APPENDICES

with the advice for
Terms of Reference for the
environmental impact statement
for the Pakistan Tanners
Association's environmental
management plan for the tannery
zone of Korangi Industrial Estate,
Karachi, Pakistan

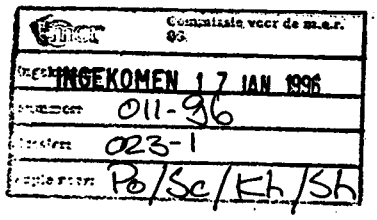
(appendices 1 to 5)

APPENDIX 1

Letter from DGIS dated 16 January 1996, in which the Commission has been asked to submit an advice for Terms of Reference

Ministry of Foreign Affairs

The Hague



Commissie voor de m.e.r./OS
(National Netherlands Commission for EIA)
att. drs. J.J. Scholten
Postbus 2345
3500 GH Utrecht

Directorate-General
International Cooperation

Date : 16/01/96

Re : Korangi Environmental Management Plan,
including CETP Korangi, Pakistan
WW92850, jrc nr. 381
vlgnr. 95/023

Ref :
DST/ML/95/674

With reference to the agreement between DGIS and the Commission I herewith request an advice on the Terms of Reference for the elaboration of the Environmental Impact Statement for the Environmental Management Plan for the Korangi Tanners, including a CETP (Combined Effluent Treatment Plant) in which also the relevant socio-economic, economic-financial and institutional aspects are taken care of.

From the side of Pakistan the Pakistan Tanners Association Ltd. (PTA) is the initiator. From the side of the Netherlands, the relevant department is the MILIEV-programme, for which Haskoning has applied for funds on behalf of PTA.

This programme has to be seen in relation to the elaboration of Masterplans for Sialkot and Multan, Pakistan.

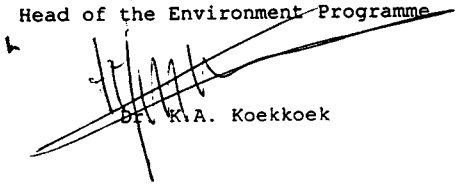
This Advice will be a follow-up to a preliminary advice of the Commission concerning the tanning industry in Pakistan and will be an important asset for the development of a future programme between DGIS and the tanners in Pakistan.

In the meeting on December 20, 1995 between DPO/BL, DAL/CO, DST/TA and DST/ML you were briefed about the subject and given additional background material.
As the CETP cannot be seen independant from inhouse measures (see your advice concerning Kasur) in the tanneries, it

seems important to take the complete existing tanning processes into account as well as the alternative technologies studied by PTA.

The budget and members of the working group for this advice are awaited. A combined visit tot Sialkot, Multan and Korangi might be a practicle approach.

THE MINISTER FOR DEVELOPMENT COOPERATION
For the Minister
Head of the Environment Programme



Dr. K.A. Koekkoek

APPENDIX 2

Project information

Proposed Activity: The Pakistan Tanners Association (PTA) proposes to define an environmental management plan for the tannery industry in the industrial area of Korangi, Karachi, Pakistan. The objective of this plan is to control environmental degradation caused by the two tannery clusters in the Industrial estate. Residents in the vicinity of the estate, along the effluent drains and users of the Gizri Creek are suffering serious negative environmental and health effects of these tanneries. Workers in the tanneries suffer from adverse health conditions. National Environmental Quality Standards (NEQS) for emissions will come into force by 1 July 1996. Both industries and municipalities must comply with these standards. International pressure to clean-up production processes is increasing.
The environmental management plan comprises in-house improvements, improvement of effluent collection and conveyance, central effluent treatment, solid waste management and occupational health and safety.

Categories: Industrial development DAC/CRS code 91400, Water and sewerage DAC/CRS code 92011, Waste management and disposal DAC/CRS code 92013

Project numbers: DGIS: WW92850, JRC 381, vlgnr. 95/023; Commission for EIA: 023

Progress:
Letter requesting scoping advice: 16 January 1996
Site visit by working group: 14 – 26 March 1996
Scoping guidelines submitted: 21 May 1996

Composition of the working group of the Commission for EIA:
Mr J.W. Kroon (chairman)
Mr R. Ooijen
Mr Parvaiz Naim (local expert)
Mr I. van der Putte
Mr M. Siebel

Mr Shujauddin Siddiqui has contributed as resource person.

Technical secretary: Mr R.A.M. Post.

APPENDIX 3

Programme of visit EIA Commission to Pakistan
March 14 to 26, 1996

Date/day	Time	Programme
March 14, (Thu)	Night	Arrival of EIA Commission at Karachi and stay at Hotel Pearl Continental
March 15, (Fri)	16.00 hrs	Off day. Study of documents. Welcome to resource person Mr Shujauddin Siddiqui and working group member Dr. Parvaiz Naim
March 16, (Sat) Karachi	10.00 hrs	Presentation on PTAs Environmental Management Programme by Mr Gulzar Firoz, Chairman PTA Environmental Committee (at PTA EML office, Korangi)
	10.45 hrs	Presentation on Multan and Sialkot Leather Complexes by Dr. Junaid Ahmad, advisor PTA on environment
	11.30 hrs	Presentation on Korangi Environmental Programme by Mr Kamal Shabryar, Project Director, PTA-EML
	14.30 hrs	Visit of the Tannery Cluster and selected tanneries
March 17, (Sun) Karachi	09.30 hrs	Meeting with Secretary to Sindh Forest & Environment Dept. Mr Bahauddin Sirhindi and representative of Sindh Environmental Protection Agency (EPA), Mr Fazal A. Nizamani
	11.00 hrs	Meeting with Additional Chief Secretary Govt. of Sindh Mr Jewan Khan
	12.30 hrs	Meeting with Country Representative IUCN Ms Aban Marker Kabaraji
	14.00 hrs	Visit to Site Leather Industries
	20.00 hrs	Dinner by Pakistan Tanners Association (PTA) at Holiday Inn, Crown Plaza
March 18 (Mon) Karachi	10.00 hrs	PTA's workshop on 'Socioeconomic Dimension of the Korangi Environmental Management Programme' at PTA-EML office
	13.00 hrs.	Lunch at PTA-EML offices
	14.00 hrs	Working session with the EIA Commission and rounding off

March 19, (Tue) Multan	morning	Departure for Multan by Aero Asia (departure 07.45 hrs)
	11.30 hrs	Meeting with Multan Development Authority (Mr Sardar Nazeer)
	12.30 hrs	Meeting with Multan Municipal Corporation
	14.00 hrs	Workshop with tanners in Multan
	20.00 hrs	Dinner by PTA (Multan Tanners) at Holiday Inn
March 20 (Wed) Multan + Lahore	09.30 hrs	Field trip to tannery clusters and the proposed sites for Leather Complex
	18.00 hrs	Leave Multan for Lahore (by Air PK 388, departure (delayed from 18.00 hrs to 21.00 hrs) stay overnight in Lahore at Pearl Continental Hotel, Lahore
	22.30 hrs	Dinner by PTA Northern Zone at Pearl Continental, Lahore
March 21, (Thu)	08.30 hrs	Travel to Sialkot (by road)
	09.30 hrs	Visit to Leather Industry on Gujranwala road
Sialkot	13.00 hrs	Meeting with Municipality, Sialkot
	14.00 hrs	Workshop with tanners in Sialkot
	20.00 hrs	Dinner by PTA and Sialkot tanners
March 22, (Fri) Sialkot	09.30 hrs	Field visit to tannery clusters and sites for Leather Complex
	13.00 hrs	Travel to Islamabad by road. Stay at Holiday Inn (Islamabad Hotel)
March 23, (Sat)	08.00 hrs	Pakistan Day Parade and Sightseeing Holiday
March 24, (Sun) Islamabad	11.00 hrs	Meeting with Mr Salman Faroqui, Secretary Environment Govt. of Pakistan
	12.30 hrs	Lunch with Royal Netherlands Embassy
	20.00 hrs	Dinner by Royal Netherlands Embassy
March 25, (Mon)	09.30 hrs	Travel to Karachi by PK 309
	16.00 hrs	Presentation of draft ToR to PTA
March 26, (Tue)	01.40 hrs	Departure to Holland

APPENDIX 4

Priorities for in-house measures

- Alternatives for salt curing must score a low priority: in most cases salt-curing is not an activity of leather industry and with increasingly open hide markets it is a mondial problem that will not be solved in a foreseeable future. Concentration of the salt emission by dry-milling and segregation of soak liquors in combination with the search of locally accessible and acceptable outlets of chloride emissions should thus be given high priority.
- Alternatives to unhairing score a low priority: with respect to the integral environmental consequences, there is hardly a versatile alternative to destructive sulphide unhairing.
- Deliming: introduction of the sophisticated CO2-deliming scores a medium priority; the application of biodegradable acid deliming agents scores a high priority because of its easy practicality in large, medium as well as small scale tanneries.
- Degreasing: the sophisticated application of organic solvents seems to score a lower priority than the easier to perform application of emulgators.
- Pickling: one of the most tough environmental problems caused by pickling is the application and emission of chloride. The application of biodegradable pickling agents and especially the reuse of spent chrome tanning liquors as pickling solvent consequently score a high priority.
- Chrome tanning: in view of the environmental problems of the emission of sulphates chrome recovery by means of precipitation and redissolution of the recovered chrome in sulphuric acid is no longer the most environmentally friendly option. For this reason this scores a low priority. High exhaust chrome tanning technologies offer the possibility of complete reuse of the spent tanning liquor as pickle solvent. This enables complete chrome uptake and nil chrome and sulphate emission via the spent chrome tanning liquor. Introduction of this technology is easy to perform without additional investments by all type of tanneries and thus scores a high priority.

APPENDIX 5

General MILIEV[1]] guidelines (summary)

- **Sources and origin of the product**: At least 60 percent of the transaction value must be realized by enterprises in the Netherlands (the transaction value is not the total project cost but the total value of goods and services provided by the Netherlands supplier).

- **Pricing of suppliers**: Prices for goods and services rendered must be according to international competitive standards.

- **Prices of inputs and outputs**: Two major input components are to be distinguished: (i) investment costs; and (ii) operational costs. Investment costs are to be divided in a foreign and local component. Local investment costs include the costs of local equipment/materials, services, purchase of land, et cetera. Operational costs cover all costs related to maintenance, services, administration, insurance, costs of land lease, et cetera. Prices of outputs are not considered in this particular case.

- **Input and output volumes**: Details must be provided on the input- and output volumes of the proposed project. In this case it is worth to show the difference in the rate of contamination between input and output volume.

- **Costs and revenues of the project**: Based on the input- and output figures (prices and volumes), the operational surplus/deficit of the project is to be calculated by comparing operational costs with project revenues.

- **Accumulated cash flow, Internal Rate of Return and sensitivity analysis**: Based on the project life span (to be determined by the project designers) and in constant prices, the accumulated cash-flow is to be determined to be used to calculate the commercial, financial and economic Internal Rates of Return. Sensitivity analyses are to be carried out to indicate the sensitive points with regard to the financial and economic viability of the project.

- **Commercial viability**: One of the conditions for applications from the MILIEV programs is that financing shall not be extended to public or private projects that should normally be commercially viable if financed on market terms. A project is considered commercially non-viable if the project lacks capacity with appropriate financing on market principles, to generate cash flows sufficient to cover the project's operating costs and to service the capital employed. According to the OECD rules, the commercial lifetime of the project is to be set to 10 years from the first project year.

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1 *Programma Milieu en Economische Verzelfstandiging*, the Netherlands Industry and Environment Programme. This programme is established to co-finance initiatives that have a direct beneficial effect on the environment. Only Dutch commercial enterprises may apply for contributions of the MILIEV programme.

- **Financial sustainability**: An important criterion of the MILIEV program is that the financial analysis is to show that the project is financially sustainable during the economic lifetime of the project (including replacement of equipment). The financial analysis - whereby MILIEV financing is not to be included in the total investment costs - should therefore consist of two parts: non-financial operations (before financing), and financial operations (after financing). The financial Internal Rate of Return (fIRR) is based on non-financial operations and shows the financial viability of the project. The accumulated cash balance of the financial analysis after financing, shows the sustainability of the project.

- **Financial plan**: To be used as part of the financial sustainability analysis. The financial plan of the proposed project should clearly indicate the composition of: (i) foreign loans; (ii) domestic loans; and (iii) own capital. For all loans the (individual) rates of interest are to be shown including the repayment period of the principal.

- **Economic analysis**: The economic analysis considers the project from the point of view of the community as a whole. Prices are to be converted into international prices by taking border prices, or applying standard conversion factors, to reflect international costs. Taxes to be paid are not included in the economic analysis as these are transfers. Unlike the financial analysis, benefits such as pollution avoided must be included in the economic analysis. This means that these benefits have to be qualified, quantified and monetarized as much as possible.

- **Aspects of poverty and employment**: The impact of the project on poverty and employment is to demonstrate through clear qualification and quantification. The impact should be positive or at least be neutral.

- **Environment**: MILIEV dictates that the project impact on the environment must be positive.