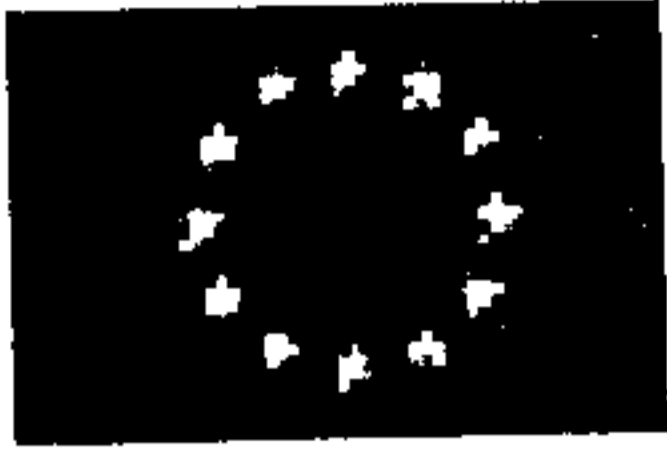
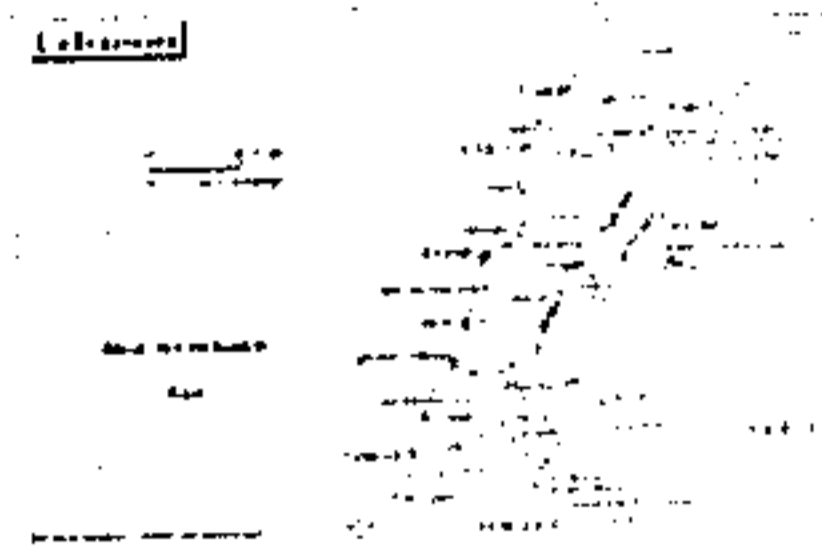


# 15  
الجمهورية اللبنانية  
مركز مشاريع ودراسات القطاع العام  
مكتب وزير الدولة لشؤون التنمية الإدارية



**PROJECT MANAGEMENT UNIT**  
**INDUSTRIAL MODERNISATION PROGRAMME**  
**LEBANON**



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Republic of Lebanon  
Office of the Minister of State for Administrative Reform  
Center for Public Sector Projects and Studies  
(C.P.S.P.S.)

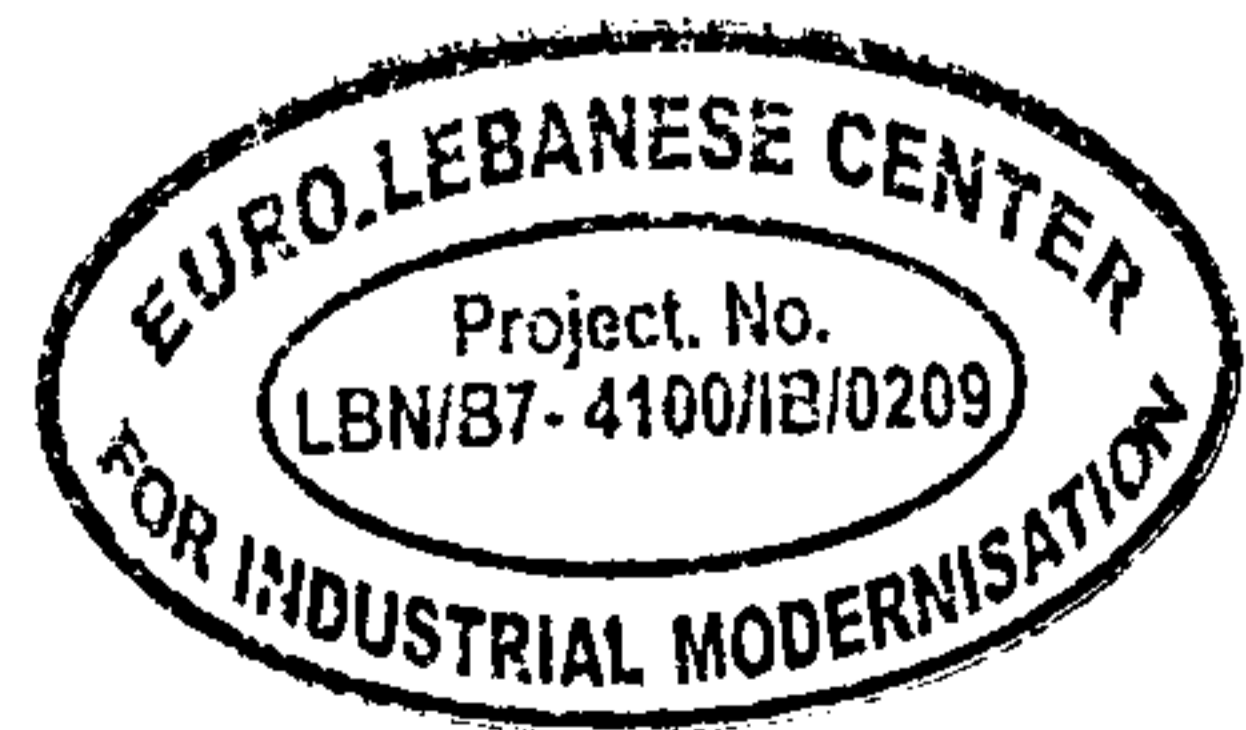
**LEBANESE TRAINING INSTITUTE  
FOR PRINTING/GRAPHIC ARTS INDUSTRIES**

Chef du Service Technique

**Feasibility Study**  
**Michel Dumond**  
**Mandated expert for the**  
**Euro-Lebanese Centre for Industrial Modernisation**

**SAMI ASSY**

**Creation of a Lebanese Technical Training Institute**  
**aimed at offering young people and adults**  
**training possibilities based on the technological needs in the**  
**Printing/Graphic Arts Industries sector**



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## Introduction : Context of the Feasibility Study

This study is part of the IMP Lebanon, a project financed by the European Union whose general purpose is to enhance the global performances of the Lebanese Industry.

The project encompasses numerous industrial sectors among which the printing industry can be considered one of the most attracting.

Within the framework of IMP Lebanon the Consultant will have to deal with key issues such as :

- business upgrading,
- improvement of quality standards,
- development of export schemes,
- technology transfer.

Training is a prerequisite for the achievement of such a project. Indeed the Lebanese printing industry suffers from a lack of both educative and training structures which could enhance local skills thus fostering the sustainable development of the sector.

This very study results from the investigation of the Lebanese printing Industry at both entrepreneurial and institutional levels. Its global objective is to define the most relevant scheme for the improvement of training facilities in the field of printing. In particular, it should assess costs and benefits of the creation of an Institute for Printing Industries.

The study includes the following sub-tasks :

- General market survey including macro-economic data and market structure.
- Identification of the relevant training processes meeting the market needs as well as the participation of the private sector.

This feasibility study for pilot schools or any relevant training structure dedicated to Printing Industries has been implemented in full coordination with sectoral and public institutions.

# 1. Printing/Graphic Arts Industries in Lebanon

## 1.1. Statistic and Economic data concerning the sector

### 1.1.1 Data Sources

Most data regarding the Printing/Graphic Arts industries are coming from industrial survey carried out by:

- the Employers' Federation,
- the GTZ (German Technical Cooperation),
- the Ministry of Industry.

#### • *Employers' Federation (cf. Annex 1)*

The Employers' Federation has made an inventory of the companies working in the Printing/Graphic Arts industries. **Table n°1** shows the companies that are members of the "Association of Lebanese Industrialists" by their Sectorial Unions and the "Chamber of Commerce and Industry".

It must be noted that companies employing between 1-9 employees are rarely members of either the "Association of Lebanese Industrialists" or the "Chamber of Commerce and Industry".

*Table n°1*

**Distribution of the industrial establishments by workforce and membership of :**

#### • *Association of Lebanese Industrialists*

ISIC Code 22	1 – 9 employees			10 – 49 employees			Over 50 employees		
	Yes	No	% of No	Yes	No	% of No	Yes	No	% of No
Printed Matter and Record Media	33	626	95	23	17	42.5	8	2	20

#### • *The Chamber of Commerce and Industry*

ISIC Code 22	1 – 9 Employees					10-49 Employees						Over 50 employees					
	Yes	Beirut	South	Bekaa	North	Yes	No	North	Beirut	Bekaa	South	Yes	No	South	North	Bekaa	Beirut
Printed Matter and Record Media	240	119	0	11	0	45	4	0	33	0	1	10	1	1	0	0	6

- **GTZ Studies (German Technical Cooperation) - 1998**

A 1998 study carried out by GTZ (German Technical Cooperation) on Lebanese industrial activity has identified 9 professional activities :

1. Foods and Beverage
2. Metal Products
3. Non Metallic Products (glass, ceramic, etc.)
4. Furniture and others products
5. Clothing
6. Wood products (except Furniture)
7. Leather and Tanning
8. Manufacture of Textiles
9. Others Branches

In accordance with the ISIC code of industrial classification for Printing/Graphic Arts Industries, "Recorded Media" has been associated with "Printed Matter".

- **Ministry of Industry's survey - 1996**

The Ministry of Industry has also analysed the industrial Lebanese environment in 1996. The results of this study are in accordance with the results obtained from other sources.

### 1.1.2 Main Sector's data

#### 1.1.2.1 Number of companies

The industrial sector is composed of **670 companies involved in the printing process** (source: *Employers' Federation*), which represents approximately 3% of the 22,107 Lebanese firms counted during the survey.

The study carried out by GTZ (German Technical Corporation) allowed a deeper analysis: firms belonging to the 'Printed Matter and Recorded Media' sector are classified in the 'other branches'. There are some 782 firms, which represents 31.2% of the 2.507 companies classified in 'other branches'.(source: *GTZ*).

Parallel to this, the Employers' Federation registers 690 companies, that can be qualified as prescribers, as follows:

- 40 advertising agencies
- 650 publishers

### 1.1.2.2 Market structure

- Staff

- 500 companies of 1 – 5 employees equal to 74.62% of the 670 companies surveyed
- 150 companies of 5 – 25 employees equal to 22.38% of the 670 companies surveyed
- 20 companies of 25 – 100 employees equal to 3% of the 670 companies surveyed

**Table n° 2** shows the number of companies under 'ISIC code 22' in the workforce section and compares them to other industrial activities.

- Turn Over

In terms of turnover, the economic importance of these two activities amounts to approximately \$US 250,000,000, 70 to 80% of which is destined for export (Middle East, Africa, Europe etc.). (**See Table 3**)

- Legal status

Referring to **Table n°4**, companies under the ISIC 22 code are classified according to their judicial status. Most of these are individual companies.

**Table n°4** shows the number of companies by wage bracket and quotes information on the volume of wage earners, salaries, output, input etc. Companies with 5-25 employees are generally equipped with up-to-date technology.

The socio-economic importance of this sector is high. In terms of employment, it represents :

- 700 employees in pre-press
- 2,500 employees in the printing sector

- Geographically

At the end of **Table n°1**, the companies bearing the same code are listed under MOHAFAZAT 1 to 7. The table clearly shows that the main part of the activity is centred around MOHAFAZAT 1 and 2, respectively in Beirut and Mount Lebanon.

### 2.1.2.3 Market Evolution

Firms are classified by date of creation in **Table n°5**. It can be noted that the economic sector is constantly expanding and that the companies are enduring.



Table n°2: Activity and Work force

Isic Code	Economic activity	Work force							Total	
		1-4	5-9	10-19	20-34	35-49	50-99	100-249		Over 250
22	Printed Matter et Recorded Media	551	169	28	17	6	8	3	none	782
All Isic code 1 – 36	Economic activity of range	16,223	4,738	619	220	81	77	47	20	22,025
Total number of firms in sectors 1 to 36										
22	Printed matter et Recorded media	70,5 %	21,6 %	3,6 %	2,2 %	0,8 %	1,0 %	0,4 %	0,0 %	782
22	Printed matter et Recorded media	3,4 %	3,6 %	4,5 %	7,7 %	7,4 %	10,4 %	6,1 %	0 %	3,6 %
Number of code 22 firms										
Beirut (Mohafaza 1)		150	21	8	6	2	3	2	0	192
Mount Liban (Mohafaza 2)		334	121	18	11	4	4	1	0	493
North Lebanon (Mohafaza 3)		33	5	1						40
Bekaa (Mohafaza 5)		17	21	1						38
South Lebanon (Mohafaza 6)		17								19
Nabatiyeh (Mohafaza 17)										0

**Table n°3**

**Ministry of Industry in cooperation with GTZ (German Technical Cooperation)  
Economic Indicators in the Lebanese Printed Matter and Recorded Media by size of establishment  
ISIC Code 22 PRINTED MATTER AND RECORDED MEDIA**

	Number of establishments	Work force (1)	Number of employees (2)	Wages and salaries 000 \$ (3)	Output 000 \$	Input 000 \$	Value added 000 \$	GFCF (*)
Class 1 : 1-4 workers, All Isic code together % of total industries Isic 22	16,223 73.69 % 551	43,747 38.34 % 1,619	20,781 26.43 % 634	159,947 32.48 % 3,278	806,33' 20.40 % 23,934	459,077 20.35 % 11,421	347,256 20.35 % 12,512	88,194 23.62 % 13,810
Class 2 : 5-9 workers, All Isic code together % of total industries Isic 22	4,738 21.52 % 169	30,823 27.01 % 1,112	21,155 26.90 % 711	98,949 20.09 % 3,917	753,192 19.05 % 36,051	449,077 20.00 % 22 7712	304,071 17.82 % 13,339	29,758 7.97 % 1,333
Class 3 : 10-19 workers, All Isic code together % of total industries Isic 22	617 2.80 % 28	8,120 7.12 % 377	6,396 8.13 % 307	29,029 5.90 % 2,036	332,066 8.40 % 21,012	197,127 8.78 % 9,555	134,933 7.91 % 11,457	12,865 3.45 % 11,634
Class 4 : 20-34 workers, All Isic code together % of total industries Isic 22	219 0.99 % 17	5,565 4.88 % 427	4,977 6.33 % 390	24,325 4.94 % 1,795	326,070 8.25 % 20,592	176,405 7.85 % 9,614	149,660 8.77 % 10,978	13,108 3.51 % 2,788
Class 5 : 35-49 workers, All Isic code together % of total industries Isic 22	78 0.35 % 6	3,309 2.90 % 264	3,114 3.96 % 242	16,444 3.34 % 1,066	200,810 5.08 % 11,286	104,628 4.66 % 4,491	96,128 5.64 % 6,795	44,584 11.94 % 1,168
Class 6,7 et 8 : > 50 workers, All Isic code together % of total industries Isic 22	141 0.64 % 11	22,544 19.76 % 1,019	22,221 28.26 % 990	163,725 33.25 % 7,955	1,534,42 38.82 % 41,897	859,758 38.28 % 17,659	674,704 39.53 % 24,238	184,899 49.52 % 5,303
Total All Class	22,016	114,108	78,630	492,420	3,952,910	2,246,101	1,706,809	373,406
Total Isic 22 % of all class	782 3.55 %	8,379 7.35 %	3,247 4.16 %	20,047 4.07 %	154,772 3.91 %	75,452 3.36 %	79,319 4.65 %	26,036 6.97 %

**Legend:**

1. owners, family members and employees excluding seasonal workers
2. permanent workers
3. Wages and salaries excluding social charges. \* gross fixed capital



**Table n° 4 – Activity and legal status**

ISIC Code	Economic activity	1 Individual Company	2 General Partnership	3 Limited Partnership	4 Partnership limited by shares	5 Limited Liability Company SARL	Limited Company SAL	Cooperative	Others	Total
22	Printed matter and Record media	539	96	15	-	117	16	-	-	782

**Table n°5**

ISIC Code	Economic activity	Before 1950	50 - 59	60 - 69	70 - 79	80 - 89	90 - 98	Blank	Total
22	Printed matter and Record media	19	33	85	131	177	336	1	782

## 1.2. Companies' industrial activity

### 1.2.1 Production

From daily papers to packaging including monthlies and weeklies, advertising, communication tools, books (technical, literary, school, and denominational), a wide range of products are produced.

*Products produced based on the size of the printing companies*

Number of employees	1 to 5 employees	5 to 25 employees	25 to 100 employees
<b>Products</b>			
Job Printing	+	+	+
Advertising	+	+	+
Novels		+	+
School Books		+	+
Art Books		+	+
Magazines			+
Dailies			+

### 1.2.2 Flux (import / export)

The sector activities account for slightly more than 33 % of Lebanese export value and only 2,5 % of import flows value.

	Imports (in million US\$)	Export (in million US\$)
General	7691	783
Printing /Graphic arts Industry	190	331
%	2,5 %	33,5 %

Exports are mostly going to Arab countries. Lebanon ensures printing of 50 % of all printed material of the Arab world far ahead of the second producer (Morocco), which counts only for 10 % of the total.

**Printing / Graphic arts trade balance is largely beneficiary.**

	Imports in million USS	Export in million USS	Ratio Imp/Exp
1996	190	331	0.57

According to the Sector Employees' Federation, export figures have been rising steadily since the end of the war. After a period of stagnation at the beginning of year 2000, export has kept on increasing since June 2000.

Moreover, the Lebanese Printers' Union stated that companies with more than 25 employees export a large part of their production. The main products that are to be exported are the following:

- religious books
- Art books
- School books

It should be noticed that the only printing company specialised in protected products is in Beirut (cheques, game cards, specialised documents etc.). This company exports almost all of its products.

### 1.3. Technology and professions

#### 1.3.1 Technology used in the sector

Irrespective of company size, printing equipment is up-to-date in most printing companies in Lebanon.

It is also important to note that the parents of the heads of these companies are pretty much involved in technical and economic life of the printing firms.

Heads of companies are constantly on the lookout for the latest technology and contribute to the progress of production tools in the Lebanese printing trade.

As a result, up-to-date equipment guarantees a high level of quality in the production, for almost all the companies in the sector.

However, due to limited skills in the workforce, most firms have no other solution than fighting on prices, which is the only way to make products' differentiation.

#### 1.3.2 Work force

##### a. Typology

There is actually no classification of professions in the Graphic Industries based on a competence grid in Lebanon.

Hence, it is imperative to assist the Employees' Federation on this point, in developing real "*competence repository system*" suitable to the economic environment of the Graphic Industries in Lebanon.

This classification grid would be based on qualification criteria that contribute to ensure logic and rigor in the definition of profiles of all the positions in the industry (administrative services, sales and technical employees).

As for production activities, it is only possible today to present a few **key jobs**.

One of the objectives of the strategy to be implemented later is to identify precisely the **competence repository system** for the following key jobs:

**Photo-engraver (pre-press)**

- Scanning operator
- Text Image DTP Operator
- Flashing Operator

**Impression:**

- Mounting and imposition operator
- Plate maker
- Assistant pressman (Delivery and Feeder)
- Pressman for 1-colour press
- Pressman for multi-colour printing press

**Finishing:**

- Trimmer operator
- Operator for Manual Finishing
- Folding operator
- Operator for the inserting, assembling and binding line
- Stitcher operator

**Maintenance:**

- Electro-mechanic maintenance specialist

b. Work force characteristics

In year 1996, 10,000 people were employed in the Printing / Graphic arts sector, which represented 7% of the employees in the Lebanese industrial sector. (Source: *Ministry of Industry*)

White-collar employees and specialised technicians are mostly trained abroad while blue-collar employees are only undergoing an on-the-job training.

New equipment is generally delivered without any specific training for workers. Technicians, who are supposed to work with up-to-date equipment in workshops, have generally to "learn on the job", with no specific training.

Moreover, the level of education of the employees in this sector is low:

- inferior to primary school	14%
- primary school	32%
- complementary education	33%
- secondary school	17%
- university	4%

## 2. Study of market's needs in terms of training

### 2.1 Technical education in the Lebanese Education System: a difficult situation

#### 2.1.1 an outdated educational system

- ***Problem: education tracks are not adapted to market's needs***

- Education tracks existing before civil war have collapsed

The first point to notice is that training courses still existing in technical fields are not adapted to professionals' needs in the Printing/Graphic Arts sector.

The majority of the programmes date back to 1970-80. Several attempts have been made by the ministers concerned to bring the syllabus up-to-date but with no success. The main reasons for this were administrative and financial. Companies have a bad impression of the system of education that does not take their needs into account.

Printers have severely criticised the Professional and Technical Diplomas delivered by ETP. Their point of view can be resumed as follows:

Pre-war diplomas (1975) were better adapted to the market work than today's ETP training (from the Ministry of Technical and Professional Education), which has not followed technological changes.

Two training programmes existed for the printing trade that no longer exist today:

- a professional certificate (BP) for offset printers
- an apprenticeship certificate (CAP) Typography.

- Existing education tracks are not adapted to market's needs

Nowadays, 3 tracks are open to people willing to work in the Printing/Graphic Art industry:

- BP (Brevet professionnel) and CAP (Certificat d'Aptitude Professionnel) : 2 to 3 years, including in-company training periods,
- Technical baccalaureate ("BT") : 2 ½ years including 6 months in-company
- Superior Technician – 2 ½ years including 6 months in-company

Training courses proposed by ETP have not followed technical progresses and that is the reason why they do not match up with firms' needs.



The Ministry of Technical and Professional Education (METP) does not maintain institutional relations with the establishments of the sector, which could lead to determine training programmes and their contents. The METP, based on information about the industry given by poorly informed counsellors, often develops training programmes that are not well adapted to the needs of companies.

Students working towards ETP diplomas are trained in specialised domains (mechanics, electricity etc.), which are not directly adapted to the current standards of production.

Some training centres offer training courses in the Graphic Industries following the example of ALBA for graphists. However, none of these organisations train production technicians.

To date, there is no existing structure that could take on young people in order to train them for technical positions in the Graphic Industries.

The Lebanese educational system does not offer any training programme directly linked to production in the Graphic Industries.

- ***Some reasons that may explain this situation are the following :***
  - The judicial framework has to be identified and does not seem to have been created or used for the technical training.
  - To date, it would appear that no text governs apprenticeship through a three-way work contract that would involve the Ministry of Technical and Professional Education, the company and the apprentice.

With no specialised track dedicated to printing and graphic arts, young technicians recruited go from the school system **directly** to the company, without any technical training linked to the Graphic Industries.

### **2.1.2 Education “in situ” is not efficient**

Based on information received from different training administrations, a group of about 15 experts and other specialists in the Graphic Industry suggested that studies should be carried out for a Training Centre specialised in the Graphic Industries.

In fact they finally understood that education « in situ » was not efficient.

As a matter of fact, nowadays in Lebanon, the major part of all technical training in the industry of Printing / Graphic Art is carried out within the company.

This type of training creates some minor advantages and a lot of disadvantages.

- **Advantages :**

- Training is geared towards the working methods used in the company and based on empirical principles.
- Human Resources have to adapt to the tool used very quickly. Employees do not understand the mechanism but assure an average production.
- **Constraints :**
  - Basing itself solely on trainees whose knowledge is not always up-to-date, this type of training system is bound to disappear.
  - Employees, whose training is based on this system, cannot adapt to technological progress and are therefore out of touch with any organisational innovation. The productivity of the machines cannot increase as the employee lacks the knowledge concerning the linearisation of productivity and its quality and quantity, to be able to contribute to its growth. They also have difficulties dealing with basic technical problems.

## 2.2 Firms' needs in the field of skilled workforce

The immediate consequence of the diagnostic that has been given thanks to the elements and figures seen before is the following:

Industry of Printing and Graphic Arts in Lebanon has quite modern and efficient industrial tools, which seems to be fairly well adapted to production and markets' needs.

However, the workforce, particularly workers who have to deal with up-to-date technologies and machines, is not adapted to the industrial tool. There is a flagrant lack of skilled workforce in this sector.

Hence, this situation produces inevitable lacks of productivity and reveals important constraints on the employment market.

### 2.2.1 Needs of the sector

According to the Employers' Federation, the profession would like to recruit up to twenty young trainees in each sector in both **Prepress and Printing**.

The following needs in the sector over a 5 year period has been estimated :

- **initial training** : between 400 to 500 students or an average of 70 students per year
- **in continuing education** : between 600 to 800 people or an average of 140 wage-earners per year

Those functions requiring a superior level of qualification and therefore aiming higher levels of responsibility have purposely been omitted. The immediate needs as far as training is concerned are directly linked to production activities.

Specific seminars for executives could be developed later, according to the market's needs and evolution.

### **2.2.2 Targeted population for new education programs**

A first approach allows an identification of the population which could be concerned by new education programs in the Industry of Printing and Graphic Arts in Lebanon.

- Initial training
- Continuing education.
- ***Profile of potential candidates for the training programmes towards the BP (professional certificate) and the Technical Baccalaureate***

In the first years, young people will generally be recruited from a disadvantaged social level. They will have to come up to the standards required based on the suggested profiles in the section about Training Programmes.

Bearing in mind that the levels will be rarely homogeneous, it will be necessary to implement a differentiated pedagogical system allowing young people to have access to learning despite their weaknesses in some specific domains.

In order to motivate them, the profession will have to impress its image on their families and the new Institute will have to inform them of the teaching methods used to allow the young people, many of whom have left the educational system, to gain confidence in themselves and in their future.

The training programme could allow access to higher educational programmes as it grows. However, after exchanges with superior training organisation a system should be put into place allowing students having passed their technical baccalaureate to continue their studies in another establishment.

In parallel, the programmes offered could be of interest to young people and adult technicians in Syria, Jordan, Palestine, Egypt as well as those of the Arab Peninsula. A study should be carried out later concerning this point.

- ***Professional opportunities***

Aside from the study previously mentioned, no action has actually been taken by the institutions, concerning real professional possibilities before the training.

The professional Federation has verbally agreed to offer jobs through the intermediary of its members in the numbers previously mentioned.

There is no doubt that when new education programmes offer all the guarantees as far as quality of teaching is concerned, the graduate students will be recognised by the profession.

In addition, the students and the companies will then be able to foresee projects for continuing education in order to maintain and increase their knowledge.

### FIRST CONCLUSION

To conclude, it is necessary to ensure solid training for the two groups identified:

- young people wishing to work in this profession,
- working technicians

Based on these needs, a plan of action, sanctioned by the managing directors and through their Federation, must be developed aiming at the **creation of a training centre** which will ensure diploma-based training programmes for the 2 aforementioned populations.

### 3. Perspectives of innovation in the field of Technical education in the Lebanese Education System

#### 3.1 The Employers Federation's point of view:

The Employers' Federation is a major actor in the field of Printing and Graphic Art in Lebanon and most firms involved in this sector formulate their needs through its responsible.

The Employers' Federation has begun to meet with the Lebanese training institutions to discuss, amongst other points, the updating of training courses

For several years now, the Employers' Federation has been contemplating the creation of a training institute specialised in the Graphic Industries in Lebanon.

Up to now, no project has ever been initiated; however, there are a few solutions that could be adopted.

The choice made by the Federation for one rather than another proposition will be based on the following priorities:

- To guarantee the success of the project,
- To initially guarantee the institute a national vocation,
- To guarantee the running of the programme in coherent technical and pedagogical conditions,
- To guarantee that the Federation maintains a role in the supervision as well as in the strategic decisions of the teaching establishment,
- To guarantee its involvement in the elaboration of programmes,
- To guarantee the satisfaction of the needs of Photo-engravers and Printers in initial training as well as in continuing education,
- To guarantee, during a transitional phase, the needs of traditional and modern training.

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## 3.2 Key success factors and constraints for the project

As for any project, a few "Key Success Factors" are required, to make sure that the project could succeed. One of the objectives of this reconnaissance mission was to check those different factors.

### 3.2.1 Key success factors

The key success factors required for the creation of a new education track in the field of Printing and Graphic Arts are:

⊇ - A real need and demand for local firms

This point was checked during the analysis of the context.

∄ - Other academic local partners

This element will be very important, especially because first studies show that employees currently involved in the sector need to get a more complete education (with general subjects). Such subjects could be delivered through a partnership with other institutions.

⊂ - A group of firms linked to the project

⊆ - Financial balance in the short run or in the medium term

∈ - Public authorities support and official recognition for diplomas

∄ - Efficient communication and promotion

Today, the profession suffers from a deep lack of recognition. Communication and promotion will be very important factors of success in the new programmes' market entry.

### 3.2.2 Constraints for the project

⊇ - Environment (place, technical equipment etc.)

One must not forget that this sector needs huge investments in capital. Hence, partnerships with firms will be strongly required to help the development of new programmes.

∄ - Competition

There is currently no competitor in the field of education dedicated to Printing and Graphic Arts. A new School would, therefore, not be considered as a threat to others.

⊂ - Financial side

The financial support the project will need during the next few years should not be under estimated. The viability of the project will be at this price. The different possibilities presented here after take these key factor success and constraints in account.

### 3.3 Different possibilities to launch new educational programmes

The very first elements that were examined in Lebanon may lead to the implementation of new educational programmes according to **6 different orientations**, whose advantages and constraints will be shown here:

1. Collaboration between the Federation and Professional Training Centers managed by the Ministry of Employment
2. Collaboration with a private technical institute of the United Nations type
3. Protocol of collaboration with the Ministry of Technical and Professional Education
4. Semi-private institute formed by the Federation/MEPT
5. Private university for Printing/Graphic Arts
6. In-company Training

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#### *1 –COOPERATION BETWEEN THE FEDERATION AND PROFESSIONAL TRAINING CENTERS MANAGED BY THE MINISTRY OF EMPLOYMENT*

The Ministry of employment has created in Dekwaneh a professional training center in the 60's. This Center stopped its activity during the war and has now reopened; its main activity consists in training courses for adults, especially in industrial sectors, for manual workers and mechanical engineering.

Training sessions are free of charge; professionals provide the counterpart through equipment. A training certificate is then delivered, but seems to have no great value.

This center has no specific training courses for Printing and Graphic Arts activities and most managers blame it for its lack of dynamism.

#### *Advantages:*

- Free of charge but limited to courses aimed at a certain category of workers
- Recognition of courses : official certificate but of little value to the trainees
- Contribution by the Employees' Federation in terms of investment and the elaboration of programmes.

*Disadvantages:*

- No experience in alternating training

*Remarks:*

This system neither answers the needs of the profession nor does it attract young people; a state diploma does not certify the training courses available.

*2 – COLLABORATION WITH A PRIVATE INSTITUTE OF THE UNITED NATIONS TYPE*

One of the non-governmental organisations settled in Lebanon is deeply involved in professional and technical training. Its Institute offers a great choice of short or longer sessions. A specific track for Graphic industries could be easily added to this offer.

The Institute has already built workshops and professional premises. Thanks to its own resources, the Institute pays a part of the training' costs and participants' contribution does not exceed 20%. Moreover, there are accommodation facilities, which may be very useful for people coming from far away.

As it is situated in the center of Beirut, it would be of easy access for a majority of potential participants (see Table 1). This Institute has also a very good reputation in training management.

However, Printing and Graphic Arts Industries are very specific and their integration on other courses will not be very easy.

*Advantages:*

- Offers experience in initial as well as continuing education
- Experienced human resources in the management of students as well as in pedagogical terms
- Subsidised training

*Disadvantages:*

- Contributions necessary for the acquisition of materiel and equipment.
- In-company training
- No experience in co-operative vocational training

*3 - PROTOCOL FOR THE COOPERATION WITH THE MINISTRY OF PROFESSIONAL AND TECHNICAL EDUCATION*

Training courses offered by the Ministry of professional and Technical Education (MEPT) are quite far away from Graphic Industry' needs. Moreover, there is a cruel lack of reactivity, which would make it very difficult to create specific courses adapted to Prepresse, printing etc.

Continuing education courses would be even more difficult to implement and managers are unwilling to try this solution.

*Advantages:*

- *Certification of studies with a diploma considered to be prestigious by the students*
- More accessible premises
- The Federation is not responsible for the management
- The role of the Federation in the setting up of programmes as well as the choice of courses can be maintained

*Disadvantages:*

- Slowness in decision-making
- Risk of being blocked for administrative or financial reasons, for instance
- Lack of experience of the Ministry of Professional and Technical Education in Graphic Industry training
- Risk of losing the pertinence of Graphic Industry training in other technical training programmes
- Little experience in continuing education

*4 – SEMI-PRIVATE INSTITUTE FORMED BY THE FEDERATION AND THE MEPT*

In this scenario, the Federation would be very active in the creation of the project. It will have all the guarantees to be sure that proposed sessions will be adapted to companies' needs and it will be strongly supported by most firms of the sector.

*Advantages:*

- *Certification of studies with a diploma considered to be prestigious by the students*
- The Federation would be responsible for finding a site for the institute
- Flexibility and reactivity of the management
- Increased role of the Federation in the management of the institute
- Fast decision-making
- Specialised technical teaching staff
- Technological overseeing ensured by the teaching staff
- Adapted continuing education based on the immediate needs of companies
- Contract has already been signed by the Federation and the Ministry of Professional and Technical Education ( see document in the Annex)

*Disadvantages:*

- Financing to be found

*5 – PRIVATE UNIVERSITY OF PRINTING/GRAPHIC ARTS INDUSTRY*

This imposing project consists in building a private university dedicated to Printing / Graphic Arts industry. The concept is attractive, but it does not seem to be adapted to managers' needs: the greater part of them wants to recruit well-trained technicians, who can adapt to any position or new equipment.

*Advantages:*

- Large premises available. The site is not close to the centre of the city and is in a very poor state (see file in annex)

- Difficulties in start-up
- Increased involvement of the Federation in the management of the institute
- Specialised technical teaching staff
- Technological overseeing ensured by the teaching staff
- Adapted continuing education based on the immediate needs of companies

*Disadvantages:*

- High level of financing to be found

*Remarks:*

*This solution has been excluded, as the difficulties appear to be too great with regards to the short and long term needs of the profession.*

**6 – IN-COMPANY TRAINING:**

In-company training is already pretty much used nowadays in Lebanon. As a matter of fact, due to the lack of adapted training courses, it's the only way for many firms, to have people working with their equipment.

However, this kind of training, even if it has proved its efficiency, should be kept for already skilled workers. Knowledge and competencies are strongly linked to the equipment; they do not allow any further evolution in the frame of a real professional culture.

### **3.4 Conclusion**

*Only alternatives 2 and 4 have been retained.*

#### **3.4.1 Project 2**

Alternative 2 presents an interest inasmuch as the suggested structure is based on actual experience in technical training.

The major risk is that certain aspects of the technical training might be lost in the common-core syllabus, not applicable to the specificity of the Graphic Industries.

#### **3.4.2 Project 4**

Alternative 4 is the most adaptable and reactive. It has the advantage of offering trainees in the training programmes courses that are adapted to the profession that are sanctioned by state diplomas.

However, the necessary funds must be found in order to retain this solution.

The World Bank has foreseen a loan for the creation of an institute in the private sector (LOAN LEB/4298/LE). The project will take into account the outputs of this program.

Other sources of financing by the European community would be considered.





### 3.5 Recommended approach

**Alternative 4 is the most adaptable and reactive** and the following chapter will consider the elaboration of a Center for Technical Education according to its data.

Therefore, according to the conclusions, the designing of new educational programmes in the field of Printing and Graphic Arts in Lebanon should meet the following requirements:

- A) Search for a partner interested by the project
- B) Selection through an exploratory mission of professionals or vocational trainers specialised in this field and actively involved in the creation of the Institute
- C) Implement a 3-month program in France for the training of the teaching staff followed by a 2-month in-company-training programme.
- D) - Assist the operator in fitting out and equipping the Institute.  
- Assist in designing a standard jobs.
- E) Implement the training programmes on the basis of 40 hours of courses per week
  - *a teacher of French nationality would come for a 2-week period to teach in the programme,*
  - *5 missions of 5 French technical teachers have been foreseen (5 times 2 weeks equals 5 times 80 hours of courses).*
  - *Lebanese teachers will teach general subject courses.*

A study on the regional market (Syria, Jordan, Egypt) so as to enlarge the targeting of the trainees at the Institute and to have much more information about the competition in this domain, could be launched later.

Chronology	1st Step	2nd Step	3rd Step	4th Step	5th Step	6th Step
Definition of Actions	Search for Institutional of private sponsors	Study of the regional market	Exploratory Mission	Training of Teachers in France	Support mission for the creation of the Institute	Implementation of the Training programmes
Contents	<p>Definition of the project</p> <p>Creation of a presentation file</p> <p>Identification of potential financial partners</p> <p>Presentation of the project to each of the potential financial backers identified</p>	<p>Broadening of the potential clientele and evaluation of their needs and expectations</p> <p>Study of the competition.</p> <p>Identification of the service providers in the graphic industry</p>	<p>Definition of recruitment criteria</p> <p>Publication of advertisements and candidate applications</p> <p>Selection of Lebanese and other professors</p>	<p>Elaboration of training programs</p> <p>Study and follow-up of in-company training programs</p> <p>Evaluation of the knowledge of the professors</p>	<p>Fitting out and equipping of the chosen locale</p> <p>Repository of courses and definition of programmes for initial and continuing education</p> <p>Choice of a director</p>	<p>Constitution of the pedagogical team</p> <p>Follow-up and evaluation of the course</p> <p>Constitution of Franco-Lebanese teaching partners</p> <p>Structural support during the first year</p>
Length of Time	1 month	<p>2 missions of 10 days each</p> <p>1st mission in Syria and Jordan</p> <p>2<sup>nd</sup> mission in Egypt</p>	1 month including 10 days on site	<p>- Length of the training period: 3 months</p> <p>- Length of the professional training course : 2 months in-company with the support of local professional organisations</p>	5 support missions in Lebanon of one week each	<p>Initial training : 2 school-year cycle</p> <p>Posting of 5 French teachers</p>

See financial table in annex

الجمهورية اللبنانية العربية  
 مكتبة وزير الدولة لشؤون الخارجية الإدارية  
 مركز دراسات وأبحاث الشرق الأوسط

## **4. Creation of a Lebanese Technical Training Institute**

### **4.1. Creation of a Technical Training Institute dedicated to Printing/Graphic Arts**

**Important:**

**An expert should accompany this creation for a period which remains to be determined. His mission will consist in launching the Institute and ensuring its continuity.**

#### **4.1.1 Geographical environment**

The Institute should be located in the centre of Beirut in order to facilitate access for the students and trainees in professional training and to ensure attendance.

Public transport is rather cheap. However, its irregularity in Beirut and its suburbs as well as its unpredictable schedules could well hamper the students and might result in tardiness or absenteeism.

Apprenticeship is constraining and tiring for young people. It is therefore necessary to locate the Institute in a place that is central and accessible.

A central and accessible location would also lead to greater esteem and support by professionals concerning the life of the Centre.

As for the project of creating a Training Institute, the Employees' Union considers that only companies with 25 employees or more can initially consider recruiting a young trainee under an apprenticeship contract.

#### **4.1.2. Executive Committee**

The Lebanese National Institute for Printing/Graphic Arts should answer the needs of the Lebanese industry in the sector. The Executive Committee should essentially be made up of professionals from the Lebanese Printing/Graphic Arts Union and teachers involved in technical activities that adhere to the global training policy of the Employers' Syndicate.

Representation of the ministry concerned will be necessary for the validation of the programmes which will be subject to state exams.

#### **4.1.3. Executive Committee's activity:**

Professionals on the Executive Committee will oversee the contents of the training programmes and their evolution. They will manage the training policy of the establishment by adapting it to the requirements of the labour market. They must also keep watch over the technical and financial management of the institute.

**Teaching specialists and professionals on the Executive Committee will validate the content of the proposed training programmes bearing in mind the needs expressed by companies.**

The committee will determine the training policy of the establishment by adapting it to the perspectives of the labour market and by assuring the supervision of the financial and technical management of the Institute.

The director of the Institute should come from the technical teaching profession with experience in the management of a training centre. His relational qualities and his knowledge of the Printing/Graphic Arts Industries will endow him with the recognised authority needed to take on the position.

He will have to have industrial experience from a leadership position and will manage the Institute, in which there will be an administrative and a teaching department. The Director will be responsible for ensuring relations with the professionals and the Lebanese administration and will have to put into place the means to accommodate the students and the continuing education trainees. He will communicate with the public, the institutions and the Lebanese and foreign professionals to promote the Institute. At the beginning, he will be supervised by a French expert, who will work in close collaboration with the professional Federation.

#### **4.1.4. Faculty:**

The Teaching corps will be composed of:

- Teachers of general subjects such as literary Arabic, French, English, history, geography, mathematics applied physical science specific to the Graphic Industries, civics, economy etc.
- technical teachers will teach prepress technology, finishing, raw materials, maintenance, hygiene and security.
- General subject teachers could be recruited from Lebanese teaching establishments.

Technical teachers graduated from higher education should be recruited from industry and trained by experienced technical teachers in France and on the production site.

#### **Important:**

**In the first years, confirmed technical teachers will have to be used to co-animate technical courses with the local teaching body.**



**The language spoken, as specified at the beginning of the report, will be Arabic.**

In order to contribute to the knowledge of a foreign language, foreign teachers could teach in another language such as French or English, which are languages spoken by part of the population. In order to ensure correct transmission, it will be necessary to associate the abilities of an Arabic translator. The rhythm and the contents of the courses will have to be adapted.

Knowledge of a foreign language through teaching will favour the integration of young people in Lebanese cultural and economic spheres.

## **4.2. Education Programmes:**

The training institute should ensure training programmes based on 2 axis:

- **Initial apprenticeship training sanctioned by a diploma**

This programme will be sanctioned either by a Professional Certificate (*Brevet Professionnel = BP*) or by a Lebanese Technical Baccalaureate (*Baccalauréat Technique Libanais*).

Cf. Table n° 6 (annex 5): Initial training repartition

- **Continuing education for working adults.**

### **4.2.1. Initial apprenticeship training sanctioned by a diploma**

- **Organisation**

- Apprenticeship in alternating

To be efficient, professional training of young people can only be based on alternating training through apprenticeship or a similar adapted system.

This type of training offers the enormous advantage to young people of having a professional activity from the beginning of their course and to reinforce theoretical knowledge with the requirements of professionals in companies.

It also ensures companies of having efficient technicians who have developed a strong capacity of adaptability to developing technology.

- Two levels of qualification

- **The Professional Certificate (BP) programme**, lasting 2 years should be favoured at the opening of the school knowing that students can then continue on to a Technical Baccalaureate (BT).

The level of recruitment should be a minimum of Grade 10 (3<sup>ième</sup> in the French system).

- **As for the start-up of the BT programme (Baccalauréat Technique)**, careful thought will have to be given to the necessary profiles (partial recruitment can be taken from young people from non-technical backgrounds requiring up dating).

- **Quantitative needs**

Based on elements made available by the Professional Union, 40 young people will have to be trained in apprenticeship in both the prepress and printing sectors.

The domains that are concerned are:

- Prepresse,
- Printing.

- **Calendar :**

September 2002: opening of the Institute with the first BP class.

September 2004: opening of the second class of the same level.

June 2005: graduation of the first BP class.

September 2004: opening of the first class of BT students and the third class of BP students.

In order to correctly foresee the start of classes in September 2003, recruitment will have to start in May 2003.

#### **4.2.1.1. Track "Professional Certificate (BP) Programme for Prepress and Printing**

*Graduate profiles:*

Young graduates will be able to adapt to the work tool and complete a task methodically based on precise instructions.

*Prerequisites.*

End of 3<sup>ième</sup> (end of Grade 10) .

Between 16 and 20 years old.

Be meticulous.

Enjoy work and be in good physical condition

Have correct colour vision

**Programmes developed in this first track could be the following:**

- **Professional Certificate (BP) - Prepresse Programme**

- **Professional Certificate (BP) - Printing Programme**

← - **Professional Certificate (BP) - Prepresse Programme**

- Objectives

To acquire the necessary knowledge either to be able to perform certain jobs in prepress (data input operator; CAP computer assisted publishing operator; colour proof operator) or to continue studying towards a Technical Baccalaureate (BT) specialised in Prepress.

- Organisation of studies :

- Length of time: 2 years.
- Statute : alternating 2 week/2 week apprenticeship contract (a statute has to be foreseen) of 18 to 20 weeks per school year
- Place of training : Beirut
- Number of students: 12.

↑ - **Professional Certificate (BP) - Printing Programme:**

- Objectives

To acquire the necessary knowledge either to allow access to certain jobs in the printing trade (assistant pressman or eventually an offset pressman) or to continue studying towards a Technical Baccalaureate (BT) specialised in Printing.

- Organisation of studies :

- Length of time: 2 years.
- Statute : alternating 2 week/2 week apprenticeship contract (a statute has to be foreseen) of 18 to 20 weeks per school year
- Place of training : Beirut
- Number of students: 12.

**4.2.1.2. Technical baccalaureate (BT) specialised in Prepress, Printing and finishing**

*Graduate profiles:*

Graduates will be able to guarantee production based on precise instructions, take decisions concerning work methods best adapted to the task at hand and to ensure first-level maintenance.

*Prerequisites*

- Have a Professional Certificate (BP).
- Be between 18 and 25 years old

- Be able to analyse and synthesise and enjoy having responsibilities
- Have correct colour vision

With the possibility of integrating the BT for graduates of other training programmes with the possibility of up-dating knowledge

**Programmes developed in this second track could be the following:**

- **Technical Baccaulaureate Prepress Programme**
- **Technical Baccaulaureate Printing Programme-Finishing**

#### ← - **Technical Baccaulaureate Programme - Prepress :**

##### - Objectives:

To prepare the candidate for highly qualified functions in the graphic communication trade –printing, CAP and multimedia, publishing, advertising agency etc.) for example multi-colour scanner, CAP expert

##### - Organisation of studies:

- Length of time : 2 years in apprenticeship after the BP
- Statute : alternating 2 week/2 week apprenticeship contract (a statute has to be foreseen) of 18 to 20 weeks per school year
- Place of training : Beirut
- Number of students: 12.

#### ↑ - **Technical Baccaulaureate Printing Programme-Finishing:**

##### - Objectives:

To prepare the candidate to take on qualified function on the printing plant. For example complex offset pressman, sheet to sheet or web printing.

##### - Organisation of studies:

- Length of time : 2 years in apprenticeship after the BP
- Statute : alternating 2 week/2 week apprenticeship contract (see page 26) of 18 to 20 weeks per school year
- Place of training : Beirut
- Number of students: 12.

#### **4.2.2. Continuing education**

The lack of precise information makes it difficult to evaluate the needs precisely.

It is however, reasonable to think that most of the directly productive staff needs to follow training programmes adapted to their level of knowledge, **which is a potential 3000 employees.**

Considering that companies cannot or do not wish to release their employees at first, the Institute should, from the beginning, be given the wherewithal to train 150 to 200 operators in the three production areas.

### **Important:**

If the Institute cannot answer the needs of image-setters and printers on the short term, they will have to send their trainers on-site for continuing education

**The different options that it would be possible to offer, in order to answer most Professionals' needs are:**

- *Training in Management Production*
- *Seminars about desktop publishing programme*
- *Seminars about Printing training programme*
- *Seminars dealing with Finishing training programme*

#### **4.2.2.1. Training in Management Production**

- Details of implementation
- Time period : 35 days, 245 hours
- Max people : 8 people
- Training centre : Beirut, a centre will be confirmed
- Times : 8h30 to 17h30
- Planning sessions : to be confirmed
- Used material : PC video projector;
- Cost participants : to define

#### **Participants**

All people who would like integrate a production team or have functions in graphic industries domain that aimed the preparation and the management of client order.

#### **Requirements**

This career path require a first experience in the graphic industry sector, a good knowledge in graphic industry process and having control of one or more printing production steps.

#### **Selective entry**

A selective entry interview will be required



## **Objectives**

Knowledge of the graphic industry process, the prepress structures, the process and material in printing and finishing, the quality control, the raw materials, the economic strategies in the printing industry.

## **Training Objectives**

To learn how to do a preliminary estimate, to complete a production file, to make a planning, to launch and manage the order, to control the conformity of the product.

### **4.2.2.2. Desktop publishing seminary**

- Details of implementation
- Time period : 50 days, 300 hours
- Max people : 8 people
- Training centre : Beirut, a centre will be confirmed
- Times : 8h30 to 17h30
- Planning sessions : to confirm
- Used material : 8 Macintosh G4 ; a flat-bed scanner, one engraving CD player, one floppy disk, one video projector
- Cost participants : to define

## **Participants**

This session is for all graphic industry professional, designer...

## **Requirements**

Have an experience in this domain and have the basic notion of desktop publishing

## **Selective entry**

A selective entry interview will be required

## **Objectives**

Learn how to use graphic software in a production environment

## **Training Objectives**

- Make a simple illustration
- Make a outlining
- Make image stripping
- Make a layout
- Manage files following their destination

### **4.2.2.3. Printing Seminary**

- Details of implementation
- Time period : 20 days, 160 hours
- Max people : 5 people
- Training centre : Beirut, a centre will be confirmed
- Times : 8h30 to 17h30

- Planning sessions : to confirm
- Used material : Press, metrology material, implementation in the firm
- Cost participants : to define

### **Participants**

Assistant pressman, pressman who want develop their skills.

### **Requirements**

Have an experience in Offset press

### **Selective entry**

A selective entry interview will be required

### **Objectives**

Have the technical knowledge and practice required to conduct an offset press and quality control.

#### **4.2.2.4. Finishing Seminary**

- Details of implementation
- Time period : 50 days, 300 hours
- Max people : 5 people
- Training centre : Beirut, a centre will be confirmed
- Times : 8h30 to 17h30
- Planning sessions : to confirm
- Used material : Educational documentation of Gobelins CCIP
- Cost participants : to define

### **Participants**

This session is for all graphic industry professional working in finishing sector

### **Requirements**

Have a basic experience in this domain

### **Selective entry**

A selective entry interview will be required

### **Objectives**

Learn finishing techniques: folding...

## Conclusion

During this exploratory mission, Lebanese Institutions have shown a deep interest in the creation of a relevant structure for training in the field of Printing.

The present feasibility study has investigated various solutions, paving the way for the creation of such a structure. Costs and benefits of each solution are described in chapter five, taking into account key factors such as quantitative and qualitative needs, targeted population concerned by skills development etc. The most relevant solution has been defined accordingly, thus offering some flexibility and involving various partners, professional as well as institutional. In particular, the role of the following actors should be stressed :

- The Ministry of Technical Education which promotes the validation of training by recognised diplomas will contribute actively to the management of the training centre. Within the framework of the project, representatives of the Ministry will back up the teaching staff by supporting the development and updating of training programmes.
- The Syndicate's members involved in the project are aware of the gaps and inadequacies of the existing system and are convinced that appropriate skills must be developed in order to face the know-how and the technological evolutions. Hence they will support the creation and the operating of the Institute which will become more attractive to professionals and young people interested by printing activities.

The collaboration between local partners and specialised experts will help set the general framework of training structures in the field of printing industries.

The implementation of general guidelines of the education project described in this report should enhance the development and the performances of Lebanese Printing Sector which can be considered one of the most active in the Lebanese economy.

# ANNEXES

## **Annexes' List**

### **Annex 1 : Professional Syndicat details**

### **Annex 2 : Certificate Part-time Training**

- Annex 2.1 : Assignments and organisation of the professional school certificate
- Annex 2.2 : Assignments and organisation of the printing professional school certificate
- Annex 2.3 : Assignments and organization of the prepress technical high school diploma
- Annex 2.4 : Assignments and organization of the printing and finishing technical high school diploma

### **Annex 3: Vocational Training**

- Annex 3.1 : Assignments and organization of the production management training
- Annex 3.2 : Assignments and organization of the desktop publishing, Quality colour control operator), training
- Annex 3.3 : Assignments and organization of the printing training
- Annex 3.4 : Assignments and organization of the finishing process training

### **Annex 4 : Basic Materials Needs List**

### **Annex 5 : Initial Training Repartition**



## Annex 1

**LEBANESE GRAPHIC ART SYNDICATE**  
Founded in Beirut on 23 September 1947

President : Joseph Sader  
Vice-President : Misbah Ghandour

Address  
SIN EL FIL – BEIRUT HALL AREA  
WADI HAMMON STREET  
FARID TOUMMA Bldg. 3rd floor

Telephone : 01/51.11.77  
                  01/51.11.78  
Fax :            01/51.01.77

## Annex 2

### Initial apprenticeship training sanctioned by a diploma

#### Annex 2.1 : Professional Certificate (BP) - Prepresse Programme:

##### **Objectives:**

To acquire the necessary knowledge either to be able to perform certain jobs in prepress (data input operator; CAP 5 computer assisted publishing) operator; colour proof operator) or to continue studying towards a Technical Baccalaureate (BT) specialised in Prepress.

##### **Technical training:**

Study of the printing process, analysis, document preparation, data input, text and image enrichment, elements making up a computer page (CAP) :

- Reproduction technology (black and white), retouching, mounting/incorporation, machine proofs
- Imposition
- Equipment technology

##### **General Subject Teaching:**

The general subjects taught are necessary to help the students understand and apply up-to-date theories needed to implement production procedures of printed

products. They will help students develop abilities when dealing with abstract concepts and will ensure a necessary level of general knowledge.

- Mathématiques et physical sciences : optics, chemistry, physics
- Information technology
- French
- English
- Art
- Social and professional life
- history - geography

### **Organisation of studies**

Length of time : 2 years.

Statute : alternating 2 week/2 week apprenticeship contract (a statute has to be foreseen) of 18 to 20 weeks per school year

Place of training : Beirut

Number of students : 12.

### **Teaching Methods**

- Applied work on specialised equipment
- Active pedagogy encouraging the development of autonomy in the apprentice

## **Annex 2.2: Assignments and organisation of the printing professional school certificate**

### **Objectives:**

To have the required knowledge to access to some printing jobs (assistant operator or time to time printing machine operator) or to continue toward the printing technical high school diploma

### **Technical education:**

Graphic industry process studies

Functioning and testing of printing machine

Quality control system

Printing process : traditional, digital press...

Finishing process

Raw materials (paper, ink...)

Equipment technology an maintenance

### **General education:**

Mathematics and physics domains: optics, chemistry, physics

Computer science

French

English

Art studies

Social and professional life

History – geography

### **Organisation of studies**

Time period : 2 years

Statute : Part-time training 15J/15J (18 to 20 weeks in school per years)

Training centre : Beirut

Number of student : 12

### **Teaching methods**

Workshop on dedicate equipments

Educational activities allowing to develop the students self-sufficiency.

## **Annex 2.3: Assignments and organization of the prepress technical high school diploma**

### **Objectives:**

To prepare to high qualified job in the graphic communication sector, (printing, prepress and multimedia, publishing house, advertising agency), for example polychrome scan operator or publishing desktop high qualified operator.

### **Technical education:**

Printing products process

Equipments technology

Analysis, preparation of work, quality control

Printing process cost

Production planning and optimisation

Typographic enrichment layout, image colour selections on a scanner, documents stripping on desktop publishing process

Film and printable forms

### **General education:**

Mathematics and physics domains: optics, chemistry, physics

Computer science

French

English

Art studies

Social and professional life

History – geography

### **Organisation of studies**

Time period : 2 years after the professional school certificate

Statute : Part-time training 15J/15J (18 to 20 weeks in school per years)

Training centre : Beirut

Number of student : 12

### **Teaching methods**

Workshop on dedicate equipments

Educational activities allowing to develop the students self-sufficiency.

## **Annex 2.4: Assignments and organization of the printing and finishing technical high school diploma**

### **Objectives:**

To prepare to high qualified job in printing sector, for example non-basic offset press operator, rotary printing press...

### **Technical education:**

Printing products process  
Equipments technology  
Analysis, preparation of work  
Printing process cost  
Production planning and optimisation  
Printing on 1,2 or 4color printing process  
Finishing process  
Quality control  
Equipment maintenance

### **General education:**

Mathematics and physics domains: optics, chemistry, physics, electricity  
Computer science  
French  
English  
Art studies  
Social and professional life  
History – geography

### **Organisation of studies**

Time period : 2 years after the professional school certificate  
Statute : Part-time training 15J/15J (18 to 20 weeks in school per years)  
Training center : Beirut  
Number of student : 12

### **Teaching methods**

Workshop on dedicate equipments  
Educational activities allowing to develop the students self-sufficiency

Annex 3  
Continuing Education

**Annex 3.1 : Printing Management programme**

Professional context

**Printed matter techniques:**

- Conventional and digital prepress
- Text processing : Typography, copy preparation, proof reading
- Image handling : Image preparation, scanning, image-text merging, proof and computer to film
- Techniques reminder on printing production
- Conventional and digital mounting
- Plate making
- Printing : Offset, gravure, screen printing, flexography printing, digital printing
- Bookbinding

**Printed matter studying:**

- Printed matter analysis
- Feasibility study
- Production scheduling
- Production ledger and production starting up
- Schedule : scheduling and co-ordination of the skilled labour, method, equipment and raw material.
- Raw material control quality and printing matter control throughout the production.
- Parity check between order and product.

**Printing management and production control:**

- Accounting and cost accounting.
- Selection and estimating of profit centres.
- Production standards times.
- Constitution and up date files.
- Order cost estimating.
- Raw material buying – Subcontracting.
- Product real cost calculating.
- Real cost price versus estimating cost of the same product.



## **Annex 3.2: desktop publishing programme**

### **Unit 1 : 10 days – Illustrator training**

-Basic notion

Introduction to illustrator interface

- Calques
- Drawing
- Colouring
- Transparency
- Text
- Picture element
- Document preparation for printing process

### **Unit 2 : 10 days – Photoshop training**

- Theoretical notion on digital image and chromatology
- Software ergonomics and parameter
- Image import
- Image reproduction
- Black and white dot gradation. Sharpness.
- Global and local colour separation
- Image cleaning
- Image treatment
- Photomontage
- Export

### **Unit 3 : 10 days – Xpress training**

- Graphic Chain
- Blocks
- Text and image
- Colours
- Pages management

### **Unit 4 : 3 days - Mac Platform studying**

Work platform:

- Central processing unit
- USB, Firewall, SCSI
- Memories

*Processing:*

- Hard disc managing
- Processing restoration
- Finder use
- MAC OS assistance
- Back up
- Processing repair

*Hard disc maintenance:*

- Formatting

- Different formats
- Defragmentation

*Network:*

- Repairing. File sharing. Internet
- Back up

**Unit 5 : 11 days – Graphic project:**

- E g : News paper with condition book and so on

**Unit : 6 – 5 days PAO files optimization:**

- File preparation for different printing process
- Multimedia
- Mac file for PC use
- Acrobat and PDF format
- Poscript recording

**Annex 3.3: Printing training programme:**

Offset process reminding

**Offset press:**

- Offset press studying
- Orders, paper web lead
- Inking fountain and offset dampering
- Offset plate
- Manufacturing
- Copying process and control
- The different drums
- Mechanic relationship

**Offset blanket:**

- Composition, type of blanket and features
- Blanket thickness gange
- Effect due to the blanket

**Offset dampering:**

- features
- Paper :
- paper effect

**Inks:**

- Ink composition
- Ink drying
- Hue search
- Effect from inks

- Cause and effect between ink and paper

### **Offset press practise:**

#### *Standardization*

- Light filterer, colour separation, proof, copying, densitometry
- Security instruction
- Press adjustment

#### *Alcolor system*

- Clamping of the plate and punching

#### *Multi colorpress practice*

- Paper web lead, front, feed and side guides
- Transferability, delivery unit
- Inking fountain and offset dampering management
- Clamping, registration, control disk, printing run

#### *Printing*

- Ink sequential control, inking, solid ink density control, ink film strength density scale

### **Process engraving**

- Light characteristic
- Colour separation filter

### **Offset plate**

- Copying
- Plate exposure
- Density control
- Density scale
- Trapping
- Grey balance
- Control strips
- Studying of the different control strips quality
- Control strip and printing
- Control quality
- Paper and its features

### **Inks and its features**

- Laboratory test

### **Damping solution**

Chemical used to damper the plate and doing so, prevent non-printing are from accepting ink

## **Annex 3.4: Finishing training program**

### **Finishing field survey**

Different finishing product

- Serving, soft binding, wire stitching, thermoplastic binding, brochure ...

Environmental regulation

### **Finishing operation**

- Three edge cutter
- Folding machine
- Saddle wire stretcher
- Perfect binding
- Book binding
- Folding machine
- Gold and blind tooling
- Manual operation

### **Additive material**

- Cardboard
- Paper (end leaves : strong paper used to faster the case of the book block the first and the last signatures are secured to the cover)
- The different gluing

### **Imposing**

- Gang (several different job are on the same sheet of paper)
- Label gang
- International imposing
- Gripper margin corner
- Finishing cost

## Annex 4

### List of the basic requirements in equipment

*This is only a suggested list of equipment and should be modified as the project develops.*

- **Pre-press Equipment:**

- 15 networked Apple Mac G4 computers each with a RAM of 256 MB and a hard disk of 20 GB.
- 1 server for managing the network
- 2 Arcus flat-bed scanners + 2 workstations.
- 1 CD-ROM burner.
- 1 drum scanner + 1 A4+.black and white laser printer
- 1 on-line colour proofing system.
- 1 x 4-exposure image-setter
- 1 film processor.
- Several illuminated stripping tables.
- 2 densitometres.
- 1 spectro-photometer of the X RITE type.
- Professional software with site licence: QuarkXpress, Photoshop, Acrobat, Preps etc.

Estimated cost : 167 700 euros

- **Printing Equipment**

- 1 printing frame
- 1 automatic film processor
- Several quality control rods.
- 1 one-colour GTO press.
- 1 one-colour Speed 74 press.
- 1 two-colour Speed 74 press.
- 1 constant daylight room.
- 2 Grétag scanner densitometers.

Estimated cost : 518 330 euros

- **Print Finishing Equipment:**

- 1 up-right trimmer.
- 1 multi-task folding machine.
- A set of light print finishing tools.

Estimated cost: 137 200 euros

Office and administration equipment costs have not been included

The Employers' Union has verbally agreed to negotiate favourable terms for the purchase of equipment on behalf of the Institute.



Annex 5

Table n° 6 : Initial Training repartition

Educational field	Training		General education			Technical education		Company Number of weeks
	Number of hours	Number of weeks	Math Sciences	Others subjects	Theory	Practice		
BP Prepress and Printing 1 <sup>st</sup> Year	680 h	20 w	5 h	16 h	6 h	8 h	32 w	
BP Prepress and Printing 2 <sup>d</sup> Year	650 h	19 w	5 h	16 h	6 h	8 h	33 w	
BT Prepress and Printing 1 <sup>st</sup> Year	770 h	22 w	6 h	13 h	8 h	8 h	30 w	
BT Prepress and Printing 2 <sup>d</sup> Year	770 h	22w	6 h	13 h	8 h	8 h	30 w	

Republic of Lebanon  
Office of the Minister of State for Administrative Reform  
Center for Public Sector Projects and Studies  
(CPSPS)

الجمهورية اللبنانية  
مكتب وزير الدولة لشؤون التنمية الإدارية  
مركز مشاريع القطاع العام