Manderstam's Experience in the Leather Sector

(1) <u>UNIDO</u> study of Bogota tanning industries production methodologies and effluent treatment.

Manderstam undertook on behalf of UNIDO a detailed investigation into Bogota's municipal small holder tanning industry including a detailed assessment of all methodologies and a detailed design of effluent treatment and drainage with the complete design of a municipal effluent treatment plant.

(2) Leather Chemicals Production - China

The existing factory in Nankai cannot meet the higher demand for quality of finished leathers and cannot keep pace with the increasing number of different kinds of leathers. We were required to advise on the world market for leather finishing chemicals and to specify the technology required to allow the factory to manufacture a modern range of finishing agents including emulsions, perfluoro-acrylate resin and other agents, together with the environmental protection procedures and plant such a plant needs.

(3) <u>Improving Performances of Existing Factories Producing Enzymes - China</u>

The study investigated the possibilities of expansion of production at factories in Shanghai, Wuxi and Tianjin engaged in enzyme production and highlighted the constraints. Estimates were made of the cost of expanding the plants and updating the technology used. Energy savings were investigated together with down-stream processing, recovery plants and environmental protection measures.

(4) Sector Review of Hides and Tanning in Eritrea on Behalf of Ministry of Industry

Manderstam undertook a detailed assessment of rural bovine, sheep and goat hides collection and treatment throughout Eritrea. This was followed by a study of the municipal tanneries giving advice on equipment, chemical treatments and effluent handling. The scope of work covered the production of detailed designs for tanneries and effluent treatment stations.

(5) <u>Market Study for the World and Regional Finished and Semi Finished Hides</u> Sector.

Manderstam undertook on behalf of the Ministry of Iindustry, Eritrea a world and regional study of the trade in finished and semi finished hides and identified relevant markets for the Eritrean leather industry.

(6) <u>Sector Review of Leather Footwear Industry, Eritrea</u>

Manderstam undertook a comprehensive review of the Eritrean and Ethiopian leather footwear markets including details surveys of government owned footwear factories giving recommendations on new equipment, production costs and product lines.