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Environmental Management in the Small and Medium Entreprises (Sme) Case Study: The Old City of Aleppo

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□ ABSTRACT □

The City of Aleppo, with its two millions inhabitants, is considered a metropolis for the northern regions of Syria and a central point making it the first economic city in Syria. Small and medium enterprises have an important role to play in the economies of developing countries both in terms of job creation and its percentage of the Gross National Products. Traditional Small and medium sized companies are basically located in the Old City boundaries, they play an important role under quantitative and qualitative aspects by providing some 25000 jobs. They cohabit side by side with trade, services, industries and housing which lead to an uneven high pressure on the environment.

In fact, degraded environment means, on the long term, the reduction of the quality of life, reduction of people healt etandards and the relocation of important economic activities especially tourism from which these traditional companies could take the maximum advantage of attracting tourists.

From this point of view, improving the SMEs environmental performance and management is considered a step towards better environment and sustainable development in the Old City. It will help to build experience in the field of SME and to enhance the cooperation between the Municipality and the private sector in order to promote the idea of the Public-Private-Partnership; it will also provide an orientation on how to manage the SMEs, and produce guidelines for urban SME environemtnal management to be disseminated either to further SME promotion in Aleppo or to other interested Municipalities in Syria.

With the cooperation of the Municipality of Aleppo, we will try to provide a sustainable and enhanced environmetal and economic bases for the inhabitants to stay in the Old City of Aleppo, which controls the out-migration and prevents the dilapidation of its historic World Heritage core.

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الإدارة البيئية في المنشآت الصغيرة والمتوسطة
حالة دراسية في مدينة حلب القديمة

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(قبل للنشر في 2003/5/18)

□ الملخّص □

تعتبر مدينة حلب، التي يبلغ عدد سكانها مليوني نسمة، عاصمة للمناطق السورية الشمالية إضافة إلى كونها مركز جذب هام مما أدى إلى اعتبارها المدينة الاقتصادية الأولى في سورية. إن الشركات الصغيرة والمتوسطة لها دور متنام وهام لتلعبه في تنمية الاقتصاد في الدول النامية نظراً لفرص العمل التي تساعد على خلقها ولنسبة مساهمتها في الناتج القومي. تتوضع هذه الشركات بشكل أساسي ضمن حدود المدينة القديمة فهي تلعب دوراً مهماً من الناحيتين الكمية والكيفية لأنها تؤمن 25000 فرصة عمل، وهي تتواجد جنباً إلى جنب مع التجارة والخدمات الصناعية والسكن، وهذا كله يؤدي إلى ضغط بيئي عالٍ وغير متوازن.

في الحقيقة، إن الانحدار البيئي يعني، وعلى المدى البعيد، التقليل من المستوى المعيشي والتأثير على صحة السكان ونقل بعض النشاطات الاقتصادية الهامة وخاصة السياحة والتي بإمكان هذه الشركات التقليدية أن تستمد منها الفائدة القصوى عن طريق جذب السياح.

ومن هذا المنطلق، فإن تحسين الأداء والإدارة البيئية للمؤسسات التجارية الصغيرة والمتوسطة يعد خطوة هامة لتقديم بيئة أفضل وتنمية مستدامة في المدينة القديمة. كما أنه سيساعد على بناء خبرة في مجال المؤسسات التجارية الصغيرة والمتوسطة، بالإضافة إلى تعزيز التعاون بين مجلس المدينة والقطاع الخاص من أجل تطوير فكرة المشاركة بين القطاع الخاص والقطاع العام، وإنتاج خطوط توجيهية حول الإدارة البيئية المؤسسات التجارية الصغيرة والمتوسطة لكي يتم نشرها إما من أجل تطوير مستقبلي للمؤسسات التجارية الصغيرة والمتوسطة الحجم في مدينة حلب أو لمجالس مدن أخرى مهتمة بهذا الموضوع في سورية.

بالتعاون مع مجلس مدينة حلب، ستتم المحاولة لتقديم قواعد أفضل استدامة بيئياً واقتصادياً من أجل السكان وذلك لضمان بقائهم ضمن مدينة حلب القديمة وذلك سوف يقلل من الهجرة خارج المدينة القديمة ويمنع من تخريب جوهرها التاريخي كموقع اثري عالمي.

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INTRODUCTION:

The City of Aleppo, with its two millions inhabitants, is considered a metropolis for the northern regions of Syria, yet it is functioning as a central attraction point and considered the first economic city in Syria. The core of the City evokes a long history in which Aleppo is proud to be one of the longest continuously inhabited cities in the world. Conversely, modern interventions have introduced wide streets, cut across the historic urban fabrics that resulted in the demolition of a part of the Old City as well as a great loss of its residential units. These units were replaced in majority by economic activities constituted of wholesale and retail trades as well as workshops and small enterprises.

Old Aleppo, with its 355 hectares, is considered since 1986 a World Heritage Site which houses 100.000 inhabitants; it suffers from severe environmental problems, some of which need long term planning and others need immediate action measures (Development Plan, 2002). One of the long term plans involves the promotion of environmental management in harmful small industries or their relocation out of the Old City zoning. But on the short and medium terms there should be efforts to upgrade the environmental management in these enterprises, which often make up a large part of national economies, but remain largely unengaged with agenda 21 worldwide, although, they are generators of growth and the basis of the economy worldwide.

Agenda 21 of the 1992 UNCED Earth Summit in Rio de Janeiro stresses the role of private enterprises in Sustainable Development. Development and cooperative organizations are asked to present comprehensive policies and provide assistance on a more than sporadic basis. Catchwords like “greening of industry” or “sustainable growth” need to be demonstrated as practicable strategies. The development of urban planning in the City of Aleppo, in which the industrial sector forms a large part, is considered a major field of activity with a special focus on Small and Medium sized Enterprise (SME) (OSBERGHAUS et al., 1996).

The industrial sector is considered one of the major polluting sectors in Aleppo. Industrial pollution covers all aspects of life: water, air and soil, but in the Old City it acquires an additional level of importance because it contributes to the deterioration of the traditional fabrics. Therefore, any urban interventions should be sensible to this point and should consider these special facets. In fact, regards are always directed towards big industries as the main source of different kinds of pollution but the SMEs are often ignored or given less importance in environmental studies concerning the industrial sector in spite of their significant polluting effects urban areas.

Indeed, a degraded environment means, on the long term, the reduction of the quality of life, the reduction of people's healt and the relocation of economic activities especially tourism. Consequently, this will lead to the damage of the local economy that provides jobs for the residents of the Old City, demonstrates a wide range of impacts and proves the necessity of rapid interventions.

The small and medium businesses in the Old City are generally located near residential or mixed areas. Side-by-side existence of trade, services, industries and housing is preserved as a valuable quality of urban life. However, this pattern of urban structure is not in harmony with the environment, which normally leads to a disproportionate high environmental stress. All enterprises in the Old City belong to the category of the SME with an average of about 5 employees per entity. They are not only important under quantitative aspects (there are more than 25 000 jobs provided, about

one third of them are occupied by the Old City's residents), but also because of their positive impact on the social balance within the City's labor market because women have a substantial chance to work in this sector (Spreen et al. 1999).

CONCEPT AND OBJECTIVES OF THE RESEARCH:

We can assume that large-scale enterprises are often in a favorable position; they can afford the financial resources and the know-how in order to solve problems related to the environment on their own. To the contrary, smaller enterprises have to acquire external expertise and often fail to tackle ecological issues in production and products by themselves. The environmental protection in companies and the degree of industrial engagement are usually accorded minor importance especially in developing countries.

The importance of this research comes from the economic structure of the Small & Medium Enterprises (SME) sector in Syria; its vast heterogeneity forms a rich economic tissue creator of jobs and generator of good economic conditions. SMEs form about 97% of the Syrian industrial structure and the capital invested by them in 1999 was about 69% of the total industrial sector investments. These figures indicate the importance of setting a future strategy for helping SMEs in Aleppo in order to manage, environmentally, their work and production.

This research focuses on Small & Medium Enterprises in the Old City of Aleppo because of their important economic facets: they contribute positively to the economic life by securing jobs attracting tourists. They could be included in the tourist plans as part of the traditional artisan heritage of the City of Aleppo, and due to their urban facet they play a role in the functional change of the residential quarters.

From this point of view it becomes necessary to launch a program for environmental upgrading of SMEs. This program should be designed to raise environmental standards for this type of businesses that is considered as an aspect of urban development. Furthermore, studies on the environmental situation could stress that SMEs contribute significantly to locate environmental pollution. In fact, this process, with the participation of the Municipality, will increase experience in the field of public SME promotion as well as cooperation with the private sector in order to promote the idea of the Public-Private-Partnership (PPP).

The SME promotion can be considered as a new tool for managing the environment in urban areas as well as the economy; it permits to apprehend the expectations of the clean actors in terms of the evolution of the environmental regulations and the development of economic partnership between enterprises and local authorities. Through this the following outputs can be realized:

- Show the rationale of the SME environmental management within the historic context of the Old City.
- Help provide medium term orientation on how to manage the SME environmental upgrading.
- Help bring out guidelines for urban SME promotion.

The prime aim of this research is to point out how to proceed in promoting environmental protection in selected SMEs, it seeks, under a short-term perspective, to show the important impact that traditional SME engender and to help them improve their environmental performance and management as a step towards environment in the

City. This will certainly engage the modification production process and might necessitate the introduction of new techniques. This means:

- Pursuing an integrated environmental strategy,
- Facilitating access to technical assistance,
- Helping companies to identify process change and how to implement cleaner production technologies.

Likewise, under a mid-term perspective, the research also aims to provide experience for future broader public support to SMEs; it intends, under a long-term perspective to sustain investments and measures to improve the situation of environment in Small and medium sized Enterprises (SME) in the Old City of Aleppo. It proposes:

- Better delimitation of the conditions and development of clean industrial activities,
- Organization of this sector to know its strong and weak points,
- Encouragement of SMEs to change their management practices and to take an integrated stance on environmental matters.

Major emphasis should be placed on measures that will bring about distinct environmental improvements into the given enterprises at minimum expenses. Particularly, where environmental protection has not yet played a role and the existing opportunities for avoiding the emission of pollutants and waste or for saving energy, water and other resources are very considerable. At the same time, some of the measures presented for one enterprise could also be transferred to others.

PROCEDURES:

The close links between urban land use, environmental conditions and poverty have been subject of considerable field of research for decades. The key question, however, when one is faced with a nexus of process and phenomena of this kind, is to identify correctly cause and effect, and to separate hypothesis from empirically observed conclusion. The industrial sector is at the source of the most toxic pollutants and the most seriously polluted establishment. Pollution can occur for reasons that relate to the poverty of experience because lack of technology; pollution has an economic price. The costs of pollution control tend to be passed either forward to products prices, or backwards reducing returns on capitals; pollution control is therefore unattractive (ADAMS, 2001).

Only rarely SMEs do make efforts to introduce environmental measures on their own out of a purely idealistic conviction. It is not always easy to respond to some queries like costs and business risk with convincing arguments in favor of environmental protection. However, below are some key reasons, which can be influential both on their own and in combination with each other (OSBERGHAUS et al., 1996):

-Cost savings through environmental technologies and reduction in raw materials, water and energy.

-Avoidance in follow-up costs required for disposal procedures or for remedying environmental damage.

-Compliance with environmental standards, including sanctions, or with regulations by the firms to avoid penalties or closures.
-Enhanced image resulting in improved customer and market prospects through environmental friendly production.

Indeed, what will render the task to be less complicated in the small and medium enterprises than in big enterprises, is the company goals that need to be achieved with much less organization, moreover the scope of operations in these SMEs is more easily manageable, and the organization and decision-making process are still tailored to one or few decision makers.

Survey of SMEs in the Old City:

The starting point of analysis in this domain was an inventory done for about 9271 economic activities in the Old City according to the study of the urban economy of the Old City (Spreen, Sadawi, 1999); then those activities had been classified according to their type of work (see table in annex I). Of course not all the enterprises are in full harmony with the environmental standard of an inner city, therefore, intervention seems to be primordial to preserve the viability of the Old City.

Afterwards, activities that generate pollution were classified in four categories in line with their caused impact (see annex II):

- Activities that engender a great lot of traffic: they are the source of traffic jam around the citadel and in the narrow alleys of the Old City everywhere. Typical are activities such as warehouses located in Khans. Activities of this kind are classified by the Project as "unwanted land uses".
- Activities that affect the environment negatively: They are polluting the air or contaminating the soil. At the same time, they are more often harmful for the health of the employees themselves. However, some of these activities are of importance for the Old City residents including women. Additionally, many are contributing to the multifunctional character of Old Aleppo, based on their vitality.
- Activities that deteriorate historical buildings: Some of them are located in listed monuments and not generating enough income to maintain their property of rented space adequately.
- Activities that fit optimally into the physical environment of the Old City: these include Small (traditionally producing) crafts, small stock markets (yarn), consulates, business training school etc. However, a big number of these wanted land-Uses are actually located outside the Old City and have to be motivated to return back.

Subsequently, a detailed quantitative survey next to selected environmentally harmful SMEs starting from 141 type of activities covering 2028 SMEs has permitted us to build up a representative sample of 20 activities to begin the work, see Table (1) below. Furthermore, a qualitative survey for several activities following the methodology detailed in the coming paragraphs as to go further into the analysis of the problematic of functioning in these SME's.

Table 1: Harmful activities that should be kept in the Old City

No	Activity	Number of companies
1	Roster	5
2	Fish shop	5

3	Photographer	10
4	Stone cutter	3
5	Public dispensary	9
6	Hospital	6
7	Hotel	25
8	Soap manufacturing	3
9	Bakery	87
10	Butcher	273
11	Poultry	26
12	Print shop	54
13	Goldsmith	81
14	Iron smith	141
15	Restaurant	35
16	Veterinary clinic	8
17	Copper	43
18	Copper craft	3
19	Carpenter	250
20	Dye house	8
Total		**1075**

Source: The SME fund program in Old Aleppo, Chibli, Sadaoui, 2000.

Criteria for selecting enterprises:

In order to set appropriate criteria, the urban environment as well as the economic facets of the SMEs should be taken into account. It is primordial to assess companies that demonstrate significant effect to reduce their impact on the environment, in addition to those who demonstrate economic viability. The indicators of a stable economic situation of an enterprise could be summarized as follow:

- The futurity of the enterprise.
- The good management skills.
- The sales figures.
- The good manufacturing process.
- The raw materials supply.
- The personal development program

In addition, regards should be directed towards environmental performance of the SMEs, there are some respects to be considered such as (CHIBLI et al., 2001):

- There should be a significant impact on the environment in the area.
- Consider the largest scope of variety in cases with regard to assessed elements: air, water, waste, energy, etc., the case that has more impact will be selected.
- The amount and the quality of contaminants.
- The negative effect on the workers.
- Possibility of development and improvement of the present situation of the enterprises, either by, improving the operation process, or by treating the negative effects resulting from them.

The Environmental Auditing:

The environmental audit is an appropriate tool to get a comprehensive evaluation of companies' environmental performance, to determine the procedures for the implementation process and to encourage new good practices concerning the sustainable environmental management in the industrial sector. An appropriate audit should take the following points into account:

- Be adapted to the specificity of the enterprise.
- Better delimit the problems.
- Special process for the enterprise.
- Transfer the competences.
- Imply the personnel.

Its efficiency is ensured by the following procedures:

- Inventory of all the inputs and outputs.
- Revision of the production and consumption cycles.
- Determination of points where pollution is generated.

The SME enterprises often ignore the environmental implications caused by their production process, that's why a diagnosis permits to quickly point out problems and suggest solutions. The environmental audit concerns various related domains that will be explained below, descriptions tend to demonstrate environmental problems that SMEs could faced, and how solutions could be found as for the following general fields (MODAK et al., 1999):

Waste water: It is a serious problem and can involve a broad range of organic and inorganic materials. Small changes in process control or substituting heavy pollutants by less harmful ones, or more precise dosage procedures within the production process can bring about distinct reductions in pollutants.

A comprehensive inventory of the company's water management entails a history of the individual water consumption points and the various areas in which wastewater take place. An analysis of this kind does not only help make significant savings in water consumption, but it can also to a large extent reduce the volume of wastewater generated or enable the re-circulation of low-pollution water as service water.

Waste air: waste gas and dust emissions pose a grave problem in many kind of SME and cause extensive pollution and irritation to the near proximity. It is important to develop a strategy to avoid and significantly reduce emissions of pollutant gases. Rational energy use involving the systemic analysis of energy inputs and consumption can save energy and lower environmental pollution and operating costs. It is often the use of particularly critical inputs that brings about environmental harmful emissions, which cause odors and eye irritation from smoke and also emit hazardous and often carcinogenic substances (soot containing PAH).

Solid waste: In many SMEs a regulated waste disposal system is something quite new. Often, waste or residues are still deposited on company premises releasing hazardous

substances into the environment; a large percentage of these wastes are classed as in need of special monitoring. Some kinds of waste in SMEs need to be collected separately and carefully. recycling and disposal of hazardous wastes is also extremely important for environmental protection.

Consequently, we can mention that the concept of assisting SMEs to improve the environmental management includes the introduction of good practices within the enterprise, which can have the following effects:

- Reduction of pollution from inner city pollution sources.
- Implementation of new innovative measures of environmental protection.
- Introduction of new technologies and environmental standards in SMEs.
- Training the personnel.
- Setting up of new green businesses in the environmental protection sector.
- Creation of new type of jobs.

The Environmental Management System:

Good Environmental Management is a series of practical procedures. Part of the environmental management system, was implemented by establishments in order to improve predictability, reduce costs and limit the environmental damage resulting from their activities. Some procedures can be mentioned:

- Efficient use of raw materials.
- Reducing waste volume, wastewater and air pollutants.
- Reusing and recycling the most possible quantity of raw materials or packaging.
- Improving work conditions and safety inside the enterprise.

The Environmental Management System (EMS) follows a binary orientation for implementing an environmental policy within the enterprises: The first takes into consideration the environmental performance of the "**Organisation**", the second of the "**Product**" itself. In this research, emphsis is only put on the environmental performance of the Organism, the one which considers the Product could be the subject of further research program. The mechanism of how an Environmental Management System is considered is clarified in the table (2).

Table 2:The environmental management system

	Organism	**Product**
Implement an environmental policy	EMS: guidelines (ISO 14004, 14062)	Take into consideration the environment at conception (ISO 14062)
Demonstration	EMS: specifications (ISO 14001)	Environmental labeling (ISO 14020)
Tools for evaluation	Environmental Audit (ISO 14010)	Product's life analysis (ISO 14040)
	Evaluation of the environmental performance (ISO 14030)	

Source: Module de sensibilisation à l'éco-conception. ADEME, MATE, 2001.

The application of "Good Environmental Management" (GEM) has real environmental and economic benefits because it leads to reduction of the quantity raw materials, the amount waste and the consumption of energy. The French Agency for Energy Management ADEME and MATE have confirmed that the following considerations should be taken into account (ADEME, MATE, 2001):

- **Cultural organization**: waste quantity reduction is linked to a change in behavior and creation of a cultural level, which accompanies waste reduction amongst its workers.
- **Problem consideration**: It is important to raise awareness of workers towards problems and ways of facing them.
- **Information dissemination**: The application of GEM is reinforced through information dissemination amongst workers, information development and integration within the company activities.
- **Standard operating procedures**: in a way that GEM does not require expensive investments especially for SMEs to introduce clean technologies.

The pilot project:

The main objective of the pilot project is to determine activities in the Old City that are sources of pollution in order to assess their operation procedures and try to eliminate their negative impact through the betterment of their environmental conditions. A number of activities had been surveyed for preliminary auditing by filed visits in which the results will be discussed below. Some activities have been demonstrated to be generating significant pollution and some others less, therefore, we establish a classification of these activities which need more auditing oriented towards specific critical points. These activities are presented as follow:

-Goldsmiths waste combustion: This Small enterprise is located in the area of Jdaideh inside the Waqf Ipshir Pasha and is used for exctracting precious metals from collected goldsmith's waste. The work is constituted of burning the goldsmith's wastes to exctract silver and gold, the way that wastes are burned is primitive and disruptive for all the neighboring workshops. This enterprise produces a quite important amount of nocif gases causing an indoor air pollution problem to the point that the inside of the workshop is full of black dust (see photo 1). In addition to that, it emits bad smell and black smog disturbing the neighbors.

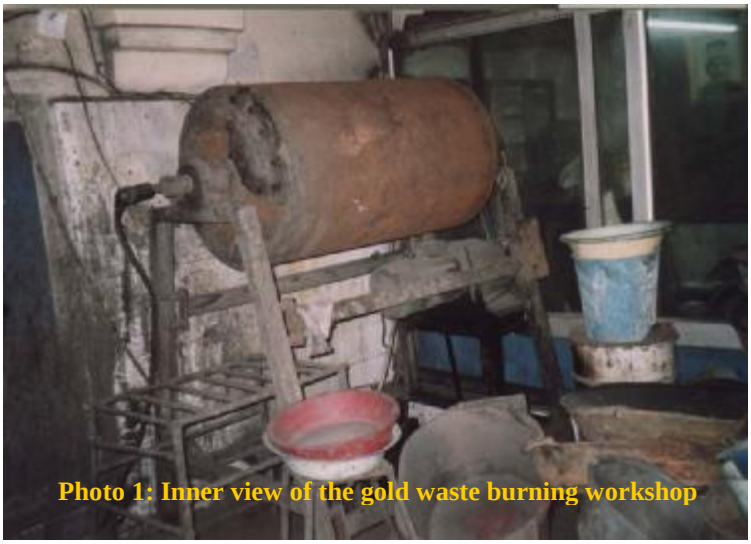

Photo 1: Inner view of the gold waste burning workshop

The suggestion is to modify the working process by making the waste combustion internal inside a special fabricated kiln to prevent indoor and outdoor emissions. Emissions of gases will be no more harmful for the neighboring activities and residents thanks to the installation of a filter at the exhaust source.

Metal cast: This enterprise is also located in the neighborhood of Jdaideh at the south of Hammam Bahram Basha. During the work, metals are liquefied inside an open oven with a very bad chimney creating a bad exhaust which pollute the inner of the workshop (see photo 2). The incomplete combustion added to the bad conduit of the chimney create a significant indoor pollution engendering a big impact affecting the workers health.

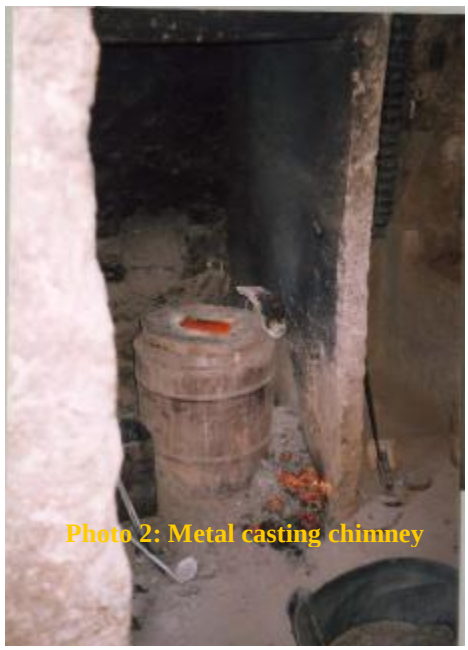

Photo 2: Metal casting chimney

Here, there is a no significant intervention to modify the enterprise's working process, but a proposal can be made which could modify the inner and the outer environment. Therefore, the suggestion is to rebuild a new regular funnel to absorb the smoke produced by the melting process.

Mirror making: The enterprise is located in Khan Nakhal at the southern part of sahat al Hatab in Jdaideh. The work constitutes a traditional way of making mirrors (see photo 3), it is the only one of this kind still functioning in the Old City, therefore, it should be kept as an example and could be integrated to the Old City tourist map. The indoor ambiance is very polluted because of the degaged gases from the silvering process that uses some chemical materials. The chemical materials, silver and copper, are mixed with water as part of the working process and then drained directly onto the sewers without any treatment; for that reason, a process of analyzing the wastewater had been suggested to determine the exact mateials and their pollution levels then to propose a process for wastewater treatment in order to comply with the Syrian wastewater standards.

Photo 3: Mirror hand making

Bleaching tissues: This enterprise is located in the area of Jalloum near Bab Antakia at the eastern side of the Old City. The work consists of bleaching raw cotton tissues to

give them the white color. Here no dying is used therefore no chemical dangerous materials are used during the process. The procedure is to heat water inside a boiler then add the bleaching materials mixed with the raw tissues.

Here, the process is using a significant amount of hot water and diesel fuel, besides, moisture is greatly spread within the workshop affecting the structural elements and contributing to the bad ambiance inside (photo 4). As a result, the use of solar energy to pre-heat the water before going inside the boiler is the appropriate solution provided to diminish the diesel consumption. The second suggestion is to ameliorate the inner ambiance by exhausting the wet air.

RESULTS AND CONCLUSION

As noticed above, these kinds of activities have a specific status for the following reasons:

- They preserve the traditional characteristics of an enterprise.
- They generate a significant amount of pollution.
- They support the creation of jobs and thus contribute to stability of the economic life in the Old City.
- They need to be supported financially by other institutions at the level of the City to create a sustainable base, which guarantee them a safe future.

In order to keep this tendency in the Old City, the private sector should continue to provide jobs in both the second (manufacturing) and third (service) sectors through the support of individual investments, which lead to economic stabilization and to environmental improvement as a pilot measure.

It is clear that due to the variety of results the outcome should be summarized under the aspects of environmental benefits. The production of a guideline for the environmental management in the SMEs in Aleppo will constitute the first step that enable these enterprises to ameliorate the environmental conditions within their establishments. These guidelines concern: (i) the economy of water in order to preserve this natural resource and to recycle it, (ii) the optimal use of raw materials and equipments and, (iii) the energy efficiecy consupmtion and the redution different kind of wastes. An orientation should be made to address this concept to the SME owners by conducting an awareness campaign to introduce the view for them and to encourage them to get into the line.

The Small and Medium Enterprises should consider the following findings:

-In-company environmental protection measures should use any option that aims at reducing the amount of wastes and minimizing their pollution effect.

-At the macro-economic level, it is important to create incentives for minimizing waste; legislation and enforcement are other important aspects.
-The SMEs require prior persuasion and educational work at the outset that can be performed under the auspices of associations or chambers, for instance, in conjunction with specific information and training.
-Consultancy must also offer SMEs practicable options that are not tailored solely to short-term remedies for specific environmental problems, but are also viable in the long-term.

To be practicable, the cooperation and participation of the major social groups and organizations concerned: local authorities, industry, universities, and NGO's are vital to initiate processes and structures based on dialogues and making progresses in this domain.

If all these suggestions implemented, a significant contribution to diminish the environmental impact of a great section of industries could be realized. In consequence, through the betterment of the environmental conditions of the industries, cities can play an essential role in the promotion of sustainable development and in the creation of a lasting safe future for their urban areas.

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ANNEXES

Annex I

List of the economic activities in the Old City

No	Activity	Number	No	Activity	Number
1	Accountant	4	33	Comm. show room	7
2	Adhesive	8	34	Coal	6
3	Advertisement	4	35	Cooperative	25
4	Agricultural instrument	36	36	Copper	43
5	Agriculture services	8	37	Copper craft	3
6	Aluminum fitting	27	38	Cork	1
7	Automatic bookbinding	2	39	Cosmetic & perfumery	71
8	Bags	52	40	Court house	1
9	Bakery	87	41	Crushed wheat	1
10	Bank	9	42	Dairy products	20
11	Bath utilities	3	43	Destroyed	86
12	Bicycle repair	12	44	Detergents	7
13	Bone setter	0	45	Doctors (M.D.)	108
14	Bookshop	105	46	Dye house	8
15	Building material	17	47	Electrical instruments	36
16	Butcher	273	48	Electrician	112
17	Calligrapher	5	49	Engine repairing	22
18	Car spare part	4	50	Engineer	17
19	Car wash	3	51	Estate agent	29
20	Carpenter	248	52	Fire Station	2
21	Carpet shop	39	53	Fish shop	5
22	Carton	10	54	Food stuff trading	950
23	Cassettes shop	20	55	Fuel station	1
24	Charitable organization	8	56	Furniture	58
25	Chemicals	11	57	General trade	3
26	Children’s home	3	58	Goldsmith	81
27	Church	11	59	Government office	28
28	Clearing agent	3	60	Gov. procedure man	3
29	Closed shop	2035	61	Gov. organization	7
30	Cloth shop	760	62	Grain store	9
31	Coffee shop	8	63	Hair dresser	95
32	Commercial office	187	64	Hardware shops	4
65	Hoses	14	99	Plants	1
66	Hospital	6	100	Plastic bags	44
67	Hotel	25	101	Plastic workshop	26
68	Household accessories	242	102	Police station	4

69	Hubbell bubble maker	7	103	Post office	0
70	Import - Export	12	104	Poultry	26
71	Interior Decoration	3	105	Print shop	54
72	Industrial equipment	28	106	Public bath	10
73	Industrial oil	1	107	Public dispensary	9
74	Iron smith	141	108	Pump selling	24
75	Khan	46	109	Reciter	2
76	Knitting	49	110	Religious school	1
77	Laundry	19	111	Rest house	28
78	Lawyer	35	112	Restaurant	35
79	Leather products	44	113	Rope	21
80	Mechanical workshop	23	114	Roster	5
81	Medical materials	1	115	Rubber workshop	28
82	Midwife	2	116	Sanitary fitting	84
83	Mills	7	117	School	69
84	Mineral oil	10	118	Scissors	8
85	Mirror-glass	20	119	Sewing accessories	85
86	Miscellaneous	144	120	Sewing machines maintenance	37
87	Mosque	170	121	Shoe repair	55
88	Museum	2	122	Shoe shop	135
89	Newspaper office	0	123	Shoemaking	60
90	Olive oil storage	15	124	Soap manufacturing	3
91	Optics	6	125	Soap shop	42
92	Oriental shop	57	126	Sole	2
93	Paint factory	1	127	Sport club	2
94	Paint shop	28	128	Sport equipment	1
95	Paper industry	2	129	Starch industry	3
96	Parking	6	130	Stone cutter	3
97	Pharmacy	28	131	Stove	14
98	Photographer	10	132	Sweet making	68
133	Syndicate	3	142	Veterinary clinics	8
134	Tailoring	286	143	Warehouses	580
135	Textile workshop	40	144	Watch trading and repairing	30
136	Turner	14	145	Weighing scales	5
137	Toys shop	16	146	Wood store	54
138	Transport	8	147	Wood-saw	2
139	Travel agency	2	148	Wool	50
140	Underwear cloths	40	149	Yarn	55
141	Upholster	34			
TOTAL			**9271**		

Source: Urban Economy study of the Old City of Aleppo, Spreen, Sadaoui, 1999.

Annex II

Activities that have significant impact on the environment

No	Activity	Number	No	Activity	Number
1	Aluminum fitting	27	21	Paint factory	1
2	Bakery	87	22	Paper industry	2
3	Butcher	273	23	Photographer	10
4	Carpenter	250	24	Plastic workshop	26
5	Car wash	3	25	Poultry	26
6	Chemicals	11	26	Print shop	54
7	Coal	6	27	Public dispensary	9
8	Copper craft	3	28	Restaurant	35
9	Detergents	7	29	Roaster	5
10	Dye house	8	30	Rubber workshop	28
11	Engine repairing	22	31	Shoemaking	60
12	Fish shop	5	31	Soap manufacturing	3
13	Fuel	1	33	Starch industry	3
14	Goldsmith	81	34	Stone cutter	3
15	Hospital	6	35	Sweet making	68
16	Hotel	25	36	Textile workshop	40
17	Industrial oil	1	37	Turner	14
18	Iron smith	141	38	Veterinary clinics	8
19	Mechanical workshop	23	39	Warehouses	580
20	Mirror-glass	20	40	Yarn	55
Total			**2028**		

Source: The SME fund program in Old Aleppo, Chibli, Sadaoui, 2000.