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Environmental Impact and Mitigating Pollution Cost of Leather Export in Pakistan

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**ENVIRONMENTAL IMPACT AND MITIGATING
POLLUTION COST OF LEATHER EXPORT IN
PAKISTAN**

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CHAPTER ONE

PROBLEM AND ITS BACKGROUND

1.2 INTRODUCTION:

LEATHER INDUSTRY OF PAKISTAN

Pakistan leather industry enjoys a prominent position in the world leather market. It is considered to be the most significant industrial sector of the Pakistan economy as it is the second largest export oriented industry in Pakistan.

In 1985 it was the fifth most important export industry in the manufacturing sector. Presently it ranks second and is contributing around 5% to the GDP and 7% of the total exports of the country. The export earnings from the sector have increased rapidly from Rs 1,000 million 1979-80, to Rs 10,832 million by 1989-90 (US \$ 504.4 MILLION) registering eight fold increase in less than a decade. The earnings further increased \$ 603.7 million up to 1997 but started declining in the later years. However, the absolute growth rate during the last five years was 2.3 percent. The industry is employing more than 1% of the total employment more than 200,0000 workers. Its 95 % production is exported in the form of leather or leather products.

The industry is producing many items but main products of export are: leather garments, footwear, sports goods, leather gloves, handbags, belts, key chains, brief cases, wallets etc. Leather industry of Pakistan plays a vital role in stabilizing the country's economy. However, the need of the hour is to inject new vigor, quality consciousness and to adopt scientific marketing approach to be competitive in the global market in order to achieve the export target fixed by the government.

Our Leather industry has made tremendous efforts and stepped forward on renewed technical footings towards keeping pace with fast changing fashion trends and maintaining the standard in the international market. The government of Pakistan has taken a number of measures to revitalize the economic spectrum of the country which has remained dismal owing to depression in the world market, curtailment of some of the facilities available with our industry, introduction of Euro Currency and changed weather conditions, enhancement of input prices, etc.

ENVIORMENTAL IMPACT ON LEATHER EXPORT:

There appears to be a mis-perception among political authorities in Pakistan that cleaning up the environment is a luxury we cannot afford or that preventing environmental damage imposes an unbearable economic cost. This is true only when viewed from a limited short run perspective. Politicians and businesses need to realize that environmental damage depletes the natural resource base via water, soil and air degradation and results in current and future loss in productivity. Much more important is the loss of productivity resulting from the impairment of the health of current and future generations.¹ Politicians always speak for the poor, but it is the poor who are least capable of defending themselves from environmental ravages. If improving the health, productivity and quality of life of the current and future generations is not a sufficient inducement to act quickly, the potential huge loss of export markets should be. The Uruguay Round induced increased in exports for developing and transitional economies has been estimated to be lie between 14 percent and 37 percent.² Thus the dividends from the right decisions are potentially very high.

An analytical framework developed in OECD categorizes the environmental impact of trade into product, scale, structural and regulatory effects. In each category, there can be positive and negative effects. Our focus is on the negative scale effects that can result from trade expansion and trade liberalization in two of Pakistan's key

manufacturing export sectors. Thus, as production expands to respond to growing export markets, without proper environmental policy and enforcement mechanisms in place, these enhanced exports will prove to be environmentally disastrous. Fortunately, in Pakistan's case, a reasonable environmental policy is in place. Currently, government, business and civil society groups are groping towards appropriate implementation mechanisms. This research will indicate the urgency of coming to a quick resolution. We will also demonstrate the cost and benefits of mitigation strategies. Our main finding is that the costs of mitigation are much lower than perceived to be the case in the South.

MITIGATION COST OF LEATHER EXPORT:

The objective of this research was to estimate the increase in exports of leather and footwear, based on the Uruguay Round Agreement on Textiles and Clothing (ATC) and past trends, and identify the associated pollution and the benefits and costs of pollution mitigation. leather is among one of the most polluting industries and, with in these industries, tanning leather are the most polluting processes. We selected the leather industries because of their economic significance and their pollution impact. Leather ranks fourth in terms exports and, while it is not as significant in terms of value added or employment, it is the most polluting of all the industries.

We estimated the export related environmental impact of leather. Following that, we assessed the mitigation impact of using cleaner technologies in terms of reducing the scale of pollution and then assessed the cost of mitigation. One way of building a strong case for mitigation is to demonstrate that these industries are highly damaging to the environment and human, plant and animal life. Ideally, one ought to precisely quantify the cost in rupee terms. A reduction of such cost thus becomes the benefit of mitigation that can then be compared to the monetary cost of mitigation. Unfortunately, since cost quantification is difficult, we have instead documented the environmental cost and indicated how this is likely to increase due to the export related increase in production.

The main finding of this research is that, at current emission rates, the pollution impacts of the exports of leather and footwear are very large. However, the mitigation cost at the macro level of reducing the pollution load by up to 66 percent for leather tanning are much smaller than commonly considered to be the case in the South.

1.2 STATEMENT OF THE PROBLEM:

The main problem is Environmental pollution results from the liquid effluents that are pumped untreated into drains that enter fresh water flows. This is not only a nuisance aesthetically, but also threatens aquatic life and the use value of the water.

Metals and compounds like chromium and phenol are both carcinogenic and allergy inducing. These effluents also pose a threat to inland and coastal fisheries and seepage into the water table means an entry of toxic chemicals into the soil and food chain.

Other problems include headaches, stomachaches, dizziness, night blindness, leprosy, dermatitis and skin disorders. Leather dust can be carcinogenic and causes allergies, both of which represent a threat to the local population.

Leather exports are expected to decline so one can expect a 7 percent lower pollution load generated by leather tanning without mitigation measures.

The mitigation cost to exporters of leather would have been 0.88 percent of their export revenue. These mitigation costs are even lower than for leather production since clean production technology is locally available. This is contrary to a view expressed in the literature that the costs of establishing and operating clean technology are very high.

1.3 SIGNIFICANCE OF STUDY:

This research aims to identify various risks, opportunities involve in house financing business and the future prospects of house financing for local commercial banks, so this study will be beneficial for all commercial banks.

As an individual it is useful for me to progress my career and I can also learn many techniques of conducting a professional research report.

It can also be useful for other people, who want to know about housing finance by commercial banks in Pakistan,

1.4 SCOPE:

All type of leather industries has these Environmental Conditions but especially footwear industry has been taken as a sample; results of this study can be applied to all local Leather Industry of Pakistan.

All the data collected is up to January 2005.

1.5 DELIMITATION:

There may some factors that may change the recommendation and conclusion of this study. These factors are:

- changes in environmental laws around the world
- changes in the import and export duties regarding leather items
- changes in policies of Government of Pakistan.

CHAPTER TWO

RESEARCH METHOD AND PROCEDURES

2.1 RESEARCH METHOD AND PROCEDURE

RESEARCH DESIGN:

This research is designed in a manner to cover all the important aspects of this topic. While designing the research of this study it is keep in mind that it should serve the purpose practically and should be in line with the objective and requirements of the study.

A descriptive method of research was considered most appropriate for the topic. While designing consideration was given to the fact that this research is being done to add or contribute in the existing knowledge about the issues.

RESEARCH METHODS:

The nature of the topic demanded that the research should be done in natural environment rather than in artificial environment, therefore there is no involvement of any kind involved in it. The research is fundamental research and the suitable design for the research is descriptive.

Different sectors of the industry will be approached to understand the industry and as well a few organization will also be covered.

The research methods used in this study are

- Descriptive method
- Scientific method

DESCRIPTIVE METHOD:

In descriptive study first of all data is gathered and then interpreted for finding result. It is undertaken to learn and describe the variables in the situation. I have selected this method to understand and learn the variables involve in the Leather Export with Environmental pollution to local leather Industries in Pakistan, so that I may describe those factor that have their impact on the Mitigation of Cost, opportunities and future prospects of Leather Industries with reference to the export.

SCIENTIFIC METHOD:

The overall objective is to do a heuristic benefit cost analysis of the abatement of the incremental pollution resulting from the leather industry exports.³ The following four-step procedure has been adopted.

- Estimate the increased leather exports up to the end of 2004. The end of 2004 is when clothing quotas in developed countries are likely to be removed as negotiated in the Uruguay Round ATC. While, in principle, end 2004 represents an important date for our research, its significance is somewhat reduced since 72 percent of Pakistan's cloth exports go to non-quota countries.
- Estimate the environmental impact of leather and footwear exports. By using unit discharge rates of chemical, organic and suspended pollution loads, based on data collected, predict the effluent pollution associated with exports. Here we also document the health and other social costs resulting from the pollution, although these are not quantified. In effect, the reduction of such costs represents the benefit from pollution mitigation. It would have been useful to also assess the total production related pollution and mitigation cost.
- Assess the import costs of using cleaner technologies. The technologies being referred to for the textile sector are the ones best suited to local conditions to meet the currently

applicable environmental quality standards in Pakistan. The technology being considered for the leather sector is locally available.

- Assess the mitigation impact of using cleaner technologies and set that in an understandable context for business and government.

We also document the health and other social costs resulting from the pollution. In effect, the reduction of such costs represents the benefit from pollution mitigation. While it is not possible to specifically link the health costs to incremental export related leather production, research has been conducted on quantifying the cost of pollution on an aggregate level.

2.2 RESPONDENTS OF THE STUDY:

The respondent of the study will be personnel of the following organizations:

1. Export Promotion Bureau of Pakistan.
2. Pakistan Tanners Association.
3. Pakistan Leather Garments Manufacturers & Exporters Association (PLGMEA)
4. Exporters
5. Importers

2.3 RESEARCH INSTRUMENT:

Primary and secondary data will be used for the research. Different types of method are listed below:

PRIMARY DATA

-Face-to-face Interviews:

The interviews will be conducted with officials mentioned above. The interviews can be structured or unstructured in nature.

SECONDARY DATA

Secondary data will include literature from newspaper, internet, articles from various magazines.

For the purpose of finding information these instruments are :

- Structured questionnaire
- Unstructured interview from related person

I prefer using these methods because for quantitative analysis a lot of information can be gathered by using these two methods.

2.4 TREATMENT OF DATA:

As my study is a qualitative one, qualitative results are made. But there is some information which is presented using

- Graphs
- Charts

CHAPTER THREE

REVIEW OF RELATED LITERATURE AND STUDIES

3.2 GAPS TO BE BRIDGED BY THIS STUDY:

3.2.1 CONCEPT

Leather and Leather garment industry of Pakistan is confronted with various challenges to survive in international market. On top of them is the use of Hi-tech for quality products and availability of skilled manpower to cater to the needs of the world market. This is a serious issue and need to be addressed as early as possible. There is a growing need to prepare labor force having capacity to produce leather garments on scientific lines and comply with the demands of international market to compete. There is an immediate need to training our labor force on modern pattern to upgrade our end product to enhance credibility of leather garment industry in Pakistan.

In recent past, Korea progressed very rapidly in this field. The highly training labor force in Korea gave incredible results. In order to overcome this problem Pakistan Leather Garment Exporters Association decided to engage some Korean technicians to impart training to Pakistan labor force.

Initially proceeding of engagement of Korean technicians has started with two Korean companies. This training program is supposed to organize 6 month training courses in Karachi and Sialkot. This training program is scheduled to start from June 15, 2003 to December 15, 2003.

The Korean technicians will transfer know-how in overall area of leather garments particularly in the fields of Cutting, Pattern making and Sewing.

The Export Promotion Bureau (EPB) has come out generously to bear 75 per cent expenses required for hiring the Korean technicians while remaining 25 per cent cost will be funded by the members of the Association.

This is certainly an appreciable step on the part of PLEGMA. It is hoped that Rs 50,000 charges for participating in this program will be borne by the company in its own interest to improve worth of their workers.

3.2.2 JUSTIFICATION FOR INDUSRY SELECTION

Table 1 below indicates the economic significance of leather industries for Pakistan.

Table 1. The economic significance of the textile and leather industries in Pakistan

	Leather & products
Exports as % total exports [@]	3.0 (4)
Value added as % of total value added in major industries	1.6 (15)
Employment as % Of avg. daily empl. in major industries	2.4 (8)

Source: Government of Pakistan, *Economic Survey 2004-05*, Statistical Appendix (2004, pp. 74-75).

Exports figures are taken from *Foreign Trade Statistics*, (May 2003, pp. 29-30, p. 338).

Notes: Parentheses contain ranks.

Pakistan share of World exports of leather respectively according to the Leather.

World Statistics, Quarterly

Bulletin of the International Leather Advisory Committee, Vols. 35, 45 & 48.

The ranking in Table 1 above show leather is not quantitatively of similar significance; it clearly is so from an environmental perspective as the next section indicates.

Following are other areas, which have been identified for stalling export growth from Pakistan:

3.2.2.1 QUALITY

Good quality leather is mostly exported and is not available for high value-added Leather Garments & Leather Products. Leather garments in Pakistan are made mostly from low grade & medium grade leather. These garments face stiff competition from Chinese & Indian products. Unless good quality leather is made available to value-added sectors, these sectors will continue to suffer and lose their market shares in global markets for Leather Garments and Leather Products.

3.2.2.2 COST OF PRODUCTION

Cost of production is also very high in Pakistan as compared to our competitors like China and India. The high cost of various inputs especially utilities and taxes make our products uncompetitive in international markets. Pakistan can capture the lost market share provided the industry is enabled to reduce cost of production.

3.2.2.3 WEATHER

The winter of 2001-2002 was quite warm in most of Europe. Consequently stocks of many European stores were stuck up for those seasons and they did not purchase stock for next season. They did not place orders for leather garments for last winter season, however, the situation was improved during the current season in 2003, hence the leather industry in Pakistan reached close to the target.

3.2.2.4 MAJOR MARKETS

Economies of the most developed countries faced slump after September 11 incident. The brunt of loss of purchasing power of consumers was borne by high value items like leather garments. Consumers naturally shift to cheaper alternation in such a situation. Consequently, sharp decline was observed in markets for leather garments like Germany, France, Sweden, Denmark, Japan and Russian States.

Another setback the local industry has to suffer in the backdrop of September 11 events was the noticeable shift of buyers from Pakistan.

A lot of buyers were alienated from Pakistan after September 11 incident in USA. These buyers switched their production to India and China and it has been an uphill task to lure them back to Pakistan. Unless Pakistan offers some benefits to attract these buyers, they will continue to place orders to the competitors.

The Leather Garment Exporters Association has demanded of the government to allow refunds of newly imposed Excise Duty of 16.38 per cent on imported chemicals in the federal budget 2002-2003. Presently, there is no mechanism of refund of this duty. This Excise Duty should either be abolished or some mechanism be devised for its refund.

In order to promote leather garments industry, the rate of sales tax on leather should be reduced to 5 per cent.

The Association regretted that multiplicity of audits causing undue burden and harassment in the industry, the industry urged the government that only one audit in a year may be held.

Export Refinance rates have been reduced reasonably but it is felt that it should be brought down even to 3 per cent to get much more results. Banks may be advised to charge one per cent over the rate provided by SBP for Export Refinance instead of prevailing 1.5 per cent.

There should be no Sales Tax or Import Duty on import of any form of leather. Shearing, finished leather with wool has 5 per cent import duty. Duty should be exempt on this type of leather like other finished leather being imported at zero rate import duty. There is good scope for garments with this kind of leather.

Rates of utility bills of electricity, gas and telephone should be brought down in order to bring down the cost of leather garments/made ups to compete in the international market. Purchase of raw hides, skin, and Wet Blue and Crust leather should be excluded from the scope of Sales Tax scheme like phutti, un-ginned cotton. One window operation for labor levies, i.e. social security, old age benefits and education cuss is the need of the hour to save time and check on corruption.

3.2.3 TANNERIES

S.M. Nasim, Chairman, Pakistan Tanners Association (PTA) feels that leather sector currently operating at least 20 per cent below capacity, if it is made to run to the capacity; the leather sector has the potential to fetch one billion dollar a year.

The industry is meeting its 75 per cent needs of raw hides from local resources while rest of the 25-30 per cent is met through imports.

Pakistan imports leather from Saudi Arabia, Iran, and China, Dubai, Sudan, Kenya, Australia and Italy.

Nasim was of the view that in order to give a boost to this major contributor of the national economy, imported tanning machinery and its spare part be made duty free. The industry deserves for import of all types of machines for tanning, even if manufactured in Pakistan for quality production to be competitive in the world quality conscious market. Import of machinery and equipment for environmental projects in tanneries should also be allow free from customs duty, sales tax and income tax.

There is a trend in the organized tanning industry to convert into the cottage industry just to avoid heavy taxation. In order to check this unhealthy trend, sales tax rate should be

brought down to the level of 5 per cent. Exchange rate is another area which need stability, exporters be given due relief as and when exchange rate falls.

The European Union is charging import duty on finished leather exported from Pakistan. Nasim urged the government to take up the matter with the European Union to abolish this duty.

3.2.4 TRADE POLICY

The leather garment industry strongly recommended for imposition of 20 per cent export duty on export of semi-finished and finished leather in the forthcoming trade policy. This would help availability of good quality leather produced locally.

'Fox Furs' are much in demand abroad. This should be removed from negative items list under import/export order. Export of garments using allowable fox fur trimmings for decoration should also be permitted for boosting export of value added leather garments.

There is an immediate need for establishment of a Leather Board in Pakistan which should operate as an independent body and funded by the government from export development fund. A person exporting value-added leather products should head the board.

Value-added exports like leather garments where there cannot be any further value-addition should be exempt from Export Development Surcharge.

Re-export of temporarily imported goods supplied by buyers should be allowed without sight letter of credit or advance payment if supplied as free of cost. The present policy does not provide provision for export of such goods in original and unprocessed form due to cancellation of export order or changes in design/style of the order.

The exporters may also be allowed to retain 5 per cent of their export earnings for international advertisements and commission etc.

3.2.5 TARGET

In a recent meeting between a delegation of Pakistan Leather Garment Manufacturers and Exporters, Garment Manufacturers & Exporters Association led by its Chairman, Fawad Ijaz Khan and EPB Chairman Tariq Ikram, it was decided to discuss revision of annual export targets of leather garments and leather products for 2002-03 as well as 2003-04.

Leather garments exports are expected to fetch \$235 million for 2002-03, which would show a drastic, cut of 27 per cent as compared to \$321 million achieved last year.

A conservative target for 2003-04 for total leather and leather products is estimated at \$635 million while target under normal conditions would be \$650 million.

Fawad also discussed the international marketing campaign for 2003-04 with the EPB chief to achieve the targeted exports of leather garments.

It was decided that main concentration will be given to trade exhibitions for promoting leather garments in established markets including Germany, France, USA Hong Kong, Asia Pacific Leather Fair, and Hong Kong.

The new potential markets identified by the exporters where major focus could be placed for promoting leather garments are Poland, Japan and Russia.

Fawad said that these three markets have got huge potential for leather garments but Pakistani leather garments exporters are unable to penetrate into these markets because of high import tariff. He hoped that very soon Poland will come under EU and duty on import of leather garments will be reduced to 4 per cent like other EU countries. Russia is also expected to reduce the import tariff. After reduction of the import tariffs these markets will be the focus of marketing efforts of Pakistani leather garments exporters.

3.2.6 OUTLOOK

Leather and Leather products from Pakistan have carved a respectable place in the world market. Some of leather products from Pakistan especially leather jackets are much in demand but under the renowned brand names.

Made-in-Pakistan label and brands born in Pakistan have yet to come.

Footwear, the largest segment of the leather industry around the world has been surprisingly neglected in Pakistan. Foreign franchised companies like Bata have become a household name in Pakistan. Although the entire stuff and skill they are using belong to Pakistan.

3.2.7 EXPORT OF LEATHER

Including tanned/finished leather, leather garments and footwear — registered a substantial overall increase of 28.43 per cent for nine months ended March over the comparative period the previous year. The collective exports of these three core leather categories increased from \$ 392 million to \$ 503 million during the period under discussion. Export of tanned leather registered an increase of 29.65 per cent, garments by 28.4 per cent and footwear by 21.81 per cent. Besides the three core categories used to monitor the export performance of leather and products, Pakistan also exports a sizeable volume of leather gloves and 'leather manufactures which include such items as belts, wallets, purses, etc' the value of which totaled \$ 30 million and \$ 8.6 million in 1999-2000. However, the two non-core categories are not used to monitor the leather/products exports.

An analysis of the above statistics reveal a worrying pattern: it shows that despite catering to the domestic demand satisfactorily leather footwear industry exported just \$ 25.5 million of the most used value-added item much lower than the \$ 29.8 million worth of leather gloves. This depicts the complete indifference of value-added footwear sector to make greater penetration in the foreign markets.

The observers blame the low footwear exports on the non-availability of quality tanned leather and the lack of value-addition in leather for the footwear industry. The problem is further complicated by the fact that the footwear industry of Pakistan has not developed in the organized sector primarily due to the high capital investment which it requires. However, this still fails to justify a situation vis-a-vis the leather garment industry which despite being regarded a far more capital-intensive activity has registered a commendable private-sector lead growth. Both leather footwear and leather garment industries have a problem of their own — shoe manufacturing, particularly organized requires huge capital investment in terms of plant, machinery, labor and marketing while garment manufacturing requires investment in inventory. For instance it requires about 2.5 square feet of tanned leather to manufacture a pair of shoe; the manufacture of a leather jacket requires some 40 square feet of tanned leather.

However, the otherwise welcomed increase in overall value of three core leather categories masks a disturbing fact: it was made possible by 39.25 per cent increase in tanned leather exports in terms of quantity which increased from 8.7 million square meter to 12 million square meter. On the other hand, the percentage increase in term of quantity during the same period was 39.25 per cent meaning that the unit price per square meter decline by 6.9 per cent from \$ 13.70 per sq. m to \$ 12.75 per sq. m. The trend should indeed be a cause of concern.

3.2.8 Foot & Mouth Disease

Earlier this year reports of Foot & Mouth Disease (FMD) in cattle in Britain created a wave of concern across the meat-loving masses of the globe. By May 28 over 3.2 million animals were culled in the UK, the memories of whose culling, incineration and collective burial would remain etched in the memories of many of us for good. The culling included over 484,000 heads of cattle, 1.5 million sheep, 2,000 goats and 122,000 swine.

By any scale, this was the biggest cattle and livestock culling ever witnessed anywhere in the world. FMD is an acute, highly contagious infection of cloven-hooved animals and is

present in many countries of the world. It was first reported in 1929 in the USA, 1952 in Canada, and in Mexico in 1954.

FMD is highly contagious and may spread over great distances with movement of infected or contaminated animals, products, objects, and people. That explains the disinfected mats at the airports in the US and the ban of all meat imports from the UK. Though humans cannot be infected by eating meat of an infected animal, they can be infected through skin wounds, oral mucosa by handling the infected stock, the virus in the laboratory or even by drinking infected milk. However, the human infection is temporary and mild and as such FMD is not considered a public health problem.

But this did not stop the people to be worried about a cattle disease which they don't have enough information about. As the recovered cattle may be FMD carriers for 18 to 24 months and sheep for a much smaller period of 1-2 months, it is advisable that the entire stock of animals on an infected premises are slaughtered within 24 hours of the first report of the disease.

The FMD has resulted in the massive culling of cattle in the UK resulting in great economic loss as neither the meat nor the hides and skins of the slaughtered animals were to be used. The reports of FMD in various other countries in Europe has caused similar concerns. So what does the massive culling in Britain mean for Pakistan?

It means that it would take years for the UK to rebuild its cattle stock and the resultant shortage of availability of domestic leather meanwhile. This further is expected to result in three distinct scenarios — number one UK would have to import leather from outside, the main beneficiaries of which can be Pakistan and India whose tanning industries have the capacity and capability to meet UK's demand in terms of quality and quantity; number two, UK would resort to placing direct orders for leather products; or number three, increased joint-venture in the value-added leather products. All three potential scenarios can help Pakistan to make a deeper penetration in the UK and also a unique chance to make it sustainable.

According to the report of Leather Industrial Development Organization, merged now with the Export Promotion Bureau Islamabad, there are some 784 tanneries operating nationwide. In addition, there are some 461 leather-garment manufacturing units, 348 glove manufacturing units and 525 footwear manufacturers.

The leather tanning units of the country as a whole are utilizing only between 70-80 per cent of their production capacity despite the fact that many big export-oriented units are operating at their maximum capacity round the clock. The Pakistani tanning industry has the capacity and the capability to make real inroads in the UK by using the collective production capacity, a substantial portion of which remains unutilized presently.

UK does not make up the list of 11 countries, South Korea being the top, which collectively contributed \$ 146 million or over 83 per cent to the total \$175 million tanned leather exports in 1999-2000. It, however, was the third top market of Pakistani leather garments the same year after USA and Germany. European countries collectively are the single top market of Pakistani tanned leather and garments.

So what does this mean for Pakistan in term of strategy? The above statistics highlight the need of the local leather and products industry to find ways and measures to increase its thus far negligible presence in the UK in term of tanned leather and to better its share of leather garments. The fact that UK does not appear on the list of 11 countries contributing over 83 per cent to the total tanned leather exports (see Table 2) should provide all the impetus for the local industry to benefit from the emerging situation in the UK. The same is also true for the export of gloves as UK was the fourth top destination of this value-added leather product which do not form the list of core category.

UK trails far behind the US and Germany as the destination of leather garment exports. What gives this an altogether different perspective is that there has been a significant increase in the export of leather garments since 1988. The percentage share of garments in the three core leather categories has increased from 39 per cent then to 68 per cent at present. During the same period the share of tanned leather registered a similar pattern of decline — from 61 per cent to 32 per cent. Though the increase in garment exports came

at the cost of leather, the transformation is a welcomed sign indeed of the move towards value-added products.

As is, the top tanned leather exporters including South Korea, Hong Kong, Italy, Germany and others use the Pakistani exports to produce quality value-added products which help them earn substantial earnings in exports. The enhanced leather garment manufacturing and exports would mean the same for Pakistan. By any standard this has been a welcomed transformation for the leather exports of Pakistan.

The transformation is all the more welcomed when one realizes that leather garment exports registered a substantial growth despite the absence of domestic market for these value-added products. This has been due primarily to the fact that tropical climate does not encourage the mainstream demand of leather garments and whatever little demand which is there comes from only the small circle of the fashion conscious upper classes. The absence of domestic market, however, has not discouraged the enterprising individuals to establish leather garment manufacturing units, the majority of which are owned by small and medium investors.

Pakistan has a large population of livestock — cattle (cows and bulls), buffalo, sheep and goat — which is constantly increasing — from 107.9 million in 1996-97 to 116.2 million in 1999-2000 depicting an eight per cent increase. The populations of cattle, buffalo, sheep and goat are all on the increase and there were 22 million cattle, 22.7 million buffalo, 24.1 million sheep and 47.4 million goat by end 1999-2000.

The large population of cattle, buffalo, sheep and goat gives Pakistan an edge in the international markets of leather and products which are backed by induction of latest tanning technologies to produce quality leather for the manufacture of many value-added products. Though India remains a major competitor of Pakistan its leather does not enjoy as good a reputation in the international markets as it is naturally inferior to that of its Pakistani counterpart.

While about three-fourth of the leather demand of Pakistan is met through domestic skins.

Despite having a strong industrial base, Pakistan's leather industry looks treading without shoes. This vacuum in leather industry calls for the attention of the industry leaders to bridge the gap to give a comprehensive look to the leather and leather products industry in Pakistan. One of the options to enter the field of footwear sector is to seek partnership with international brand producers by offering them attractive incentives.

3.2.9 Trade liberalization and export growth in the leather sectors

The MFA related quantitative restrictions are to be removed in three phases by the year 2004.⁴ In each phase, importers will transfer, from the MFA to normal GATT rules, a tranche of products related to the share of these items in their total 1990 import volume. The integration into GATT rules is supposed to be implemented in three phases. In the first phase, countries were to integrate into the GATT, products from the specific list in the agreement, which in 1990 accounted for at least 16 percentage of the total volume of imports. The second phase, that was due to commence on January 1, 1998, products specified in the agreement which in 1990 accounted for at least 17 percentage of the total volume of 1990 imports were to be integrated into the GATT. The third phase, beginning January 1, 2002, is to integrate products in the specified list that accounted for at least 18 percentage of the total volume of 1990 imports. All remaining products are to be integrated at the end of the implementation period -- January 1, 2005. A formula was developed to increase the existing growth rates for quotas of products that were under bilateral restraint. During the first phase, the growth rates were to be raised annually by not less than the growth rate established for the respective restrictions increased by 16 percent. In phase two, the growth rates were to be the phase I rates increased by 25 percentage. In the third phase, the growth rates are to be phase II rates raised by 27 percent.

As earlier indicated, since much of the textile industry pollution is generated from the production of cloth, our focus is exclusively on cloth exports. Pakistan's future exports of cloth could be contingent on a number of factors that could include the following:

- i. WTO Agreement on Textiles and Clothing (ATC);
- ii. Growth in production of raw materials like cotton;
- iii. Growth in manufacturing production capacity and domestic absorption;
- iv. Quality and exchange rate determinants of competitiveness.

The model has also been used to forecast exports of hides and skins, leather and footwear.⁵ The results are presented below in Table 4. While our concern is with identifying the environmental impact of export related leather-tanning (i.e. directly as leather or the leather equivalent of footwear exports), forecasts of hides and skins provide context for the overall export scenario for the leather industry that is discussed below.

Table 4. Benchmark and forecasts for hides and skins, leather and footwear

Product	1996-97	2004
Hides and skins ('000 kgs.)	45.0	57.6
Leather (million sq. meters)	14.3	13.2
Footwear (million pairs)	8.2 (3.01 millions m ² Leather)	8.0 (2.94 millions m ² Leather)
Total Leather Export (million sq. meters m ²)	17.31	16.14

Source: Benchmark data were drawn from Government of Pakistan, *Economic Survey 1997-8*, Statistical Supplement (1998, pp. 168-170).

Tough controls on the highly polluting tanning process have contributed to a large cut in the number of tanneries in most OECD countries.⁶ As a consequence, exports from LDCs like Pakistan filled in the availability gap in these OECD countries. This probably partly explains the cumulative rapid leather export growth statistic from 1980 to 1990 of 108 percent for Pakistan. Since then, leather imports have confronted restrictions in some OECD countries based on health criteria. For example, in 1990, Germany imposed a ban on

leather treated with pentachlorophenol (a carcinogenic chemical preservative). Subsequently, several European countries have imposed a ban based on the use of azo dyes.⁷ Thus, it is not surprising that leather export growth has tapered off for Pakistan and the trend forecast suggests declining growth into the future.

Another reason for this is the tariff escalation used by industrialized countries. Thus while hides and skins face zero tariffs, semi-manufacturing leather faces an average tariff of 4.8 percent and finished goods face a tariff of 12 percent. It should not be surprising that our trend forecast shows a continued robust export growth for hides and skins. Thus it seems that as industrialized countries have adopted cleaner technologies, they would rather import the raw materials from the South and again engage in the higher value added activity themselves.

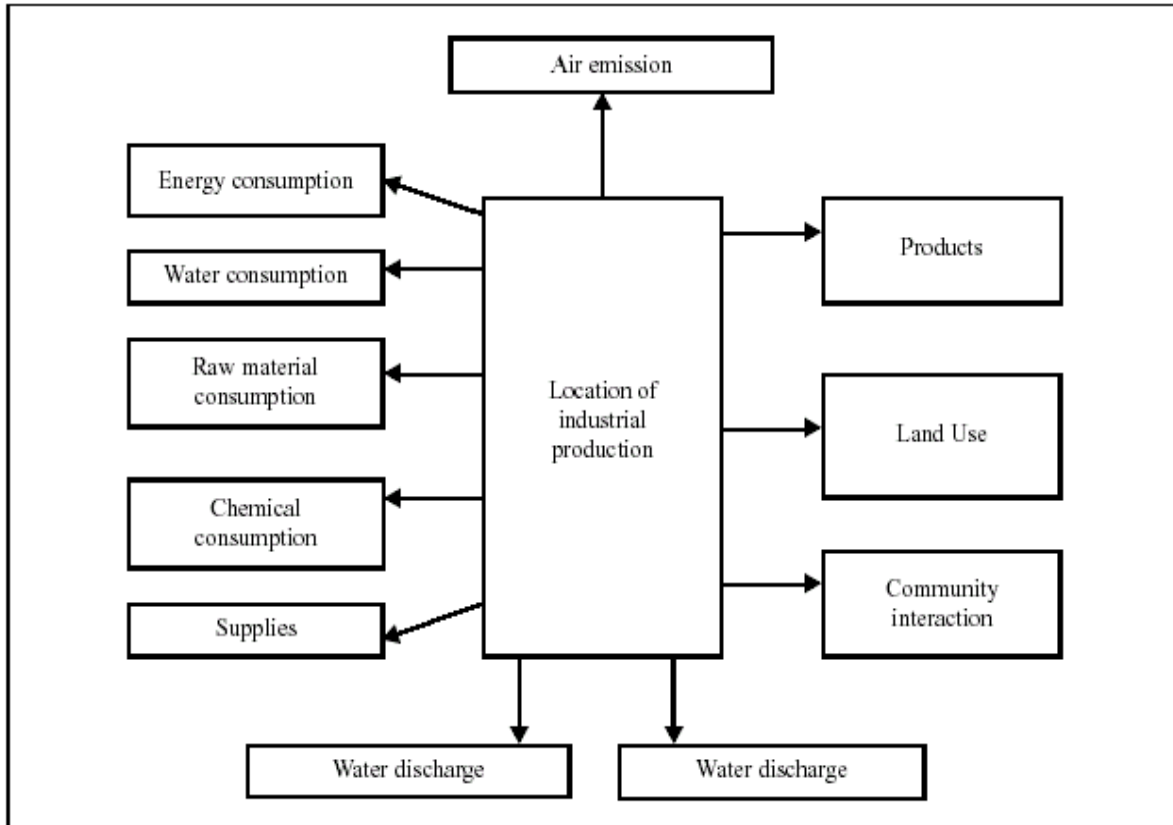
Exports of leather products are slated to receive below average tariff reductions in industrial countries as a result of the Uruguay round. The overall reduction is 18 percent that is decomposed into 11 percent for North America and 23 percent for Europe.⁸ Thus our forecast of footwear could be biased downwards by not explicitly taking account of this tariff reduction, but not by much.

The decline in the exports of leather and footwear have occurred despite a range of export incentives provided by the Government of Pakistan. These include rebates on leather product exports, duty free imports of raw hides and skins for re-export as higher value products and an export refund scheme for leather footwear.⁹

A more serious issue from Pakistan's perspective, however, is the immense contribution to total industrial pollution currently made by leather tanning as suggested by Table 4. Anticipating and addressing the scale of the environmental threat this industry represents is critical for environmental policy.

3.2.10 Environmental impacts and mitigation options in the leather tanning

Figure 1. The environmental aspects of industrial production



What follows below are three exercises based on our analysis that provide context for policy decisions for government and industrialists.

Leather

A similar exercise was done for leather tanning and the results can be used to provide macro and micro context as in the case of cloth mitigation costs.

3.2.10.1 INCREMENTAL EXPORTS RELATED MITIGATION COST

In the case of leather, the incremental export related mitigation costs are not applicable since, based on past trends, we project a decline in “gross” leather exports. Thus, we calculated the macro total mitigation costs of putting all export related leather wastewater

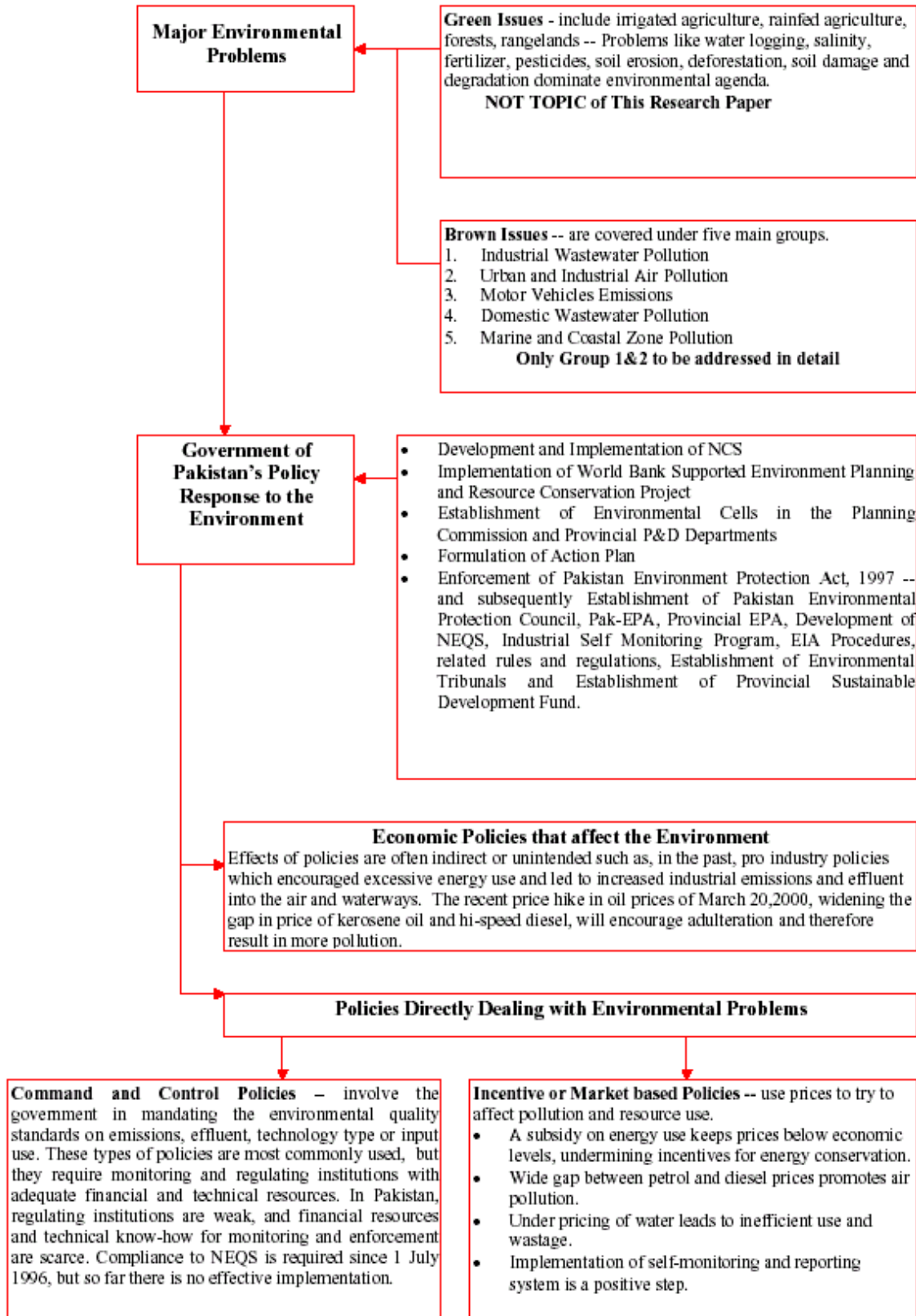
through a primary treatment plant in the base period (1996). The cost of achieving 66.2 percent mitigation would have been Rs. 134.27 million or 0.0064 percent of GDP for 1996. If the value of chrome recovery is netted out, the mitigation cost would have been 0.0048 percent of GDP. These costs of mitigation are much lower than for cloth since clean technology is locally available. In any case, these results strongly reinforce the finding emerging from cloth export that the macro mitigation costs are modest.

3.2.10.2 TOTAL FOREIGN EXCHANGE LIABILITIES.

Since the technology used and recommended is indigenous, there is no capital cost related foreign exchange liability from the mitigation.

3.2.10.3 MITIGATION COST AS PERCENTAGE OF EXPORT REVENUE.

Since the primary treatment plant is anticipated to serve several manufacturing plants at the same time, we have estimated the mitigation costs for the producers as a whole rather than for an individual unit as in the case of cloth production. At the export unit value of Rs. 651.9 /sq.meter for leather and Rs. 245.6 per pair for footwear, the total export revenue for 17.31 million sq.meters leather was Rs. 11,336 million in 1996.¹⁰ Thus the mitigation costs amount to 0.88 percent of the export revenue of industrialists. Thus, at a micro level, the mitigation costs are once again rather modest relative to anticipated benefits.



3.2.10.4 Given Below Is The List Of Main Steps Involved In Effective Waste Minimization and Environmental pollution Control

- Top management commitment for waste minimization.
- Appointment/ positioning of waste minimization manager.
- Documentation on type and quantity of waste generated from each stream should be prepared. Along with this the disposal cost of waste and saving in case of reuse, recycling and direct selling cost should be gathered.
- Effective process control.
- Take feed back from the waste minimization team.
- Alternative production processes.
- Alternative raw material, chemical and fuel.
- Take feed back from the waste minimization team.

Step-1: Identify Sources Of Pollution

Identify all point sources of pollution from all processes. It should include all liquid, air emissions, solid waste and noise level. The other sources of contamination, like chemical and oil storage and any other potential source must be identified.

It is advisable to mark all potential sources of pollution on the factory plan, including utilities, storage tanks, spill areas and exits to sewer line. The emissions from each process should also be mentioned on the process flow diagram.

All identification sources of pollution and contamination should be characterized in term of:

- Type and concentrations of pollutants for all emission sources.
- Range of concentration for each pollutant.
- Physical and chemical properties, such as temperature, flow rate etc.
- Total emissions in the quantitative terms.

A tabulated record of emissions from all sources should be prepared including solid wastes, liquid and air emissions, and noise level.

Step-2: Identify The Technology And Equipment Required For Pollution Control

There are multiple pollution control technologies and equipment available for the similar type of pollutants and legislative requirement. One must select the most suitable and cost effecting solution. While technologies selection the concentration should not be only at the end of pipe solution but option of pollutants reduction at source must also be explored. Following are the key parameters for technologies selection.

- Performance requirement;
- Type and characteristics of Pollutant;
- Option of existing equipment up gradation; and
- Legislative requirements.

Step-3: Identify Alternative Options For Pollution Control

At the stage of selection and evaluation of equipment, an alternative list of equipment should be kept considered for;

- Durability and reliability.
- Space requirement.
- Technical performance.
- Design period and design margin.
- Man power and O&M and after sale service.
- Availability in the market and its use on other similar projects.

Step-4: Evaluate Different Options Enlisted

Evaluation of technology and equipment on the basis of costs and benefits for a pollution control projects is quite hard, because of difficulty in quantification of the benefits. In general this analysis includes the following.

- Capital cost of the project
- Benefits of the project
- Operation and maintenance cost

Capital costs include the cost of land, site preparation, designing and construction, including the cost of equipment and all accessories. These are actually all non-recurring costs of the project until the commissioning.

Operation and maintenance costs include all recurring expenditures, once the pollution control system becomes operational. It is the cost for mainstreaming all equipment and structures in place, manpower, energy, chemicals used, all utilities and disposal of sludge if any.

Benefits calculation is a difficult task for, especially end of pipe treatment system. However the cost saving due to lowered level of pollution load, as of waste minimization plan can be calculated after putting some efforts. Other benefits of pollution control system can be result of saving from penalties due to legislative compliance. The benefits in term of improvement in human health, ecological and aquatic life conservation, better public image, indirect better marketing, less water treatment cost of down stream plants, are evenly tough to quantify.

Step-5: Final Selection Of Pollution Control Option

Choosing the cheapest option straight away is not the best technique to finalize the project, ignoring the other some very important factors such as O&M and space

requirement for installation. "Matrix system" is the best technique to come up with the most feasible option. In this evaluation system the following are the important steps involved.

- Make a selection criterion.
- Identify the weight-age factor for each criterion.
- Assign score to each option.
- Calculate total weight-age factor for each option.
- Compare the total score of each option giving the average weight-age factor to each criterion for final selection.

Step-6: Installation And Operation

After final selection of pollution control technology, proper installation of plant and commissioning is essential. For each project it is important to consider the following.

- Appoint a Project Manager from the company to watch the overall project matters, including progress, budget, and quality control, until handing over to concerned personnel.
- Involve all team i.e. the operation and maintenance team, electrical and mechanical engineer.
- Prepare construction drawings as per actual work done.
- Observe all health and safety issues while construction and related to O&M.
- Prepare all documents such as HAZOP.
- Intermediate payments to supplier or contractor should be made at the completion of well defined stages and identify those in contract.
- Apply all the tests for quality control during construction and at commissioning level before taking over the project
- Get complete O&M manual from the designer or supplier and ensure complete training of the staff involved after completion of the project.

3.2.11 RULES AND REGULATIONS

PEPA (Pakistan Environmental Protection Agency) is quite comprehensive because nearly every section has to be read with the rules and regulations prescribed under it. There has been a delay in the notification of the Rules and regulations for implementing the provisions of the PEPA. So far only two regulations have been notified i.e.

- a) Pakistan Environmental Protection Agency Review of Initial Environmental Examination and Environmental Impact Assessment Regulations 2000
- b) National Environmental Quality Standards (Certification of Environmental Laboratories) Regulations 2000

The Rules, which have been drafted but not yet notified to the Government, are:

- a) Hazardous substances rule
- b) Hospital Waste Management Rules 2000
- c) NEQS (Self-Monitoring and Reporting by Industry) Rules
- d) Provincial Sustainable Development Fund Board (procedure) Rules
- e) Provincial Sustainable Development Fund Board (Utilization) Rules
- f) Pollution Charge for Industry (Calculation and Collection) Rule

They will be notified soon.

3.2.12 Federal Laws Dealing With Environment

Although, at present the PEPA is the main federal environmental law, other federal and provincial laws also deal, in different degrees with issues concerning the environment. These include the

- Factories Act 1934
- Pakistan Penal code 1 s60
- Forest Act 1927
- Territorial Waters and Maritime Zones Act 1976
- West Pakistan Regulation and Control of Loudspeakers and Sound Amplifiers Ordinance 1965

- Agricultural Pest Ordinance 1971
- Canal and Drainage Act 1973
- West Pakistan Fisheries Ordinance 1961
- Motor vehicles Ordinance 1965
- Provincial Local Government Ordinance
- Explosive Act

3.2.13 Industry-Environment Partnership

In 1996 the Federation of Pakistan Chambers of Commerce and Industry (FPCCT) and the Government of Netherlands embarked upon an Environmental Technology Program for Industry (ETPT) in Pakistan. ETP1 was implemented in two phases covering all industrial sub-sectors of the country. The primary objective of the project is to promote eco-friendly technologies for the production of environmentally safe products by Pakistan's industrial sector. In the first phase (1996-1999), the Demonstration Projects were selected from Sugar, Textile, Leather, Paper, Fertilizer and Edible Oil Sectors. In the second phase (1999-2002) Demonstration Projects were selected from Petrochemical, Steel, Pesticides, Dyes and Pigments, Cement, Food Processing, Dairy, Automobiles, Polyester Fiber and Industrial Chemicals sub-sectors of the industry. Once a project is selected under ETP1, a comprehensive action plan is prepared giving environmental solutions to its environmental problems in terms of cleaner production measures, in house improvements, and end of pipe treatments. Various industries have benefited from this program and have been granted ISO-14000 Certification. All the Chambers of Commerce of the Industries have constituted the Standing Committees on Environment which assist the industries to deal with the EPAs and solve the environmental problems under PEPA.

However environmental measures, regulations and schemes are of ever increasing importance to the leather industry. Since 1998 many developments have taken place, and these are presented in the following summary:

3.2.14 Integrated Pollution Prevention and Control (IPPC)

According to the (ELJ) IPPC Directive (1996), among other industrial activities, tanneries of a certain size must have an environmental permit. This includes the use of 'best practicable technologies'. The Directive has now been implemented in half or the member states of the European Union.

This Directive is also going to be implemented in the future EU member states. In the Czech Republic it is going to become a part of the legislation in 2001, and it was understood that it will be enforced in Bulgaria from 1/1/2003, the development/implementation taking place in the period 2003-2012. Before that, a number of pilot permit procedures would be carried out.

3.2.15 ISO 14001 Standards and Eco-Management and Audit Scheme (EMAS)

Among the two international environmental management schemes – the ISO 14001 standards and the EU EMAS – there exist a number of differences. Some may be relevant to certain tanneries.

- At present, EMAS is only adapted to industrial activities within the EU, whereas an ISO 14001 certificate can be applied for worldwide.
- While an ISO 14001 certificate only covers the environmental management system of the company, an EMAS registration covers the whole enterprise.
- An EMAS registration presupposes that the registered company ensures that its subcontractors implement environmental standards comparable to the company's own. In this way, some tanneries exporting to the EU may be confronted with environmental demands.

Within the EU, approximately 15 tanneries have an ISO 14001 certificate, 10 are applying for one and 3 Italian tanneries are applying for EMAS registration. The Italian Leather Procedures' Association (UNIC) together with some Italian tanneries has carried out a study for the EU on the implementation of EMAS tanneries.

3.2.16 Quality Differences

In the future, the trend towards leather becoming a luxury item will make leather articles belong to the category of goods, whose quality, durability and also ecological properties distinguish them from cheaper materials.

CHAPTER FOUR

PRESENTATION ANALYSIS

4.1 PAKISTAN LEATHER INDUSTRY ENJOYS A PROMINENT POSITION IN THE WORLD LEATHER MARKET

Pakistan leather industry enjoys a prominent position in the world leather market. It is considered to be the most significant industrial sector of the Pakistan economy as it is the second largest export oriented industry in Pakistan.

In 1985 it was the fifth most important export industry in the manufacturing sector. Presently it ranks second and is contributing around 5% to the GDP and 7% of the total exports of the country. The export earnings from the sector have increased rapidly from Rs 1,000 million 1979-80, to Rs 10,832 million by 1989-90 (US \$ 504.4 MILLION) registering eight fold increase in less than a decade. The earnings further increased \$ 603.7 million up to 1997 but started declining in the later years. However, the absolute growth rate during the last five years was 2.3 percent. The industry is employing more than 1% of the total employment more than 200,0000 workers. Its 95 % production is exported in the form of leather or leather products.

The industry is producing many items but main products of export are: leather garments, footwear, sports goods, leather gloves, handbags, belts, key chains, brief cases, wallets etc.

Leather industry of Pakistan plays a vital role in stabilizing the country's economy. However, the need of the hour is to inject new vigor, quality consciousness and to adopt scientific marketing approach to be competitive in the global market in order to achieve the export target fixed by the government.

Our Leather industry has made tremendous efforts and stepped forward on renewed technical footings towards keeping pace with fast changing fashion trends and maintaining the standard in the international market.

The government of Pakistan has taken a number of measures to revitalize the economic spectrum of the country which has remained dismal owing to depression in the world

market, curtailment of some of the facilities available with our industry, introduction of Euro Currency and changed weather conditions, enhancement of input prices, etc.

4.2 HISTORY OF LEATHER INDUSTRY WITHIN PAKISTAN

The leather industry in Pakistan is not very old. At the time of partition of the subcontinent in 1947, there were only a few tanneries operating on a small scale, producing mostly sole leather. However, the five decades since independence this industry has attained substantial progress and development.

In 1947, a few small tanneries were established in Karachi. In the 1950s some well-equipped tanneries were built in Lahore, while in the 1960s more were established at Karachi, Hyderabad, Multan, Sahiwal, Lahore, Kasur and Gujranwala.

Starting with the production of tanned hides and skins, the tanneries today are producing not only wet blue and crust, but also fully finished leather. In the 1950s, 90% of vegetable tanned skins were produced in Karachi, Kasur and Gujranwala while chrome tanned leather for footwear was produced in Lahore and Hyderabad. Most of the tanneries started producing and exporting chrome tanned leather from 1960 onwards.

In the 1970s, the industry was forced to pursue a course of rapid development due to the end of export bonus scheme and devaluation of Pakistani rupee. An export tax was levied on the export of wet blue and semi-processed vegetable tanned leather. This was the turning point in the history of the leather industry in Pakistan as it quickly transformed from the production of unfinished leather into crust leathers.

Today, the industry is able to produce high quality finished leathers from both hides and skins. This has been possible due to the acquisition of latest leather technology and working skills combined with latest machinery. Presently, several modern units for the production of finished leather have been setup, while many old and medium-size tanneries have been modernized.

The leather and leather made-ups industry plays a significant role in the economy of Pakistan. In 1985 it was the fifth most important export industry in the manufacturing sector. Presently it ranks second. The export earnings from the sector have increased rapidly from Rs.1billion in 1979-80 to Rs.10.892 billion by 1989-90 (US\$504.4 million registering eight fold increase in less than a decade). The earnings further increased to \$603.7million up to 1997 but started declining in the later years. However, the absolute growth rate during the last five years was 2.3 percent.

4.3 PHASES IN PAKISTAN'S LEATHER INDUSTRY

Pakistan's leather industry passed through four phases before reaching its full-fledged export industry's level. In the first phase: 1947-57, the industry had not shown any significant progress. During the period the industry provided vegetable sole leather for the domestic industry and raw hides and skins were exported. The producers used primitive methods of production and a limited number of tanneries operated mainly in Multan and Lahore.

The second phase comprised of the decades of the sixties. In this decade of progress new tanneries were set up, started utilizing locally available raw material, otherwise pickled, wet blue and vegetable tanned leather were produced for export. During this period semi-finished raw leather was mainly exported.

In the third phase the industry started producing partly crust/dyed and partly finished leather. During the period the industry still worked on a small scale but rapidly increased the number of units. Up to 1979-80, almost 78 percent of the total leather group exports consisted of finished and semi-finished leather.

The fourth phase spread on the decade of 80's. During this period the industry showed a high growth rate. Its composition also changed and it accepted the international challenges. The share of the value-added items doubled, worker's skills enhanced, better designs and more modern and sophisticated techniques were introduced which made the industry competitive in the international markets. Due to value-addition, the private sector earned reasonable profits, which were invested in the industry for expansion and

also used for BMR. Up until 1999 about 725 tanneries were in operation having a capacity of 90 Million Sq. meter tanned leather per annum. The number of garments and apparel units also increased to 461 with a capacity of 7 million pieces per annum. According to SMEDA, 524 footwear units, 348 leather gloves units, 142 other leather items units and 160 leather sports goods units have been set-up in the country. To meet domestic demand Pakistan is importing wet blue, accessories and chemicals.

The growth factor of this sector of industry for the past one decade was much encouraging and the export graph of this sector was growing up with regular pace. However, during 1997–98 and 1998–99 the growth factor of leather export has lost momentum mainly due to some problems, which are as follows:

4.3.1 LEATHER PRODUCTS

The industry is producing many items but main products include:

- **FINISHED LEATHER**

Finished Leather ready to made products in assorted colors is available to export.

- **BRIEF CASES**

Brief Cases made of pure leather are available in Black, Grey and Olive Green colors. These are of standard sizes with numerical security locks.

- **LEATHER JACKETS**

Leather Jackets for Men, Women and Children are available in all sizes. Pakistani exporters can make and export leather jackets as per design and specifications.

- **HAND GLOVES**

Leather hand gloves are made in black color. These are available in all sizes.

- **WALLET & PURSES**

All wallet and purse products are at par with international quality standards.

- **PASSPORT HOLDER**

A typical product, which is widely accepted in international market made up of Brown Antique leather; also available in various colors.

- **CARD CASE & KEY RINGS**

Small leather items are in high demand in the international market.

- **LADIES HANDBAGS**

This product has a great demand in the international market. Each piece is unique on its own.

- **LEATHER SHOES**

Shoes for Men and Women are available in all international sizes. These are made of pure leather in casual wear.

- **RAIN COATS**

Men and Women Rain Coats are available in all sizes.

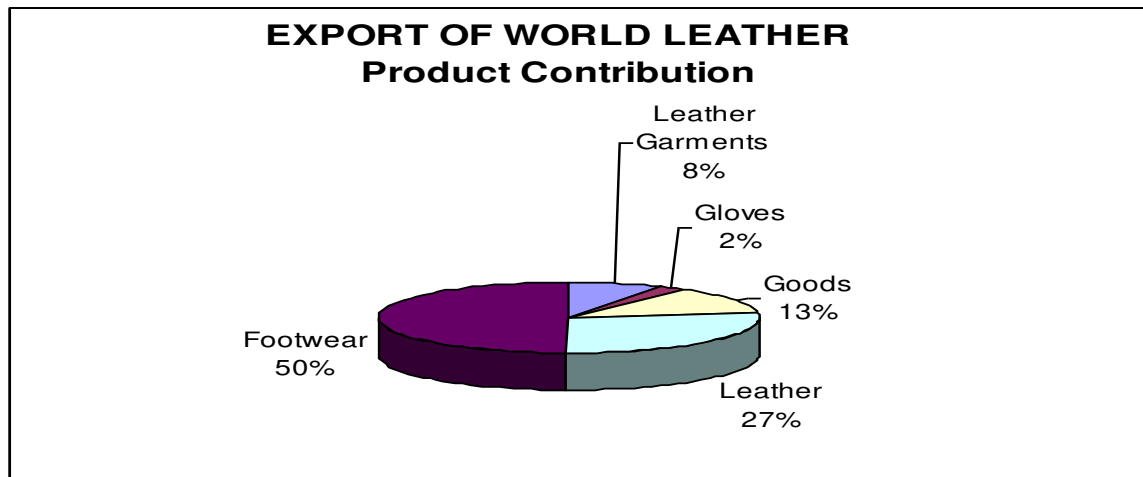
The items are usually shipped by air.

4.4 SIZE OF INDUSTRY

The leather units mainly based at Karachi, Lahore, Kasur, Gujranwala, Sialkot, Faisalabad, Multan and Peshawar. However, out of 726 tanneries majority are located at Korangi (Karachi), Kasur and Sialkot.

4.5 GLOBAL LEATHER TRADE

Exports of the world leather sector were about \$44 billion, of which leather garments \$3.6 billion, gloves \$0.9 billion, goods \$5.7 billion, leather \$11.9 billion and footwear 21.9 billion. Pakistan's share was only 1.4 percent, ranked 20th in the world export refer to figure 2 (Appendix-II).



According to SMEDA report, the world leather market in 1998 was \$11,891 million as compared to \$ 11, 147 million in 1994. The average growth rate for leather exports during the five years (1994-98) was 2 percent. It increased during 1994 to 1996 and then declined. One of the reasons for this decrease was the Far Eastern crisis. Since Far Eastern countries constitute the major import market for finished leather, so their currency devaluation led to making their imports expensive. In addition, market during this period also showed declining trend due to change in fashion in European countries and a growing concern over animal rights.

4.5.1 MAJOR WORLD EXPORTERS

Italy is a top of the list of major leather exporters with 30% share of total global trade in 1998. Italy is considered the best leather producer of the world with highest unit price. Korea is the second largest exporter, with 11% market share and USA the third with 8% share (Refer Table 11 Appendix I). Germany and Argentina both hold 6 percent market share each. According to the Industrial Research Report No.831-2001, Pakistan ranks thirty with 1.71 percent share (also refer to the figure 3A, 3B and 3C in Appendix-II).

In Leather Made Ups, China is a top of the list with 12% contribution in 1998. USA is the second with a contribution of 11% share in export of Leather Made Ups. (Refer Table 12 Appendix I)

4.5.2 MAJOR IMPORTERS

Major importers include China with 15 percent market share. Hong Kong is at second position with 14 percent of market share. Refer to Table 13 (Appendix I). Hong Kong acts as trading hub and majority of the leather imported to Hong Kong is re-exported. It is interesting to note that Italy is not only the largest exporter of leather but also is the third largest importer. Most of this imported leather is converted into value-added leather products and is re-exported. USA also imports leather and holds 9 percent share in world import market. The share of these four countries constitutes 50 percent of total world import. In Leather Made Ups, USA has got 1st position with a contribution of 21.65%. Refer to table 14 (Appendix I).

World market for leather imports can be divided into three main categories:

(1) Leather of Hides (2) Leather of Skins and (3) Leather About 80 percent leather trade consists of hides. The remaining 20 percent is divided into skins and other leather products. Hides are mainly used in footwear, upholstery and leather goods. Skins are mostly used in leather garments.

The average market growth in the quantity of leather has been four percent, during the period of 1994-98, while increase in value of trade was 2 percent, because of decrease in average unit price of leather (Refer Table 15 Appendix I). In 1997-98 trade of skin leather decreased at the rate of 5 percent. However, increase in per kg price of leather was highest for skin. Its price increased from \$28 per kg to \$31.33 per kg during 1994-96 but started to decline in the later years.

The trend of export and import was the same till 1995 whereas the demand was increasing for exports. After 1996 the decline in unit price (Table 15 Appendix I) started and the sharpest decrease was in the price of skin leather. This was due to decrease in

demand of leather garments due to change in fashions. The price of other leathers remained stable and growth rate was 1 percent during 5 years.

4.6 PAKISTANI LEATHER IN INTERNATIONAL MARKETS

Leather is exported to international markets as finished leather or in the form of leather made-ups such as jackets, gloves, handbags, shoes, etc. Hong Kong is one of the biggest buyers of finished leather. Germany follows in the list of importers of leather goods from Pakistan.

As per the percentage values Germany is one of the biggest buyers of leather made-ups. U.S.A. follows in the list of buyers of leather made-ups from Pakistan.

Presently, there are about 120 countries with which Pakistan has established export relations and to whom it sells finished leather and leather products. In order to remain focused European countries have been selected and \$ value of imports of the leather finished goods have been analyzed.

4.6.1 EXPORT FROM PAKISTAN

There exists a huge demand for leather and leather products in the world. It is because the tanning and leather based industries of major industrialized countries like USA, Canada, EU, Japan and Australia have declined drastically over the past two decades due to rising wage level and high environmental cost. Consequently these countries have become the importers of leather producing great avenues for the leather producing countries.

Pakistan being a third world country is on the rise to the growth of its leather industry in fact, the overall bulk of industrialization still lies ahead and it is expected that industry will double in 10 years and then double again. The leather tanneries are no doubt a part of this burgeoning trend. As long as there is a profit to be made in the arena, new factories--small or large--will continue to start up.

In 1990 the leather sector jumped to become the second largest foreign exchange earner for the country by contributing 10.41 percent toward the total export revenue. The increase in tanned leather exports (not even including leather garments) from 1990-1995 alone is astounding. The leather products industry increased its amount of exports from \$271 million USD in the 1990-1991 fiscal year to \$349 million US\$ in 1994-95, however in the recent years even Pakistani Leather Industry has been affected due to the environmental concerns, rapidly changing fashion designs, etc.

Sticking to the European countries like Germany, Italy, France, etc. as per the table 7 the quantity imported and its value in \$ can be studied for more clear picture of overall exports of Leather and Leather Goods from Pakistan. To further take a minute look at the individual items like gloves, leather garments and other leather made-ups including footwear, briefcases, keychains, etc. refer to table 8,9 and 10 (Appendix-I) respectively.

4.7 IMPORTANCE OF LEATHER AS A FOREIGN EXCHANGE EARNER

The leather and leather products industry plays a significant role in the economy of Pakistan. In the early eighties it was the fifth most important export industry in the manufacturing sector. In 1990 the leather sector jumped to become the second largest foreign exchange earner for the country by contributing 10.41 percent toward the total export revenue. Presently it is the second.

The pace of export earnings for finished leather has accelerated rapidly. The export of leather sector industry during early seventies were to the extent of US\$ 90 million and by the end of the decade it reached to US\$150 million whereas within the next one & half decade our industry made so much progress that it not only started exporting 90 % of the total production in the form of finished leather & value added made-ups but it exports grew 4 times i.e. from US\$ 150 million to US \$ 640 million and having reached a stage where it has been adjudged to be the 2nd biggest export oriented industry of the country in terms of foreign exchange earnings in the manufacturing sector.

4.7.1 GLOBAL SHARE

The leather industry in Pakistan is continuing to grow but globally Pakistan has a small share in the world's leather market. There are certain factors that make the cost of Pakistani Leather products expensive as compared to its competitors. Total world exports of leather and leather made-ups are approximately US\$ 20 billion. The major exporter is China with a share of 40%. Global Share of big leather exporting countries is shown in the table below.

Global Share of Big Leather Exporting Countries

Countries	Global Share in %	Global Share in \$
China	40	8.0 billion
India	10	2.0 billion
Turkey	8	1.6 billion
Italy	8	1.6 billion
Others	36	7.2 billion

Source: EPB Library

China has the highest share in the global market. India comes second in the list. The share of Pakistan in the global market is only 3%, which is considered to be quite insignificant as compared to our competitors; the reason behind this meager share is that our competitors have an edge over us in terms of cost.

4.8 PROBLEMS FACED BY THE LEATHER INDUSTRY

The growth factor of this sector of industry for the past one decade was much encouraging and the export graph of this sector was growing up with regular pace. However, during 1997–98 and 1998–99 the growth factor of leather export has lost momentum mainly due to some problems, which are as follows

4.8.1 AVAILABILITY OF BASIC RAW MATERIALS

Livestock Population and Growth Trends

The raw material for the tanning industry, i.e. the hides and skins, come from livestock in the country. The growth of the livestock over the years is not keeping up with the pace of the demand. The demand is growing at a faster pace than the growth of the livestock (table I Appendix I).

At present there are about organized 500 tanning units concentrating mainly at Karachi, Lahore, Sialkot, Faisalabad, Multan and Kasur. The total demand of hides and skins is around 500 million sqft. Around 40 million goats and sheep are slaughtered per year. The average skin that is taken out of a goat or a sheep is 7 sqft. The total skin that is available is around 280 million sqft. The number of cows and buffaloes slaughtered is around 8 million. The average skin that is comes out of a cow or a buffalo is approximately 23 sqft that makes a total of 184 million sqft of hide. The total number of hides and skin available locally is around 464 million sqft. There is a damage of around 20% i.e. approximately 90 million hides and skins are damaged leaving approximately 375 million sqft of skins and hides. Refer to table 2 Appendix I.

From the above figures we can clearly see the total demand of finished leather and its allied products/manufacturers which is in the extent of 5 million sqft out of which 75% i.e. around 375 million sqft is produced from the local sources while rest of the 25% of the surplus demand is met through imports from foreign sources. Therefore we can say that the leather industry is dependent on imports. Refer to table 3 Appendix I.

The hides and skin demanded is around 500 million sqft out of which 16 million sqft i.e. 40% of the total is used in the production of finished leather, 95% of which is exported. Out the total hides and skins 50% of it is used in making garments 100% of which is exported. The remaining 10% of the total hides and skins in used in making footwear, gloves & leather goods. Around 100 million pairs of footwear are produced out of which 96% is consumed locally and 4% is exported as shown in the following table.

PRODUCTION OF LEATHER MADE – UPS		
	Pcs/Annum	% Exported
Garments	6,000,000	100
Leather Gloves	10,000,000	100
Leather Footwear	100,000,000	4

Source: <http://www.leathermarket.com>

At present Pakistani tanners import raw hides and skins worth about US\$ 20 million which have been allowed duty free by the present government to make the production cost price competitive in the international market.

The availability of hides and skins from the countries livestock has not kept pace with the increasing pressures of domestic as well as international demand.

4.8.2 ENVIRONMENTAL PROBLEMS

The Issue

The rampant discharge of untreated effluents tanneries is a growing problem in Pakistan's leather industry. The tanneries in Pakistan are causing severe environmental degradation as the untreated effluent used in the tanning process is released into nearby water reservoirs and the sea. In addition, air pollution is on the rise with the tanneries burning residuals (i.e. hair) from the tanning process into the atmosphere. Due to a need for foreign exchange, the national government is encouraging the growth of tanneries by offering these industries export rebates while at the same time lagging on implementing the sparse existing governmental environment regulations in leather tanning. The lack of government regulations is exacerbating whatever fragile balance existed between the Pakistani leather trade and the environment. With scarce land resources, the pollution is affecting large numbers of people. While the effluent contaminates the water supply on the land, it also pollutes the sea. This pollution in turn affects the food supply for the population. Moreover, much of the country is subjected to the direct air pollution caused by burning the tannery residuals into the open atmosphere. All of these forms of pollution are having detrimental effects upon the health of Pakistanis. Leather tannery discharge, combined with mangrove destruction and over-fishing, are contributing to a sharp decrease in shrimp production. The mangroves--whose leaf litter is a major source

of nutrients--provide a diverse habitat for a complex and interdependent community of invertebrates, fish, birds, and reptiles. In addition, almost 90 percent of tropical marine species seek shelter in the mangroves for one stage of their life cycles. The loss of the commercially important shrimp in Pakistan is having a devastating effect on the fishing industry, which is partially dependent on the shrimp supply. Shrimp exports are an important foreign exchange earner for the fishing industry and Pakistan as a whole.

Table 2.5: Major Industries of Pakistan Identified with Type of Potential Pollutants

Major Sectors	Location	Potential Pollutants
Chemicals	Karachi, Lahore	Sulfuric and Nitric Acids, Ammonia, Fluorocarbons
Pesticides	Karachi, Lahore	Organohalogens, Organophosphates, other toxic organic, Arsenic
Textiles	Karachi, Lahore, Faisalabad	Hydrochloric, Sulfuric acids, High BOD (organic content), dyes, various organic chemicals and detergents.
Pharmaceuticals	Karachi, Lahore, Quetta	Ammonia, Acids, Zinc
Leather Tanning	Karachi, Lahore, Sialkot, Kasur	Heavy Metals (Chromium, etc.), various organic chemicals, acids, high BOD.
Food Processing	Karachi, Lahore, Quetta, Peshawar	Ammonia, Sulfur dioxide
Cement	Karachi, Lahore, Peshawar	Alkaline, limestone dust
Electrical/Electronics	Karachi, Lahore, Gujranwala, Gujrat	Fluorocarbons, heavy metals (cadmium, nickel, selenium)
Glass/Ceramics	Karachi, Lahore, Peshawar	Arsenic, Fluorine
Petroleum Refining	Karachi, Multan, Rawalpindi	Phenols, sulfides, oily residues, ammonia
Pulp and Paper Board	Karachi, Lahore	Merceptans (organic sulfides), high BOD, and organic solids, mercury

Source: "National Environmental Policy of Pakistan, June 1999".

Moreover, the leather tannery operations near Peshawar are polluting the Kabul River and threatening its use for domestic and irrigation purposes as a freshwater fishery. Although the majority of the leather tanneries are centered around Karachi and have negatively affected the coastal area, the other factories located further inland near rivers are having just as devastating effects. This pollution is having a particularly costly environmental effect on the Pakistani government's attempt to encourage private freshwater fisheries in order to combat rampant overfishing along the coastline. Due to the increase in river pollution from the tanneries, and therefore tainting the available water resources for the fishponds, the project to alleviate the strain being place on the coastal marine life is not likely to be a success.

4.8.3 COMPETITORS ADVANTAGE

Its competitors due its cheaper cost are now capturing Pakistan export markets. The main competitors of Pakistan in export markets are India and China. The competitor leather is cheaper due to its low cost in chemicals, machinery and labor. For e.g. a bag of Chrome, one of the main chemicals used in leather tanning cost around Rs.26500 in Pakistan as compared to Rs.16000 in India. Pakistani leather jacket is around 500 to 1000 rupees expensive than the Indian leather jackets. This is one of the main reasons of the shrinking of Pakistani leather export markets.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSION

Leather industry is involved in serious environmental violations. Government of Pakistan instead of taking preventive actions is giving the leather sector more and more incentives which is adding to the problem.

There is lack of awareness among people who for little profits are destroying the Earth, sea and air. These people who are relatively larger in number are discouraging the environmental friendly people who are sacrificing their profits in order to save the earth, the government should immediately take some actions in this regard. Special benefits should be provided to these environmental friendly people in order to encourage them to use environment safe procedures of production.

With international certifications the condition is to some extent getting better, but it still needs attention. Now more and more companies are installing processing plants in order to save the earth, here I would like to say that the cost of these plants maybe high and maybe a burden to the company but in the long run they are going to pay the company handsome returns by reducing the cost of production.

In the end I would like to say that

**“People Every Where Breath the Same Air,
Share the Same Seas,
Live Together On Land,
People Every Where, Who Learn, Plan, Work, Care,
Can Save the Earth.
AND GIVE THE EARTH A CHANCE”**

I would like to end with “treat the earth well, your parents didn’t give it to you, your children loaned it to you”

We have to save the earth in order to give our future generations a better world and chance to survive.

The existing environment rules and regulations present in the country should be enforced without wasting any time. Since after WTO the environmental goods and services tariffs will be either finished or reduce the government should give incentives to the industry to avail the opportunity by providing low interest loans.

Government should hire foreign consultants having experience in the field of environment management so that they guide the local manufacturers.

The loan to Pakistan to conserve its environment should be utilized resource fully. Marketing is no doubt an expensive activity but it provides real service to society. Marketing brings about a balance to the exchanges carried on within the economic system. The key to all this is information and the consumers are the initial source of information. Manufacturers then gear production to meet these needs and wants. The Export Promotion Bureau of Pakistan can vigorously pursue its function via marketing in order to cater to small and medium sized exporters especially for non-traditional items where growth potential is enormous for example leather gift items.

5.2 ROLE OF GOVERNMENT

The first effort to introduce specific legislation for environmental protection in Pakistan was made in 1977. Since then, many institutional, policy and regulatory developments have taken place at the federal and provincial levels. These include, among others, the creation of the Ministry of Environment and environmental protection agencies, promulgation of the Pakistan Environmental Protection Act in 1977 and the Pakistan Environmental Protection Ordinance in 1983. In 1992, the Pakistan National Conservation Strategy (NCS) was developed, and in 1999 the NCS was subject to mid-term review. The NEAP was approved by the Pakistan Environment Protection Council chaired by the Chief Executive in February 2001.

The development objective of the NEAP is to initiate actions and programs for achieving a state of the environment that safeguards public health, promotes sustainable livelihoods, and enhances quality of life of the people of Pakistan. It will focus on taking immediate measures to achieve a visible improvement in the rapidly deteriorating quality of air, water and land, through effective co-operation between the government agencies and civil society.

The government should make the leather industry people more aware of the WTO and its legislation by holding regular seminars, workshops etc. the government has taken a step opening up a department in the Export Promotion Bureau to make the people aware of it.

The loans that the government has taken from various aid agencies such as the World Bank for environment protection should be utilized accordingly, as better environment for the future is a must.

Table 3.1: Impacts of Government Intervention on Industrial Development and the Environment in Pakistan

Period	Impact on industrial development					Environment Impact
	Overall growth	Sectoral composition	Technology Change	Enterprise scale	Location	
1940s-1960s	+	+	?	?	?	-
1970s	-	+	?	-	-	-
1980s	+	+	-	+	-	-
1990s	-	+	+	+	-	+

Note: + = positive or improvement in comparison to previous period; - = negative or deterioration in comparison to previous period. Sectoral composition: general shift towards more capital-intensive industries. Enterprise scale: differentiation through SME growth.

5.3 RECOMMENDATION BASED ON THE STUDY

Some recommendations that are based on the findings during the course of study of the topic are listed below.

Combined Effluent Treatment Plant

The Combined Effluent Treatment plant should be constructed immediately as the matter still is pending after a little construction. The government should take full interest in the matter and complete the project at the earliest.

Awareness / Information

Information about safety, health and environment should be visibly displayed in the workspace. More awareness should be created among the masses about the WTO and the effects that it will bring to leather industry if concrete measures are not taken in view of rules and regulation given in the Doha Conference. This can be created by holding regular seminars and workshops in which the management of industry should participate. There should be teams made for each individual city which would deal directly with the leather industry.

Training

Short-term training on occupational health and safety, modern practices of handling chemicals, etc. should be conducted for tannery staff and operators.

Government

The government should give loans on low interest to the manufacturers of leather goods to buy/purchase environmental protection goods and services.

Foreign consultants should also be hired as to help the government and local manufacturers.

Status of Man Power

The requirement of skilled workers is high. About 80% of the total man-power employed in the industry consists of skilled and unskilled workers and there is now a shortage of skilled workers. One draw-back of this practice is that it leads to lower productivity during learning period. With the planned growth in the industry, this shortage of skilled workers is expected to become more acute.

Value Addition

The average export prices of fancy/dress and sports gloves from Pakistan have decreased in the last 5 years. Only prices of industrial gloves, the lowest priced products, have increased. This clearly indicates a need for greater attention to quality.

International Market Development

For international market development, the Export Promotion Bureau (EPB) and PTA have to play the key role. This will include but not be limited to the following activities:

EPB and the PTA can organize study tours to coincide with major international Trade Fairs. This will enable the local manufacturers to gain exposure to the overseas markets and its requirements in terms of quality and designs.

It would also help in establishing closer relationships between the Pakistani leather exporters and its potential foreign customers.

EPB should also produce brochures for circulation to the trade associations of those countries which offer prospects of exports of Pakistani leather of all types.

The commercial attaches in Pakistani embassies should play a more active role in the promotion of Pakistani leather products. They need to provide the local industry with latest information of fashion trends and other important changes in the export markets so as to ensure prompt response to the changed conditions in the export markets.

Introduction of Leather Course

It is recommended that leather designing courses should be introduced at National College of Arts (NCA), Lahore and other institutes of fine arts. Students being educated there should also be given the choice to specialize in leather designing along with other fields of specialization such as textile designing, commercial arts, etc.

International Markets

EPB and Pakistan Commercial/Trade offices abroad to provide assistance for introduction of our products in new and untapped international markets

Livestock

Improvement of quality and quantity of indigenous raw hides and skins by improving livestock management techniques. The quality of local hides and skins has been detrimental to the growth of this industry. Various kinds of diseases, poor feed and outdated flaying/curing practices are amongst the causes.

It is quite gratifying that the Pakistan Tanners Association has continuously been playing its positive role with the cooperation of export Promotion Bureau, government of Pakistan not only in the boosting of export of leather sector but only in creating an industrial culture in the country to help strength economic spectrum of Pakistan so that our nation enters the new century with pride and dignity.

5.4 General Strategy for Environmental Management in the Leather Sector

- Short-term training on occupational health and safety, modern practices of handling chemicals, etc. should be conducted for tannery staff and operators.
- Information about safety, health and environment should be visibly displayed in the workspace.
- The provision and use of safety items such as face protective shields, acid resistant gloves, aprons, masks, etc. should be strictly enforced.

- Careful monitoring of water use needs to be implanted. Appropriate water conservation measures such as placing automatic stop valves on water supply pipes, converting from running water washing to batch washing, etc. should be adopted as appropriate.
- The appropriate environment friendly technologies should be adopted according to the particular needs and conditions of particular tanneries.
- Improvement in drainage system to avoid the formation of hydrogen sulfide gas inside the tanneries is suggested.
- Proper arrangements should be made to stop the use of tanned solid waste in the preparation of poultry feed.
- chemical re-cycling should be practiced.

I hope that my recommendations are implemented and various advantages are achieved from them.

- I would strongly recommend that instead of treating at the end of pipe, the environmental problems can be best dealt with by controlling the pollutants at the source.
- Cost cutting through non friendly ways of production, actually increases the cost because there is always a cost associated with the disposal of wastes.
- The Clean Production (CP) Technology is to date the best way of dealing with environmental problems as it minimizes the problem at the very beginning rather than at the end, which is always difficult and a huge cost is associated with it.
- Along with the commitment of the upper management, participation from the side of the workers should also be there.
- Every company must realize that it is their social responsibility to save the environment from being polluted; therefore they should cooperate with the environmental committees and NGOS.
- Pakistani exports are declining and rupee is depreciating against US Dollar, this is because of China on one hand and on the other hand the developed countries are now imposing ban on imports of goods from the countries engaged in

environmental violations, therefore strict implementation and following of environmental laws should be there. This is not possible without the cooperation of tannery owners, so they should cooperate to the fullest.

- Government of Pakistan should also take some immediate and solid action in order to stop this pollution; one step could be to give additional benefits and incentives to the producers who are engaged in environmental friendly ways of production.

6) *QUESTIONNAIRE*

*ANALYZING ENVIRONMENTAL IMPACT AND MITIGATING POLLUTION
COST OF LEATHER EXPORT IN PAKISTAN*

By MIMRANA GHAFAR

Name of Leather Co: _____

Address: _____

Person(s) responsible for completion: _____

1. Provide a brief history of your Co?
2. Product offered by your Co?
3. In which year you start?
4. What are the biggest challenges your Co is facing (regarding this business)?
5. What are your strategies to overcome those challenges?
6. What are your Co's greatest strengths?
7. What are your Co's greatest development needs?
8. Which areas will you focus in the coming year?
9. Which are the factors affecting the Leather Export in Pakistan?
10. What is your ranking in the Leather Export (market share)?
11. What major Cost does your Co face in Leather' Products Export?
12. Cost supervision and management?
13. Cost identification: How is the Mitigate Cost in current operations identified?
14. Cost monitoring: manner in which Cost is measured, and, controlled?
15. Profile of Supplier from whom you take Raw Material?
16. Terms, conditions and maturity of Supplying Raw Material?
17. What are your strategies to mitigate environmental pollution?
18. How your product is different from other products offered in the market?

APPENDIX-I

TABLE 1: INTERNATIONAL DEMAND OF FINISHED LEATHER

<u>COUNTRIES</u>	<u>Share In Percentage</u>
HONG KONG	20
GERMANY	15
SOUTH KOREA	8
SPAIN	6
JAPAN	5
USA	5

**TABLE 2: INTERNATIONAL DEMAND OF LEATHER
MADE-Ups**

<u>COUNTRIES</u>	<u>Shares In Percentage</u>
GERMANY	12
USA	12
UK	13
FRANCE	8
HONG KONG	6
CIS COUNTRIES	5
NETHERLANDS	6

TABLE 3: PAKISTAN'S SHARE IN THE WORLD

LEATHER MARKET

S.NO	COUNTRIES	TOTAL IMPORT (Rs. In 000)	IMPORT FROM PAKISTAN (Rs. In 000)	PAKISTAN'S SHARE PERCENTAGE
1	CHINA	3,902,224	100,217	0.27
2	HONG KONG	1,851,776	41,166	2.22
3	ITALY	1,716,408	30,681	1.75
4	USA	1,050,249	10,588	1.01
5	GERMANY	678,279	235,273	3.43
6	FRANCE	473,869	11,432	2.41
7	KOREA	284,341	200,281	5.02
8	CANADA	221,501	300,695	0.77
9	SPAIN	537,053	15,426	2.87
10	OTHERS	1,792,416	650,150	2.74

**TABLE 4: WORLD EXPORTS OF LEATEHR AND
LEATHER PRODUCTS 2001**

S.NO	COUNTRIES	VALUE	% SHARE
1	ITALY	3,067,969	30.20
2	KOREA	1,166,368	11.48
3	USA	807,739	7.95
4	ARGENTINA	767,299	7.55
5	GERMANY	762,093	7.50
6	BRAZIL	657,247	6.47
7	UNITED KINGDOM	365,782	3.60
8	CHINA	349,897	3.44
9	SPAIN	327,799	3.23
10	FRANCE	318,786	3.14
11	AUSTRIA	267,857	2.64
12	URAGUAY	178,540	1.76
13	NEW ZEALAND	152,022	1.50
14	HOLLAND	148,125	1.46
15	OTHERS	627,603	6.18

**TABLE 5: WORLD EXPORTS OF LEATHER MADE-Ups
2001**

S.NO	COUNTRIES	VALUE	% SHARE
1	CHINA	110,180	12.37
2	USA	106,106	11.91
3	FRANCE	105,911	11.89
4	AUSTRIA	94,284	10.58
5	UNITED	70,557	7.92
6	GERMANY	68,971	7.74
7	MEXICO	55,585	6.24
8	ITALY	55,561	6.24
9	BRAZIL	37,239	4.18
10	ARGENTINA	23,230	2.61
11	CANADA	15,164	1.70
12	HOLLAND	13,919	1.56
13	COLOMBIA	12,587	1.41
14	BELGIUM	11,055	1.24
15	OTHERS	105,894	11.88

