

## RELEVANCE OF FOOD QUALITY STANDARDS IN THE EURO-TUNISIAN PARTNERSHIP

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Tunisia has signed a partnership agreement with the European Union in November 1995 that includes a Free Trade Area (FTA) for a transition period of 12 years. Agricultural and fisheries products have been included in articles 16 and 18 of the agreement. This partnership has advantages and disadvantages, but it is clear that such an agreement will further the pressure on Tunisian manufacturing including agribusiness sector with regard to market access and international trade (Al Ayari, 1996).

In face of this situation, Tunisian companies are expected to increase manufactured exports, to seek new markets and, more generally, to acquire greater competitiveness. Major Tunisian agricultural exports consisted of fish and seafood products, tomato concentrate, fresh vegetables, olive oil and wines (**table 1**). The agribusiness strategy in agriculture and fisheries (Grant et al., 1990) focuses on specific sub-sectors that demonstrated export potential. These include tomato paste, olive oil, dates, wine and seafood. Tunisia has had a relative comparative advantage because of the availability of good quality raw products and the availability of cheap and skilled labor. These factors however have become seldom a major competitive advantage in international marketing (Singh, 1996).

Although the Euro-Tunisian partnership has granted market access to Tunisian agricultural products (under certain conditions), recent trade agreements namely the

### ABSTRACT

ISO 9000 and other quality control systems have been implemented in many European countries. Many European food processors and distributors are requesting their suppliers to be ISO certified to ensure the safety of supplied products.

This paper investigates the adoption of ISO standards in Europe and its relevance to Tunisian companies.

The adoption of ISO would increase the chance of Tunisian companies to enter the European market and compete with other Mediterranean countries. The recommendation of the paper is that effort in Tunisia should continue to reach the objectives of the national plans of quality control.

The priority however should be given to companies operating in the strategic export sub-sectors for their importance in the Euro-Tunisian partnership.

### RÉSUMÉ

*Les normes ISO 9000 et les autres systèmes de contrôle de la qualité sont désormais appliqués en plusieurs pays européens. Afin d'assurer la sécurité des produits fournis, les industries alimentaires et les distributeurs demandent aux fournisseurs la certification ISO. Ce travail examine l'adoption des normes ISO en Europe et leur pertinence pour les entreprises tunisiennes.*

*L'adoption des normes ISO offrirait aux entreprises tunisiennes des chances en plus pour entrer dans le marché européen et devenir compétitives avec les pays Méditerranéens.*

*La recommandation de ce travail est que la Tunisie devrait persister dans son effort pour atteindre les objectifs des plans nationaux de contrôle de la qualité. La priorité devrait être donnée, quand même, aux entreprises qui travaillent dans les sous-secteurs stratégiques de l'exportation en raison de leur importance dans le partenariat euro-tunisien.*

Uruguay Round and the newly established World Trade Organization (WTO) have pointed out food quality standards as potential barrier to trade. Food safety and quality standards will be a key element in international trade in food products (Hooker and Caswell, 1996). Calls from institutions such, as WTO for food-processing companies to set quality control system has become a pressing point. In the food export markets there are at least two recognized food quality systems: the Hazard Analysis Critical Control Point (HACCP) and ISO standards. HACCP is an American system of quality control in the food sector, which is being adopted by many national and international regulatory agencies. To regulate food safety The Codex alimentarius and the

World Health Organization have adopted HACCP. HACCP ensures that all unit operations of a process are controlled so as to preclude potential health hazards. ISO 9000 standards are international generic standards developed by the International Organization for Standards.

**Table 1 Principal Agricultural Exports (Millions of TD).**

	1986	1987	1988
Fish and seafood	50	69	93
Tomato concentrate	7	10	13
Fresh vegetables	2	2	6
Dates	26	32	34
Oranges	12	17	13
Other fruits and nuts	11	5	2
Olive oil	53	66	70
Wines	5	7	7

Source: Agribusiness sector, Strategy for USAID/Tunisia, 1990.

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The standards are published in six series: 8402, 9000 to 9004 which define accepted procedures and guidelines to maintain quality in product design, production, installation and servicing. Even though ISO standards are voluntary, increased global trade between nations and the emergence of electronic commerce make ISO the system of choice to enter export markets. Tunisia is known to have very good quality products, such as dates, olive oil and fish products. These products have made significant success in the European markets.

Yet, after the formation of the European Union, unless an official certificate of international standards backs this up, Tunisia could lose opportunities in these traditional markets. This paper addresses one requirement for the Tunisian companies to do business and to foster their position in Europe.

We consider that the adoption of food quality systems is a pre-requisite to achieve higher competitiveness in international marketing and a competitive edge for Tunisian companies wishing to do business with European partners. The rest of the paper is organized in three sections. First, we present a review of the role of ISO in the European food industry and the underlying philosophy of food quality and safety. Second, we discuss the potential benefits of ISO for the Tunisian food companies. Third, we present an overview on the adoption of ISO in Europe and conclude with the status of ISO certification and the implications for Tunisia.

#### WHAT IS THE ROLE OF ISO STANDARDS IN THE EUROPEAN FOOD INDUSTRY?

A cornerstone in the Tunisian-European partnership in the food sector is an understanding of the philosophy underlying food quality and safety in Europe. Since the establishment of the "Single Market Program" the European partners have eliminated customs and product inspections at national borders. Instead, food products were allowed to enter on the basis of the "Principle of Mutual Recognition". This required that member countries accept the food safety and quality regimes of the other countries. But, divergent views on food safety and quality among the member states have led to market failure. An example of such differences is the unpasteurized cheeses, which are preferred by the French and many Belgians but are considered unsafe in other states. The other major reason for market failure is the fact that member States simply don't trust the food safety regimes as practiced in other countries. The solution for this marketing problem was seen in ISO 9000 and other international food quality standards, which would reduce informational difficulties and transaction costs. The role of ISO certification must be analyzed from two perspectives: that of the national governments, and that of the participants in the food marketing chain: food processors and wholesale distribution and retail food sale. In effect, there is a public sector and a private sec-

tor-point of view.

#### Role as seen by national Governments

Legislative and administrative actions taken by the United Kingdom have played a decisive role in the interest in ISO certification within its national borders and in countries that supply the UK food market. The perceived importance comes from the 1990 Food Safety Act and from the practice of the UK government to specify ISO certification as a requirement in many government contracts. Our emphasis here is the 1990 Food Safety Act. An important change in the 1990 Food Safety Act was that in the legal defense for product liability. Prior legislation accepted a guarantee from a supplier as a "due-diligence" defense in product liability cases, i.e. from such product failures as the incidence of a listeria, or other food-borne disease, outbreak. For example, a food importer would receive a guarantee that a product was safe from a foreign supplier. That guarantee was seen as a sufficient defense in product liability litigation. The 1990 Food Safety Act required food resellers and processors to verify that their suppliers did indeed follow production and distribution practices that assured the food was safe. This could be accomplished by inspecting the production facilities of foreign suppliers. A much less expensive approach would be to require suppliers to be ISO 9000 certified. The use of ISO certification as a due diligence defense in product liability cases has not, to best of our knowledge, been used in any litigation. However, UK government officials and representatives of food firms have stated that it is believed that ISO certification will be an acceptable due diligence defense. Similarly, in the Netherlands, it is believed that ISO certification will meet the judicial test of their "state of the art" defense. The eventual development of the role of ISO certification in product liability cases will play an important role in its adoption in the European food industry. The national governments of Denmark and the Netherlands have taken administrative decisions that foster the adoption of ISO 9000 standards as well. But the motivation is quite different between those two countries, and with that of the UK government. In Denmark, its government as readily attainable view ISO certification by much of its food processing and distribution sector. The view is that if ISO certification becomes common business practice, imports of food products from other EU countries with lower labor costs and less capability to attain ISO certification will be effectively barred from its domestic food market. It also favors the adoption of ISO standards in its food exporting sectors as well, but has not taken any direct action, such as subsidizing the certification process, to foster adoption. The interest by the Dutch government appears to fall almost solely in maintaining and expanding competitiveness in its export markets. It is, also, seen as a vehicle to develop high quality and niche-

market products. The tightly integrated, and co-operative, structure of the Dutch industry is conducive to the development of products with unique end-use characteristics. These activities are especially noticeable in the meat product sector. Dutch co-operatives have applied for quality labels under the recently devised and implemented EU system of quality labels. The interest and action of the French government are motivated by its reliance on quality labels, such as the label rouge, to differentiate French food products and, in effect, to protect the French domestic market from imports. This scheme, which is recognized by French consumers to differentiate products by quality, is not widely recognized nor accepted in markets in other EU and third-country markets. And, the system tends to emphasize the taste and visual quality of the products, and not the food safety aspects of food processing. Adoption of ISO 9000 Standards was seen as a way of upgrading the quality of food produced. For example, well-documented case studies showing significant reductions in the incidence of product failure in the dairy sector are widely quoted in France. Suffice it to say that in the countries studied, national governments have played an important, yet not decisive role, in the private sector interest in adoption of ISO standards in the food industry. And that the motivation for national actions varies greatly across the member countries.

#### Role as seen by firms

The motivation for adoption of ISO Standards, and for acceptance of products from ISO certified firms varies greatly across the member states. For Danish and Dutch firms, with a high reliance on export markets, certification is seen as a means of guaranteeing market access and of developing and maintaining markets for unique products. Within the sector, interest is greatest in those firms dealing with biologically active products fresh and frozen meat products, and dairy products. Certainly the developments in the UK market have played a major role in furthering the interest, as it is a major market for processors in those countries. Evidence is not available to determine if the role of ISO Standards seen by the Danish government is being accomplished. Our research of the Dutch sector is less complete, and we offer only highly qualified assessments. Since most of the certification activity is in the meat sector, we conclude that the motivation is similar to the Danish case. The UK situation is very diverse. And, at least in our interviews, government and private sector representatives differ widely on the acceptance and role of ISO Standards in the future of the UK food sector. With that said, some unique aspects of the UK food sector are seen as favoring the adoption of ISO Standards. First, the food-retailing sector is very concentrated. Second, the major "multiples" sell a larger proportion of their products as "house brands" than is true in other countries in Europe

and in the United States. Moreover, these house brands are often high quality products. It seems reasonable to conclude that ISO certification would increase the likelihood that quality, as specified in contracts, would be delivered. Much of the costs of quality control can be shifted to suppliers by requiring ISO certification. With that said, many of the retail chains seem to be imposing their own quality assurance systems on suppliers rather than accepting ISO certification.

#### POTENTIAL BENEFITS OF ISO 9000

In the previous section the incentives for European companies to adopt ISO quality standards were explained. In this section we develop a general framework to capture the full range of benefits of ISO 9000 to Tunisian companies. Let's assume a representative firm (A) that produces consumption-ready products, say fish preparations. Upstream from this company, a company (B) supplies fresh or semi-processed products, such as frozen fish. At the downstream of the chain is an export organization or market (C). Assuming also that firm B is ISO certified, firm A can realize benefits from ISO certification at three levels: upstream (reduced transaction costs), downstream (marketing benefits) and internal benefits (**figure 1**):

#### Upstream benefits: reduced transaction costs

At the upstream level, assuming the supplying company is ISO certified, Company A would benefit from lower transaction costs. These costs are all costs associated with searching, negotiating, monitoring and enforcing contracts (North, 1990). Due to the biological nature of fish the search for good quality is so important to achieve a quality final product because it is difficult to

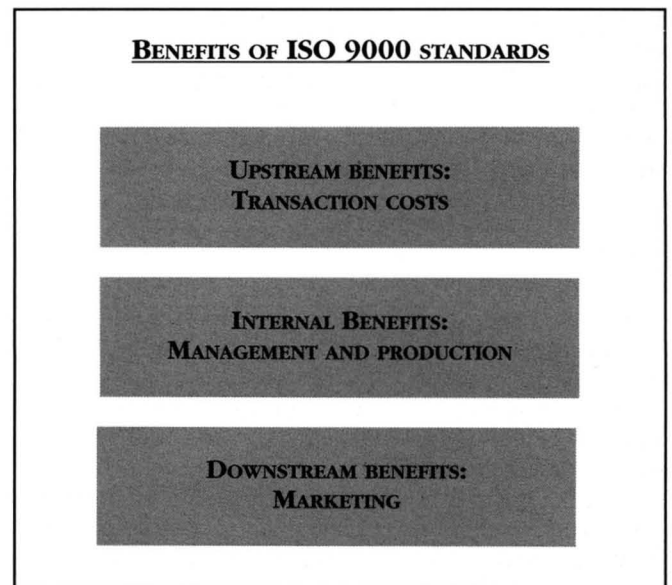


Figure 1 - Benefits of ISO 9000 standards.

achieve good quality product out of bad quality input. Negotiation, monitoring and enforcing activities may require substantial resources. ISO certification at the supplier level would ensure that an agreed specification is delivered and would reduce risks and costs for company A. Furthermore, much of the costs of inspection and auditing would be shifted to the input supplier.

#### Downstream benefits: marketing benefits

Firm A could face diverse marketing barriers in the domestic as well as the export market. Marketing barriers would come from cost competition and product quality. More generally, "marketing barriers can be defined as those gaps which need to be filled before the competitive producer become successful exporter" (Lall, 1991). In developing countries in general a product which sells well may not sell as well in a developed country. This will result in marketing problems and price discrimination. Product design, production, packaging and presentation are among the major pre-shipment barriers faced by developing countries' exports. Jakobson (1993) summarized the main points fish producers have to satisfy to meet the US importers as well as the Food and Drug Administration quality requirements as follows: "better quality raw material, good workmanship, proper grading and weights and improved packaging - all at reasonable affordable prices." A sample of one hundred ISO certified Danish companies revealed that they have achieved significant marketing merits and quality cost reduction due to ISO certification (Jakobson, 1993). Being ISO certified, product design, production process, packaging and presentation as well as other marketing conditions will be satisfied according to internationally accepted procedures. It is important to note that ISO 9000 set of standards are used in contractual relationships between a company and its customers to ensure "the capability of the supplier to control the processes that determine the acceptability of the product or service being supplied" (Rabbit, 1993). All these considerations will help Tunisian exporters overcoming marketing barriers and will guarantee more market access.

#### Internal benefits: production and management costs

Competition in world markets could be reached by two distinct strategies: product differentiation and cost leadership (Porter, 1990). Cost leadership strategy is the ability of the firm to design, produce and market a product more efficiently than its competitors. With ISO internal cost reduction would come mostly from improved management as a result of well defined procedures and processes. In addition to improved management, the realization of a quality good is usually accompanied by additional costs called "quality costs" (McRobb, 1989). Quality costs are of three types:

- Appraisal costs related to audit inspection service. Inspection is composed of three steps: on receipt, in process, and final inspection.
- Failure costs as reflected by the waste of material and rejected and returned products;
- Prevention costs required for design quality assurance, quality planning, material preparation, vendor assurance, auditing and training.

When implementing the standards, every employee in the company becomes an essential operative in the quality control process. In other terms, every employee becomes a quality control inspector and follows procedures to insure product conformity. This principle of quality control is termed "empowering the worker." As a result, this procedure can significantly reduce management and production costs while increasing consistency in the quality of product produced. For example, in-process and final inspection can often be eliminated. The quality control manual is the key management tool in this process, and in the process of documenting procedures for external and internal audits. Defined procedures to handle non-conforming products eliminate product failure and after-sale difficulties. In which case, this would reduce product waste and rejection rates as well as customers complaints. The benefits of ISO certification may differ from one company to another according to the size of the company and also the nature of products. Since the standards address the management and processes, they may be especially useful for large firms with several layers of management and responsibilities. However, other aspects related to product characteristics, such as perishability and product differentiation may be more important to implement the standards.

#### STATUS OF ISO IN TUNISIA AND IMPLICATIONS FOR FOOD COMPANIES

Our investigation of ISO in the European countries shows that the momentum clearly seems to be in the direction of ISO adoption and the emergence over time of certification as a necessary condition to do business in the EU food sector. ISO certification meets so many diverse goals, public and private, in the several member states that its continued growth would be expected. The statistics show that, up to 1994, 800 food-processing plants have been granted certification in the UK, 300 in France, and about 50 in the Netherlands. The number of certified plants has reached 1,100 in the UK (1997 statistics) (Holleran et al). In Tunisia, the search for product and services quality has begun in the early 1980s as a necessity to increase exports. In 1982, INNORPI (Institut National de la Normalisation et de la Propriete Industrielle), the Tunisian institution for quality and standards, was established. Two consecutive national plans for quality awareness were launched between the period 1985 to 1990 and 1994 to 1999 re-

spectively. Over the last 15 years the institutional environment and the acceptance for quality have seen important transformations. Such transformations have been reflected by the increased awareness of private companies to adopt quality management programs. The concept of quality control has changed from merely conformance of exported goods to national requirements to a more comprehensive quality management model covering all aspects of production and marketing. At this stage, international standards (ISO 9000) have also been added to the national standards. The adoption of ISO 9000 standards was seen as facilitator of international commerce especially with the European Union. Trade flows have increased primarily because of the reduction of transaction costs but also because of the elimination of non-tariff-barriers created by quality requirements imposed by the European nations (Mahé, 1996). In the absence of accredited laboratories to carry out necessary tests according to international norms, the European countries may use this argument to reject exports from Tunisia. With the acceptance of international quality standards, there were also profound changes in the institutional environment. Eight technical centers were created or being created with one of them specializing in food products to carry out quality tests and analysis. In addition, a national council for accreditation was established in 1994. As a result of these changes in the institutional setup the impact on the private sector was as follows:

- Wide spread of ISO 9000 standards. INNORPI translated ISO standards with implementation procedures and made them available for the industry (INNORPI, 1994).
- About 260 industrial firms have been granted ISO certification. The second plan will target the remaining of the 4000 enterprises.

- Training sessions (conferences and workshops) on ISO standards have been organized since 1993

- In the food sector, 37 companies have applied for registration to ISO standards between 1995 and 1998 and two of them have already been registered.

Among the companies processing and exporting agricultural and food products as presented in **table 1**, 9 companies processing dates and one company processing fish products have applied for certification. In sub-sectors such as olive oil and oranges and fruits there is however a delay in this process (**table 2**). The delay is due mainly to preparation of the manuals, equipment standardization, and documentation. In conclusion, ISO 9000 has become common practice in the Europe and other parts of the world. Many European food processors and distributors are requesting their suppliers to be ISO certified to ensure the quality of supplied products. The adoption of ISO would increase the chance of Tunisian companies to enter the European market and compete with other Mediterranean countries. Moreover, the ISO standards would bring many benefits to food

**Table 2 ISO registration in the Tunisian food sector (as of October 1998).**

Sub-sectors	Number of applications	Number of certifications
Dates	9	1
Fish and seafood	1	0
Olive oil	0	0
Oranges and other fruits	0	0
Other	27	1
Total	37	2

Source: Collected by the Authors from INNORPI.

companies. ISO will increase the efficiency of the firms and lead to cost-leadership, which are conditions to improved productivity and profitability. Effort in Tunisia should continue to reach the objectives of the second national plan of quality control.

The priority should be given to companies operating in the strategic export sub-sectors for their importance in the Euro-Tunisian partnership. ●

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