
The Impact of Environmental Requirements on Trade & Competitiveness

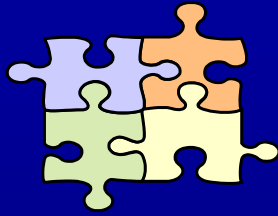
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Outline of Presentation

- Part I Conceptual and Methodological Framework
- Part II Textile/Garment Sector
- Part III Pharmaceutical Industry
- Part IV Agro-Food Sector
- Part V New EC Regulations affecting the Electronic Industry





PART I: Conceptual & Methodological Framework

Trade and Environment Linkages: Implications for Market Access & Competitiveness

- Trade liberalization initially focused on the elimination of “tariff barriers,” e.g., customs duties, quotas and import taxes.
- As trade liberalization advanced, it became evident that “non-tariff barriers” were emerging as alternative means for limiting imports.
 - Question of justifying these measures.
- **Non-tariff barriers include national regulations aimed at protecting the environment, human health and safety.**
 - Key components of Sustainable Development

Notifications to the WTO (2000)

Objectives and Rationales	Notifications received in 2000
Consumer Information, Labelling	59
Prevention of Deceptive Practices and consumer protection	55
Protection of Human Health or Safety	254
Protection of Animal or Plant Life or Health	10
Protection of the Environment	58
Quality Requirements	61
Harmonization	74
Adaptation to New Domestic Law and Technology	80
Lowering or Removal of Trade Barriers	13
Trade Facilitation	6
Cost Saving and Increasing Productivity	6
Others	43
Not specified	6
Total	725

Source: WTO

Implications for Arab Countries

- **Nothing wrong** with environmental strengthening for the purpose of protecting public welfare.
- **However, developing country exporters generally have a harder time complying with more stringent environmental, health and safety regulations than producers in developed countries, particularly SMEs.**
 - Challenges/costs related to technical capacity; technology transfer; access to investment capital; need for information on standards, markets, consumer preferences, etc.
- Evident implications for national export-led economic growth strategies and for exporters.
- **Non-conformity with environmental regulations in export destination markets means reduced market access and losses to competitiveness in various consumer markets.**

GATT/WTO General Principles

Article I	Most Favored Nation Clause
Article III	National Treatment Clause
Article XI	Elimination of Quantitative Restrictions Clause
Article XX	General Exceptions

Product standards v/s Production methods
Conformity Assessment
Dispute Settlement

Most Favored Nation Clause

Countries must not discriminate between like imported products from different sources (countries).

National Treatment Clause

Countries must not discriminate between imported and like products that are produced domestically.

= Non-Discrimination Principle

- Most Favoured Nation (MFN) clause ensures that imports from all sources are subject to the same treatment.
- National Treatment (NT) clause ensures non-discrimination between domestic and imported goods.

Implications for environmental enforcement, customs, conformity assessment, consumer protection and standard-setting particularly for developing countries with weaker institutions

Product Standards

- Countries ARE allowed to differentiate between products based on product characteristics, and adopt national regulations on product standards.
 - Condition: Non-Discrimination between like products.
- Product and process standards often combined in Sanitary and Phytosanitary Standards (SPS) to protect human health and plant life.
 - EU does not consider SPS an environmental issue; Arab countries should negotiate on common position.
- ISIC, HS classification systems used to classify like products.

Process and Production Methods (PPMs)

- Countries are generally NOT allowed to pass regulations that differentiate between products based on their process or production methods.
- **Accordingly, even if two items are produced differently (one in a polluting manner and the other in a non-polluting matter), they ARE still considered LIKE products.**
- **Sample PPMs (which usually can *not* be tested for by testing the end-product itself, since it involves certification of the way it is produced):**
 - Organic agricultural and agro-food products
 - Use of genetically modified organism (GMO) seeds
 - Highly energy intensive v/s energy efficient production
 - Child labor, prison labor

Conformity Assessment

Components:

- 1. Standards**
- 2. Technical Regulations**
- 3. Accreditation (governmental/non-governmental)**
- 4. Certification**
- 5. Testing and Monitoring**
- 6. Inspection (including customs)**

* Trade facilitation enhanced if technical regulations are harmonized or approximated regionally/globally, including conformity assessment procedures;
Reduces risk of non-tariff barriers to trade.

Article XI Elimination of Quantitative Restrictions

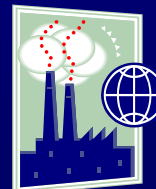
- Prohibits countries from banning the import of any product because only duties, taxes or charges “shall be instituted or maintained on the importation or exportation of any product.”
- Effectively means that WTO Member State can not ban (impose a quota of “zero”) on the export or import of harmful substances
 - *But what about toxic materials? hazardous waste? illicit drugs? sensitive military equipment? etc.*

Implications for Multilateral Environmental Agreements

Some Multilateral Environmental Agreements (MEAs) conflict with the GATT/WTO principle seeking elimination of quantitative restrictions:

- Basel Convention on Hazardous Waste Trafficking
- Convention on International Trade of Endangered Species (CITES)
- Preventing Trade of Domestically Prohibited Goods

* **REMEMBER:** International trade agreements do NOT have supremacy over international environmental agreements.



General Exceptions to GATT – Article XX

Allows States NOT to apply WTO rules for measures:

- a) Necessary to protect public morals;
- b) Necessary to protect human, animal or plant life or health;**
- c) Relating to the importation or exportation of gold/silver;
- d) Necessary to secure compliance...[for] customs enforcement, monopolies, protection of patents, trademarks, copyrights and the prevention of deceptive practices;
- e) Relating to the products of prison labor;
- f) Imposed for the protection of national treasures or artistic, historic or archaeological value;
- g) Related to the conservation of exhaustible natural resources** if such measures are made effective in conjunction with restrictions on domestic production or consumption;
- h) Etc.



Dispute Resolution

- **WTO Dispute Resolution Understanding (DSU)** provides the legal framework for enforcing the trade agreement agreed to by its Members.
- **Three Levels of Dispute Resolution:**
 1. Countries are encouraged to engage in **consultations** to settle trade disputes amicably through bilateral or multilateral negotiations.
 2. If consultation is not fruitful, a country (or group of countries) may request the WTO to establish a **dispute resolution panel**
 - Countries in Dispute must Agree on the Panel Members
 3. If decision of Panel not accepted by one of the parties to the dispute, Member can request an **appellate body** to rule on the dispute.
 - But can only rule on the arguments made by the panel, not present or examine new information regarding the case.

PRIVATE International Economic Relations

- Trade Agreements are between GOVERNMENTS, and thus Governments are subject to their rules/dispute mechanisms (WTO).
- COMPANIES are subject to International Contract Law, not trade agreements unless articles are introduced into National Law.
 - Private importers and exporters must thus respect government regulations, but may require standards that are MORE stringent than those required by governments without running against the non-discrimination principle.
- COMPANIES can and are represented in international standard-setting bodies recognized by the WTO, although not part of WTO.
 - Larger companies with R&D capacities may thus have an advantage over smaller firms, particularly those in LDCs.

Four Types of Standards in International Trade

1. **Product Requirements**
 - For example, maximum contents requirements of carcinogenic or radioactive elements in foods or textiles; packaging requirements
2. **Production & Process Methods (PPMs)**
 - For example, water effluent standards, stack emissions on air pollution; use of organic inputs – often are domestic standards
3. **Conformity Assessment**
 - To prove conformity with product or PPM requirements.
 - Requires access to accredited laboratories (oftentimes based abroad), advanced understanding of certification and testing procedures
 - Increases the cost of compliance
4. **Dispute Resolution**
 - Public International Law = Inter-governmental dispute resolution – could go to WTO (highly politicized)
 - Private contract law = between firms; suppliers often disadvantaged.

Regulatory v/s Voluntary

Measures may be:

- **Regulatory** (*technical regulations*)
 - Required by governments and enforced by customs administrations and ministries (e.g., health, environment, trade);
 - For WTO Member States, these measures must respect provisions in WTO Agreements.

- **Voluntary** (*standards*)
 - Adopted by governments, but not mandatory
 - Required by private importers and/or retailers via contracts and pre-shipment inspections.
 - Often time cater to Niche Markets generated by consumer demand.

Conceptual Framework

Thus, when considering the impact of environmental measures on output or trade, and possible policy implications and responses, one might think in terms of the following box

	Product Standards	Process & Production Methods	Conformity Assessment	Dispute Resolution
Regulatory Measures	<ul style="list-style-type: none"> • Environment, Health & Safety Laws 	<ul style="list-style-type: none"> • Compliance with Domestic Environmental Laws 	<ul style="list-style-type: none"> • Laboratory Accreditation, testing and certification 	<ul style="list-style-type: none"> • WTO • Regional or bilateral negotiations
Voluntary Measures	<ul style="list-style-type: none"> • Industry Standards & Specifications 	<ul style="list-style-type: none"> • Eco-labeling • Niche Markets 	<ul style="list-style-type: none"> • Eco-labeling • Importer testing 	<ul style="list-style-type: none"> • Private Contract Law

Measuring the Cost of Compliance with Standards & Regulations

METAP MedPolicies Initiative: The Larson Model

- Simple (5 variables; Excel-based)
- Empirically tractable partial-equilibrium model
- Economic forecasting policy tool
- Estimates the percentage change in output, exports and imports from compliance with a standard or technical regulation (focus on environmental requirements)
- Environmental measure examined may be voluntary or regulatory and required in a destination market or by domestic environmental regulation, or the impact of a generic increase in the cost of production could be estimated.



PART II:

Standards & Technical Regulations Impacting the Textile & Garment Sector

Textiles

Textile finishing stages of production



Characteristics of wastewater effluent from the textile finishing stage

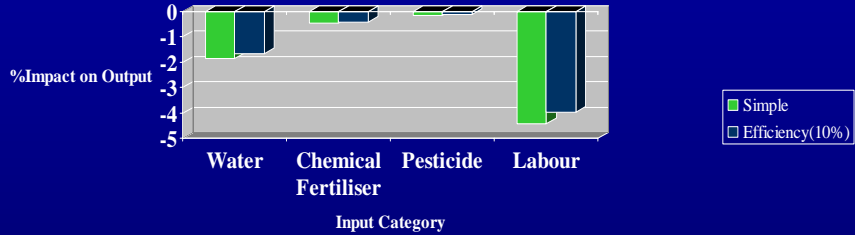
Desizing	Scouring	Bleaching	Mercerizing	Dyeing
<ul style="list-style-type: none"> •High BOD •Neutral pH •High total solids 	<ul style="list-style-type: none"> •High BOD •High alkalinity •High total solids •High temperature 	<ul style="list-style-type: none"> •High BOD •Alkaline •High solids 	<ul style="list-style-type: none"> •Low BOD •Alkaline •Low solids 	<ul style="list-style-type: none"> •High BOD •High solids •Neutral to alkaline

Textile/Garment Industry in Arab Region: Most Troublesome Environmental Requirements

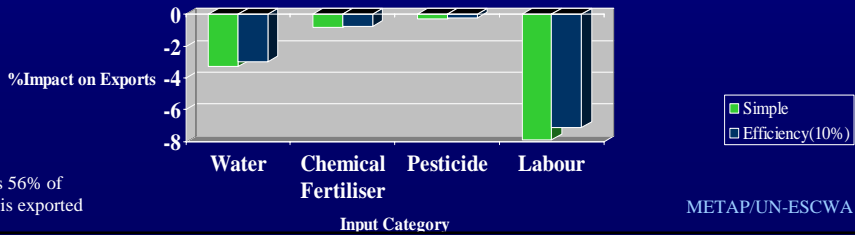
	Product Standards	Process & Production Methods	Conformity Assessment	Dispute Resolution
Regulatory Measures	<ul style="list-style-type: none"> • Azo dyes • Flame retardants • Heavy metals • Labeling • Packaging 	<ul style="list-style-type: none"> • Compliance with domestic environmental laws: wastewater effluent treatment • Rules of origin 	<ul style="list-style-type: none"> • High cost of product testing prior to export • Limited number of accredited labs in region 	<ul style="list-style-type: none"> • Communication links between firms & trade ministries poor • Politicization of inter-government dispute settlement
Voluntary Measures	<ul style="list-style-type: none"> • Eco-labeling 	<ul style="list-style-type: none"> • Eco-labeling • ISO • Labor standards 	<ul style="list-style-type: none"> • Cost of maintaining eco-label • On-site inspections by importer 	<ul style="list-style-type: none"> • Time/cost needed to enforce contracts

Rapid Assessment Sensitivity Analysis: Syrian Raw Cotton Sector

Impact on Syrian Raw Cotton Output of 100% increase in selected input costs



Impact on Syrian Raw Cotton Exports of 100% increase in selected input costs

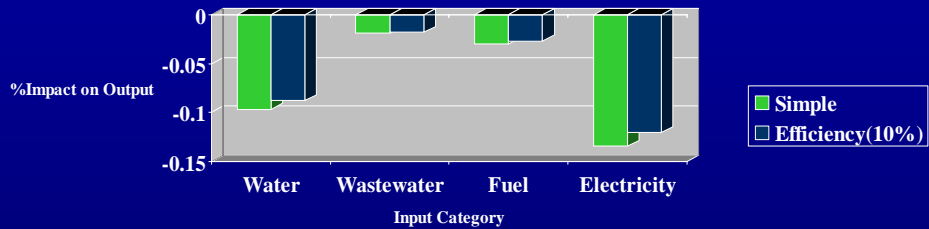


Assumes 56% of production is exported

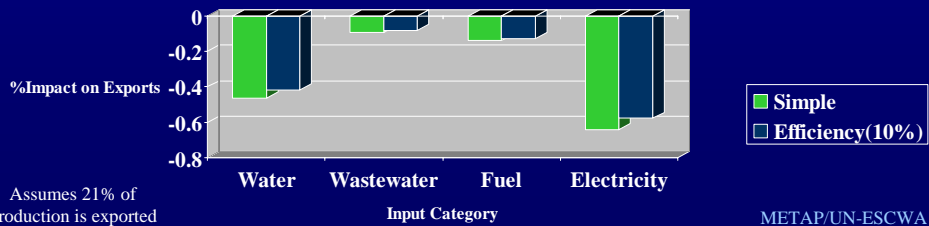
METAP/UN-ESCWA

Rapid Assessment Sensitivity Analysis: Syrian Textile Sector

Impact on Syrian Textile Output of 100% increase in selected input costs



Impact on Syrian Textile Exports of 100% increase in selected input costs

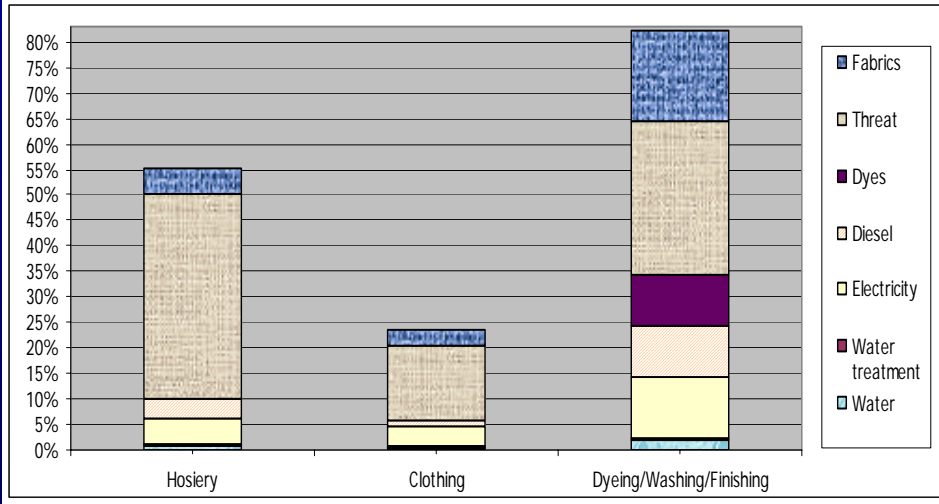


Assumes 21% of production is exported

METAP/UN-ESCWA

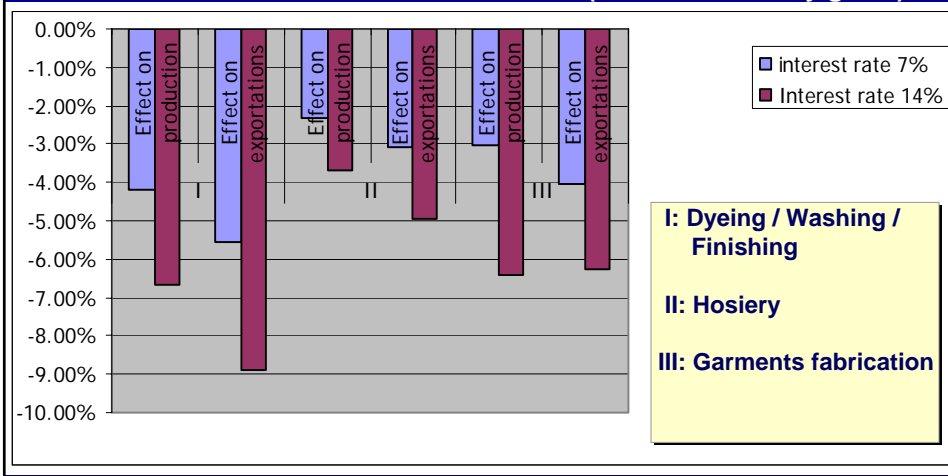
Morocco: Impact of Domestic Wastewater Standards on Textile/Garment Sector SMEs

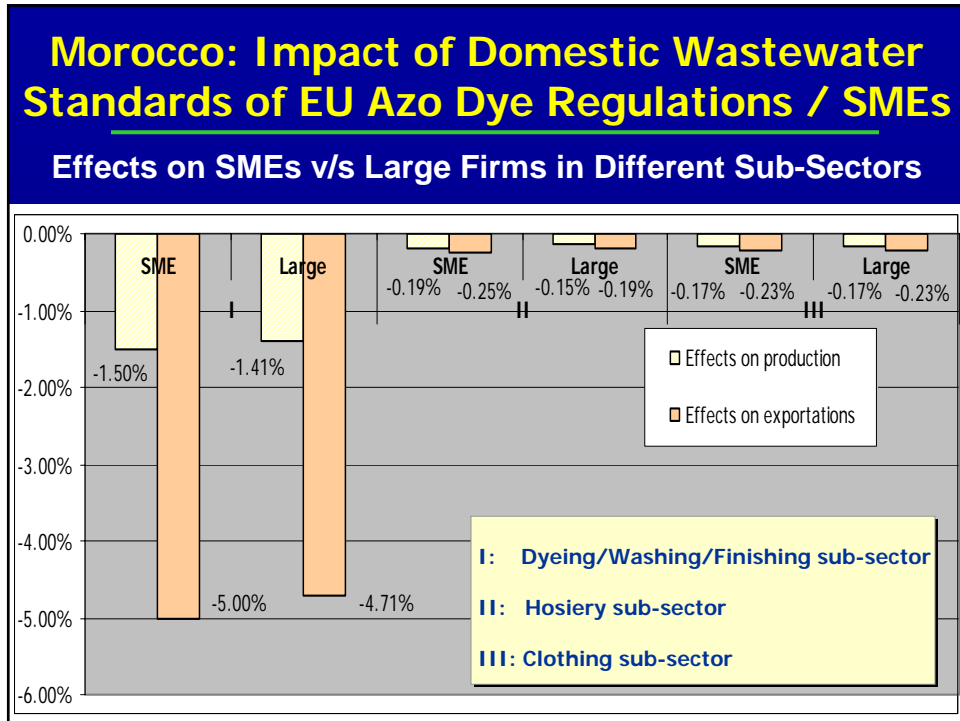
Principal factors of production by branch (excluding labor)
 (as a percentage of the annual production cost)



Morocco: Impact of Domestic Wastewater Standards on Textile/Garment Sector SMEs

Variation of the effects of the installation of a water treatment station
 (for BOD, COD and heavy metals) on SME according to the interest
 rate for an investment of 6 000 000Dh (without efficiency gains)





Eco-Labeling Schemes: VOLUNTARY Measures

- Public and Private eco-label schemes exist for textiles/garments. Nearly 20 in Europe alone.



Eco-Label is an EU Label (public) – for T-shirts, bed linens, washable quilts, potentially garments



Okotex is a German-managed label (private) – assesses conformity with eco-management principles; product label relates to textiles, but differentiated based on access to skin; focus on infant and baby clothes



Good Environmental Choice is a Swedish label (private) focused on cloths, home textiles containing at least 95% textile fiber.



Business for Social Responsibility: Restricted Substances

- **2001: List of restricted substances in finished apparel products**
 - The list was based on consultation with BSR members, industry leaders, public stakeholders and a worldwide review of legislation and regulations concerning the sector.
- **2002: List of restricted substances, their limits and testing methods**
- **2004: List updated and includes:**
 - Primary list of most restricted substances
 - Supplementary list of most likely restricted substances
 - Best practices that identifies substances that are currently not regulated, but which are limited through voluntary restrictions adopted by some companies.

See: www.bsr.org/rsi



PART III:

Environmental, Health and Safety Measures Impacting the Pharmaceutical Industry

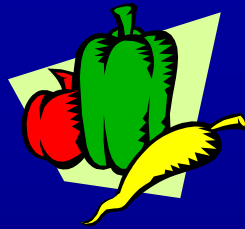


Pharmaceuticals Industry in the MENA Region: Most Troublesome Environmental Requirements

	Product Standards	Process & Production Methods	Conformity Assessment	Dispute Resolution
Regulatory Measures	<ul style="list-style-type: none"> Expiry date Drug stability Banned use of Bovine-derived materials Labeling Packaging 	<ul style="list-style-type: none"> Good Management Practices (GMP) Licensing Patents (IPR) 	<ul style="list-style-type: none"> High cost of product testing prior to export Limited number of certified labs and technical equipment in region, plus costly 	<ul style="list-style-type: none"> Communication links between firms & trade ministries poor Politicization of inter-government dispute settlement
Voluntary Measures	<ul style="list-style-type: none"> Eco-labeling 	<ul style="list-style-type: none"> Good Lab Practices (GLP) – [required only by Qatar] 	<ul style="list-style-type: none"> On-site inspections by importer Product testing by importer 	<ul style="list-style-type: none"> Time/cost needed to enforce contracts

Pharmaceuticals Industry: Examples from the MENA Region

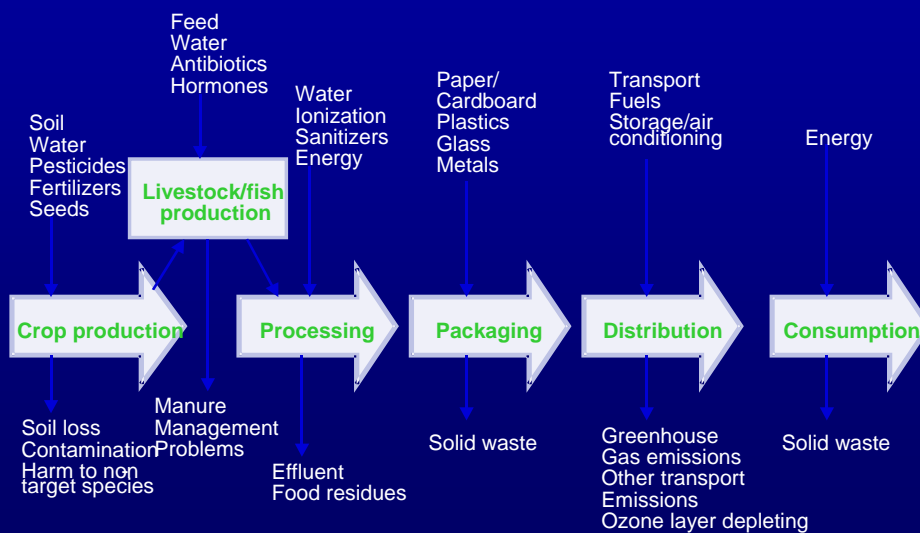
- **Process Requirement and Conformity Assessment - Good Manufacturing Practices/Good Laboratory Practices:** GMP required by ~all Arab countries; GLP by Qatar – thus Qatar doesn't accept certification by countries in region, because none accredited to issued GLP certification. Hazardous waste disposal issue.
- **Syria – Licensing, IPR and Protecting Human Health**
 - Ministry of Health allows local production of imported drugs to provide cheaper alternatives to local population; matched with import ban.
- **Jordan v/s Lebanon: Registering new drugs:**
 - Could take 2 years in Jordan, and only 3 months in Lebanon.
- **Saudi Arabia – Product requirements**
 - No bovine-derived materials, coloring of medicines based on WHO standards, no alcohol in medicine (= cultural requirement)
- **Egypt – Non-discrimination principle challenge**
 - To export drug to Egypt, must be FDA approved, even though many drugs produced/sold in Egypt not FDA approved.

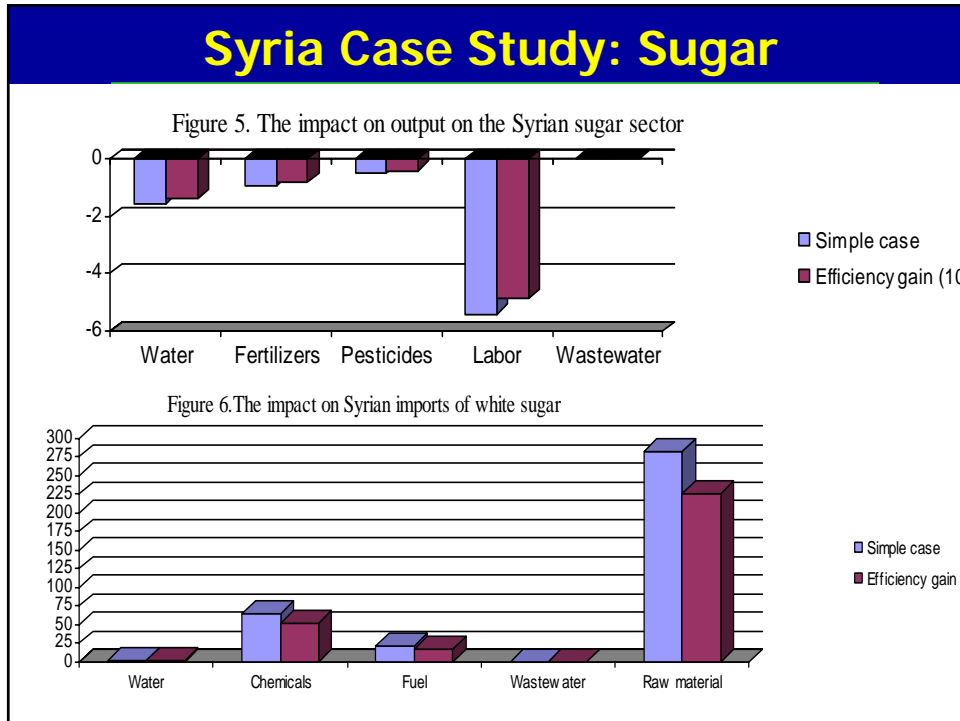


PART IV: SPS Measures related to Environment, Health and Safety Impacting the Agro-Food Sector



Agro-Food Industry Life Cycle

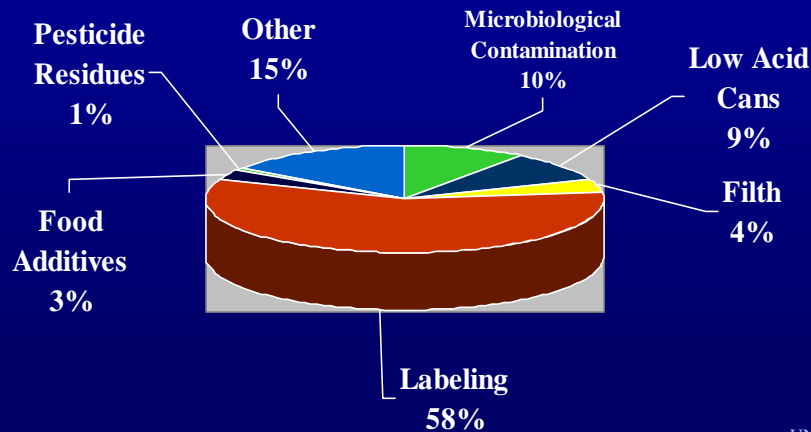




Environmental Measures most affecting the Agro-Food Industry in ESCWA Countries

	Product Standards	Process & Production Methods	Conformity Assessment	Dispute Resolution
Regulatory Measures	<ul style="list-style-type: none"> Expiry date Additives Labeling Packaging Pesticides residues 	<ul style="list-style-type: none"> Sterilization Sanitation GMO certification 	<ul style="list-style-type: none"> High cost of product testing Limited number of accredited labs in region 	<ul style="list-style-type: none"> Communication links between firms & trade ministries poor Politicization of inter-government dispute settlement
Voluntary Measures	<ul style="list-style-type: none"> Eco-labeling Packaging (recycled content) 	<ul style="list-style-type: none"> ISO HACCP Sanitation Eco-labeling 	<ul style="list-style-type: none"> Inspection by importer Cost of testing Cost of maintaining conformity with eco-label 	<ul style="list-style-type: none"> Ag. exporter usually bears cost of delayed shipments & storage Time/cost needed to enforce contracts

Reasons for USFDA Detentions from Egypt, Jordan, Lebanon & Syria (Jan-June 2001)



UN-ESCWA

EC Food Safety Legislation

- On 1 January 2005, the **General Food Law** came into force, which establishes the general principles and requirements of European food law.
 - Regulation (EC) No 178/2002 of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety
- Law establishes **European Food Safety Authority (EFSA)**
- Law references the **precautionary principle** as a means to ensure the health of European citizens; but recognizes that such a policy can give rise to trade barriers & thus recognizes the need to ensure uniform application of the principle throughout the EC.
- Law also articulates EC commitment to the use of **science-based risk assessment** and management of foodstuff, in line with WTO principles
- Highlights importance of consumer protection & food safety throughout EU: **Rapid Alert System for Food & Feed (RASFF)**

Notification: EU Rapid Alert System

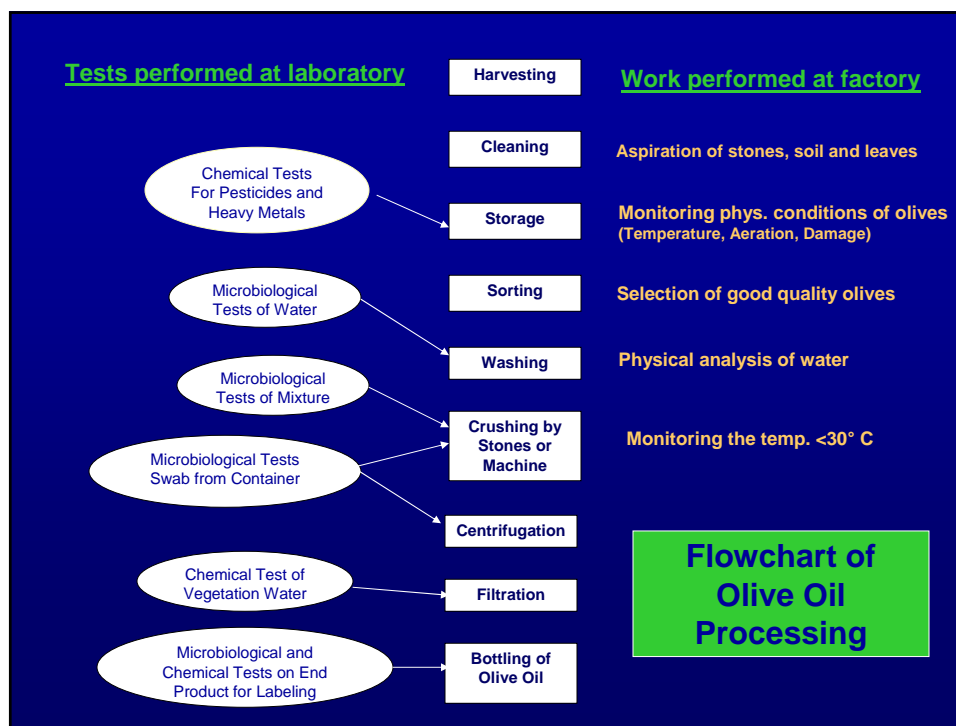
Country of Origin	Date	Notified by	Product	Reason for notification
Egypt	26/01/2005	Italy	Coriander seeds	Too high count of Enterobacteriaceae in coriander seeds
Egypt	02/03/2005	Greece	Groundnut kernels	Aflatoxins in groundnut kernels
Egypt	26/01/2005	Italy	Groundnuts in shell	Aflatoxins in groundnuts in shell
Egypt	14/01/2005	Italy	Peanuts	Aflatoxins in peanuts
Lebanon	11/03/2005	Finland	Sesame paste	Salmonella Montevideo in sesame paste
Lebanon	24/01/2005	UK	Sojok spices	Unauthorised colour Sudan 4 in sojok spices
Lebanon	12/01/2005	Sweden	Sweet Curry	Colour Sudan 1 in sweet curry
Syria	11/03/2005	Cyprus	Peanuts	Aflatoxins in peanuts
Tunisia	26/01/2005	Italy	Spices & sweet peppers	Bacillus cereus in spices & sweet peppers

Source: <http://europa.eu.int/comm/food/food/rapidalert/reports/>

HAACP Principles

The **Hazard Analysis and Critical Control Point** system system consists of seven major principles:

1. Conduct a hazard analysis
2. Determine the Critical Control Points
3. Establish critical limits
4. Establish a system to monitor control of the CCP by scheduled testing and observations
5. Establish the corrective action to be taken when monitoring indicates that a particular CCP is not under control
6. Establish procedures for verification the HACCP system is working effectively
7. Establish documentation concerning all procedures and records appropriate to these principles and their application



Type	Tests at Laboratory Level	Unit Price \$
1	Chemical Tests of Olives at storage Pesticides Residues	60
	Heavy Metals: Lead, Copper, Iron	90
2	Microbiology test for Water Total Count + Coliforms	30
3	Swabs for Microbiology from Containers of: Crushing	30
	Centrifugation	30
4	Microbiological Test of mixture Total Count + Coliforms	30
	Yeast & Molds	30
5	Chemical tests of Vegetation Water Acidity	25
	Polyphenols (HPLC)	30
6	End Products	
	Impurities (Centrifugation)	30
	Acidity	25
	Peroxide Value	30
	Iodine Value	30
	Fatty Acid Composition	60
	Pesticide Residues	60
	Moisture and Volatile Matter	15
	Refractive Index	20
	Saponification Number	30
	Specific Gravity	20
	Heavy Metals: Lead, Copper, Iron	90
	Total per Batch	

Tests to be Performed for Olive Oil Processing

Notes:

- Highlighted tests are performed periodically, at least once per month.
- Maximum cost is \$765 and minimum cost is \$ 705.
- 1,2,3,4,5 & 6 are shown in the previous flowchart on Olive Oil Processing.
- The prices mentioned in the table are at cost, based on cost of testing in Lebanon (2004) and are in US\$

Tests to be Performed

● For Milk: 8 tests	● 435 USD
● Labneh/Laban: 13	● 545 USD
● Brine cheese: 16	● 695 USD
● Fresh juice: 13	● 990 USD
● Juice concentrate: 13	● 1060 USD
● Olive oil: 6	● 765 USD

Setting up a Food Quality Control Lab

Operational units

- A microbiology laboratory with isolated space for capital equipment and hoods and interconnected office space
- An inorganic laboratory with isolated space for capital equipment and hoods and interconnected office space
- An organic laboratory with isolated space for capital equipment and hoods and interconnected office space
- A cold room for storage
- A general storage room
- A weighing room
- A room for the heat generating incubators, autoclaves and furnaces
- A reception area
- A director's office
- A utility room/library
- A meeting room
- 2/3 smaller offices
- Lavatories
- Garage and parking space

Construction costs (from scratch)

● Land	50,000
● Construction (1000m2)	400,000
● AC/Heating	25,000
● Generator 60 KVA/installation (2 units)	30,000
● Pick-up van	25,000
● Office furniture/PC's	50,000
● Admin expenses and fees	10,000

Construction \$ 590,000

Personnel \$ 157,200 (annually)

(Director (1), Technical staff (7), finance & admin staff (4), electrician, cleaning)

Scientific equipment

Capital equipment	540,450
Workbenches stools and trolleys	20,000
Documentation	20,000

**Equipment \$ 580,450
+ misc.**

TOTAL: US\$ 1,427, 650

Eco-Labelling: Organic Production

- Organic products constitute a niche market that is growing in OECD countries.
- Organic production is based on voluntary environmental standards formulated by Governments and International NGOs
- Definition of “Organic” and its various levels differs between US, EC and other public and private led labeling schemes
 - Misleads and confuses consumers
 - Raises debate regarding Labeling requirements and standards
- Production of Organic Products is difficult in the absence of the locally available organic inputs, accreditation infrastructure & certifying institutions to support industry
 - Accredited organization needed to certify organic inputs as well as outputs.



Eco-Labelling: Conformity Assessment

- International Federation of Organic Agriculture Movements (IFOAM) Organic Guarantee System unites the organic world through a common system of standards, verification and market identity, see:
 - *IFOAM Accreditation Criteria for Bodies Certifying Organic Production and Processing (IAC)*
 - *IFOAM Basic Standards for Organic Production & Processing (IBS)*
- Sets baseline standards for organic labeling regimes throughout the world so that consumers are aware of the minimum requirements that a product must satisfy in order to be considered organic.
- Despite understanding that “organic” standards constitute PPMs and thus should remain voluntary, fear exists that eco-labeling may become so pervasive that it will effectively become technical barriers to trade and another obstacle to accessing developed country markets.



PART V

New EC Regulations affecting the Electronics Industry

New EU Directive on the Electronics Industry (1)

- Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 restricts the use of certain hazardous substances in electronic equipment and states that of 1 July 2006
 - Means that these items sold in the EU cannot contain **lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE)**.
 - ANNEX to Directive EXEMPTS lead which is commonly used for soldering. Without Exception, would have been problematic for electronics manufacturing, particularly since alternatives for soldering, such as **silver or antimony**, would need to be used. However, these two metals are expensive and can leach into water sources and cause adverse environmental and health effects, which may be worse than that caused by lead.
 - Would also introduce the question whether banning lead in electrical equipment is the most effective (and least trade-restricting) option.

New EU Directive on the Electronics Industry (2)

- Directive 2002/96.EC of the European Parliament and of the Council of 27 January 2003 on waste electrical and electronic equipment (WEEE), establishes a framework for regulating the **recycling of waste electrical and electronic equipment (WEEE)** within the EU
 - Sets various targets, including a 13 August 2005 deadline for Member States to establish the financial mechanism that ensure that the collection, treatment, recovery and environmentally sound disposal of WEEE (other than those purchased by private households) be provided by producers.
 - **This is based on the polluter-pays principle and would require manufacturers of WEEE (including those abroad) to be responsible for its disposal.** Manufacturers will need to demonstrate compliance with these two regulations if they are to access the European market.
 - Note that mechanisms will also be put into place to ensure that private households also recycle electronic items.
- **Questionable whether this is an acceptable PPM measure.**

Thank you.



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