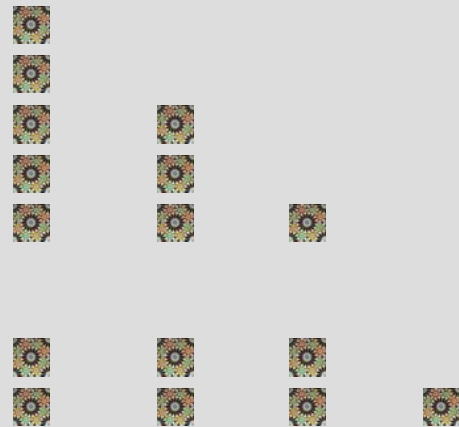
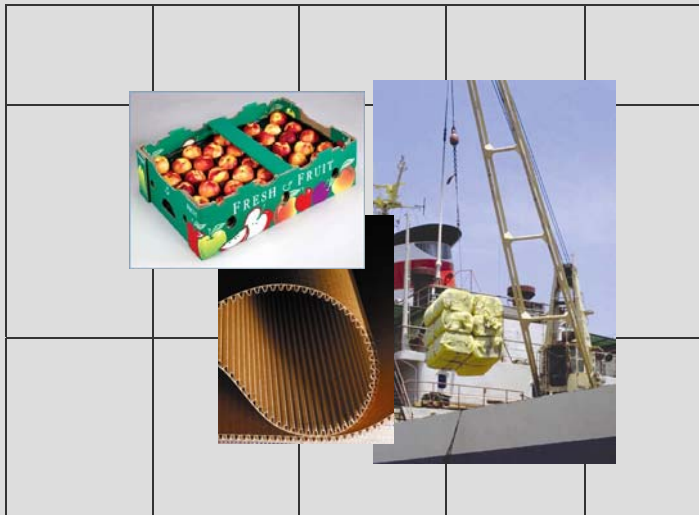


The Egyptian Packaging Technology Centre

The Establishment Plan

Prepared by: LEVEL



March / 2006

Executive Summary

Study objectives

The overall objective of this contract is to design and establish a Technology Centre that satisfies the development needs of the Egyptian Packaging industry. The specific objective is to develop an establishment plan for Egyptian PATC and a business plan for its first year of operation.

The MFTI, on the other hand, is actively adopting state-of-art approaches towards technology and innovation. Among these emerge MFTI's unique initiative of an Egyptian Technology Network (ETN).

Lessons learnt from global Best practices within Technology Networks, adapted to Egypt

Beneficiaries

The direct beneficiaries of the contract are all industrialists relevant to the Packaging industries and all other supportive industries such as inks, paper etc. The indirect beneficiaries are user industries (in various sectors such as chemicals, food, pharmaceuticals, etc.), exporters, traders and consumers who will eventually benefit from the services of the PATC.

Upon examining the objectives, contexts, achievements of International Technology Transfer networks, manufacturing extension programmes and similar activities, a few lessons emerge. These lessons were carefully considered/adapted during the course of this study, to the Egyptian context. For example:

Importance of increasing cost-effectiveness of TCs

- Through central Egyptian network training in marketing, entrepreneurship and quality assurance systems.
- Through offering TT performance related rewards, and financing.
- Through regularly conducting surveys to assess quality of service, and development of a benchmarking system for TCs and ETTN.

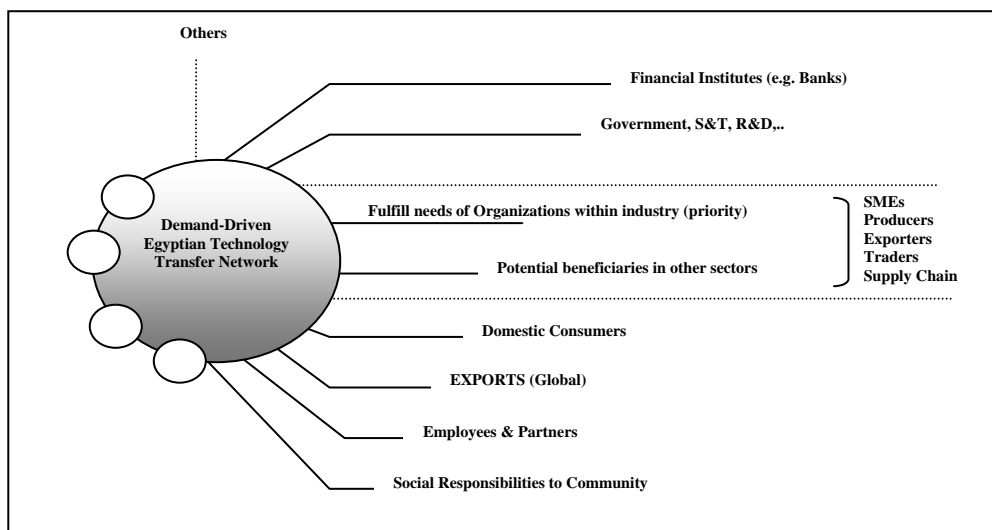
The Overall Vision

The IMC, on one hand, has developed a new vision, shaped by its fundamental re-organization towards an active involvement of the Egyptian industrial sector and achieving deeper integration into the global economy. Through close coordination with the Ministry of Foreign Trade and Industry (MFTI), the IMC is contributing to both the formulation of industrial policies in addition to being an executing agency for implementation.

Development of the Egyptian network into a regional hub

- Through encouraging linkages with other global networks

- Through working with various agencies to promote TT
- Through making reciprocal arrangements to deliver a global service
- Through twinning agreements.



Our Approach

The Consultant took careful note of the vital issues and problems facing the establishment of a new TC within a highly dynamic, global and cross-cutting sector, such as the Egyptian packaging sector.

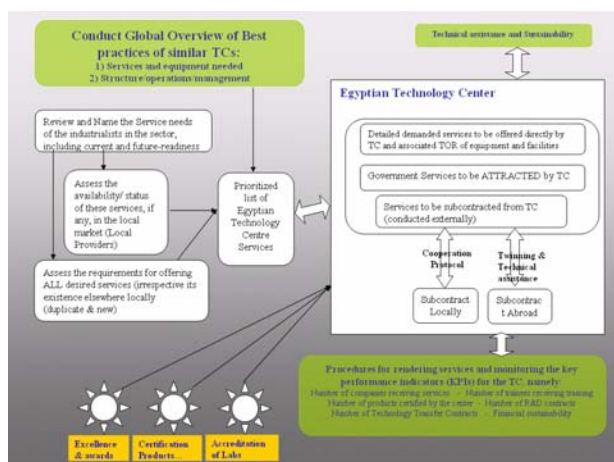
Existing relevant sectoral studies commissioned by the IMC and MFTI have been thoroughly read and all Packaging needs have been extracted and summarised. Further input was sought through:

-  Meetings with MFTI/IMC.
-  Meetings with existing, relevant, Technology Centres such as Food and Plastic TCs.
-  Meetings with donor agencies such as USAID, DANIDA, CIDA, etc.
-  Assessment of existing facilities at over 20 key Egyptian institutions
-  Assessment of local Industry demands and needs with numerous industrialists and government agencies.

Our Methodology

Requirements analysis and specification

In this phase the requirements of stakeholders (producers, exporters, traders and consumers) were reviewed, focusing in particular on their requirements in relation to services crippling their development in exports, capacity building, quality control, and acquisition and utilization of new technology.



The result of previous activities was the definition of broad services required of the new technology Centre:

Broad Roles of Egyptian TC

Business Development Centre; providing business development support to individual companies in the sector. Also, a Training provider, responsible for in-house and central training services and certifying competences **(Developmental Services)**

Sector economic coordinator, promoting economic alliances leading to improved marketing, procurement, production and export operations. **(Integrational and networking Services)**

Strategic technology coordinator; facilitating local content, disseminating best practice and excellence on standards, productivity and QC, and providing accredited labs and means of improving production technology for the sector **(Technical Services)**

A national information centre, offering centralized information on industry standards (national and translated-international), electronic archives, various informational services (enquiries, referrals, studies,...), relay services (innovation, technology transfer, ..), publicity material, clientel services and distribution. **(Informational and promotional Services)**

Role definition for PATC

When the sector requirements became clear, updated, and complete, the role of the PATC was defined and services specified, and then the establishment plan and subsequent business plan were developed for TC implementation.

Best International Practices

Despite that Best Practice component was not listed in the TORs, however it has been perceived that the establishment\business plans must integrate such proven Best Practices of international packaging TCs.

This was perceived to grant the Egyptian PATC a near-immediate implementation.

Today.... No existing institution delivers consolidated services to the packaging industry.

Therefore, our current team was selected because the international experience that The Consultant has drawn together is very recent, successful and readily implementable into the Egyptian context. As to the local expertise, it allowed The Consultant direct access to immediate problems of the Egyptian market

Packaging Companies' Needs Assessment

There is unanimous welcome of a TC to support the sector achieve growth, competitiveness and higher exports.

Technical support needed:

Areas which were strongly indicated as priority areas needing help:

1. Disputes' arbitration with both local and foreign supply chain members.
2. Characterization of materials, local and imported, especially imported for the purpose of customs clearance (do tests quickly and reliably).
3. Combating processing and quality problems (trouble shooting).

Other Packaging Issues Needing Addressing by Egyptian PATC

- ISO certification
- Advising potential investors as to how it is best to invest in packaging / printing (Investors advisory office)
- Assistance in purchasing decision especially of equipment
- Awareness of international standards
- Improve quality of locally produced packaging materials
- Training in general (technical, marketing, management and organisation) and specifically in machinery maintenance and management (Other available training is currently expensive)

Technical problems representing core demand areas, to be addressed:

Flexible

- Film density
- Water percentage in solvents (for solvent recovery units)
- Ink migration to the other side of the material
- Adhesive problems such as blocking (pressure sensitive adhesives)
- Other Adhesive problems in Lamination
- PE Blocking, High static charges
- Bad sealability Film (leakage)
- Delamination problems and solvent retention measuring
- Identification of the type of plastics
- Characterisation of ink solvents
- Complaints from odour

Corr. Board/Paper/Board

- Paper thickness uniformity
- Paper whiteness
- Judgment correctness and consistency of colours (colour matching)
- Corrugated and solid board strength problems
- Problems related to environmental printing, water proofness, H. waste

Metals

- Matching materials and coatings with the product is the most fundamental task to be accomplished at once.
- Lack of knowledge about tinfoil surface conditions and their correlations with lacquer and lacquering problems, shelf life and contamination of foodstuffs.
- Absence of even a small quality control lab at the can lines.
- Production date is not always embossed on the end of cans.
- Frequent to find advanced corrosion on the inside.

International Best Practices

A Sample of just a few Best Practices assessments reviewed for this report:

LNE-France, PACKFORSK-Sweden,
 Netherlands Packaging Centre,
 Greece PC,
 China PC,
 PACKTEC-Tunis,
 Belgian Packaging Institute,
 Institute of Packaging-Italy,
 TENE- Spain,
 ABRE-Brazil,
 PIRA-UK; and
 The Fraunhofer IVV- Germany.

In addition, numerous Packaging Sectoral studies, and competitiveness studies were reviewed.

A common understanding emerged from both local and international assessments, namely that: 'The Egyptian PATC must be Independent, unbiased, and National. And, quick, effective, and free of historic bureaucracy in rendering its service'

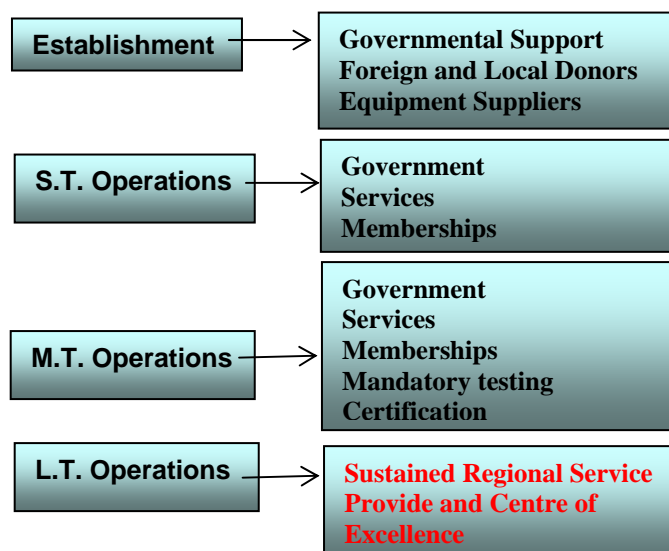
The Challenges

The establishment of the Egyptian PATC faces several challenges, such as lack of industry support, TC fatigue, weak linkages, bias and funding. Based on proven, complete and realistic experiences of PATCs, the addressing of the funding/income generation issues will be as follows:

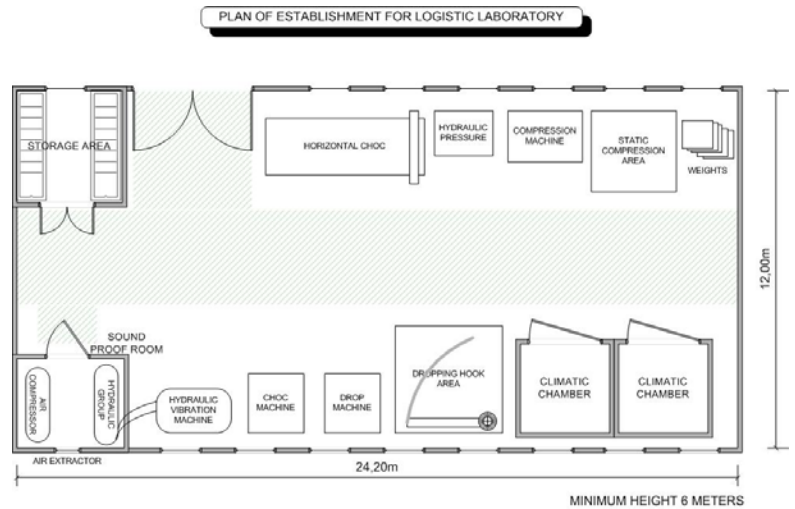
The result of previous activities was the definition of specific services required of the new technology Centre:

Technical Services of PATC

- **Laboratory analysis and testing**
 This service will be used in evaluating supplies, final products, arbitration, compliance, etc.
- **Certification (staff, customers, products)**
- **Quality assessment and ISO certification**
- **Technical assistance and consultancy**
- **R&D finance and technical services**
 This service will be used to help in solving some of the local technical & production problems, & to improve some local materials & products, instead of importing most of them.
- **Technical Training**
- **Upgrading programmes**
- **Technology Transfer programmes**
 Managing Knowledge Transfer Processes through offering Library Services, Conferences, Databases, Training Courses, and very importantly- Online Technology Transfer Offer/Request Services
- **Other** (such as Support to supportive industries such as Printing)



PATC: The establishment

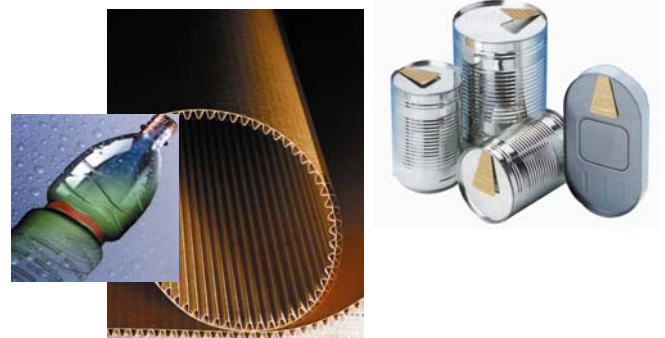


The technical organization of the Egyptian Packaging Technology Centre is based on three main laboratories

1- Packaging materials Laboratories:

Determination of the physical and mechanical properties:

- Paper and paperboard
- Metal
- Glass
- Plastic



2- Food Packaging Laboratory

- Compatibility product / packaging
- Analysis of migrating components from packaging materials
- Identification and characterisation of materials



3- Logistic Laboratory

- Aptitude for the transport of complete and full packaging
- Homologation of dangerous goods packaging



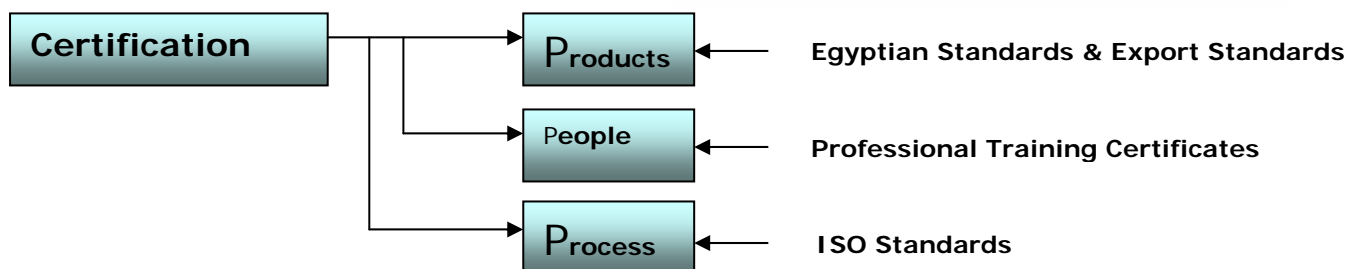
The Roles and Services

The roles and services of the technology centre will eventually span activities such as **Testing, certification, arbitration**, Up grading, Quality , Safety , Information system, Packaging Design , Sector promotion, Training, technical assistance, troubleshooting, R&D, Technology transfer, export promotion, and Many others. The PATC does not limit itself only to services that are not currently offered; it is equipped to provide whatever the industry demands, whether or not these demands are offered by other institutions- in order to establish the pivotal importance it aspires.

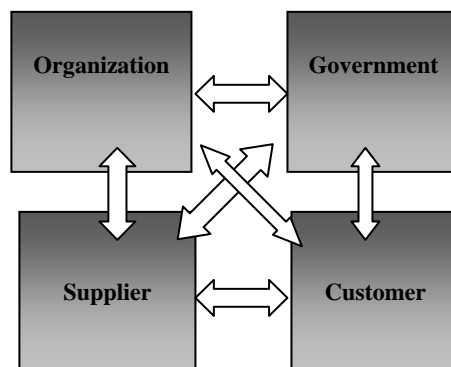
This study has addressed all prerequisite issues related to the technology centre’s own facilities, such as Accreditation Issues Of The Labs, Industry Standards For Compliance Testing, Fully Detailed Equipment And Technical Specifications, Accessories, Spares, Consumables, Operating Costs, Operating Procedures, Budgets, Awareness Activities, and More.

A unique industry-specific rating process may be managed by the Egyptian Packaging Technology Centre

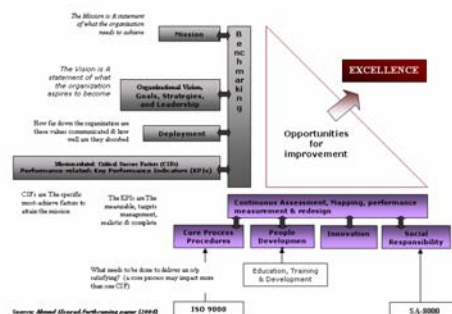
Certification Services



The Arbitration



Achieving excellence within the industry will be a main focus for the Egyptian PATC’s activities. Examples of strategies used in this direction include offering developmental tools and models for adoption, assisting companies to improve, managing an inhouse rating system to introduce excelling companies to new customers and finally offering a wide array of awards.



The Egyptian Packaging Technology Centre may also boost the industry's corporate social responsibilities, through providing an array of codes, standards, guidelines, and frameworks to interested companies, and account for social responsibility in various awards and rating practices.

The structure of this study

The report begins by presenting a general overview, followed by a global Review of International Best Practices in Packaging TCs and an assessment of Local Demand and Needs of the Egyptian Packaging Sector.

Then, the Establishment Plan of the Egyptian Packaging Technology Centre is discussed in detail, covering the identity and mission of the centre, a detailing of the roles and Services of the Egyptian PATC and a description of the supporting functional Organization, Staff Operations and project management.

Addition discussions and recommendations are presented regarding the facility layouts, Service Delivery Procedures and requirements, Income Generation Services, the detailed Mandate and Code of conduct and Practice, Website Navigator Structure, Internal quality control mechanisms, the approach to industry Excellence and rating and finally the recommendations regarding Linkages with BRCs and other TCs.

**Vol. II of this study is:
The business plan of the
first year of operation of
the Egyptian Packaging
Technology Centre.**

It addresses issues such as First Year Objectives, Marketing business plan (Awareness Activities), financial plan (Organization Assessment, Services Assessment, Human Resource Assessment and Overall Economic Assessment), TOR for equipment acquisition and Implementation action plan.

