Standards and Quality in Ethiopia

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Quality Management

Quality as related to the Success of Business Enterprises

The objective of a business organisation is to create products that satisfy customers’ needs with some proceeds that go to the firm as profit. With more customer satisfaction there could be a higher demand for products, and consequently a more efficient transformation of resources. Quality is related to the success of business by means of:

- creating satisfied customers; facilitating volume purchase; repeated purchase.

What is Quality?

Quality is not an isolated field. It is a recognised guide related to other marketing mixes. It encompasses different elements of theories. Depending on the product type, some define quality as:

- performance, effectiveness, elegance, fitness, reliability, durability, safety, taste, conforming to standards, uniformity.

The definition found in the Oxford business dictionary is:

- degree of goodness or worth;
- general excellence;
- unbreakable;
- high social standard.

Some Ethiopian enterprises define quality as:

- maintaining requisite standards;
- defect-free product;
- systematic inspection of products.

While others define it as:

- relative to competitors rather than to fixed internal standards;
- relative to customers’ needs rather than to departmental standards.

A recent report carried out by the American Society for Quality Control sees quality at a larger scope. It considers quality as:

- a product that gives satisfaction to consumers related to competitive offering;
- an output whose measure is not just during the event of purchase, but over the product’s entire lifetime;
• an item whose judges are those whom it serves – the customers and end-users.

Quality is not a remote fragment of information; rather it is part of all marketing issues.

Quality Thoughts

In the past, the concept of quality was strictly based on fixed standards, and whatever parameters to be set were product-driven, rather than grounded on sales. The quality measuring tools were specifically designed to evaluate those products produced according to the specified standards. Moreover, quality professionals used to detect manufacturing defects at the end of production. Whereas presently quality is measured in terms of customer preferences and needs.

In a certain company where I had the lead position of the commercial and research department, there were sets of internal product quality standards for export products. All too often, customers were unhappy with the quality of the products. The company I worked in was puzzled by their complaints because it was positively sure that production was being carried out according to the parameters set by the quality section of the firm. However, sales remained to be difficult, especially for reasons related to the quality of products. The manager of the firm was someone who liked to get the best out of any situation. Nevertheless, everybody was confused of what the buyer actually wanted. Eventually, the buyer started to say, 'before we sign a new contract, you have to agree on our proposed quality requirements.' Only then could we realise that we should have known the customers’ quality requirements and that the setting of our own internal standards and parameters was not enough. Finally, when the firm started to comply with the customer’s quality preference, the complaints ceased.

Quality and Productivity

There are some debates that quality is directly related to productivity. This theory assumes that producing quality products requires more time, more material and so forth, in which case the quantity to be produced will be automatically reduced. Enterprises whose policy towards employees’ salary increment is based on the quantity of manufactured products without due consideration to quality can suffer from high rejection. In such instances, there is obviously a risk that many more products with poor quality will be produced because employees may concentrate on quantity and not on quality.
Quality is an asset that marketing counts on and it is unrestrained to get it done.

So, as mentioned before, quality control or inspection starts from the designing stage and goes all the way through to manufacturing. Such a system can correct defects at an early stage. Quality experts should be involved from the design stage to the point of sale because, unless the products are sold effectively, the enterprise will fail to gain anything.

Let us now consider an enterprise engaged in international markets and that follows a policy of "quality at any cost." The enterprise should also give serious thought to competitive pricing because if it does not, it may not be able to survive. Nowadays, the subject of quality without paying much attention to costs is just not acceptable because now that competition is severe, a firm cannot sell to international markets, if its pricing is not competitive.

An Ethiopian enterprise shares the following experience. The firm's policy is 'quality at any cost.' With this policy, it produces good quality products; but the price of its unit output is so high that it is just unable to compete. Consequently, it is pushed out of international markets. It is therefore necessary that quality professionals be cost-conscious because quality cannot be seen in isolation to total marketing management.

Factors that cost money are the non-quality raw materials, the unnecessarily wasted overheads, and carelessly handled workmanship that does not accomplish work appropriately right from the beginning.

Quality and Trade

The association between business and quality can be seen in combination. This can be illustrated by the fact that the objective of a business organisation is to create goods to satisfy customers' needs at a profit. This need can be satisfied, if consumers get the right quality product. With more consumer satisfaction a higher demand for a product can be generated and consequently, a more efficient usage of resources can be achieved. If the quality of a product is unsatisfactory and valued by international consumers, then it may be rejected.
Quality is related to the success of international business because a product with quality can:

- create satisfied customers;
- facilitate a higher volume of purchases;
- easily generate repeated purchasing.

In the past, changes in market preferences were not too frequent. Nowadays, however, the market changes very rapidly, reflecting the altering needs of international consumers.

Quality versus Customer

In relation to international markets, reacting to new consumers' needs has become the norm of trading. Therefore, exporters have to cope with the accelerated pace of change. Quality plays an important role in building up business and in getting repeated purchases.

Some research studies carried out by the American Productivity and Quality Centre note that happy customers spread good news to about five people, while unsatisfied buyers spread the bad news to about nine to twenty people. There is a saying that, "bad news travels fast", and with respect to quality this is the same.

If the customer's requirement for a given product is 'fitness for use' and the firm commits itself to this reality, then it can sell its products at a premium price. In contrast, if a firm manufactures a superior quality product with many additional features, the costs can increase, resulting in an increased sales price. This fact can cause products to only sell in smaller quantities. Finally, if the product does not adhere to the customer's requirement, it will not be bought.

There is a misconception that a talented sales person can convince consumers to buy poor quality products. The misapprehensions that may exist in some firms have to be corrected. "The enlightened type of sales man and the enlightened customer are both based on the assumption of a good and worthwhile product. If the product they turnout is not good, then this type of management will destroy the whole enterprise, as truth generally will destroy untruth and phoniness and fakery." (Abraham Maslo)

In addition to that, the sales function requires support from the technical or quality section in order to follow-up and to help customers after sales.
Impact of unacceptable or poor Quality Product

The impact of poor quality products can be seen from both the exporting firm’s as well as the customer’s point of view.

a) Danger to enterprise

The enterprise can encounter various difficulties by producing unaccepted products. The damages that can occur are as follows:

- loss of image;
- loss of market share;
- high costs;
- customer complaints;
- claims;
- waste of resource;
- loss of finance;
- finally, closing down of business.

*Firms that deliver products whose quality is unacceptable to buyers are exposed to culpability and dispute.*

b) Loss to customer

Poor quality products can have various negative impacts, of which some could be serious. Few of the negative impacts are as follows:

- health problems;
- safety problems;
- discomfort;
- economic losses;
- dissatisfaction;
- loss of confidence;
- temporary unavailability of material.

In the light of this situation, the author of this booklet would like to share her experience as follows: When she was working as an export market coordinator for the Ethiopian Ministry of Industry, the following happened: a certain enterprise was exporting textile products. The practice was that quality control was done at the end stage of manufacturing. This practice resulted in a high rejection rate. Consequently, the quantity to be exported in a given time was always short and the amount of foreign currency to be earned was affected. The rejected products had to be sold domestically, and selling them domestically was found to be the most difficult thing to do.
because the products were produced according to foreign market specifications, size, colour and other characteristics.

Therefore, enterprises engaged in international markets have to hold a wider scope about quality. They should not think of "quality controllers", but rather of "quality planners who act in a cost conscious manner" because thoughts related to quality for the market have changed greatly.

Quality as a Benefit

The issues of quality can be apprehended as an opportunity for exporting business organisations, if and when:

- the quality of the product/output is good. In this case, there will be more customers and thus higher sales. Ultimately, higher sales result in a boost in profitability.
- the gap between cost and price is high due to appropriate planning for quality production. In such cases, the enterprise can attain high incentives to run the business.
- the cost of production is lower. This can create the opportunity to sell at a lower price and in turn achieve higher market shares.

Producing quality products, in general, is a means of introducing and promoting a country to a certain greater stage. For instance, if Ethiopian products for international markets are of superior quality, Ethiopia can be positively imaged and other importers can judge Ethiopian products as having an excellent quality.

Quality versus Market

To some enterprises, the need for quality requirements can be a constraint in situations where:

- some enterprises find themselves way behind their competitors with regard to offering a superior quality of goods.
- international consumers are increasingly concerned with the quality of what they buy. If Ethiopian exporters are not quality-oriented, they will not survive and be knocked out of market.
- closing the gap between poor and good quality is difficult. It requires hard work and good coordination.
- buyers of other goods can generalise and conclude that the other exportable products are also of lower quality and workmanship.

Marketing has to look into strategic quality improvement because presently consumers are much more concerned about quality, and are greatly aware of their needs than before. An exporting firm can gain higher market shares,
if it follows consumer requirements and measurements. Quality can thus be stated as the "Life Blood of a Firm" because:

- it intensifies sales;
- it is a means of enhancing profit.

Quality versus Price

In relation to quality versus price there are two different views. One outlook is that quality and price are positively correlated. In which case, higher quality can be produced only at a higher cost because of additional labour, expensive materials, higher overheads, skilled manpower and increased inspection time. The other view is that quality and cost are inversely related. This can be explained by the following: If the costs involved in manufacturing lower quality products were avoided, the cost of production would have been reduced tremendously. Such costs are the costs of reworking the product, and costs related to the rejection of raw materials, the final withdrawal of finished products as well as costs related to responding to customer complaints.

Some consumers believe that a product with a higher price is of higher value. With this thinking some prefer to buy higher-priced goods, since they perceive the product as being of higher quality. In instances where enterprises believe that the consumer's purchasing decision is positively correlated with 'higher price implying higher quality', they set higher prices just to imply a superior grade. Still, such a strategy has to be well thought out because at a later stage, if research indicates that the price has to be decreased, the effect could be negative.

In relation to price versus quality there is a common question raised by many buyers. The question is: 'If an item is of the same quality, then why do some sellers charge more than others?' In this aspect, the points that can convince prospects are that the higher price is charged because of different and/or additional costs (the issue is mainly treated in view of marketing.) The additional costs can be due to:

- added product features;
- extra costs of international reputation and branding;
- promotional expenses;
- transportation charge of different shipping and airlines;
- export taxes;
- convenience and attractiveness of the package offered;
- quality of the sales force;
- commission given to the agent.
International sellers like to show the higher price of their products as a reflection to its quality, and thus as an advantage against other competitors. They want to use quality as a single remedy for charging higher prices. This concept is difficult to be accepted nowadays on the part and because of enlightened buyers.

Quality-associated Packaging

Packages preserve and protect the product that was carefully manufactured a while ago and facilitate international buyers to consume it at the time of their own preference. The function of packaging in relation to maintaining the quality of products for international markets can be expressed in different views as follows:

Information aspect: The package may contain the following information:

- specification listing of ingredients;
- method of usage
- colour, size, weight (net and gross);
- use-best-before date.

Containment aspect: The package contains the product in order to:

- avoid spilling;
- avoid loss of its composition and grading;
- provide a uniform measuring.

Protection aspect: The package protects the product from:

- impact and stress factors;
- abrasion;
- vibration;
- dirt and dust;
- bacteria;
- moisture.

An appropriately protected product reinforces the image of the product and helps address the needs of agents, representatives and their channels in the international market to transport the product in its original quality, standard and/or specification to its desired destination.

In terms of preservation

The package preserves the product’s:

- aroma, taste, softness and colour.
Distribution aspect

Distribution is one of the most important marketing aspects in international trading. The role of packaging in maintaining the quality of the product during distribution to foreign markets is considerable. At the time of transportation, all the way from the country of departure to the final destination, packaging facilitates protection against:

- damage as a consequence of rigorous climate and air conditions;
- impairment during loading and unloading at ports.

*Packaging facilitates international transporting across boarders without affecting the quality of the product.*

Handling and storing aspect

Through proper lightning, fumigation and ventilation, the package protects the product from deterioration and damage.

*Packaging makes it easier for wholesalers and agents to store and display products and prolongs and insures the product’s shelf life.*

Elements of Quality in Promotion

Superior quality can be communicated through promotion. Before planning to run a quality promotional programme, the organisation has to make sure that the product is the correct one. Whatever quality statement is made in the promotional scheme, it has to be proved correctly. There is a strong possibility that goods promoted can entail renewal of deals as long as international consumers respond to advertisements. Promotional programmes pertinent to quality could have objectives such as:

- getting known in international markets as quality producers;
- making customers to be assured of, and trust the product.

A business organisation that is confident of the superb quality of its product can run or pass the quality message in different ways such as:

- by means of brochures;
- through sales people;
- through trade associations;
- during trade fairs;
- through Chambers of Commerce;
- through demonstration in a good hotel or in appropriate rented apartments in foreign areas.
Heavy promotion in relation to quality can be taken as a sign that the product has very limited "quality uncertainty". In contrast, some experts believe that intensive publicity can be misunderstood as trying to sell lower-quality products and items which are in large stock. In any case, providing market instruction can minimise the difference between the two concepts.

In relation to promotion, for customers to be more assured of quality and to give more trust to the company, the 'international sales proposal package' has to include the following quality assurance programmes:

- giving guarantee;
- allowing return warranty;
- posting the general quality policy in the manufacturing areas;
- making the quality slogan known to buyers;
- putting some quality commitments on product labels, e.g. on textile products and leather jackets.

The promotional strategy in relation to quality has to include and emphasise the following issues:

- regularly inform all manufacturing employees about quality requirements;
- enlighten sales staff about quality, (it must be clear to everybody that the company will have to be imaged with the quality of its products);
- produce high-quality characterised by excellent workmanship and standards;
- make executives constantly aware of the quality policy;
- ensure the quality and standard of the raw material and all components;
- establish highly imaged office;
- impress buyers by the fact that the company policy is to 'upgrade quality continually' and not to 'maintain existing quality' only;
- seek out customers' opinions and complaints through the sales personnel.

If the company, in its slogan, states 'we are committed to quality' but the actual production does not demonstrate quality merchandise, the company will not be successful in the market. Thus, the quality statement should not just be a slogan as a sort of state-of-the-art promotion. If international buyers are not satisfied with the quality, they will not appear to conclude a second contract.
Market promotion to international buyers can be done in order to:
- persuade customers of the properties and quality of the product;
- dispel any doubts about the quality of the product;
- motivate potential buyers to try the product.

Quality-related Complaints

In foreign marketing, complaints about quality and standards of products are quite frequent. Any complaint has to be handled properly and professionally. Dealing with customers’ dissatisfaction requires specific skills. There are instances where a company thinks that the customer just complains to profit from the company. However, it is much safer to take the complaints seriously. Some companies believe that it is better and quicker to find new clients than to try to follow up and solve quality problems of existing clients.

As is said - 'It takes about ten times more effort to bring back lost customers and it takes about five times more effort to generate new clients.'

However, in the international market it is common to give guarantees in relation to quality, delivery and other aspects of the market. The objectives of the guarantee can be:
- means of confirming quality;
- framework for guaranteeing repair;
- means of replacement in case of defaulted product;
- form of promise to observe delivery dates.

If companies do not take sales complaints seriously, in addition to other consequences, there is a risk that customers will be lost forever.

Unlike in the domestic market, the issue of handling buyers’ complaints is serious in the international market. Not acting as promised and not attending to disapproval rapidly creates a difficult situation.

Attributes of Public Relation

The public relation’s (PR) job pertaining to quality can be to:
- meet customer’s requirements as promised;
- handle complaints fully and as quickly as possible.

This aspect is a very crucial issue for Ethiopian companies. The author feels that enterprises need to do much more than they are currently doing because the foreign market is sensitive and does not tolerate if too much
time is needed to solve buyers' problems. Some PRs try to jolly international customers until the quality complaints is forgotten. Buyers can feel insincerity in this and consequently, the problem may be exacerbated and result in the loss of clients.

*There is no way for public relations to satisfy foreign buyers if the company sells products that are of bad quality and wear out soon.*

If the customers' quality complaints are handled carefully and with sincerity, they may be satisfied. In fact, some customers whose complaints have been settled in a satisfactory way come back to the organisation for repeat purchase.

Cost Considerations

The issue of costs will only be discussed in the context of marketing. The cost of some products destined for the international market may be much higher and thus cause difficulties in competition. Yet, measuring the cost of quality is not enough. The source has to be tracked because this will help management to know where to start when planning quality improvements.

Some of the reasons for high costs could be:

- insufficient volume of sales;
- low quality of output;
- no commitment on the part of the management;
- poor planning;
- outdated machines;
- high rejection of products;
- low quality of raw material;
- constrained operating costs;
- unskilled labour;
- working below capacity;
- no loyalty of customers;
- negligent staff.

Cost Reduction

As mentioned earlier, in a competitive market, it is no longer practical to check the quality at the end of the production line. Costs have to be monitored in order to ensure that the product meets the international price level. Different quality programmes can be introduced to reduce production costs with the following objectives:
• follow up quality right from the design stage (Ethiopian companies need to focus on this point);
• create quality-committed management;
• reduce the rejection of raw material (the system needs to record the expense of buying and using inferior materials);
• improve efficiency by lowering the rate of defects;
• speed up delivery (by introducing a quality-oriented quantity production policy - this point is most critical for Ethiopia);
• obtain the effect of poor quality in profitability (it is necessary for the management to participate in this programme);
• improve working conditions related to producing quality products;
• improve employees' quality awareness.

It is a worthwhile exercise for Ethiopian enterprises to determine first the sales price, which is competitive on the international market, and then to control the costs in order to meet that price.

The Role of Management in Manufacturing Quality Products

A manager of an export company has to commit himself to quality production and customer satisfaction. Whether an enterprise focuses on sales or on customer satisfaction, a quality improvement system which is not supported by the top management is always going to fail.

Management support and commitment to a quality programme is critical.

The quality system has to be explained and has to reach the producers or operators through the management in a manner that they can understand it. Nonetheless, there is not one single successful model of strategic quality management. Ethiopian enterprises have different business needs so that attention needs to be given to different issues. Unless the management votes for a quality system, the project will not be fruitful as can be observed in some companies. Likewise, unless the quality programme is mandatory, it becomes difficult to implement the policy. Managers decisively promote the issue of quality when there is:
• deeper understanding of international quality and standards;
• appreciation of the value of quality for consumers;
• awareness of competition at international level;
• knowledge of international measurements.
Employees’ Reliability

In any organisation, there may be careless and negligent staff who can oppose the quality system unless management advocates it. Moreover, employees have to be well informed about the advantage of producing high-quality products and, equally, about the impact of poor quality. Basic requirements are concern and concentration. Staff has to be committed to the new ideas and system. If a member of the team fails to do what he is required to do in terms of quality, the entire team is affected. If everybody is committed to quality and customer satisfaction, the result will be:

- higher productivity,
- fewer rejections,
- lower costs,
- higher profits.

It is necessary that employees are well informed and trained right from the start.

*Employees must accept ownership of the quality system and its results.*
The Quality and Standards Authority of Ethiopia (QSAE)

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Profile
The Quality and Standards Authority of Ethiopia (QSAE) is the National Standards Body of Ethiopia which was established in 1970 and became fully operational in 1972. The Authority is a non-profit government organ reporting to the Ministry of Trade and Industry. Its policy-making and governing body is the Board of Management whose members are appointed by the Government and are selected from various industry, science and technology organisations.

QSAE has about 300 professionals and support staff and is headed by a Director General. It is divided into four Directorates, eight main groups, ten branches and representative offices operating in the various parts of the country and in Djibouti. At present, the branches and representative offices provide product certification, calibration and verification services within their areas of jurisdiction and act as customer enquiry points about the broad range of QSAE services. Arrangements are underway to provide these offices with specialised facilities to cater for the specific needs of industries and consumers.

The budget of QSAE is mainly drawn from services rendered and publication sales.

Vision
To be an internationally recognised quality, standards, metrology and testing organisation that supports the national effort to achieve economic development and social progress.
Mission Statement

To promote the concepts and practice of quality and to assist their implementation by providing efficient and effective certification, standards, calibration and testing services.

Objectives

The basic organisation-wide objectives of QSAE are:

- to promote and assist the establishment of appropriate quality management practices as an integral yet distinct management function in the social and economic sector;
- to assist in the improvement of the quality of products and processes through the promotion and application of Ethiopian standards;
- to promote and coordinate standardisation at all levels in the country;
- to establish a sound national metrological system as a basic structure for economic development;
- to strengthen, promote and enhance the reliability of testing laboratories nation wide.

QSAE's Core Business Areas

The following are the core business areas in which QSAE is engaged.

- Ethiopian standards development;
- regulation enforcement (compulsory product certification and legal metrology);
- calibration and laboratory testing;
- batch product inspection;
- training;
- standards information.

In addition, the following services are to be operational in the near future.

- *Product certification* (voluntary schemes/programs);
- *System certification* based on ISO 9000, ISO 14000 and HACCP.

Quality Policy

The Quality and Standards Authority of Ethiopia is committed to continuously and consistently satisfy the needs and expectations of its customers in a process of continuous improvement. QSAE strives to support the national effort for social and economic development by providing efficient, reliable and impartial services in the following fields:
International Relations

QSAE safeguards Ethiopia's interest in international standardisation through participation in technical committees, especially in the fields of agriculture and food. QSAE is a member of the International Organisation for Standardisation (ISO), the International Organisation of Legal Metrology (OIML), and Codex Alimentarius Commission (CAC). It is also a founding member of the African Regional Organisation for Standardisation (ARSO) and has close relations with the International Electro-technical Commission (IEC).
Ethiopian Standards

What is a Standard?
Indeed, one of the key features of a standard is to help create uniformity/order in various areas of social and economic developments. The formal and internationally-accepted definition of a standard is as follows:

A standard is a document established by CONSENSUS and approved by a recognised body that provides, for COMMON AND REPEATED USE, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the OPTIMUM DEGREE OF ORDER in a given context.

Standards should be based on the consolidated results of science, technology and experience and aimed at the promotion of optimum community benefits.

Why standardise?

The Need
Ethiopian Standards provide industry and users with the framework for economies of design, greater product and service quality, more interoperability, and better production and delivery efficiency. At the same time, Ethiopian Standards also promote an improved quality of life by contributing to safety, human health and the protection of the environment.

Level and Type of Standards
The level of standards development differs according to their scope of application/usage, ranging from company to international levels. Ethiopian Standards have a national scope and applicability. The types of standards commonly available relate to specifications, guidelines (codes of practice), and other aspects such as terms and definitions, symbols, sampling and test methods, and management systems for quality, environment and safety.

How are Ethiopian Standards developed?
The guiding principles, role of QSAE, involvement of stakeholders, procedures and technical committees in Ethiopian Standards development are briefly explained in the following.
Principles

Standardisation is an act of simplification and aims at the prevention of unnecessary complexity (variety rationalisation).

- The establishment of Ethiopian Standards should be based on general consensus and promoted by mutual cooperation of all those concerned.

- Ethiopian Standards must be implementable and be implemented (promotional efforts, publicity campaigns and public relation activities are necessary).

- The action of establishing Ethiopian Standards calls for rationalisation, selecting and fixing (selection of subjects, aspects, sizes and methods).

- Ethiopian Standards should be reviewed at regular intervals and revised as necessary.

- Ethiopian Standards must establish means for the clear and non-ambiguous evaluation of the fixed/specific requirements.

- The means of implementing Ethiopian Standards should be deliberately considered (legal enforcement or voluntary application may be considered depending on the nature of the standard, and the laws and conditions prevailing in Ethiopia).

QSAE’s role

One of the central objectives of QSAE is to coordinate the national standards development effort in all economic fields, which is carried by the Standards Development Group organised under the Quality Promotion and Standards Directorate. In addition to developing indigenous standards, attempts are made at all times to harmonise Ethiopian Standards with international standards. In many such cases, the Ethiopian Standards serve as "bridging standards" to close the technology gap between the industrialised world and our country, and this plays a vital role in the transfer of technology and enhancement of global competitiveness.

Furthermore, as part of an ongoing quality improvement effort to uplift QSAE’s standing in the national and international arena, QSAE is currently implementing a quality management system based on ES ISO 9001 and aims to get certified by an internationally-recognised body in the area of Ethiopian Standards development.
Involvement of Stakeholders

The active voluntary participation of all stakeholders in the Ethiopian Standards development process is crucial to ensure the effective implementation of the standards thus published. In most cases, the involvement in standards preparation is in two spheres/layers, namely: by participating in/ attending meetings of technical committees, and by commenting on draft standards that are made publicly available. In addition, QSAE has made arrangements to speed up the drafting of Ethiopian Standards through agreements with several professional associations, and regulatory and research organisations in the country. These agreements go a long way to create a strategic alliance with the said institutions, among others, avoiding duplication of efforts and the risk of divergent and competitive approaches to standards development on a national scale.

Procedures

Technical committees made up of experts from industry, government, user groups and other sectors prepare Ethiopian Standards. The requirements or recommendations contained in Ethiopian Standards are a consensus of the views of representative interests and also take account of comments received from other sources. Ethiopian Standards are kept under continuous review after publication and are updated regularly to take account of latest scientific and technological changes. In short, standards are prepared by you, the users of such documents.

Ethiopian Standards Development Stages and Deliverables

Ethiopian Standards are prepared on the basis of a project approach consisting of eight stages (Chart on ES development cycle) as described below.

- **Stages 00 & 10 - Preliminary & Proposal Stages:**
  Request on a new standards project may be received from any source such as a government body, public or private industrial firm, and professional association or even from an individual. The proposal is accepted only after a thorough evaluation by QSAE in collaboration with TC members regarding its specific aims and reasons, feasibility of the activity, timeliness and main interests that benefit from or are affected by the activity.

- QSAE conducts periodic surveys as a proactive means of assessing the need for Ethiopian Standards in addition to receiving ES development requests on a continuous basis. The project proposal form, OF/QS/089, is used for submitting requests.
- **Stages 20 - Preparatory Stages:**
  A Working Draft (WD) is prepared by the staff of QSAE or competent professionals from TCs/other organisations with which QSAE has established agreements on drafting of WDs.

- **Stages 30 & 40 - Committee & Enquiry Stages:**
  Acceptance of the prepared draft as Final Draft Ethiopian Standard (FDES) is obtained through reviews at the technical committee/subcommittee level, which also includes comments received from potential users/public during the enquiry stage.

- **Stages 50 & 60 - Approval & Publication Stages:**
  The FDES is finally submitted to the Board of Management of QSAE for approval and publication as an Ethiopian Standard.

- **Stage 90 - Review Stage:**
  An Ethiopian Standard after its publication must undergo a mandatory periodical review at least every 5 years to keep it up-to-date with current technological and other developments. At this stage, the timely review of all ESs is ensured.

The *Ethiopian Standards Development Code System* is identical with the International Harmonised Stage Code System.

**Technical Committees**

The Board of Management of QSAE has approved the following 10 Technical Committees with responsibility for the technical work of preparing Ethiopian Standards and related normative documents (technical reports).

TC 1: Basic and General Standards  
TC 2: Agriculture and Food Technology  
TC 3: Construction Materials, Building and Civil Engineering  
TC 4: Mechanical Engineering and Metallurgy  
TC 5: Chemical Technology  
TC 6: Electro-technology  
TC 7: Textiles and Leather Technology  
TC 8: Metrology and Measurement  
TC 9: Environment and Health Protection. Safety and Hygienic Practices  
TC 10: Medicine, Pharmaceuticals and Cosmetics.
Current Ethiopian Standards

QSAE has published the first group of 108 Ethiopian Standards back in 1973 following the consensus-based committee procedure. To date, there are over 1190 Ethiopian Standards in some 20 fields, of which agriculture and food technology, and textile and leather technology are prominent in number (comprising about 70%). Out of the 1190 or so standards, the enforcement of some Ethiopian Standards is made mandatory by the Government in view of health, safety, fair trade and related considerations: and their enforcement is carried out by QSAE.

Ethiopian Standards preparation and their approval have been much accelerated in recent years mostly due to the mandate given to QSAE Board of Management to approve ESs as per current Proclamation No. 102/1998, and also because of the fast-track standards development method/procedure that is now effectively in place.

The current collection of ESs has mostly adopted/adapted international standards whereas in the agriculture and food fields, nationally developed or indigenous standards exist or are under development. This relates to seeds, coffee, tea, injera, Ethiopic script and the like.

The designation of Ethiopian Standards has been changed in 2000 to make it simpler and easier to use, the list of which is available: New & Former Designations.

The online catalogue of Ethiopian Standards and draft standards is structured based on fields, groups and sub-groups listed in the International Classification for Standards (ICS). To download the alphabetical index of the ICS, please go to webpage: http://www.wssn.net/WSSN/refdocs.htm.

Orders

Orders for all Ethiopian Standards, and international and foreign national standards, including electronic versions, should be addressed to the Documentation and Technical Information Group at the Head Office. The price of Ethiopian Standards, excluding mailing and delivery costs, is based on the number of pages of the standard. The 2002 Catalogue of Ethiopian Standards and 2002 Catalogue Supplement 1, is also available at our Head Office, Branches and Representative Offices.

How are Ethiopian Standards (ESs) implemented?

Implementation of or compliance with Ethiopian Standards is normally voluntary, but for standards that have direct influence on health, safety and related considerations, compliance is often made compulsory.
In general, implementation of standards is done by regulatory bodies, consumers, and most importantly, by industry. It is also enforced by QSAE through certification of selected products and services for which QSAE has the competence and mandate to carry out.

**Inspection and Certification**

**Conformity Assessment defined**

Conformity assessment is any activity concerned with determining directly or indirectly that relevant requirements are fulfilled. Typical examples of conformity assessment activities are testing, inspection, assurance of conformity, accreditation and mutual recognition agreements.

**Testing**

Testing is perhaps the most common form of conformity assessment. It can include other activities like measurement and calibration. Testing also provides the basis for other forms – for example, it is the main technique used in product certification.

**Inspection**

With the growth of world trade and increasing trade liberalisation – as well as the rapid development of new manufacturing and distribution technologies – hundreds of third-party national and multinational inspection bodies have come.

These organisations examine a huge range of products, materials, installations, plants, processes, work procedures and services, in the private as well as the public sector, and report on such parameters as quality, fitness for use and continuing safety in operation. The overall aim is to reduce the risk to the buyer, owner, user or consumer of the product being inspected.

**Assurance of Conformity**

This is the activity resulting in a statement giving confidence that a product, process or service fulfils specified requirements. There are two main types of assurance of conformity:

- Supplier’s declaration is the procedure by which a supplier gives written assurance that a product, process or service conforms to specified requirements;
- Certification is the procedure by which a third party gives written assurance that a product, process or service conforms to specified requirements.

Supplier's Declaration

This is the process whereby conformity assessment to a standard, specification or regulation is carried out by the supplier organisation itself. In other words, it is a self-assessment.

By making a self-declaration of conformity, a supplier organisation avoids the costs of third-party assessment. A supplier may decide to take this option if it believes that it enjoys a sufficiently high market reputation for it to dispense with independent confirmation of conformity. However, supplier's declarations may not be appropriate in all cases, particularly where the health, safety or environmental risks of the product concerned are higher. A self-declaration does not exempt the supplier from its responsibility to meet relevant regulations – for example, in relation to product liability – and such declarations generally need to be accompanied by effective post-market surveillance.

Certification/Registration

The most well known examples are management system certification and product certification. Other types of certification would include personnel certification, certification of services, certification of forests, and others.

Management System Certification

The most well known examples are the certification of quality management systems and environmental management systems as conforming, respectively, to ISO 9000 and ISO 14000 standards. More than 360,000 organisations worldwide have been certified to an ISO 9000 and/or ISO 14000 standard. It should be noted that ISO itself does not assess the conformity of quality or environmental management systems to ISO 9000 or ISO 14000 standards. ISO does not issue certificates of conformity to these standards. ISO 9000 and ISO 14000 certification is carried out independently of ISO by more than 720 "certification" or "registration" bodies active nationally or internationally.

The terms "certification" and "registration" are employed in a broader conformity assessment context than ISO 9000 and ISO 14000 alone and their standardised definitions show that they are not synonymous. However, in the ISO 9000 and ISO 14000 context, "certification" and "registration" are used interchangeably and they both mean the same thing. One term is preferred over the other depending on the country. Likewise, the bodies that issue ISO 9000 or ISO 14000 certificates are referred to in some countries as "certification bodies" and in others as "registration bodies" or "registrars".

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Product Certification

Many variants exist. For example, product certification may consist of initial testing of a product combined with the assessment of its supplier’s quality management system. This may be followed up by surveillance that takes into account the supplier’s quality management system plus testing of samples from the factory and/or the open market. Other product certification schemes comprise initial testing and surveillance testing, while still others rely on the testing of a sample product – known as type testing.

Accreditation

Accreditation is the procedure by which an authoritative body gives formal recognition that a body or person is competent to carry out specific tasks. In the ISO 9000 or ISO 14000 context, it relates to the work of the accreditation bodies that have been set up in a number of countries to evaluate the competence of certification bodies. An accreditation body will accredit – approve – a conformity assessment body as competent to carry out ISO 9000 or ISO 14000 certification in specific business sectors. Accreditation is also carried out of testing laboratories, inspection bodies and product certification bodies. In some countries, accreditation is a legal requirement for conformity assessment bodies. Even in countries where this is not the case, when there are several conformity assessment bodies in a geographical area or business sector, some may want to distinguish themselves from their competitors by having an impartial evaluation of their competence by an accreditation body based on internationally recognised criteria.

The Role of Certification

Certification is an asset and an advantage, both for the producer and for the purchaser, consumer or distributor. It gives an incontestable added value to the product or service bearing its mark. For the manufacturer or service provider, it valorises the goods or service, it opens up markets and simplifies relations. For the user, it provides assurance that the product purchased meets defined characteristics or that an organisation’s process meets specified requirements. Certain product certification marks may represent an assurance of safety and quality. Certification enables one to distinguish apparently identical products or services; it offers to everyone a possibility of appeal in the event of dissatisfaction.

Mutual Recognition Agreements (MRA’s)

The primary objective of conformity assessment is to give its users confidence that requirements applicable to products, services, systems, processes and materials have been met. One of the reasons why internationally traded goods and services are subject to repeated conformity
assessment controls is a lack of confidence by users of conformity assessment in one country regarding the competence of bodies carrying out conformity assessment activities in other countries. Therefore, measures are needed to increase the confidence of both private and public sector purchasers, and of regulators, in the work of conformity assessment bodies and accreditation bodies – particularly those in other countries. Such confidence can be achieved through cross-border cooperation among conformity assessment bodies and also among accreditation bodies. This cooperation is formalised in what are known as mutual recognition agreements (MRA’s) whereby the parties involved agree to recognise the results of each other’s testing, inspection, certification or accreditation. MRA’s can be an important step towards reducing the multiple conformity assessment that products, services, systems, processes and materials may need to undergo, especially when they are traded across borders. Since MRA’s facilitate the acceptance of goods and services everywhere on the basis of a single assessment in one country, they contribute to the efficiency of the international trading system to the benefit of suppliers and customers alike.

QSAE’s Role in Conformity Assessment

QSAE provides the following conformity assessment services to clients:

- regulation enforcement through mandatory inspection and licensing of products;
- batch product inspection based on agreements made between QSAE and clients;
- product certification and system certification;
- testing of materials and products.

Metrology

What is Metrology?

Metrology is the field of knowledge concerned with measurement, and includes all aspects both theoretical and practical with reference to measurements, whatever their level of accuracy, and in whatever fields of science or technology they occur.

A growing Need for reliable Measurement

Measurements play a key role in modern life - in industry as well as in trade and in society in general, in assuring quality and safety in assigning costs. In addition, there is a growing need in science and technology for increasingly accurate and more complex measurements. In Ethiopia, the Government has authorised QSAE as the custodian of the national standards for the base (length, mass, temperature, etc) and some derived measurement quantities of the SI system. The QSAE’s responsibility as a National Metrology Laboratory is to meet the needs of industry and society for traceable measurements and to provide close access to measurement technology competence.

Duties of the National Metrology Laboratories

The duties of the National Metrology Laboratories involve maintaining and upgrading the national measurement standards and ensuring their international traceability, and provide calibration service to national customers.

National Measurement Technology assisting Society and Industry

With the national standards as our starting point, it is our task to ensure that measurement expertise and traceability find their way out to Ethiopian industry and society in general. In practice, this means that we calibrate measuring instruments, arrange technical training and assist industry in solving measurement problems. For these tasks, we possess advanced measuring equipment and measurement environments, together with skilled and experienced personnel.

SI (System International)

SI is a coherent system of units defined through international consensus. Whenever possible, the definitions are based on established laws of nature, and the units can be realised and maintained through primary standards constructed according to well-defined procedure.

Calibration Service

As mentioned earlier, one of the pillars of a standardisation infrastructure is the metrological system in place at a national level. In this regard, QSAE has set as one of its core objectives the establishment of a sound metrological system nationally, and as a consequence spearheads this effort by providing traceable calibration service and assuming the custodianship of the Etalons (national primary measurement standards) in Ethiopia.
This service to industry and others is in the following areas.

- dimensional measurement;
- mass measurement and volume measurement;
- density measurement and pressure measurement;
- force measurement;
- temperature measurement;
- electrical measurement;
- frequency measurement.

International Involvement in Metrology

The *International Organisation of Legal Metrology (OIML)* promotes the global harmonisation of legal metrology procedures. The OIML has developed a worldwide technical structure that provides its members with metrological guidelines for the elaboration of national and regional requirements concerning the manufacture and use of measuring instruments for legal metrology applications. Ethiopia is a full member of OIML.

The Southern African Development Community Cooperation in Measurement Traceability (SADCMET) coordinates metrology activities and services in the Southern African Region, in order to provide regional calibration and testing services, including regulatory bodies, with readily available traceability to the SI units of measurement, through legally defined and regionally and internationally recognised national measurement standards.

### Testing

Products/materials testing is perhaps the most common form of conformity assessment and, generally, it can include other activities like measurement and calibration. Testing also provides the basis for other forms of conformity assessment – for example, it is the main technique used in product certification. QSAE operates well-equipped and modern testing laboratories capable of carrying out vast number of tests (presently about 580) in the following fields of testing:

- mechanical testing (including construction materials, textiles, leather, and polymeric materials);
- electrical testing;
- chemical testing and microbiological testing.
Training and Education

Training and education form an essential component of the national standardisation effort by helping to ensure effective implementation of Ethiopian Standards by industry, government and other user groups. To achieve this and attain its broader objectives, QSAE offers awareness and professional-level training in quality management, standardisation, metrology and testing areas for industry personnel as well as educating the public of the principles and benefits of standardisation. Regular sensitisation radio programs are conducted by QSAE in conjunction with the Ethiopian Radio. The general public (consumer) at large is the target audience of these programs. The following materials broadcasted in the said programs are available for download (Amharic language versions only) on www.qsae.org:

- Program Material on Basic Concepts of Quality and Standards;
- Program Material on Basic Concepts of Metrology;
- Program Material on Basic Concepts of Laboratory Testing.

Technical Information

ICT & Standards Information

Information and Communication Technology (ICT) is not just a fashionable trend soon to be forgotten. The importance, development and application of this technology are increasingly reflected in day-to-day reality and in the management of activities in daily life, in and out of the office. The revolution that has taken place and still is taking place in the field of telecommunications and information technology can be seen in the way people live, work, write, ask for and get information, or even think: business, education, health, social and cultural activities are some of the fields most affected by the introduction and use of these new tools called computers, e-mail and the Internet.

Available Information

Each national standards body manages its own collection of standards and has access to the collections of other institutes. It places this collection at the disposal of the economic players and proposes a range of services. These may include:
• free information tools or services for identifying standards or for announcing new standards: catalogues, newsletters, Web;
• chargeable services for access to the normative texts in different forms: subscription, hardcopy form, CD-ROM;
• notification or subscription services for regular information;
• technical assistance, including to exporters.

The range of information services provided by QSAE covers most of the above-mentioned functions. For more information, go to www.qsae.org.

The Ethiopian Standards Documents may be obtained from the Head Office of the Quality and Standards Authority of Ethiopia located in Wereda 17, Kebele 21, Addis Ababa; Ethiopian Standards are available against fees from 1 Birr to 120 Birr.

Latest news, articles on standardisation, archived news, speeches, presentations and announcements are presented on the webpage http://www.qsae.org/web_en/news/articles/en_article.htm

Related Websites

On the following webpage please find links to other institutions involved in standards and quality: http://www.qsae.org/web_en/links/en_links.html

• ARSO - African Regional Organisation for Standardisation
• CI - Consumers International
• COMESA - Common Market for Eastern and Southern Africa
• ECoSA - The Ethiopian Computer Standards Association
• Engineering Manufactures Catalogues
• ESTC - Ethiopian Science and Technology Commission
• Eur-Lex - European Union Law
• IAF - International Accreditation Forum, Inc.
• IFAN - International Federation of Standards Users
• ILAC - International Laboratory Accreditation Cooperation
• ISO 9000 and ISO 14000
• ITC - International Trade Centre
• NAPT - National Association for Proficiency Testing
• NML-CSIR - National Metrology Laboratory of South Africa
• OIML - International Organisation of Legal Metrology
• SADCMET - Southern Africa Development Community Cooperation in Measurement Traceability
• WCN - World Chambers Network
• WTO - World Trade Organisation
• WSSN.
International Organisation for Standardisation (ISO)

ISO in brief

ISO is the International Organisation for Standardisation. It is made up of national standards institutes from countries large and small, industrialised and developing, in all regions of the world. ISO develops voluntary technical standards, which add value to all types of business operations. They contribute to making the development, manufacturing and supply of products and services more efficient, safer and cleaner. They make trade between countries easier and fairer. ISO standards also serve to safeguard consumers, and users in general, of products and services – as well as to make their lives simpler. ISO develops only those standards for which there is a market requirement. This work is carried out by experts on loan from the industrial, technical and business sectors which have asked for the standards, and which subsequently put them to use. Others may join these experts with relevant knowledge, such as representatives of government agencies, consumer organisations, academia and testing laboratories. Published under the designation of International Standards, ISO standards represent an international consensus on the “state of the art” in the technology concerned. The webpage of the International Organisation for Standardisation (www.iso.org) containing the following issues:

- International standards
- ISO 9000 and ISO 14000
- ISO Management systems
- Customer services
- ISO store.

ISO 9000 and ISO 14000 in brief

The vast majority of ISO standards are highly specific to a particular product, material or process. However, both ISO 9000 and ISO 14000 are known as generic management system standards. Generic means that the same standards can be applied to any organisation, large or small, whatever its product – independent of whether its “product” is actually a service – in any sector of activity, and whether it is a business enterprise, a public administration, or a government department.

ISO 9000 is primarily concerned with quality management. The definition of “quality” refers to all those features of a product or a service, which are required by the customer. Quality management means what the organisation does to ensure that its products conform to the customer’s requirements.
ISO 9000 is not a product quality label or guarantee. ISO 14000 is not a “green” label for products. ISO does not assess or audit quality or environmental management systems. When an organisation has a management system certified to an ISO 9000 or ISO 14000 standard, this means that an independent auditor has checked that the process influencing quality (ISO 9000), or the process influencing the impact of the organisation’s activities on the environment (ISO 14000), conforms to the relevant standard’s requirements.

Implementing ISO 9000 Quality Management System

Implementation of ISO 9000 affects the entire organisation right from the start. If pursued with total dedication, it results in 'cultural transition' to an atmosphere of continuous improvement. The process of implementing ISO 9000 depends on:

- the sophistication of your existing quality program;
- the size of your organisation;
- the complexity of your process.

The 14 essential steps, briefly described below, are to be followed through in order to implement ISO 9000 quality management system successfully:

Step 1  Top management commitment
Step 2  Establish implementation team
Step 3  Start ISO 9000 awareness programs
Step 4  Provide training
Step 5  Conduct initial status survey
Step 6  Create a documented implementation plan
Step 7  Develop quality management system documentation
Step 8  Document control
Step 9  Implementation
Step 10 Internal quality audit
Step 11 Management review
Step 12 Pre-assessment audit
Step 13 Certification and registration
Step 14 Continual improvement

ISO 14000 is primarily concerned with environmental management. This means what the organisation does to eliminate harmful effects on the environment caused by its activities.
The ISO 14000 family of International Standards on environmental management is a relative newcomer to ISO's portfolio. In fact, ISO has a two-pronged approach to meeting the needs of business, industry, governments, non-governmental organisations and consumers in the field of the environment. On the one hand, it offers a wide-ranging portfolio of standardised sampling, testing and analytical methods to deal with specific environmental challenges. It has developed more than 350 international standards (out of a total of more than 12 000) for the monitoring of such aspects as the quality of air, water and soil. These standards are a means of providing business and government with scientifically valid data on the environmental effects of economic activity. They also serve in a number of countries as the technical basis for environmental regulations. On the other hand, ISO is leading a strategic approach by developing environmental management system standards that can be implemented in any type of organisation in either public or private sectors (companies, administrations, public utilities). This followed ISO's successful pioneering experience in management system standardisation with the ISO 9000 series for quality management. ISO's direct involvement in environmental management stemmed from an intensive consultation process, carried out within the framework of a Strategic Advisory Group on Environment (SAGE), set up in 1991, in which 20 countries, 11 international organisations and more than 100 environmental experts participated in defining the basic requirements of a new approach to environment-related standards. This pioneering work was consolidated with ISO's commitment to support the objective of "sustainable development" discussed at the United Nations Conference on Environment and Development in Rio de Janeiro in 1992.
Bibliography

The following documents related to Standards and Quality are available for
download on the webpage www.bds-ethiopia.net/standards.html:

Quality and Standardisation Authority of Ethiopia (QSAE), Addis 2002:
Ethiopian Standards 2002 Catalogue

Quality and Standardisation Authority of Ethiopia (QSAE), Addis 2000:
Ethiopian Standards Development – Principles and Procedures

Quality and Standardisation Authority of Ethiopia (QSAE):
Service Request Form

Quality and Standardisation Authority of Ethiopia (QSAE):
Application for Granting of License to use the Quality Mark

Quality and Standardisation Authority of Ethiopia (QSAE):
Training Needs Assessment Form

Quality and Standardisation Authority of Ethiopia (QSAE):
List of regulated Products by 2001

International Organisation for Standardisation (ISO), Geneva 2001:
International Classification for Standards

International Organisation for Standardisation (ISO), Geneva 1999:
ISO 14 000 – meet the whole family (introduction to ISO 14 000)

International Organisation for Standardisation (ISO), Geneva:
Implementing ISO 9 000 Quality Management System

International Organisation for Standardisation (ISO), Geneva:
ISO 9 000 and 14 000 in brief
Ethiopian Business Development Services Network (EBDSN)

List of Publications for Business Development

Start and Improve your Business (this volume will be published in 6/2004)
Identification of viable business ideas, market and supply analysis, write a business plan, organise business management, evaluate sales, improve and diversify products.

Marketing Strategies for Micro, Small and Medium Enterprises
Marketing problems faced by Ethiopian businesses, marketing strategies, managing prices, product development and promotion.

Trade Fair Participation and Export Guide
Trade Fair participation, export procedures, export business registration and licensing, Ethiopian trade statistics, quality export products information.

Business Planning
Business planning for micro, small and medium enterprises: personal data, equipment owned and to be purchased, work premises at the disposal of the operator, production/service plan, raw material requirement, yearly sales plan, operating expenses, profit and loss statement.

Accounting and Cost Calculation Manual
Manual and electronic cash book formats, records on maintenance services, receipt, sales on credit, raw material inventory, cash flow statement, accounting software and software providers in Ethiopia, cost calculation, identify cost components, calculate variable and fixed costs, calculate total cost per unit, how cost calculating improves your business.

Loan Conditions of Commercial Banks and Micro-Finance Institutions
Loan conditions in Ethiopia: loan types, loan term, lending rate, re-payment schedule, type of collateral, loan criteria, eligibility.

Improve your Business Association
Needs assessment of your members, situation analysis, action planning, services, fundraising, membership fees and accounting.

Standards and Quality in Ethiopia
How are Ethiopian standards developed, conformity assessment, testing, product certification, metrology.

Investment Guide
Business environment, investment opportunities and conditions, taxation and incentives, investment protection.

On sale by Mega Book Store and Chambers of Commerce