are we?**
2. **Where do we want to go?**
3. **How do we get there?**
4. **What happens as we do?**

2.1.3. Situation Analysis and Problem Definition:

This asks the question, "Where are we?" (What do we have?).

1. **Situation analysis** is a process through which the general characteristics and problems of the community are **identified.**

   It involves the identification and definition of the characteristics and **problems specific** to particular **categories of people in the community**. These could be people with disabilities, women, youth, peasants, traders and artisans.

Situation analysis is done through collecting information necessary to understand the community as a whole and individuals within the community. Information should be collected on what happened in the past, what is currently happening, and what is expected to happen in the future, based on the community's experiences.

Information necessary to understand the community includes, among others:

- **Population characteristics** (eg sex, age, tribe, religion and family sizes);
- **Political and administrative** structures (eg community committees and local councils);
- **Economic activities** (including agriculture, trade and fishing);
- **Cultural traditions** (eg inheritance and the clan system), transitions (eg marriages, funeral rites), and rites of passage (eg circumcision);
- **On-going projects** like those of sub-county, district, central Government, non Governmental organizations (NGOs), and community based organizations (CBOs);
- **Socio-economic** infrastructure or communal facilities, (eg schools, health units, and access roads); and

- **Community organizations** (eg savings and credit groups, women groups, self-help groups and burial groups), their functions and activities.

Information for situation analysis and problem definition should be collected with the involvement of the community members using several techniques. This is to ensure valid, reliable and comprehensive information about the community and its problems. Some of the following techniques could be used:

- Documents review;
- Surveys;
- Discussions with individuals, specific groups and the community as a whole;
- Interviews;
- Observations;
- Listening to people;
- Brainstorming;
- Informal conversations;
- Making an inventory of community social resources, services and opportunities;
- Transect walks, maps; and
- Problem tree.

Situation analysis is very important before any attempts to solve the problem because:

- **It provides an opportunity** to understand the dynamics of the community;
- **It helps to clarify social**, economic, cultural and political conditions;
- **It provides an initial opportunity** for people's participation in all project activities;
- **It enables the definition** of community problems and solutions; and
- **It provides information** needed to determine objectives, plan and implement.

Situation analysis should be continuous, in order to provide additional information during project **implementation, monitoring** and re-planning any kind of establishing colony. Situation analysis and problem identification should be **monitored to ensure** that correct and up dated information is always available about the community and its problems.

Since monitoring should be integrated into all aspects or phases of the process, let us go through each phase and look at the monitoring concerns associated with each.

2. **Setting Goals and Objectives:**

Goal setting asks the question, "**Where do we want to go?" (What do we want?).**Before any attempts to implement a project, the planners, implementers and beneficiaries should set up goals and objectives. See Brainstorm for a participatory method to do this. A goal is a general statement of what should be done to **solve a problem**. It defines broadly, what is expected out of a project. A goal emerges from the problem that needs to be addressed and signals the final destination of a project. Objectives are finite sub-sets of a goal and should be specific, in order to be achievable.

The objectives should be "SMART." They should be:

1. **Specific:** clear about what, where, when, and how the situation will be changed;
2. Measurable: able to quantify the targets and benefits;
3. Achievable: able to attain the objectives
   (Knowing the resources and capacities at the disposal of the community)

4. Realistic: able to obtain the level of change reflected in the objective; and
5. Time bound: stating the time period in which they will each be accomplished

3. Generating Structures and Strategies:

This aspect asks the third key question, "**How do we get there?" (How do we get what we want with what we have?).**The planners and implementers (communities and their enablers) should decide on how they are going to implement a project, which is the strategy. Agreeing on the strategy involves determining all items **(inputs**) that are needed to carry out the project, defining the different groups or individuals and their particular roles they are to play in the project of implementing quality production of honey bees . These groups and individuals that undertake particular roles in the project are called "actors."

Generating the structures and strategies therefore involves:

- Discussing and agreeing on the activities to be undertaken during implementation;
- Defining the different actors inside and outside the community, and their roles; and
- Defining and distributing costs and materials necessary to implement the project.

After establishing the appropriateness of the decisions, the executive should discuss and agree with all actors on how the project will be implemented. This is called **designing** a work plan. (How do we get what we want?). A work plan is a description of the necessary activities set out in stages, with rough indication of the timing.

In order to draw a good work plan, the implementers should:

- List all the tasks required to implement a project;
- Put the tasks in the order in which they will be implemented;
- Show allocation of the responsibilities to the actors; and
- Give the timing of each activity.

The work plan is a guide to project implementation and a basis for project monitoring. It therefore helps to:

- Finish the project in time;
- Do the right things in the right order;
- Identify who will be responsible for what activity; and
- Determine when to start project implementation.

4. **The implementers and planners**:- have to agree on monitoring indicators. Monitoring indicators are quantitative and qualitative signs (criteria) for measuring or assessing the achievement of project activities and objectives. The indicators will show the extent to which the objectives of every activity have been achieved. Monitoring indicators should be explicit, pertinent and objectively verifiable.

1. **Monitoring Indicators are of four types, namely**;

- **Input indicators:** describe what goes on in the project (eg number of bricks brought on site and amount of money spent);
- **Output indicators**: describe the project activity (eg number of classrooms built);
- **Outcome indicators:** describe the product of the activity (eg number of pupils attending the school); and
- **Impact indicators:** measure change in conditions of the community (eg reduced illiteracy in the community).

Writing down the structures and strategies helps in project monitoring because they specify what will be done during project implementation. Planning must indicate what should be monitored, who should monitor, and how monitoring should be undertaken.

2. **Implementation:**

Monitoring implementation asks the fourth key question "What happens when we do?"

Implementation is the stage where all the planned activities are put into action. Before the implementation of a project, the implementers (spearheaded by the project committee or executive) should identify their strength and weaknesses (internal forces), opportunities and threats (external forces).

The strength and opportunities are positive forces that should be exploited to efficiently implement a project. The weaknesses and threats are hindrances that can hamper project implementation. The implementers should ensure that they devise means of overcoming them.

Monitoring is important at this implementation phase to ensure that the project is implemented as per the schedule. This is a continuous process that should be put in place before project implementation starts.

As such, the **monitoring** activities should appear on the work plan and should involve all stake holders. If activities are not going on well, arrangements should be made to identify the problem so that they can be corrected.

Monitoring is also important to ensure that activities are implemented as planned. This helps the implementers to measure how well they are achieving their targets. This is based on the understanding that the process through which a project is implemented has a lot of effect on its use, operation and maintenance.

When implementation of the project is not on target, there is a need for the project managers to ask themselves and answer the question, "How best do we get there?"

3. **Summary of the Relationship:** The above illustrates the close relationship between monitoring, planning and implementation.
   It demonstrates that:

- Planning describes ways which implementation and monitoring should be done;
- Implementation and monitoring are guided by the project work plan; and
- Monitoring provides information for project planning and implementation. There is a close and mutually reinforcing (supportive) relationship between planning, implementation and monitoring. One of the three cannot be done in isolation from the other two, and when doing one of the three, the planners and implementers have to cater for the others

Self-Check -1	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. _____Which one the following are not the three basic stages of monitoring work area should participate? (4 points)

4. Project planning C. Project evaluation.
5. Project implementation D. Situation analysis.

6. _____ ____ processes through which the general characteristics and problems identify the Community? (4 points)

C. Situation analysis. d. information
D. Project planning E. None .

7. _____ define monitoring work area **? (3points)**

C

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1._____
2. _____
3._____

Reference

Information Sheet-2	**Identify Non-conformance in inputs, process, product and/or service**.

Definition terms:-

1. **Nonconformity:** is the identification of an incident involving either an error or an omission
2. **input process and product service:-**
3. **Non-conformity** refers any a failure to meet the requirements (3.1.2, ISO 9000:2005). Occurrence of non-conformity is not decreases quality
4. **Input:** The thing or event that triggers the process
5. **Output**: The result (the product/service) produced by the process.
6. Actors: process owner is the person responsible for optimum definition, functioning and adjustment of processes.

2.1. Identify Non-conformance in inputs, process, product and/or service.

Nonconformity is the identification of an incident involving either an error or an omission. Something wasn't done or was done incorrectly.

Nonconformity refers to a failure to comply with requirements. A requirement is a need, expectation, or obligation. It can be stated or implied by an organization, its customers, or other interested parties. There are many types of requirements. Some of these include quality requirements, customer requirements, management requirements, product requirements, and legal requirements. Whenever your organization fails to meet one of these requirements, nonconformity occurs. ISO 9001 lists quality management system requirements. When your organization deviates from these requirements, nonconformity occurs.

Non-conformity is a wide term, which refers to product especially (non-fulfillment of a requirement). But for instance, when an objective was set for a process, like x% rejection rate and that percentage is exceeded, there is a non-conformity related to that initial objective. Another example of non-conformity may be encountered when a process is operating without complying with the documentation set for it. In this case, the requirement is: the process must follow the applicable documentation.

Non-conformity is a failure to meet the requirements (3.1.2, ISO 9000:2005). Occurrence of non-conformity is not decreases quality. It may be related to failure to meet the requirements of the standards, documentation, quality, regulations, requirements, contract requirements or customer and other interested parties requirements. As a non-conformity can be treated only what was actually found, or

supported by objective evidence. Categories of non-conformities: Systematic - defects detected in the quality management system, for example: not implemented part of the system, lack of required records, or a measuring equipment that is not supervised

2.1.2. Occurrence Nonconformance input process and product service
A good definition of a process is the most important step towards an efficient process structure winch couldn't decrease the quality and implementing honey bees or any other project it should follow a procedure Before a process can be described
It is essential for an organization to reflect on the necessary information to manage and control a process. So before you start visualizing and modeling we first start to define what the process is about using **8(eight) simple process elements.**
This process management approach is developed by Senses process management

- **What am I going to do?**
- **Define your own process structure**
- **Map objectives clearly**
- **Make a good inventory of all risks**
- **Measure**

2.1.3. Objective (implementing quality system and procedure of honey bees establishing apiary
Why do we have this process? What is its added value? Who am I doing it for? The description of the objective often encompasses the result of the process. Explanation: The objective of the process indicates the reason why the process takes place. Relating the objective of the process to the objectives of the company guarantees the added value of the process. Example: Recruitment & selection process: ensuring the influx of sufficiently qualified staff, within the boundaries set by the company's staff

Customer / Supplier:
For whom is the product or service created (who purchases it, which uses it)? Supplier: Who is responsible for creating the service/product and output? A customer can also be an internal party, an internal customer. Explanation Customer: The process basically revolves around the customer. Each activity must add value to the result the customer requires. Supplier: Is the party that delivers the result, i.e. the party responsible for the end product or service.

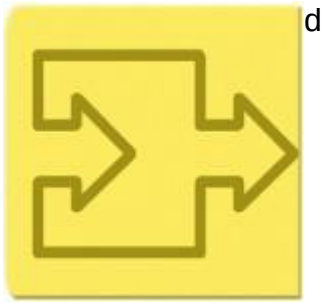
Example Customer:

- In the case of local authorities, its customers will often be residents
- In the case of a production company, of honey bees in Ethiopia the customer is the buyer of, for example, the wax molder

- Internally, the customer can be a department head or, for example, the HRM department as a whole.

Supplier:

- Head of the Training & Consultancy department
- d animal production engineering



Input / Output:

- **Input**: The thing or event that triggers the process.

Output: The result (the product/service) produced by the process.
Sometimes the output of one process is used as input for the next. Explanation Input is something that is transformed, consumed, used or processed. What is it that triggers the process? Output is the tangible product or service that is delivered at the end of the process. Example Input: Phone call, request, alert, complaint. Output: A product, such as a honey r, wax , cream etc. Or a service, such as an insurance ing a temp, etc.

Tools
Tools are the things (machines, accommodation, etc.) needed to be able to execute the process. Explanation: What tools are used during the process? What machines, documents, software, and other facilities (accommodation, equipment) do the actors use in carrying out their activities as part of a process?
Example:

- **Personal protective equipment**
- Specific machines or sow drilling timber machine
- Raw materials.

Actors:
Who is responsible for (owner of) the process and who is involved in the process? The process owner is the person responsible for optimum definition, functioning and adjustment of processes.
Explanation: A number of the activities that make up a process are performed by people. These people are considered to be actors with a specific role. The assignment of tasks, authorizations and responsibilities to these actors is a crucial factor in ensuring the effectiveness and efficiency of a process.
Example: In principle, any employee can be involved in or responsible for a process. For example, Customer Relations Manager, Production Manager, Team Leader or

Framework:
All preconditions, requirements (standards), plans and policy documents that play a part in controlling the process. Explanation: Many processes are subject to legislation and regulations or standards. These come into play in the control and definition of a process. Internal company policy or guidelines can also impact on the process.
Example:

- Quality criteria
- ISO standards
- Regulations
- 

Risks / Measures:
Risk is the possibility of an event taking place, multiplied by the consequences of that event. Measures are the steps taken to mitigate risks.

Explanation: Processes may come with risks. Identifying the risks associated with a process is an integral part of defining that process, as is listing measures that can be taken to mitigate those risks.
Example: A bank that issues a loan exposes itself to risk. Needless to say, the bank factors in such risk, because a certain percentage of loans do entail risk. The costs of such risky loans are estimated and subsequently reflected in the price of the loan, i.e.

KPI's
Performance indicators are units of measurements, such as turnaround times, deadlines, minimum results achieved, etc.
Explanation: Measurable units that provides information regarding the functioning of a specific process, and the extent to which set objectives are achieved. Every objective must meet the **SMART criteria.**
SMART = **Specific**, **Measurable**, **Attainable**, **Realistic**, **Timely**.
Example: Invoice processing, including approval, must not take more than 2 days. KPI: maximum turnaround time of 2 days. Average sickness absence for the full year 2012 must not exceed 3%. KPI: absence rate for 2012 below or equal to

Self-Check -2	**Written Test**

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. _____Which one the following are the input monitoring process? (4 points)

B. The result (the product/service) produced by the process.
C. The thing or event that triggers the process.
D. Processes may come with risks
E. ALL

1. _____ define Nonconformity**? (2points)**

D

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1._____

2. _____

Reference

Information Sheet-3	**Taking Corrective action within level of responsibility, to maintain quality standards**

3.1. The quality of the product, taking corrective action within the level responsibility it should maintain the quality standard in the present case analytical results, should obviously be acceptable. To establish whether the product fulfils the quality requirements these have to be defined first. Only after that it can be decided if the product is satisfactory or if and what corrective actions need to be taken.

3.1.1. What is Quality?

The term "quality" has a relative meaning. This is expressed by the ISO definition:

"QUALITY IS totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs*".* In simpler words, one can say that a product has good quality when it *"complies with the requirements specified by the client".* When projected on analytical work, quality can be defined as *"delivery of reliable information within an agreed span of time under agreed conditions, at agreed costs, and with necessary aftercare".* The "agreed conditions" should include a specification as to the precision and accuracy of the data which is directly related to "fitness of use" and which may differ for different applications. Yet, in many cases the reliability of data is not questioned and the request for specifications omitted. Many laboratories work according to established methods and procedures which are not readily changed and have inherent default specifications. Moreover, not all future uses of the data and reports can be foreseen so that specifications about required precision and accuracy cannot even be given. Consequently, this aspect of quality is usually left to the discretion of the laboratory. However, all too often the embarrassing situation exists that a laboratory cannot evaluate and account for its quality simply because the necessary documentation is lacking.In the ensuing discussions numerous activities aimed at maintaining the production of quality are dealt with. In principle, three levels of organization of these activities can be distinguished. From the top down these levels are:

1. Quality Management (QM)
2. Quality Assurance (QA)
3. Quality Control (QC)

3.1.2. Quality Management

Quality Management is the assembly and management of all activities aimed at the production of quality by organizations of various kinds. In the present case this implies the introduction and proper running of a "Quality System" in laboratories. A statement of objectives and policy to produce quality should be made for the organization or department concerned (by the institute's directorate). This statement also identifies the internal organization and responsibilities for the effective operation of the Quality System.

3.1.3. Quality Assurance

Proper Quality Management implies consequent implementation of the next level: *Quality Assurance.* The ISO definition reads: *"the assembly of all planned and systematic actions necessary to provide adequate confidence that a product, process, or service will satisfy given quality requirements."* The result of these actions aimed at the production of quality, should ideally be checked by someone independent of the work: the Quality Assurance Officer. If no QA officer is available, then usually the Head of Laboratory performs this job as part of his quality management task. In case of special projects, customers may require special quality assurance measures or a Quality Plan.

3.1.4. Quality Control

A major part of the quality assurance is the *Quality Control* defined by ISO as

***"The operational techniques and activities that are used to satisfy quality requirements**. "* An important part of the quality control is the *Quality Assessment:* the system of activities to verify if the quality control activities are effective, in other words: an evaluation of the products themselves.

Quality control is primarily aimed at the *prevention* of errors. Yet, despite all efforts, it remains inevitable that errors are be made. Therefore, the control system should have checks to *detect* them. When errors or mistakes are suspected or discovered it is essential that the "Five *W*s*"* are trailed:

- What error was made?
- Where was it made?
- When was it made?
- Who made it?
- Why was it made?

Only when all these questions are answered, proper action can be taken to correct the error and prevent the same mistake being repeated.
The techniques and activities involved in Quality Control can be divided into four levels of operation:
1. *First-line control:* Instrument performance check.
2. *Second-line control:* Check of calibration or standardization.
3. *Third-line control:* Batch control (control sample, identity check).
4. *Fourth-line control:* Overall check (external checks: reference samples, inter laboratory exchange programmers).

Because the first two control levels both apply to the correct functioning of the instruments they are often taken together and then only three levels are distinguished. This designation is used throughout the present Guidelines:

1. *First-line control:* Instrument check / calibration.
2. *Second-line control:* Batch control
3. *Third-line control:* External check

It will be clear that producing quality in the laboratory is a major enterprise requiring a continuous human effort and input of money. The rule-of-fist is that 10-20% of the total costs of analysis should be spent on quality control. Therefore, for quality work at least four conditions should be fulfilled:

- Means are available (adequate personnel and facilities)
- efficient use of time and means (costs aspect)

- expertise is available (answering questions; aftercare)
- upholding and improving level of output (continuity)

In quality work, management aspects and technical aspects are inherently cobbled together and for a clear insight and proper functioning of the laboratory these aspects have to be broken down into their components. This is done in the ensuing chapters of this manual.

3.1.5. What are quality management standards?

1. **Quality management standards** establish a framework for how a business manages its key activities. They identify an agreed way of doing something, making a product, managing a process or delivering a service.
2. **What are quality standards?**

Quality management standards are details of requirements, specifications, guidelines and characteristics that products, services and processes should consistently meet in order to ensure:

- their quality matches expectations
- they are fit for purpose
- they meet the needs of their users

Standards are an essential element of quality management systems.

3.1.5 Purpose of quality management standards

Businesses use standards to satisfy their customers' quality requirements and for a range of other reasons, such as:

B. ensuring safety and reliability of their products and services
C. complying with regulations, often at a lower cost
D. defining and controlling internal processes
E. meeting environmental objectives

Businesses committed to following quality management standards are often more able to:

- increase their profits
- reduce losses or costs across the business
- improve their competitiveness
- gain market access across the world

- increase consumer loyalty

3.14. Advantage of quality management systems.

Examples of quality management standards

ISO international standards are by far the most widely accepted set of quality standards in the world. **ISO 9001:2015** specifies the requirements for a quality management system that businesses can use to develop their own quality agenda.

Other types of best practice standards

Standards can help you to achieve best practice in a wide range of business activities, not just quality management. For example: accessibility standards - can help make services or premises accessible to disabled users

- **health and safety standards** - can help reduce accidents in the workplace
- **information security standards** - can help keep sensitive information secure
- food safety standards - can help prevent food from being contaminated
- **environmental management standards** - can reduce environmental impact and waste
- energy management standards - can help cut energy consumption Guide

Self-Check -3	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. ---------- Organization of these activities can be distinguished. From the top down these levels are: (3 points)
2. Quality Management (QM)
3. Quality Assurance (QA)
4. Quality Control (QC)
5. ALL
6. _____ *Totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied?* (2 points)
7. *Define the quality assurance?* (3 points)

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

Answer Sheet

Score = _____
Rating: _____

Name: _____ Date: _____

Short Answer Questions

1._____

2. _____

Information Sheet-4	Raise Quality issues with designated personnel

4.1. **Raise Quality issues with designated personnel**

Raising your concern internally with a designated person

If for any reason you feel unable to raise your concern with your line manager, you should raise your concern with the designated person in your organization. You should be able to find out who this is by looking at your employer's raising concerns or whistle blowing policy. This will normally be a person who has been given special responsibility and training in dealing with employees' concerns.

When you want your identity to remain confidential, you should say so at this stage.

- **Take immediate or prompt action**
- **Protect client confidentiality.**
- **Refer to your employer's whistle blowing policy.**
- **Keep an accurate record of your concerns and actions taken.**

Concern not addressed adequately and/or immediate risk to others Escalate your concern to a healthcare regulatory organization You should seek advice* * Independent, confidential advice is available from your professional body,

- If you have raised a concern with your line manager or with the designated person within your organization, but feel it has not been addressed properly or that inadequate action has been taken, you should raise your concern with someone higher within your employing organization. For example, in the production of honey companies you could escalate your concern to your department manager, head of agricultural mister director of agricultural sectors or chief executive. You may also choose to take this action from the outset if, for whatever the reason, you feel unable to raise your concern with the internal staff mentioned

If you have raised your concern internally but feel it has not been addressed properly, or if you feel unable to raise your concern at any level in your organization, you may consider that you need to raise your concern outside your place of work. For example, clinical leaders may choose this route if they feel their concerns have not been addressed adequately within their organization.

In order that your concern can be investigated and for your own protection under current legislation

- Recognized healthcare organization that has the authority to investigate the issue. This could be a regulator of health and social care services, or a regulator of health professionals

- Before reporting your concerns to a regulatory organization, we recommend that you seek advice will enable you to receive appropriate support and guidance in these difficult circumstances you should only consider this route if you have exhausted all of the above procedures and inadequate action has been taken to address your concern. Raising your concerns externally without clear evidence of fi rst rising the concern internally or with a regulatory organization, would only be considered appropriate and provide you with protection under the terms of the failure product asset , in the most extreme circumstances.
- Recognize the important role that clinical leaders play within the process of raising concerns, particularly those who are nurses and midwives. Promoting an open and Appropriate systems for raising concerns are in place and made accessible to all staff ; consider whether staff can gain access confidentially to your organization's concerns policy
- staff can see all concerns are taken seriously, even if they are later seen to be unfounded 29.3 you inform the employee who raised the concern how you propose to handle the concern, and state a timeframe in which you will feedback to them, both verbally and in writing following your employer's policies
- concerns are investigated promptly and include a full objective assessment
- you keep the employee who raised the concern advised of progress; this will give them and others confidence in the system
- action to resolve a concern is taken, recorded and monitored
- staff who raise concerns are protected from unwarranted criticism or actions 29.8 processes are in place to support employees raising concerns; this support may need to be offered confidentially from outside the organization
- where harm has already been caused to a person in your care, a full and prompt explanation of what has happened and the likely effects is given to the person

Self-Check -4	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. -------which one of the following are not identity to remain confidential issues (3 points)

8. Quality Management (QM)
9. Protect client confidentiality.
10. Take immediate or prompt action.
11. Keep an accurate record.

12. _____ Recognized healthcare organization that has the authority to investigate the issue. ***?*** **(2 points)**

E. True

F. False

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1._____

2. _____

References

This focus on "just keeping up" with what must get done today, this week, this month often causes important priorities to go unarticulated, undone, and/or not up to **quality standards**. This paper outlines a process to help leaders define priorities, roles, measures, and **quality standards** at multiple levels within organizations.

Making Measurement Meaningful. Professional File. Number 97, Fall 2005

Both organic and inorganic pigments are offered and are produced to strict **quality standards**, according to the literature.

Rubber color chart. (Literature: materials)

Supreme Court issued its decision in the case challenging EPA's revised National Ambient Air **Quality Standards** (NAAQS) for ozone and particulate matter (PM).

Supreme Court Rules on PM/Ozone Case

Small firms have been warned that they are not spending enough time developing **quality standards**.

Quality Standard Award to meet challenges of international markets: DG PSQCA

The first, a scoping paper titled Shaping a career development culture: **Quality standards**, quality practice, quality outcomes (McMahon, 2004), provided information for and guided discussion at the National Forum for Career Practitioners held in Sydney on 25-26 August 2004.

Moving Forward--Shaping a Career Development Culture: Quality Standards, Quality Practice, Quality Outcomes

Beaches in the North of England and Scotland failing the minimum water **quality standards** have increased dramatically compared with last year's results, says The Marine Conservation Society.

North worst for dirty beaches, says report

Criteria considered for this award include ISO **quality standards**, customer satisfaction, teamwork, supplier performance, environmental **quality standards**, safety and health **quality standards**, and corporate citizenship.

Council Place London W1B 1PZ 020 7333 9333 advice@nmc-uk.org www.nmc-uk

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Websites

3. www.IdealConcreteBlock.com

Mar 3, 2011 Halliburton Energy Services, Inc. Treatment fluids comprising transient polymer networks

Shower pan construction, **Morthland Glenn A** Oct 11, 1949

Making profit from quality

Two years ago, if you thought you had good quality management - and you weren't interested in exporting to Europe - you might have questioned the value of spending time and money to meet "foreign" **quality**

standards. Since then, ISO 9000 has been adopted by American industry at such a rate that it has become a required ticket of admission to key domestic markets.

You may think you're covered

International Organization standardization (ISO) 9000 **quality standards** became mandatory for all companies that manufacture in or export products to the European Community after December 31, 1992.

Midsized manufacturers are familiar with ISO 9000, but few will register soon

Respondents felt that three main forces would affect their individual jobs in the next two or three years--organization and governance of the medical staff, changes in physician practice patterns, and measuring and enforcing **quality standards**. With regard to their organizations, physician managers responded that a reduction in government reimbursement, increased competition for patients and, again, measuring and enforcing **quality standards** are the three main forces facing them (table 14, above).

Physician executives in the '90s: report of a national survey

EPAs decision promotes tribal self-government, empowering the tribes to develop EPA-approved water **quality standards** and to issue water quality certifications for actions requiring federal permits on their lands in order to protect tribal waters.

United States : U.S. EPA approves Navajo Nation and Confederated Tribes of the Goshute Reservation authority to develop water quality standards

The objectives were to promote **Quality Standards** culture in Pakistan.