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## JOURNAL OF INDIAN LEATHER TECHNOLOGISTS' ASSOCIATION (JILTA)

Indian Leather Technologists' Association is a premier organisation of its kind in India was established in 1950 by Late Prof. B.M.Das. It is a Member Society of International Union of Leather Technologists & Chemists Societies (IULTCS).

The Journal of Indian Leather Technologists' Association (JILTA) is a monthly publication which encapsulates latest state of the art in processing technology of leather and its products, commerce and economics, research & development, news & views of the industry etc. It reaches to the Leather / Footwear Technologists and the decision makers all over the country and overseas.

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# Black Hole - The Theory Becomes Reality



The event in horizon in the form of black hole is linked to the object's escape velocity — the speed that one would need to exceed to escape the black hole's gravitational pull. The closer someone get to a black hole, the greater the speed they would need to escape that massive gravity. The event horizon is the threshold around the black hole where the escape velocity surpasses the speed of light.

□ According to Einstein's theory of special relativity, nothing can travel faster through space than the speed of light. This means a black hole's event horizon is essentially the point from which nothing can return. The name refers to the impossibility of witnessing any event taking place inside that border, the horizon beyond which one cannot see. "The event horizon is the ultimate prison wall — one can get in but never get out," Prof. Avi Loeb, Chair of Astronomy at Harvard University, has told.

When an item gets near an event horizon, a witness would see the item's image get reddened and dim as gravity distort light coming from that item. At the event horizon, this image would effectively fade to invisibility. Within the event horizon, one would find the black hole's singularity, where previous research suggests all of the object's mass has collapsed to an infinitely dense extent. This means the fabric of space and time around the singularity has also curved to an infinite degree, so the laws of physics as we currently know them get semi - conclusive. □ The event horizon protects us from the unknown physics near a singularity. The size of an event horizon depends on the black hole's mass. If Earth were compressed until it became a black hole, it would have a diameter of about 0.69 inches (17.4 millimeters), a little smaller than a dime; if the Sun was converted to a black hole, it would be about 3.62 miles (5.84 kilometers) wide, about the size of a village or town. The super-massive black holes that the Event Horizon Telescope is observing are far larger; Sagittarius A, at the center of the Milky Way, is about 4.3 million times the mass of our Sun and has a diameter of about 7.9 million miles (12.7 million km), while M87 at the heart of the Virgo A galaxy is about 6 billion solar masses and 11 billion miles (17.7 billion km) wide.

The strength of a black hole's gravitational pull depends on the distance from it — the closer you are, the more powerful the

tug. But the effects of this gravity on a visitor would differ depending on the black hole's mass. If we throw toward a relatively small black hole a few times the mass of the Sun, for example, it would get pulled apart and stretched out in a process known as spaghettification, dying well before you reached the event horizon. However, if something is to fall toward a supermassive black hole millions to billions of times the mass of the Sun, it wouldn't "feel such forces to a significant degree," as per the findings. The object is not going to get destroyed of spaghettification before it crossed the event horizon (although numerous other hazards around such a black hole might kill you before you reached that point).

Black holes likely spin because the stars they generally originate from also spun and because the matter they swallow whirled in spirals before it fell in. Recent findings suggest that black holes can rotate at speeds greater than 90 percent that of light, Prof. Loeb said.

"This has important implications for the environments around black holes," Prof. Loeb said. "The amount of energy from the super massive black holes at the centres of virtually all large galaxies can significantly influence the evolution of those galaxies."

Recent work has greatly upset the conventional view of black holes. In 2012, physicists suggested that anything falling toward a black hole might encounter "firewalls" at or in the vicinity of the event horizon that would incinerate any matter falling in. This is because when particles collide, they can become invisibly connected through a link called entanglement, and black holes could break such links, releasing incredible amounts of energy. However, other research seeking to unite general relativity, which can explain the nature of gravity, with quantum mechanics, which can describe the behaviour of all known particles, suggests that firewalls may not exist — because event horizons themselves may not exist. Some physicists suggest that instead of abysses from which nothing can return, what we currently think of as black holes may actually be a range of black-hole-like objects that lack event horizons, such as so-called fuzz balls, Prof. Loeb said. By imaging the edges of black holes, the Event Horizon Telescope can help scientists analyze the shapes and behaviours of event

horizons. “We can use these images to constrain any theory on the structure of black holes,” Prof. Loeb said. “Indeed, the fuzz ball speculation — where the event horizon is not a sharp boundary, but is rather fuzzy — could be tested with images from the Event Horizon Telescope.”

The first-ever images of a black hole, which the Event Horizon Telescope (EHT) project unveiled on April 10, further bolster Einstein’s century-old theory of general relativity, researchers said. “Today, general relativity has passed another crucial test, this one spanning from horizons to the stars,” EHT team member Avery Broderick, of the University of Waterloo and the Perimeter Institute for Theoretical Physics in Canada, said during a news conference today at the National Press Club in Washington, D.C.

□ General relativity describes gravity as a consequence of the warping of space-time. Massive objects create a sort of dent or well in the cosmic fabric, which passing bodies fall into because they’re following curved contours (not as a result of some mysterious force at a distance, which had been the prevailing view before Einstein came along). Two objects exert a force of attraction on one another known as “gravity.” Sir Isaac Newton quantified the gravity between two objects when he formulated his three laws of motion. The force tugging between two bodies depends on how massive each one is and how far apart the two lie. Even as the centre of the Earth is pulling you toward it (keeping you firmly lodged on the ground), your centre of mass is pulling back at the Earth. But the more massive body barely feels the tug from you, while with your much smaller mass you find yourself firmly rooted thanks to that same force. Yet Newton’s laws assume that gravity is an innate force of an object that can act over a distance. Albert Einstein, in his theory of special relativity, determined that the laws of physics are the same for all non-accelerating observers, and he showed that the speed of light within a vacuum is the same no matter the speed at which an observer travels. As a result, he found that space and time were interwoven into a single continuum known as space-time. Events that occur at the same time for one observer could occur at different times for another. As he worked out the equations for his general theory of relativity, Einstein realized that massive objects caused a distortion in space-time.

Imagine setting a large body in the centre of a trampoline. The body would press down into the fabric, causing it to dimple. A marble rolled around the edge would spiral inward toward the body, pulled in much the same way that the gravity of a planet pulls at rocks in space.

General relativity makes specific predictions about how this warping works. For example, the theory posits that black holes exist, and that each of these gravitational monsters has an event horizon — a point of no return beyond which nothing, not even light, can escape. Further, the event horizon should be roughly circular and of a predictable size, which depends on the black hole’s mass. And that’s just what we see in the newly unveiled EHT images, which show the silhouette of the super massive black hole at the heart of M87, a giant elliptical galaxy that lies 55 million light-years from Earth. The shadow exists, is nearly circular and the inferred mass matches estimates due to the dynamics of stars 100,000 times farther away. That mass, by the way, is 6.5 billion times that of Earth’s sun. That’s huge even by super massive-black-hole standards; for comparison, the behemoth at the heart of our Milky Way galaxy weighs in at a mere 4.3 million solar masses. This is not the first test that general relativity has passed; the theory has survived many challenges over the past 100 years. □ For example, general relativity predicts that massive, accelerating objects generate ripples in space-time called gravitational waves. In 2015, gravitational waves were confirmed directly by the Laser Interferometer Gravitational Wave Observatory (LIGO), which detected the ripples created by a merger between two black holes. (These black holes weren’t the super massive type; combined, they contained just a few dozen solar masses.)

So, it’s not exactly a surprise that Einstein was right about event horizons as well. But confirming that general relativity holds in a hitherto unstudied realm has great value

*Goutam Mukherjee*  
**Dr. Goutam Mukherjee**  
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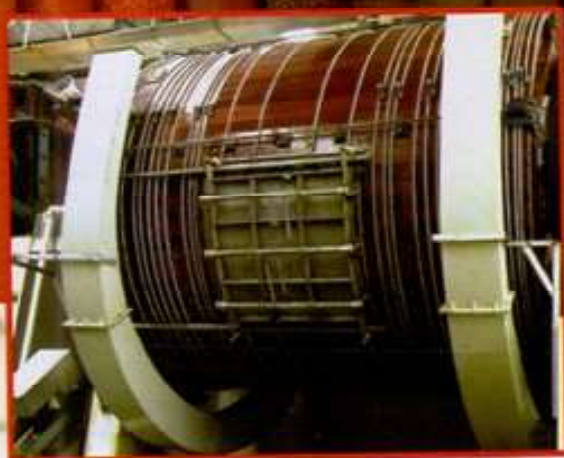


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## From the desk of General Secretary



### Health Camp at ILTA Office



In response to our letter dated 19.02.2019 to 269 Members with Kolkata Pin Code address, some 50 members informed ILTA Office about their willingness to participate in the Health Camp scheduled to be organized by ILTA at ILTA Office in conjunction with R. N. Tagore Hospital (Narayana Health) and Dum Dum wing of Indian Medical Association from 11.00 Hrs to 15.00 Hrs on Wednesday 17<sup>th</sup> April, 2019.

Some 41 Members physically participated within the scheduled hours. The participants were first registered with their names, date of birth, mobile no. and email ids (if any) and then called for various tests in the Test Room on the basis of "first come first serve". The following tests were carried out :-

1. Haemoglobin
2. Random Blood Sugar
3. E. C. G.

Heights and Weights were also recorded.

With above details, the participants reported to the Doctor for consultation on General Health and Cardiac matters.

From the enthusiasm noticed among the participants, it has been suggested to R. N. Tagore Hospital (Narayana Health) and IMA, Dum Dum wing that another Health Camp be organized in not too distant a future at a venue other than ILTA Office.

### Election Schedule for Reconstitution of Executive Committee of ILTA and the Regional Committees for the term 2019-2021

The Executive Committee of ILTA at its 517<sup>th</sup> Meeting held on 14.03.2019 approved the following schedule for Election of Executive Committee of ILTA and the Regional Committees for the term 2019-2021.

Sl. No.	Events	Election Schedule for 2019-2021	Day
1	Mailing of Nomination papers & Voters' List on or before	02.05.2019	Thursday
2	Last date for receipt of Nomination Papers	24.05.2019	Friday
3	Last date for receipt of Consent	13.06.2019	Thursday
4	Last date for withdrawal of candidature	17.06.2019	Monday
5	Mailing of ballot papers on or before	06.07.2019	Saturday
6	Last date for receipt of ballot papers From voters residing outside KMDA area & 24-Pgs (N & S)	03.08.2019	Saturday
7	Casting of votes by voters residing in KMDA & 24-Pgs (N & S) Area at ILTA Administrative Office 10-00 to 17-00 hrs.	02.08.2019 & 03.08.2019	Friday & Saturday
8	Counting of votes at ILTA Administrative Office from 11-00 hrs. onwards	05.08.2019	Monday

Dr. R. P. Sinha, Associate Professor, Department of Engineering, Govt. College of Engineering & Leather Technology, Kolkata, has kindly consented to act as the Returning Officer.

You are requested to :-

- a) Kindly inform us your 'E-Mail ID', 'Mobile No', 'Land Line No', through E-Mail ID : [admin@iltaonleather.org](mailto:admin@iltaonleather.org) or over Telephone Nos. : [24413429](tel:24413429) / [3459](tel:3459) / [7320](tel:7320). This will help us to communicate you directly without help of any outsiders like Postal Department / Courier etc.
- b) Kindly mention your **Membership No.** (If any) against your each and every communication, so that we can locate you easily in our record.



(Susanta Mallick)  
General Secretary

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Executive Committee Members meet every Thursday at 18-30 hrs. at ILTA Office.  
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# BIG ANSWERS TO THE BIG QUESTIONS : BY STEPHEN HAWKING

**Prof. Buddhadeb Chattopadhyay**

Former Principal, GCELT, Kolkata & Principal, MCKV Institute of Engineering



This is meticulously crafted last book of Stephen Hawking, born in England on the 8th day of January 1942, exactly 300 years after the death of Galileo Galilei (died on 8 January 1642); Hawking left the world forlorn on 14th day of March 2018 (14th March 1879 was the birth day of Albert Einstein). But his name will always remain attached with the Black Hole radiation called after his name, “Hawking Radiation” permanently in cosmology, though his mortal life lived only 76 years on the earth.

Here we go to the remarkable comments of Hawking in his Book. He himself stated, “I wanted to be the great scientist. However, I wasn’t a good student when I was at school, and was rarely more than halfway up my class. My work was untidy, my handwriting not very good. But I got good friends at school. And we talked about everything and specifically, the origin of the Universe. This is where my dream began, and I am very fortunate that it has come true.”

On the most primitive queries of human since the historic time till date is how did all begin? To this Hawkins’s discovery in theoretical physics states something very concrete. In 1955, Einstein proved that space and time are no longer absolute, no longer a fixed back-ground of an event which is in contradiction to the commoners’ belief. Instead, they are dynamical in the Universe. They are defined only within the Universe, so it makes no sense at all to talk of a time before the Universe began. It is like asking for a point southern to the South Pole. Well, it is undefined. The Universe goes on in space for ever and is much the same no matter how far it goes.

Stephen Hawking put forward boldly that the entire Universe was spontaneously created from nothing, according to the Laws of science. Both space and energy were spontaneously invented in an event we now call it as Big Bang. At the moment of Big Bang, the entire Universe came into existence, and with its space.

It all inflated, just like a balloon being blown up. So where did all these energies and space come from? How does the entire Universe full of energy, the awesome vastness of space and everything inside it, simply appear out of nothing? For some this is where God comes back into the picture. It was the God, who created the energy and space; where the Big Bang is the moment of creation. But science tells a different story, we got the whole Universe for free. The law of Physics demands the existence of something called, “negative energy”.

When the Big Bang produced a massive amount of positive energy, it simultaneously produced the equal amount of negative energy in such a way that the sum up of these two energies add up to zero, always. So where are all these negative energies today? It is in the third ingredient in our cosmic cookbook; it is in space. The space itself is a vast store of negative energy. The endless web of billion upon billion galaxies, each pulling on each other by the force of gravity, acts like a giant energy storage device. The Universe is like an enormous battery storing negative energies. The positive side of thing is the mass and energy that we see today – is like the hill. The corresponding hole, or negative side of the things, is spread throughout space.

So, what does this means in our quest to find out if, there is a God? It means that if, Universe adds up to nothing, and then you don’t need God to create it. The Universe is the ultimate free lunch. It was Einstein who has established the concept of four-dimensional space time coordinates (light cone), where space is in three dimension and time remains in the fourth. They are fundamentally intertwined. Something very wonderful happened to time at the instant of Big Bang. Like the space, time itself began.

To understand this mind-boggling idea, consider a black hole floating in the space. A typical black hole is a star so massive

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that it collapsed on itself. It is also so massive that not even light can escape its gravity. That is why it is perfectly black. Its gravitational pull is so powerful, it wraps and distorts not only light but also time. To see how, imagine a clock is being sucked into it. As the clock gets closer and closer to the black hole, it begins to get slower and slower. Time itself begins to slow down gradually. Now imagine that the clock as it enters the black hole – well, assuming that it could withstand the extreme gravitational force there – it would actually stop. It stops not because it is broken down, but because inside the black hole time itself does not exist. And exactly that is what happened at the start of the Universe.

If we imagine, we travel back in time scale like reverse playing mode in a video, towards the moment of Big Bang, the Universe gets smaller and smaller and still smaller, until it comes to a point where the whole Universe is a space so small that it is in effect a single infinitesimally small, infinitesimally dense black hole. Just as modern days black holes, floating around. The law of Nature dictates something quite extraordinary. Here too there would be a massive gravitational pull and time ought to be stopped. We cannot get to a time before the Big Bang because there was no time before the Big Bang. We have finally found something which doesn't have a cause, because there was no time for a cause to exist in. Then what was the God doing, before the Universe was created? This is an invalid question in science. Since the existence of time was dismissed before the moment of Big Bang. [The God was perhaps busy in creating hell for those, who even dared to ask this question!]

If, the Universe would have static for infinite time, it seemed to lead invocation of an absurd conclusion. If, the Universe would have existed for infinite time period, the trillions, trillions, trillions, trillions of stars within the Universe would have been radiating for an infinite time, they would have heated the Universe up to a temperature until the temperature of the emitting stars and the Universe would equalize. Even at night the whole sky then would be lighted as bright as that in day. The simplest observation that the night sky is dark, tells us on the contrary, that the Universe could have existed for ever in the state that we see today.

Hubble observed the red shift of light from other galaxies. He also observed that not only nearly all distant galaxies are moving away from us; faster were they moving away, further they are from us. Consequently, if, the Galaxies are drifting away, they

must be closed together in the past. By backward interpolation considering the rate of expansion, we can fairly estimate that they were close together in about 10-15 billion years ago.

Lifshitz and Khalatnikov stated that the Universe didn't have a beginning. This caused some difficulties in our mind. We are used to that idea that the events are caused by the earlier events, which are again caused by still earlier events. So, we feel comfortable to believe that there is a chain of causality, stretching back into the past. But suppose the chain has a beginning, suppose somehow, we discovered the first event. Then what caused it?

Roger Penrose and Stephan Hawking boldly put forward that the Universe begin in a Big Bang, a point where the whole Universe and everything in it (including both space and time) were scrunched up to a single point of infinite density, a space-time singularity. At this point Einstein's General Theory of Relativity would have broken down. Thus, one cannot precisely predict in what manner the Universe began. One is left with no choice other than to say that the origin of the Universe is beyond the scope of scientific inquiries.

If, the General Theory of Relativity broke down at singularities, so the obvious next step would be to combine the General Relativity – the theory of very large with Quantum theory – the theory of very small. Can one have atoms in which the nucleus is a tiny primordial black hole formed in the early Universe? This leads to a paradox. How could the radiation have left over from a shrinking black hole contains all the information of what made the black hole? Stephen Hawking discovered that the information was not lost, but it returned in a useful way – like burning an encyclopedia but retaining the ash and smokes.

Hawking initially assumed that the part of the incident wave could have absorbed and the remaining part scattered. But he found the emission of radiation from the black hole itself. But after many times repeating the calculations he found that the emission was exactly what was required to identify the area of horizon with the entropy of a black hole and also the entropy of a black hole the measure of disorder of a system, is summed up in the simplest formula:  $S = [A k c^3]/4Gh$ . The emission of this thermal radiation from black hole is called now as "Hawking Radiation" in honour of the discoverer.

In October 1965, observational evidence found the discovery of Arno Penzias and Robert Wilson of a very faint background





microwave radiation throughout the space. These microwaves are very same as that is produced in the microwave ovens today, but very much less powerful. It can only heat up your food to the extent of minus 270.4 degree Celsius, not even good for defrosting. The escape velocity of a particle, say, a rocket from the earth is just over 11 km/s; while from the Sun, it is 617 km/s. Both of these velocities are much higher than say, cannon ball. But they are pitifully snail-like sluggish, as compared to the velocity of light. It travels at the speed of 300,000 km/s.

Mass of earth is  $5.972 \times 10^{24}$  kg; while that of Sun is  $1.989 \times 10^{30}$  kg. black hole is 5 times to several 10 times of Solar mass. Higher the mass is; higher would be the bending of the space with larger curvature. This means higher would be the gravitational pull. That in turn will need a higher velocity to get rid of the gravitational pull in order to escape. Light can easily escape from Sun or the earth but not so from black hole.

Those who remember analogue TVs say about 10 years' back; all of us have certainly experienced snow-like white dots dancing on the TV display on empty channels. These are those so called, Cosmic Background Microwaves (CBM). This is due to the remnant decay of the isotropic radiation arising out of early very hot and infinitely dense state that we observed say, 10 years earlier in our analogue TV display screen in our drawing rooms.

However good a theory is, it seems unlikely to completely eliminate randomness or uncertainties, which remains at the very heart of the Nature. It can be summed up in the Uncertainty Principle that was proposed by the German Scientist Warner Heisenberg in 1927. One cannot accurately predict both the position and the speed of particle simultaneously. If, the position is accurately determined, the speed is going to be erroneous and vice-versa. This was refuted by Einstein, who said, "God does not play dice!"

Stephen Hawking stated, "But all the evidence is that the God is quite a gambler. The Universe is like a giant casino with dice being rolled, or wheels being spun, on every occasion. A casino owner risks losing money each time the dice are thrown or the roulette wheel is spun. But over a large number of bets the odds average out, and the clever casino owner makes sure that the average out is in his/her favour. That's why the casino owners are so rich. The only chance you have of winning against them is to stake all your money on few rolls of the dice or spins of the wheel. When the Universe is big, there are a very large

number of rolls of the dice, and the results average out to something one can predict. But when the Universe was very small, near the Big Bang, there are only small numbers of rolls of the dice and the Uncertainty Principle is very important."

The big question is perhaps why is the space three dimensional? Why isn't it two, or four or some other number of dimensions? In fact, in M-theory space has ten dimensions (as well as the theory having one dimension of time). But it is thought that seven of ten spatial directions are curled up very small, leaving three spatial directions large and nearly flat. It is like a drinking straw; whose surface is two dimensional. However, one direction is curled up into a small circle, so from distance the straw looks like a one-dimensional line. The question that you should answer by yourself, could an animal with the given anatomy survive, had it been two dimensional?

In three dimensions, planets can have a stable orbit around the stars. This is consequence of gravitation obeying inverse square law. Now let us think about a four-space dimension. There gravitation would follow inverse cube law. If, the distance between two bodies is doubled, then the gravitational force would be divided by eight, tripled by twenty-seven and if, quadrupled, by sixty-four and so on. This change in inverse cube law would prevent planets from having a stable orbit around their Suns. They either would fall into their Suns and collapse or escape to outer darkness and cold. Similarly, the orbits of electrons around the nucleus in an atom could not be stable if, the Coulomb's law followed inverse cube relation instead of inverse square. Thus, although the multiple-historic ideas as proposed by Richard Phillip Feynman would allow any number of nearly flat directions, only histories with three flat directions will contain intelligent beings. Only in such histories will the question remain valid, "why does space have three dimensions?"

The remarkable feature of the Universe we observe concerns with the CBM. It is essentially a so called, fossil record of how the Universe was when it was toddling. This microwave background radiation is almost isotropic. The difference between different directions is about one part in 100,000. According to Hawking, this difference arises from the quantum fluctuations during the inflationary period. Quantum fluctuation occurs as a consequence of Uncertainty Principle. Furthermore, these fluctuations were the seeds for the structures in our galaxies, stars and us. This idea is basically the same mechanism



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as so-called Hawking radiation from a black hole horizon, except now that come from a cosmological horizon, the surface that we can see and the parts that we cannot observe. We are the product of quantum fluctuations in the very early Universe. God really does play dice.

Hawking's perception on God was, as he has stated, "The question is, 'Is the way the Universe began chosen by God for reasons we can't understand, or was it determined by a law of science?' I believe the second. If, you like, you can call the law of science as 'God', but it wouldn't be a personal God that you would meet and put questions to. Although, if, there was such God, I would like to ask however did he think of anything as complicated as M-theory in eleven dimensions".

Stephen Hawking's life was full of unprecedented struggle with severe and chronic Amyotropical Lateral Sclerosis (ALS) disease, yet he was one of the 21st Century Genii in Science. He has proved that **yes, there are of course inability; but disability is out of question**. Stephan Hawking stated, "After my expectation reduced to zero, every new day became a bonus,

and I began to appreciate everything I did have. While there is a life, there is a hope".

Very respectfully and appropriately, Stephan Hawking's mortal remains were buried in Westminster Abbey in Cambridge, between two of his scientific heroes, Isaac Newton and Charles Darwin. Lucy Hawking, the daughter of Stephan Hawking in her Eulogy described, "He was surprisingly modest man who, while adoring the limelight, seemed baffled by his own fame. One phrase in this book jumped off the page at me as summing up his attitude to himself: "If, I have made a contribution....." He is the only person who would have added, "if" to that sentence. I think everyone felt pretty sure he had. And what a contribution is it! Both in overarching grandeur of his work in cosmology, exploring the structure and the origin of the Universe itself and his completely human bravery and humour in the face of his challenge. He found a way to reach beyond the limits of knowledge and endurance at the same time. I believe it is this combination which made him so iconic yet also so reachable, so accessible".

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## PERSPECTIVE

# Some Thoughts On The Rationalisation Of Indian Leather Industry

By S S. DUTTA

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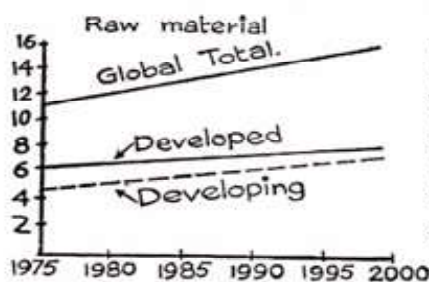
It seems that the global leather industry and the leather trade are at present passing through a transitional period. Though the developed countries are the principal importers of raw hides and skins and exporters of finished leathers and leather goods upto now, the present trend indicates that after 1990 the roles of developed countries may be played by the developing countries. After 1990 the developed world will perhaps be the main exporter of raw hides and skins and importer of finished leathers and leather products.

It has been reported that large number of tanneries and leather products units of different developed countries have already been closed down for pollution problems, high labour cost and scarcity of raw hides and skins whose supply remained inelastic in nature. The recent study made by different U. N. experts reveals that many more tanneries, footwear and leather goods units of developed countries will be forced to cease their production. The picture, on the other hand, is quite opposite in the developing world. New modern tanneries and leather products units, big and small, under collaboration with the experienced organizations of developed coun-

tries are coming up very rapidly in this developing region. The United Nations also endorsed the "Lima Declaration and Plan of Action on Industrial Development" adopted at the Second General Conference of UNIDO, held in Peru, March 1975, that the "developing countries' share of world industrial production should be increased from its present level of around 7 per cent to at least 25 per cent by the year 2000".

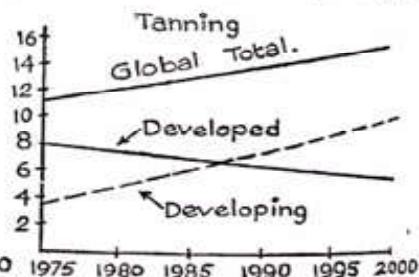
As far as leather industry is concerned, the forecast of the United Nations' exports for global leather production during the period 1975-2000 is clearly pictured in the following graphic diagrams :

ported machines, leather chemicals and auxiliaries. State Government owned Leather Development Corporations, with modern up to date facilities, have been set up in different Indian states and have been functioning as servicing centres for small tanners who cannot afford to instal costly modern machines in their own factories. Due to such modernization of factories and use of modern leather chemicals the qualities of the Indian finished leathers have appreciably gone up. But unfortunately the leather export in volume has not improved. Moreover, most of the leather development corporations and modern tanneries of India are running at losses. Government subsidies allowed to leather export sector is



Careful study reveals that similar wind is blowing in Indian leather industry also. During the last decade many old tanneries in India were modernized with im-

Export figures in billion ft² per annum



definitely a temporary measure because no industry can survive as a sick industry depending on Government help. The leather industry of India has to stand on her own



feet and earn much needed foreign exchange for the country. A thorough and careful study for such losses in the leather industry must, therefore, be made with open mind.

## The Livestock Population

The condition of leather industry of a country does not depend on her livestock population. The livestock population of the developing world, as for example, is always higher than that of the developed world but the developing countries produce less number of hides than the developed countries due to lower offtake rate of the latter. In 1977 the livestock of the world were roughly as follows :

### Livestock Population

(In million number)

	1977		
	Bovine	Sheep	Goat
Developing countries	862.0	451.0	434.0
Developed countries	439.0	506.0	23.0
<b>Total</b>	<b>1,301.0</b>	<b>957.0</b>	<b>457.0</b>

In the same year the livestock position of India was recorded as follows :

Bovine 241 million, sheep 40.0 million and goat 70.0 million. Thus India's share in developing countries was only 27.95% bovine, 8.86% sheep and 16.13% goat.

### Production of Raw Hides and Skins

The position is quite different regarding production of raw hides and skins as will be seen from the table on next column.

### Production of Hides and Skins

(Million pcs)

	1977		
	Bovine hide	Sheep skin	Goat skin
Developing world	129.6	183.2	153.5
Developed world	156.1	200.5	13.5
<b>Total</b>	<b>285.7</b>	<b>383.7</b>	<b>167.0</b>

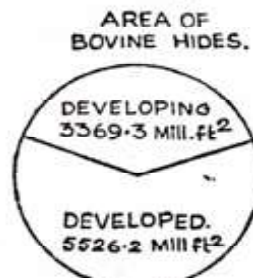
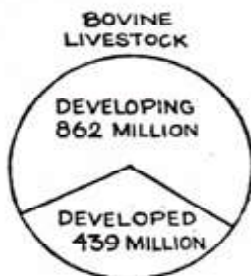
In the same year India produced roughly 29.0 million pieces of

bovine hides, 23.0 million pieces of sheep skins and 36.0 million pieces of goat skins.

As far as bovine hide supply is concerned, the position of the developing countries in the world is more unfavourable when comparison is made on the basis of hide weight or hide area, because the average cattle of the developing countries are smaller in size and weight than the average cattle of the developed countries. This will be clearly understood from the following table and the Pie-diagram.

### Production of Hides and Skins in weight and area

	1977		
	Bovine	Sheep	Goat
<b>Developing countries</b>			
Number of hides and skins in million pieces	... 129.6	183.2	153.5
Total weight in million tons	... 2.1	0.1158	0.1165
Total area in million ft <sup>2</sup>	... 3369.3	1284.5	770.7
<b>Developed countries</b>			
Number of hides and skins in million pieces	... 156.1	200.5	13.5
Total weight in million tons	... 3.106	0.1927	0.0106
Total area in million ft <sup>2</sup>	... 5526.2	1453.1	63.5



PIE-DIAGRAM





In bovine hide supply India's outlook among the developing countries is not at all bright, because out of 29.0 million bovine hides collected in India in 1977 nearly 13.41 million came from fallen calves of less than 1 year of age and so they were too small in area and weight to be considered as hides. Moreover, 90 to 95 per cent bovine hides of India (including calf skins) are collected from fallen animals and so they are very poor in quality. Out of 29 million hides collected, nearly 17.2 million are so inferior in quality that it is not at all economical to process them in the tanneries. So these 17.2 million bovine hides (60% of total collected hides) are processed by village chamars by crude vegetable tanning method with locally available tannin-tuffs and their products are used for the manufacture of cheap quality village-type shoes for poor farmers of India. Naturally, 11.8 million or 12.0 (rounded up) million hides out of 29.0 million come to tanneries for processing.

The goat and sheep skins of India are good in quality because most of them are collected from slaughtered goats and sheep, but they are smaller in size when compared with the skins of the developed countries. Though for glazed kid, gloves, suede and other types of fancy leathers Indian skins are quite suitable, these are not so for the manufacture of garment leathers for which skins of greater surface area are required. India produces nearly 59 million pieces of skins, no doubt, but the major raw material for the leather industry is the bovine hides which represent 70 to 80 per cent of leather in area of the world as shown in the following table.

Global Leather Production in 1977

Leather produced from bovine hides	— 8,895 million ft <sup>2</sup> .
“ “ “ “ sheep skins	— 2,738 “ “
“ “ “ “ goat skins	— 834 “ “
Total world production	— 12,467 million ft <sup>2</sup>

It may be mentioned that 498 million ft<sup>2</sup> of leather produced in 1977 from pig skins have not been included in the above table.

Thus, for the development of leather industry of India easy and sufficient supply of bovine hides of good quality are the pre-requisites.

#### Tanning Activity

Since the export of raw hides and skins is banned in India, the entire 12 million pieces of hides are tanned annually in the tanneries and only a part of it is finished upto the useable stage. Out of this 12 million pieces of raw bovine hides only 3 million pieces are of good quality and can be used for exportable leathers. It is assumed that the average area of an Indian bovine hide is nearly 20 ft<sup>2</sup> and, therefore, these 3 million hides produce only 60 million ft<sup>2</sup> of exportable leather. Actually India has been exporting roughly 60 million ft<sup>2</sup> of leather, produced from cattle hides, annually for the last several years. This 60 million ft<sup>2</sup> of leather is also not exported smoothly, otherwise arrangements for Lexpo, Leather Fairs, Tanners' Get-Together etc would not have been required to attract the foreign buyers. In fact, the above-mentioned 3 million pieces of good quality Indian hides are also not first grade hides, according to International Standard. However, some push in the export market

always becomes necessary. Had there been no modernization of a few tanneries in India, her total volume of leather export would have been unbelievably low today. Though the introduction of modern chemicals, machines, adoption of improved technical know-how etc. have helped India to retain her export figure of 60 million ft<sup>2</sup> of hide leathers the volume of export has not increased. Improvement in the quality of leather due to such modernization has certain limitations from the export point of view and therefore, exportable leathers cannot be manufactured from lower grade raw hides even though the sale value of such leather goes up due to modern methods of processing. Due to modernization of tanning processes nearly 2 to 2.5 million pieces of second grade hides, which could not be exported as leather or leather products before, were used for production of footwear and exported. India now exports 15 to 16 million pairs of leather footwear annually for this reason. For the same reason, the export of leather goods, other than footwears, have gone up slightly. At present India exports annually 3 million pieces of hides in the form of 60 million ft<sup>2</sup> of leather and 2.5 million pieces of hides or 50 million ft<sup>2</sup> of leather in the form of leather products totalling 5.5 million pieces of hides = 110 million ft<sup>2</sup> of leather. The exportable leathers produced from skins have not been included here.





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Modernization of tanneries increases the cost of production of leather appreciably. The cost of one multiwidth hydraulically operated shaving machine today, as for example, is nearly 6 lakhs of rupees. If the depreciation, bank interest, salary of the operators, cost of power, cost of spare parts, cost of maintenance etc for that machine are added the running cost for it would come to 2 lakhs of rupees per year. The shaving cost of one hide in India today is nearly Re. 1.00 and therefore one such machine should shave at least 800 to 850 hides daily for 300 days in a year to avoid a loss at the end of the year.

With the present condition of raw hide supply in India export of leather (from hide) cannot be increased beyond the above mentioned 110 million ft<sup>2</sup> limit for want of good quality raw hides. On the other hand the price of leather in the home market will shoot up if the remaining 6.5 or 7 million pieces of third and lower grade hides which are processed in old fashioned tanneries equipped with indigenous machines for internal consumption, are processed in modernised tanneries with imported modern leather auxiliaries, as the final leathers will not rise to the exportable standard due to poor raw material. For this reason small tanners in India do not show interest for well equipped servicing centres which are practically starving for want of sufficient job.

### Import of Raw Hides

It may appear that import of raw hides from the developed countries, as proposed, can solve India's problem but in reality the case is not so simple. India must search for the

reasons first as to why the per capita leather and leather footwear consumption in the developed countries are gradually going down year after year. The average per capita leather shoe consumption of developed countries (excluding the centrally planned Economies) was 2.2 in 1962 but it came down to 1.79 in 1973 and to 1.73 in 1974. It may be due to high price of leather shoes. The price of leather shoe has constantly gone up during the last several years and, at present, it has practically touched the marginal utility value. For this reason, the common people of the developed countries are slowly switching over from leather shoes to synthetic leather footwears. In the field of leather goods also the synthetic materials are steadily entering in.

It is generally felt that the high labour cost in the developed countries has pushed up the prices of leather footwears and leather goods and so these products should be manufactured in the developing countries where labour is very cheap. It is true that labour is cheap in the developing countries but it should also be taken into account that the efficiency of workers in the developing countries is unbelievably low compared with the efficiency of workers of the developed countries. If the labour cost is calculated on the basis of output worker, then it will be found that the labour costs as between developed and developing countries do not vary too widely. Moreover, the labour cost in modern footwear factories of the developed countries represents only 10 to 15 per cent of the total cost of production and so it cannot be responsible for the sky-touching prices of leather foot-

wear and leather goods. The following table shows the break-up of costs of production of a pair of best quality leather shoe in USA in 1977.

**Cost of Production of a Pair of Best Quality All Leather Shoe in U.S.A. in 1977**

	\$	% of production cost
1. Cost of leather	7.86	44.18
2. Other materials	1.02	5.73
3. Direct labour (1.0 to 3.4 \$)	2.20	12.30
4. Factory overhead	1.49	8.37
5. Office overhead (including sales expenses)	3.49	19.62
6. Profit	1.73	9.80
<b>Total</b>	<b>\$17.79</b>	

From the above costing it is clear that the high price of leather footwear in U.S.A. is mainly due to high price of leather and heavy office overhead expenses. As the price of leather products increases, the advertisement expenses also goes up, in order to keep the sale to the same level. Naturally, the office overhead will come down if the prices of leather products are brought down by lowering the price of leather. But why the price of leather has gone up so high today? What the costing of a tannery has to say about it?

The average manufacturing cost of corrected grain upper leather in





developed countries as published by UNIDO can be summarized as below :

Item	% of total production cost
1. Rent	0.1
2. Building maintenance	0.4
3. Machine and plant maintenance	0.7
4. Depreciation	3.1
5. Interest on capital	8.5
6. Chemicals	14.3
7. Management	4.5
8. Labour	4.1
9. Fuel	1.5
10. Electricity	1.1
11. Water	0.9
12. Effluent	0.3
13. Office expenses	1.1
14. Sales	0.3
15. Packing	0.2
16. Freight	0.1
17. Sales commission	1.6
18. Other expenses	0.8
19. Raw hides	56.4
<b>Total</b>	<b>100.0</b>

From the above table it is clear that the high price of leather is mainly due to the high price of raw hides which represents 56.4 per cent of the total production cost of leather. Unless the supply of raw hides and skins in the world tanneries is increased, it is practically impossible to reduce the rate of price rise for leather in the world market. The slaughtering rate in the developed countries being already too high, further increase in the supply of raw hides and skins of developed countries will not help the situation. The

volume of imports of raw hides and skins of the developed countries is also gradually going down due to imposition of restrictions on export of these materials by the Governments of developing countries. The possibility of increased raw hide supply of International standard should, however, be explored in the developing countries only.

Unfortunately the raw hide supply position of the developing countries is worse than that of the developed countries. Though the developing countries produce 45.36 per cent bovine hides of total world supply in pieces or 37.87 per cent in hide surface area, in actual practice however, the supply is much less because a good part of these are below the required international standard.

As regards India's position in the world raw hide supply since her bovine livestock is 18.52 per cent of the world livestock, her raw hide contribution to the world should also be 18.52 per cent of the world raw hide supply, but she produces only 10.15 per cent hide of the world. The percentage of Indian hides which can hardly meet International standard is only 1.75 or less. Thus, in India there is acute shortage of hides to run the leather export business for earning foreign exchange for the Nation. All attempts made in the past both in the Government and private levels to improve India's leather export were of no avail for want of adequate supply of high grade raw bovine hides to tanneries. India had been satisfied with the increased amount of foreign exchange in terms of value from leather exports year after year due to price rise of leather in the world market but her

exports have not increased in quantum in most of the cases.

But a change in the situation is in the offing because raw hides from the developed countries have started flowing to the developing countries where modern, well equipped tanneries are coming up very fast. Advanced technical knowhow is also easily available now from the developed world. To compete in the world leather market in future, India must organize her leather industry right from now. But how to do that? Should India also import huge quantities of raw hides, latest leather auxiliaries, sophisticated machines, advanced technical know-how from the developed countries and export the finished products and ultimately run her leather industry at will of the developed world?

Such attempts will definitely be a risky adventure. When large number of modern tanneries will be set up in different developing countries, the demand for high grade raw hides will be so high that the developed countries may not be able to supply that. Consequently, the price of raw hides and leather will move up further lowering the per capita leather and leather footwear consumption of the developed countries by one step more. In that situation the developing countries will not be able to sell their leather products in the home markets due to low per capita income of their people and so ultimately will have to accept the terms offered by the developed countries.

The extra freight necessary to import raw hides and leather auxiliaries from the developed countries will add fuel to the fire. The





condition will become more serious if the developed countries can find a leather like substitute by that time because extensive research is going on there for this substitute. If such a leather substitute is found the developed countries may send their hides to gelatine factories for the manufacture of edible gelatine for which there is huge demand and may stop importing bones from the developing countries. Then the developing countries will face more troubles than what the developed countries are facing today. What is the solution then? The solution lies in the mutual co-operation of both developed and developing countries and the developing countries must increase their supplies of first grade hides through improved and scientific animal husbandry.

## India's Position

India stands on a different footing because unlike other developing countries the slaughtering of cattle is not favoured on religious ground and the 60 million stray cattle live here without contributing anything to the National income. Moreover, the cattle population of India being 241 million, most of them do not get the required amount of food to eat and get diseased very quickly, because the amount of cattle food which India produces annually can feed 100 million of cattle only.

Since there is no natural grassy land in India and the demand for milk is constantly increasing, India should eliminate her unproductive cattle population from 241 to 100 million high milking recognized cattle. This can be made possible if 30% cattle can be slaughtered annually to keep the cattle population constant at 100 million. By this arrangement the milk supply

as well as the high grade hide supply of India can be increased appreciably.

It may be interesting to investigate as to why the Hindu community of India does not support slaughtering of cows but supports slaughtering of buffaloes who are a better source of milk than the cows.

## Origin of Holy Mother Doctrine

From careful studies of Indian epics it will be clear that India was purely an agricultural country in ancient times. At the dawn of agricultural development the Indian farmers were searching for a special type of animal having the following characteristics for ploughing land.

1. A well developed hump at the junction of the neck and back so that the yoke did not slip during ploughing of hard land.
2. Long but strong legs so that the animal could move fast with sufficient load even in the muddy field.
3. Low fat content but tight body so that the animal did not show any laziness to hard work.
4. Sufficient resistance and stamina to fight against diseases and natural calamities.
5. Well developed front or chest in comparison to the back side so that the animal had drastic forward movement.
6. Easy adaptability to common and easily available cattle food and agricultural roughages.
7. Short hair throughout the body so that the animal could be kept clean easily after the work in muddy field.

All the above mentioned qualities were found in the wild species

"Bos Indicus" whom the Indians were hunting so long for food and clothing, and so the farmers of ancient India started domesticating this wild animal for agricultural purpose even though their milk giving power was very poor. The present humped cattle of India, known as "Brahmins" are the descendants of wild "Bos Indicus". Even today the Indian farmers are not at all interested to replace their drought cattle with high milking dairy variety. This is a direct evidence that in India cattle was never reared for milk. It was reared for getting bulls for agricultural purpose. Then why these animals are considered as "holy mother" in India?

When the old farmers realized that the domestication of wild "Bos Indicus" in large number was necessary for agricultural purpose but did not find them in large number in the forests because of constant hunting for food they domesticated whatever number of this animal they could collect and tried to increase their number through rearing very rapidly. Naturally the farmers had to find out some means to protect them from killing for food. The social reformers of those days, therefore, declared these animals 'holy mother' and their slaughtering was binned. If cows were regarded as holy mother approved by Hindu religion, the Indian farmers and milkmen would not kill most of the female cattle calves at the age of 0-1 year by depriving them from their mothers' milk. To bring the supply and demand for bulls to the point of equilibrium, perhaps, several centuries passed by which time a strong hatred for beef-eating got deep rooted in the society. Any-



way, this holy mother feeling is so strong today among a part of Hindu, that slaughtering of cow cannot be introduced in India by regulations.

## Solution to problems

Since cattle is reared in India for getting bulls, the religious 'holy mother' feeling may gradually slow down if, like Japan, small wheel barrow type handy tractors are introduced into the agricultural fields. Farmers will then rear cattle not for getting bulls but for getting milk and so gradually the humped brahmin cattle will be replaced by recognized milk yielding cattle. And if there is a market for selling male calves of the age of 3 years, the farmers will then gladly allow the male calves to grow upto that age and sell them in the market where these male calves can be slaughtered with the development of meat processing and animal by-products industry. As a support to this idea it can be said that buffaloes are reared in India for milk and so most of the male buffalo calves are forced to die before they attain the age of 1 year because there is no well established market for purchasing the buffalo calves for meat processing. The numbers of male and female cows and buffaloes in India in the year 1980 are shown in the table below.

**Cattle and Buffalo Population in India**

Sex	Figures in million numbers 1980	
	Cattle	Buffaloes
Male	99.32	16.92
Female	81.68	43.08
Total	181.00	60.00

In nature more or less the same number of male and female calves are born every year, but in livestock population such differences in male and female animals are found in India. The female calves of cattle and male calves of buffaloes are not so valuable to farmers and milkmen and so they are forced to die through starvation. Introduction of tractors and mechanization of agricultural industry will render the male calves of cattle less valuable to farmers who will then rear milch cows and sell the male calves at the age of three to the organizations who would be prepared to pay attractive values for them. Since the demand of milk has been more in the Urban area, the buffalo population of this area has been increasing very rapidly making more of he buffaloes available for slaughter in the India abattoirs. If the population of buffaloes increases this way in urban areas a day will come very soon when milkmen will kill male buffalo calves in larger number in urban areas also. If organized, the cows can also play the same role as the buffaloes are playing today in the urban areas.

In this way if the supply of first grade bovine hides is increased, the leather industry of India will definitely take a new shape to give leadership to the developing countries so that this industry of developed and developing countries can survive like twin brothers. No country can support the idea that her industry should mainly depend upon the imported raw materials specially when there is bright possibility of increasing the out-put of her own raw material resources.

## Summary

1. The world leather industry is at present facing a serious crisis because people of both the developed and developing countries are gradually switching over from leather to synthetic leather goods for very high prices of leather articles even though the love for leather products is still strong.

2. The leather products manufacturers, on the other hand, cannot reduce the prices of their products because the prices of leathers are too high.

3. The high prices of leathers are due to very high prices of raw hides and skins.

4. The prices of raw hides and skins are high because their supplies are inelastic in nature.

So the crisis of leather industry is mainly due to limited supply of raw hides and skins. Unless the supply of good quality hides and skins is increased the problems of this industry cannot be solved. Shifting of raw hides supply from the developed to the developing countries, modernization of tanneries, use of modern chemicals etc. are not the permanent and effective solutions to the actual problem. True solution lies in the increased supply of raw materials.

5. The developed countries produce best quality hides and skins to the maximum possible extent. Their slaughtering rates are already too high. Except Canada, Australia, U.S.S.R., and U.S.A. which have surplus grazing land, other developed countries cannot increase their livestock population for want of grazing land. In developed countries, where excess





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land is available the cattle and human populations have balanced each other and so rapid increase in livestock population is also not possible there. So the possibility of increasing raw hide supply in the developed countries is not at all bright.

6. Most of the developing countries are over populated with diseased, illfed livestock of small size. The death rates (natural death and slaughtering together) of animals are very low. Appreciable percentage of hides and skins remains uncollected and major portion of the collected hides are too poor in quality to produce leathers, of International standard due to un-

organized state of livestock wealth. The developing countries can, therefore, increase the supply of good quality hides by adjusting their livestock population with productive animals, by increasing the animal slaughtering rates and by adopting scientific methods of hide collection and preservation.

7. For the survival of world leather industry the developing countries should come forward and take the necessary initiatives.

8. The leather industries of the developed and the developing countries cannot survive individually. They can survive through mutual co-operation.

## Sources for statistical data :

a) The leather and leather products industry upto 1985 By Irving R. Glass, UNIDO Consultant.

b) Draft world-wide study of the leather and leather products industry 1975-2000 by UNIDO.

c) Survey of India's Export Potential of Leather and Leather Products, Vol : 2, By Gokhale Institute of Politics and Economics, Poona and CLRI, Madras.

The views expressed in this paper are those of the author and do not necessarily reflect ILTA's.



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## BANTALA SET TO BECOME LEATHER HUB ACROSS GLOBE : MITRA

Kolkata, Feb 26 : New infrastructure, renovation of existing facilities and new tanneries will lead to turnover of the units at the Calcutta Leather Complex (CLC) doubling to Rs 27,000 crore in the next few years, West Bengal Finance and Industries Minister Amit Mitra said on Tuesday.

The complex at Bantala is poised to become the world's largest leather cluster, employing more than 6 lakh people, in the next few years, he said.

At present, there are 300 tanneries in CLC and 40 leather goods manufacturing units are operational. After installation of the new infrastructure, 200 more tanneries and 230 more leather units and footwear park can be set up on the 230 acres available.

"As a result, the turnover of all units in CLC which is around Rs 13,500 crore at present will become Rs 27,000 crore within next few years," Mitra said.

The minister on Tuesday handed over offer letters of land allotment to 25 big tanneries at a programme at Bantala. Due to limitation on extraction of underground water, out of 230 acre available land, 70 acre land is being allotted to 28 big tanneries, 97 medium and 62 small tanneries in the first phase.

"The government is all set to spend Rs 540 crore for massive infrastructure development at Bantala. Our intention is to turn the leather hub into the world's largest," he said.

## SHOES AND CLOTHES MAKE UP BULK OF WORLD TRADE IN FAKES

The Organization for Economic Co-operation and Development (OECD) and the European Union's intellectual property office (EUIPO) have released a report titled Trends in Trade in Counterfeit and Pirated Goods which outlines that fake and pirated goods accounted for 3.3% of the global trade in the last few years. Note that all figures are for the year 2016 unless stated otherwise. This report also does not touch on fake goods in ecommerce, "which is a further drain on the formal economy."

According to the OECD and EUIPO, fake goods trade infringes on copyrights and trademarks creates profits for organized crime

gangs, and can become a significant health and safety risk. The report adds that 'insufficient screening of small parcels, policy gaps like inconsistent penalties on traffickers and the special rules governing free trade zones' can lead to facilitating this fake goods trade.

## TOP TRADED FAKE GOODS FOR 2016

- Footwear was the topmost traded fake item at 22%, followed by clothing at 16%
- Leather goods accounted for 13%
- Electrical equipment for 12%
- Watches at 7%
- Medical equipment for 5%
- Toys at 3%, jewellery at 2% and pharmaceuticals at 2%
- Other industries accounted for 12% of the total fake traded goods

## ORIGINS, DESTINATIONS AND MEANS

- Majority of fake goods picked up by customs originated in mainland China and Hong Kong, along with the UAE, Turkey, Singapore, Thailand and India.

Countries most affected by counterfeiting were the US, France, Italy, Switzerland and Germany, with targets growing in Singapore, Hong Kong, Brazil and China.

- Small parcels were 69% of the total customs seized parcels by volume from 2014-16 (57% via post and 12% via courier), up from 63% over the 2011-2013 period.

## VALUE HIGHLIGHTS

- The value of imported fake goods globally is \$509 billion, based on 2016 customs data. This is up from \$ 461 billion in 2013, when it accounted for 2.5 of the global trade (excluding domestically produced and used fake goods, or pirated goods distributed online).
- In the EU, fake goods trade accounted for 6.8% of the imports from non-EU countries, up from 5% in 2013 (excluding domestically produced and used fake goods, or pirated goods distributed online).

## SUPPORT NEEDED URGENTLY FOR EXPORT SECTOR : GUPTA



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Exporters' association FIEO has urged the government to take necessary steps to push the export sector.

Speaking recently, FIEO President Ganesh Kumar Gupta reiterated his demand for urgent and immediate support including the issue of augmenting the flow of credit, higher tax deduction for R&D, outright exemption from GST, Online ITC refund, interest equalization support to agri exports, etc.

He also mentioned about demands like benefits on sales to foreign tourists and exemption from IGST under Advance Authorization Scheme with retrospective effect. Besides these, budgetary support for marketing and exports related infrastructure are some of the other key issues, which needs to be looked into immediately.

Gupta added that exporters have managed to do well despite increasing protectionism, tough global conditions and constraints on the domestic front.

FIEO Chief added that economies across Asia especially China and South East Asian nations have been showing signs of sluggishness with contraction in manufacturing due to slowdown in the global trade and fragile world economy.

Almost all labour-intensive sectors of exports during the month have moved into the negative territory including gems & jewellery, leather & leather products, plantation, handicrafts, carpets, jute manufacturing including floor covering, marine products etc. beside Petroleum, which also showed negative growth further pulling down the overall exports for the month, opined Mr Gupta.

18 out of 30 major product groups were in positive territory, with most of them with marginal growth during the month. However with this trend, we will be able to achieve merchandise exports of about USD 330 billion, the highest ever exports for a fiscal.□□

Imports during February, 2019 declined by 5.41 percent mainly due to decrease in imports of petroleum products, precious and semi precious stones, gold and silver, which further led down to the decline of exports from gems & jewellery and petroleum sectors.

Besides imports of transport equipment and electronic goods were also down. All these sector of imports have also pulled down trade deficit to a low of about one and half years, said Ganesh Kumar Gupta.

*(Source : SME Times - 23.03.2019)*

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## INDIAN LEATHER PRODUCTS ASSOCIATION

The Indian Leather Products Association (ILPA), established in 1987, is a premiere representative body of manufacturer-exporters of superior quality leather and leather products with head office in Kolkata and a regional office in Chennai.

### IMPORTANT ACTIVITIES OF ILPA :

- Brings together manufacturer & merchant exporters on a common platform.
- Stimulates growth & development of the industry as a whole.
- Promotes export of leather & leather products.
- Develops & maintains symbiotic liaison with international trade bodies & Chambers of Commerce.
- Organises trade delegations to international fairs & seminars.
- Organises various Seminars/workshops both to the benefit of its members and industry.
- Promotes International Fairs and RBSMs like IILF Kolkata, ILPA Buyer Seller Summit.
- Organises the ILPA SHOW : Leather on the Ramp , one of the most prestigious and sought after Fashion event in Eastern India.
- Closely involved in setting up the Calcutta Leather Complex(CLC).
- Runs and manages the Freya Design Studio : a CLE award winning Design Studio both for leather goods and footwear.
- Runs and manages the ILPA INFRASTRUCTURE DEVELOPMENT FOUNDATION (IIDF) – a state of the art Common Facility Centre.
- Imparts Skill Development Training through ILPA Technical School.



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## Occupational Health and Safety Workshop organized by Solidaridad Asia - A Report



Solidaridad Asia in association with Indian Leather Technologists Association (ILTA) organized a workshop on Occupational Health & Safety (OHS) at the seminar hall of Freya Design Studio, Calcutta Leather Complex, Bantala on 29<sup>th</sup> March 2019.

Dr. Ashish Mittal, CEO & Consultant, Occupational Health and Safety Management Consultancy Services (OHS-MCS), New Delhi and a well-known Medical Officer in Occupational Health Expert in Asia sensitized the gathering on the possible issues and focused primarily on preventive measures.

Mr. S. Rajasekaran, an eminent Safety Expert and a 40 years of experienced in working with Micro Small and Medium Enterprises emphasized over the need of organizing work place in a systematic manner which is directly aligned with the productivity of the respective industry.

Mr. Prasanna Maduri, Campus Manager, Stahl India Ltd. clarified about Pickle Free Tanning; a flagship initiative on environmental aspects his organization is going to initiate with Solidaridad Asia for the Kolkata Leather Industry.

Among the other dignitaries Mr. Susanta Mallick, General Secretary, ILTA, Mr. S.N. Maitra, Stahl, and eminent leather technologist Mr. Avinash Garg were also present in this occasion.

Mr Arnab Jha, President- Indian Leather Technologists Association (ILTA) appreciated the efforts of Solidaridad and partners and assured for best possible support in planning and implementation of the activities.

Solidaridad is an international Civil Society Organization working in 54 countries across the globe to strengthen supply chain of many of the agro based and industrial commodities. Solidaridad is already working in Kolkata and eastern region on sustainability issues of Tea sector. They recently scaled up their efforts in Leather sector of Kolkata. As per Tatheer Zaidi, Senior Program Manager- Solidaridad Asia; We in close coordination with Industry Associations and partners like Stahl has a vision to introduce best eco-friendly national and International Tanning practices for the betterment of Kolkata Leather Industry. We will also support Industry in Occupational Health & Safety related aspects.

Around 40 of the Leather Industry stakeholders participated in the workshop.

Solidaridad also organize OHS camps in 3 tanneries on 29<sup>th</sup> and 30<sup>th</sup> April'2019. The tanneries are Elrich International, Dugros Leather India Pvt. Ltd and Weblec (India). Health checkup of around 70 workers have been done during this 2 days camp. The experts explains the workers how they can avoid accidents or health hazards at their work place by obeying some simple instructions, they also explains how they can keep themselves fit by doing some regular exercise.

How to maintain proper factory layout in tanneries were also demonstrated during the workshop. The enthusiasm from the industry was more than our expectation. Solidaridad is planning to do more such workshop in future in Kolkata leather cluster.

*(Report by - Mr. Pradipta Konar, Member of the EC of ILTA)*









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### Worst over on GDP front? These 3 factors will decide India's growth



Elections, El Nino and oil are three key factors that may decide India's growth trajectory in 2019, a report said. While rising oil prices and strengthening El Nino conditions will impact inflation, election-related uncertainty will weigh the most on India's industrial production, news agency PTI reported citing Dun and Bradstreet's (D&B) latest Economy Forecast.

The fall in economic activity in Q3FY19 may continue on account of global headwinds and other local issues, the report added. The economy must find ways to tackle issues related to aviation, power, banking, NBFCs as risks arising out of slowing economy may be difficult to evade.

The factory production or industrial production index IIP may be moderated by 1.0-1.5 per cent during March 2019, the report added.

The rising crude oil prices along with strengthening of El Nino conditions may have an effect on the rainfall during the months of rainfall in June and July. The conditions may create inflationary pressures for non-core segment, it added.

The retail inflation may remain in the range of 2.7-2.9 per cent and wholesale inflation may remain in the range of 2.8-3.0 per cent during April 2019, respectively, news agency PTI reported citing D&B report.

Meanwhile, in a report released earlier this month, the International Monetary Fund (IMF) projected India to grow at 7.3 per cent in 2019 and 7.5 per cent in 2020. India grew at 7.1 per cent in 2018 compared to 6.6 per cent of China's. In 2019, the international body projected rate of growth for China

In 2019, the International Monetary Fund (IMF) projected a growth rate of 6.3 per cent for China and 6.1 per cent in 2020.

*(Financial Express – 29/04/2019)*

### FPIs stay bullish for third consecutive month; Rs 17,219 crore investments in April



India has been one of the top recipients of foreign fund flows among emerging markets since February 2019 on the back of positive global sentiment.

Foreign investors were net buyers in the Indian capital markets for the third straight month in April, pouring in Rs 17,219 crore on favourable macroeconomic conditions and ample liquidity.

India has been one of the top recipients of foreign fund flows among emerging markets since February 2019 on the back of positive global sentiment, improving growth outlook, supportive macros and dovish stance taken by the RBI, experts said.

Overseas investors had put in a net sum of Rs 45,981 crore in March and Rs 11,182 crore in February in the capital markets (both equity and debt).

According to the latest depositories data, foreign portfolio investors (FPI) pumped in a net sum of Rs 21,032.04 crore into equities but pulled out a net amount of Rs 3,812.94 crore from the debt market during April 1-26, taking the total net investment to Rs 17,219.10 crore.

“Expectation of a slowdown in the global economy led several central banks to adopt a dovish stance towards interest rates in order to provide a boost to their dwindling economies.

"This augured well for the emerging markets as it improved global liquidity which has been making its way into the emerging markets and India is getting its share from that," said Himanshu Srivastava, senior research analyst, manager research at Morningstar.

Alok Agarwala, Senior VP and Head - Investment Analytics at Bajaj Capital attributed the decline of foreign flows into debt markets to "rise in crude oil prices and worries over the supply overhang" as it has diminished the hope of yields coming down further.

Sustainability of economic growth, behaviour of crude oil prices and formation of a stable government at the Centre will play significant role in the continuation of FPI flows, he added.

*(Business Today – 28/04/2019)*

**India's March infrastructure output grows 4.7% year-on-year: Govt**



Infrastructure output, which comprises eight sectors - such as coal, crude oil and electricity - accounts for nearly 40 per cent of India's industrial output

The growth of eight core sectors improved marginally to 4.7 per cent in March 2019 against 4.5 per cent in the same month last year.

For the full 2018-19 fiscal, the expansion rate of eight infrastructure sectors — coal, crude oil, natural gas, refinery products, fertilisers, steel, cement and electricity — remained flat at 4.3 per cent, official data released Tuesday showed.

Coal generation growth was flat at 9.1 per cent in March 2019. Natural gas, refinery products, fertiliser, steel and cement sectors recorded positive growth rates.

Crude oil production, however, contracted by 6.2 per cent in March. Electricity generation declined by 1.4 per cent during the month under review.

A fall in production of crude oil and refinery products had dragged the growth of the eight core sectors to 2.1 per cent in February.

The infrastructure sector growth will also have an impact on the Index of Industrial Production (IIP) as these segments account for about 41 per cent of the total factory output.

*(Business Standard – 30/04/2019)*

**Performance review of export promotion councils to start soon**



The export promotion councils (EPCs) found falling short of the export targets could face closure or undergo restructuring.

The government will soon begin a performance-based evaluation of over two dozen export promotion councils in the country as a follow-up to the Prime Minister's Office's direction that it should ascertain ways to boost exports, according to a senior official. □

The export promotion councils (EPCs) found falling short of the export targets could face closure or undergo restructuring. □ The official cited earlier told ET that the Prime Minister's Office (PMO) had some time ago suggested a check to see if any of the EPCs need support in order to boost exports. "The Niti Aayog then decided to rank these councils and a few meetings have been held. This is work in progress," the official said.





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Another official ET spoke with said the governance and technical capabilities of EPCs are now being subjected to evaluation based on increasing the share of Indian exports in the product markets covered by these EPCs. "Those EPCs unable to achieve mutually agreed upon targets for increasing market share could be closed down or restructured," the official said.



Niti Aayog, the government's premier think tank, in collaboration with the commerce ministry, is evaluating the export promotion councils, following which it will rank them as part of its ongoing policy of developing indices and ranking on real-time basis.

At present, there are 14 EPCs under the department of commerce and 11 under the textiles ministry. Besides promoting and developing Indian exports, these councils are also the registering authorities for exporters.

Each council is responsible for promotion of a particular group of products or projects or services. The government funds EPCs under the Market Access Initiative (MAI) and Marketing Development Assistance scheme to help them promote exports.

In 2018-19, the government spent Rs 270 crore on MAI and has earmarked Rs 300 crore for the current fiscal. Some of the parameters being considered for evaluation include the increase in export share of these councils, the extent of penetration into existing markets, and efforts to explore and enter new markets.

India exported \$331.02 billion worth of merchandise in FY19, surpassing the earlier peak of \$314.4 billion achieved in 2013-14, the commerce ministry had said earlier this month, attributing the lower exports in the intervening years to global slowdown.

(Economic Times – 29/04/2019)

**Businesses can use IGST credit to settle centre, state tax dues: CBIC**



Businesses that have accumulated Integrated GST (IGST) credit in their books can settle it against central and state tax dues in any proportion, the revenue department has said. Importers typically pay IGST on goods they bring into the country. Also IGST is paid on inter-state movement of goods. This tax is supposed to be set-off against the actual GST paid, or may be claimed as refund in certain cases.

The Central Board of Indirect Taxes and Customs (CBIC) in March had allowed utilisation of input tax credit (ITC) of IGST towards the payment of Central GST and State GST, in any order subject to the condition that the entire IGST liability has been first discharged using the accumulated credit.

However, there were confusion among taxpayers regarding the quantum of utilization of IGST credit in paying CGST and SGST dues. The CBIC has now clarified that the IGST credit can be used in payment of CGST or SGST in any order or proportion.

Under Goods and Services Tax (GST), the tax levied on consumption of goods or rendering of service is split 50:50 between the centre (CGST) and the state (SGST).

On inter-state movement of goods as well as imports, an IGST is levied, which accrues to the centre. Ideally, there should be 'nil' balance in the IGST pool at the end of a fiscal since the amount should be used for payment of CGST and SGST.

As some businesses are ineligible to claim the benefits of input tax credit (ITC), the balance gets accumulated in the IGST pool

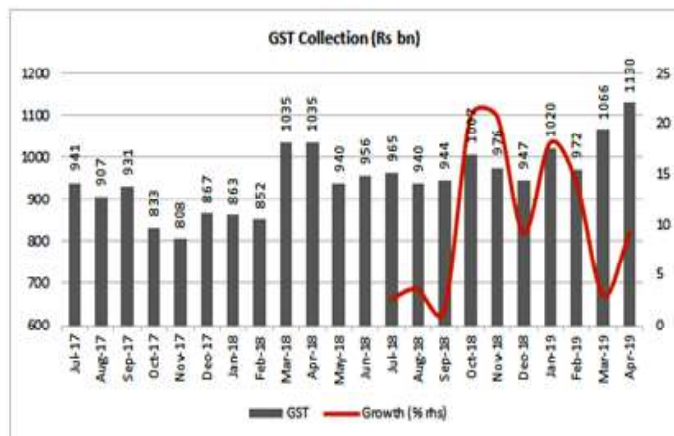


AMRG and Associates Partner Rajat Mohan said, “This clarification from government would help businesses and taxpayers to swim out of the gap created between legal framework and GST network, now taxpayers can continue to work according to the functionality of GSTN without worrying for any legal consequences.”

EY Tax Partner Abhishek Jain said, “This was a much needed clarification as this should help bring to rest the varied interpretation apprehended by industry on the utilization of IGST credit”. JD ANS ANS

*(Economic Times – 26/04/2019)*

### Why it may be premature to cheer the surge in April GST collection



The rise in GST collection to Rs 1.13 lakh crore in April 2019 is puzzling, given the weak IIP growth and subdued March quarter corporate earnings. Most leading indicators show production and demand conditions have remained weak since the beginning of this calendar.

Is it then safe to look at the GST data as a sign of robustness in the economy? In my view, such a conclusion may be premature.

The 9.2 per cent year-on-year growth in April GST collection is a positive thing, given the backdrop of various rate cuts announced in the Interim Budget to support consumption. But those GST cuts have failed to boost consumption enough, given the recent deceleration in volume growth for several consumer items such as auto and FMCG items.

Possibly, factors relating to financial year-end seasonality explain the rise in GST collection. Average monthly collection of Rs 109,800 crore during March-April 2019 is 12.3 per cent higher than the previous six-month average of Rs 97,800 crore.

If we look back into the previous year, average collections for March-April 2018 stood at Rs 103,500 crore, which was 20.4 per cent higher than the previous six-month average. On a three-month average basis, YoY growth for February-April 2019 actually declined to 8.5 per cent from a peak of 16.8 per cent seen during September-December 2018. The two comparisons above indicate that the rise in April GST collection was actually lower on a seasonally-adjusted basis.

The challenge is that the GST collection target for FY20 is pegged at Rs 13.7 lakh crore, 16.1 per cent higher than last year's. Overall GST collection in FY19 of Rs 11.77 lakh crore fell short of the target of Rs 13.71 lakh crore by 14 per cent. The Union Government's Interim Budget has accounted for FY20 GST collection of Rs 6.6 lakh crore (excluding GST compensation to states and SGST), which is 19.2 per cent higher than that in the previous year. The actual collection for FY19 came in at Rs 5.5 lakh crore, 15.3 per cent below target.

Thus, the 9.2 per cent growth in April GST collection has nothing much to cheer about. One can hope that as the GST implementation process stabilises and compliance improves, collections will get better than what we have seen so far.

### -: JILTA :-

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# History and Activities of Indian Leather Technologists' Association

The Indian Leather Technologists' Association (ILTA) was founded by Late Prof. B. M. Das, the originator of Das-Stiasny theory and father of Indian Leather Science on 14<sup>th</sup> August 1950.

The primary objectives of the oldest Leather Technologists' Association which celebrated its Diamond Jubilee year in the 2010, are :

- ❖ To bring all concerned with the broad spectrum of the leather industry under one umbrella.
- ❖ To organize seminar, symposium, workshop in order to create information, knowledge and latest development for the benefit of all concerned. To offer a common platform for all to interact with each other in order to understand each other's problems and prospects.
- ❖ To publish monthly journal as a supplement to those above objectives. The monthly journal of ILTA is known as journal of Indian Leather Technologists' Association and is the most widely circulated technical journal concerning leather technology.
- ❖ To publish text books for the benefit of students at various levels of study, for the researchers and industry.
- ❖ To have interface between urban and rural sector.
- ❖ To assist Planning Commission, various Government Institutions, Ministry and autonomous bodies to formulate appropriate policies acceptable and adoptable to the industry.
- ❖ To organize practical training and to provide skilled manpower and to motivate good students for study.
- ❖ To conduct activities related to the growth of the export of leather and leather goods from India.
- ❖ As the part of many social activities ILTA has donated Rs. 1 lac to Consul General of Nepal towards relief of earthquake effected of Nepal on 15<sup>th</sup> Sept, 2015.

## INTERNATIONAL & NATIONAL SEMINAR

- ❖ ILTA is the Member Society of International Union of Leather Technologists & Chemists Societies (IULTCS), a 115 years old organization and for the first time the IULTCS Congress was organized in January 1999 outside the developed countries in India jointly by ILTA and CLRI.
- ❖ 2017 IULTCS Congress is scheduled to be held in India again.
- ❖ 8<sup>th</sup> Asian International Conference on Leather Science & Technology (AICLST) was organized by ILTA in 2010 during its 'Diamond Jubilee Celebration year.

## SEMINAR & SYMPOSIUM

ILTA organizes Seminar & Symposiums on regular basis to share information, knowledge & latest development and interactions for the benefit of all concerned. Few are as under :

- ❖ Prof. B. M. Das Memorial Lecture every year during the Foundation Day Celebrations on 14<sup>th</sup> August every year.
- ❖ Sanjoy Sen Memorial Lecture on 14<sup>th</sup> January every year, the birthday of our late President for several decades.
- ❖ Prof. Moni Banerjee Memorial Lecture on 15<sup>th</sup> March every year, the birthday of this iconic personality.
- ❖ Seminar on the occasion of India International Leather Fair (IILF) at Chennai in February every year.

It has also organized :

- ❖ Prof. Y. Nayudumma Memorial Lecture.
- ❖ Series of Lectures during "Programme on implementing Emerging & Sustainable Technologies (PriEST)".
- ❖ Seminars in occasion of India International Leather Fair, 2014 and 2015 at Chennai etc. Many reputed scientists, industrialists and educationists have delivered these prestigious lectures. Foreign dignitaries during their visits to India have addressed the members of ILTA at various times.

## PUBLICATION

ILTA have published the following books :

- ❖ An Introduction to the Principles of Physical Testing of Leather by Prof. S. S. Dutta
- ❖ Practical Aspects of Manufacture of Upper Leather by J. M. Dey
- ❖ An Introduction to the Principles of Leather Manufacture by Prof. S. S. Dutta
- ❖ Analytical Chemistry of Leather Manufacture by P. K. Sarkar
- ❖ Comprehensive Footwear Technology by Mr. Somnath Ganguly
- ❖ Treatise on Fatliquors and Fatliquoring of Leather by Dr. Samir Dasgupta
- ❖ Synthetic Tanning Agents by Dr. Samir Dasgupta
- ❖ Hand Book of Tanning by Prof. B. M. Das

ILTA has a good Library & Archive enriched with a few important Books, Periodicals, Journals etc.

## AWARDS OF EXCELLENCE

- ❖ ILTA awards Prof. B. M. Das Memorial, Sanjoy Sen Memorial, J. M. Dey Memorial and Moni Banerjee Memorial Medals to the top rankers at the University / Technical Institute graduate and post graduate levels to encourage the brilliants to evolve with the industry.
- ❖ J. Sinha Roy Memorial Award for the author of the best contribution for the entire year published in the monthly journal of the Indian Leather Technologists' Association (JILTA).

## LEXPOs

To promote and provide marketing facilities, to keep pace with the latest design and technology, to have better interaction with the domestic buyers, ILTA has been organizing LEXPO fairs at Kolkata from 1977, Siliguri from 1992 and Durgapur from 2010. To help the tiny, cottage and small-scale sectors industries in marketing, LEXPO fairs give the exposure for their products. Apart from Kolkata, Siliguri & Durgapur, ILTA has organized LEXPO at Bhubaneswar, Gangtok, Guwahati, Jamshedpur and Ranchi.

## MEMBERS

The Association's present (as on 31.03.2018) strength of members is more than 600 from all over India and abroad. Primarily the members are leather technologists passed out from Govt. College of Engineering & Leather Technology, Anna University, Chennai, Harcourt Butler Technological Institute, Kanpur, B. R. Ambedkar National Institute of Technology, Jalandhar and Scientists from Central Leather Research Institute.

## ESTABLISHMENTS

In order to strengthen its activities, ILTA have constructed its own six storied building at 44, Shanti Pally, Kasba, Kolkata - 700 107 and have named it "Sanjoy Bhavan".

This Association is managed by an Executive Committee duly elected by the members of the Association. It is absolutely a voluntary organization working for the betterment of the Leather Industry. None of the Executive Committee members gets any remuneration for the services rendered but they get the satisfaction of being a part of this esteemed organization.



## 68 YEARS OF SERVICE TO THE INTERNATIONAL LEATHER FRATERNITY



ILTA  
Since 1950

## Indian Leather Technologists' Association

[A Member Society of International Union of Leather Technologists' and Chemists Societies (IULTCS)]

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