

feature articles

Leather in our National lives

by V. Nayudamma

Leather is ageless and matchless. Leather is unique and ubiquitous, serving a multitude of human needs, both in times of war and peace, from times immemorial

Who discovered fire? Who discovered leather? It is hard to say. The cavemen used the skin to cover his body; the jungleman for his bow and arrow and as leather telegraph; the desertman for his cases of wine and water and for his tent and the modern man uses it to a wide variety of purposes.

Why is leather so unique? Look at a live animal. The skin acts as a tent to cover the body, bones, blood etc. and gives the body a shape; as an umbrella against rain not allowing water to get in; but at the same time permitting perspiration and sweat to get out; as a shield against atmospheric conditions—wind, water, fire and micro-organisms; as a transmitter to feel, touch and as a sensitive thermostat to control body temperature. Skin breathes, porous, permeable to air and water vapour with a large surface area and reservoir capacity. It is resistant to wear, tear, abrasion, grease, soiling, stress, strain and flexural fatigue; skin repairs itself against wounds, cuts and diseases. When the animal is dead, the skin is removed and the job of the tanner is to convert it into leather and retain the original properties of skin with added desirable characteristics.

What makes skin or leather so unique?

Skin or leather is nature's own fabric with a three dimensional matrix of interwoven collagen fibre bundles. The fibre itself is made up of fibrios which in turn are made up of simple aminoacids. The chemical composition, the heliacal structure of collagen fibre and the three dimensional network contribute largely to the unique properties of leather.

Leather is ancient and yet modern. The caveman used it to cover his naked body. Even today, leather jacket and pants are the 'in' thing and very popular amongst the young and the old. Leather clothing has become a luxury item and prestige symbol. India exports fur coats, leather garments, garment and gloving leathers.

For defence, leather was used to make leather Narges for navigating rivers; for spearshafts, bow's, arrows, shields, armour for the body and head; today, leather is used for army boots, harness, clothing, gloving, belts, ammunition pouches, washers for armoured vehicles etc.

Leather meets industry's needs, for example, industrial belting; textile and jute leathers, picking bands, pickers hydraulic and pneumatic leather, packings, diaphragms, washers, railway dust shields, razor honing leathers, industrial gloves, gauntlets, leather aprons, etc.

Sport lovers recognise leather in football, volley ball, cricket, hockey ball covers, wicket-keeping gloves, grip leather and guts for tennis and badminton racquets.

To medical men, leather is a life saver—wooly sheep skins as bed-pads to prevent bed sores for invalid patients; orthopaedic leather for the handicapped; special protective wear for nurses, miners and others for occupational health and collagen sutures, pads and powders for surgical operations.

To the artist and interior decorator, leather is a much liked medium. Leather is used for upholstery, wall hangings, dividers; furnishing, fabrics, book-binding covers, book marks; toys, ash trays, glass holders, leather puppets, paintings and leather jewellery.

Speciality items like chamois leather is used for cleaning and polishing jewellery, lenses; automobiles and filtration of aviation petrol.

In daily life, leather finds a place in sandals, shoes, ties, watch strap, purse, hand bag, belts and gloves and the like.

Whatever the foibles of fashion, leather will change its appearance to match the mood and the moment. The versatility and adaptability is leather's greatest strength.

The role of leather in every walk of life is thus clear.

Now let us examine how important is leather in the nation's life.

Indian leather-industry is age old. References to it are found in Rigveda. Even today practically every village has a tanner-cobbler. By age long experience, observation, common sense and skills, the Indian tanner has developed techniques and products which have won world's acclaim. In the past, concentration of specific skills in different regions was seen. Agra was associated with foot wear; Kanpur with heavy leathers, harness, saddlery, etc.; Jullundur for sports goods, Bombay for leather goods, Chamba and Kolhapur for chappals, leather puppets from

Mysore and Andhra; leather toys from Indore; East India vegetable tanned leather for export from Madras and fancy leathers from Calcutta, etc. However this position has been fast changing.

India is the single largest livestock holder in the world holding around 180 million cattle, 57 million buffaloes, 67 million goats and 44 million sheep and with an annual production of 100 million pieces of hides and skins. Cow hides are obtained mainly from fallen dead animals and the quality is poor. However, the Indian goat and red hairy sheep skins are unequalled for their quality and go into the making of high cost glove and garment leathers.

The industry exists in cottage, small, medium and large scale sectors. There are 20 mechanised organised tanneries with a total investment of around one billion rupees accounting for only 15-20 per cent of the total leather production.

The investment in medium and small scale/cottage sectors is estimated to be around 1.5 billion rupees accounting for over 80% of leather production. Similarly, footwear and leather goods are produced mostly in small scale sector. In 1947, the country produced only 60 million pairs of leather footwear and in 1971, over 200 million pairs and on top of this, 100 million of plastic and rubber footwear were produced. Yet, the annual per capita consumption of footwear is only 0.55 pairs as contrasted to 2-5 pairs in advanced countries.

The leather industry provides gainful employment to over one million people. The value of leather and allied industries today is estimated to be around 3500 million rupees a year. Of this amount, the export earnings in 1972-73 and 1973-74 accounts for 1880 million rupees. In 1973, India exported leather to the tune of Rs. 1500 million; finished leather 200 million, footwear 100 million and leather goods 50 million rupees. It has become the second or third largest foreign exchange earner of the country.

The stage is now set for reducing the export of leather and exporting only the finished leather products. In such a case the unit value will increase and exports may hit a 4000 million rupees peak by the end of the Five Year Plan.

Along with leather industry concurrent growth is also seen in the fields of machine and materials manufacture. A wide variety of auxiliary materials have gone into making of leathers like unhairing and tanning agents, oil products, pigments, resins, finishes are being produced in India. In the recent past machine manufacturers have been active for indigenous production of machinery for leather, footwear and leather goods manufacture.

However, we still import to a small extent speciality chemicals and sophisticated equipment and machinery to the tune of around 100 million rupees a year.

In addition, a variety of by-products from the leather industry find use. For example, fertiliser and fodder from waste hair and blood; leather board from leather scrap, sausage casings, sutures, catguts; wool and hair for felt, carpets, drug industry; fleshings and trimmings for glue and gelatine etc.

Leather thus contributes greatly to the nation's industrial and economic development. There is yet another important dimension to this industry—namely, social development.

Leather industry for long has been craft-based, dispersed, traditional and embedded with inertia, prejudice and stigma. Living and working conditions are poor, production levels and ability to withstand competition are low, and workers in the past have been denied the light of education and the lead of intelligentsia.

One way of looking at it is to close down these un-economic units and start modern mechanised tanneries. But that would mean displacing the traditional skilled workers. The best way would be to utilise these inbuilt traditional skills, coupling the modern management and marketing methods, to get better returns to the products and to the workers. Fortunately leather, footwear and leather ware industries are amenable for development as a labour intensive, 'farming' out or as an 'assembly' industry. A central modern organisation and management can set up common facility centres for the cottage tanner to get his lot tanned and finished. Further with an integrated approach, cottage, small and large scale sectors could well co-operate one acting as a feeder unit to the other. Similarly the centre may have a designer, master cutter to cut components, supply these components to the cottage worker to stitch or stick; collect the footwear or leatherware for quality control marking and marketing. This way the unemployed and under-employed and traditional skills could be fully utilized and yet be competitive in international markets.

Yet another aspect is the stigma attached to this industry because of the effluents and bad odour associated with leather making. If science and technology were any good suitable methods should be found for treatment, disposal or utilization of effluents. Also appropriate and simpler tools and techniques could be introduced to improve the working conditions and economic returns of the cottage tanner. (The young going to schools may not return to the industry and the older generation with skills on their finger tips could be given gainful employment).

Some very successful results have been obtained in this direction bringing science to the very doors of cottage workers by the untiring efforts of Central Leather Research Institute. Small Industries, service Institutes, village industries Corporation and others.

A radical change is quite visible in the Indian leather industry. Setting up co-operative finishing units, common facility service centres, functional leather industrial es-

tates; leather and footwear corporations; setting up of modern leather and footwear factories in the public, private and joint sectors; the traditional tanner switching over to finishing leathers—are all in the right direction.

✓ In the leather world, two trends clearly emerge: First, the demand for leather is ever increasing and second, the leather industry is moving from advanced to developing countries—close to natural resources. On both counts, India is at an advantage. Apart from world markets, a large internal market exists. If only one pair of sandals is given to every person in India, we need to double the industry's capacity today.

Synthetic materials have made several in-roads to substitute leather, but basically synthetics have become supplements and not substitutes. Also it is good to realise the raw-material for leather is a by-product of the meat industry and unless a better alternative use is found for raw skins, leather industry will continue to flourish.

India has internal and external markets. A large raw material resources; skills, science, technology and trained manpower. Indian leather industry has thus a clear and bright future.)

From times immemorial leather has been serving and continues to serve a multitude of human needs. Leather has unique properties derived from its natural three dimensional network. Leather finds a pride of place in every walk of life and every day life. It is a valuable industry fetching much needed foreign exchange and giving gainful employment to a large number of people. It has large internal and external markets. The leather industry is labour intensive and the age old experience and traditional skills could be well utilized. Here is an industry that gives an opportunity for total development and growth—namely, industrial economic and social development.

Leather is nature's own fabric. Leather is ageless and matchless.

There is nothing like leather—is there?

Professor Y. Nayudamma is Secretary to the Government of India and the Director-General of the Council of Scientific and Industrial Research, New Delhi, India.