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JOURNAL OF INDIAN LEATHER TECHNOLOGISTS' ASSOCIATION (JILTA)

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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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Vegan Leather is an Eco-friendly option - A Misconception

The world of automobiles is currently undergoing its biggest period of change since they were first introduced over a century ago. From that moment they have transformed the way we live, but now the way we live is changing, and the automobile is being forced to adapt. It is appropriate that the industry should rethink all aspects of its production at such a moment, but it is vital that it uses common sense and properly thought out science in doing so. One of the gravest errors that seems to be surfacing with electric vehicles and some hybrid types is the tendency to replace leather, an organic material, with oil-based plastics and synthetics, somehow conflating 'vegan' with 'sustainable'. It is a misrepresentation of science and not only illogical, but perverse when the stated objective is improved sustainability.

Properly made leather is one of the most sustainable materials the car companies could use. No one keeps or kills cattle to make leather, it is a by- product from the meat and dairy industry. Hides and skins are a renewable resource - perhaps one of the world's oldest recycled materials. Modern leather factories, such as those making automotive leathers, produce an engineered product made with integrity, technology and craftsmanship. The plants are bright and modern, not unlike the most modern car facilities and they skillfully merge technology, craftsmanship and product design to engineer a long lasting renewable product from a natural material.

It is a material that has become increasingly popular as an interior design resource in modern cities as well as a covering for smartphones and tablets precisely because as an organic, natural material it humanises an environment loaded with metal, glass and technology. All the evidence so far suggests that cars will be expected to work harder and last longer. Leather as a tactile, long lasting low maintenance material fits perfectly as a sustainable contemporary fabric which is totally relevant for the demands of this fast evolving world.

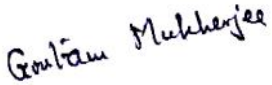
On the other way, one of the most polluting industries e.g. the fashion world is not without its problems; an industry whose very reason of detour is based on driving perpetual, often mindless, consumerism, but which is increasingly confronted with the realities of the impact this has on our environment and consequences for our future. In addition, an ongoing shift in consumer mindsets, and a more informed shopper at that, puts added pressure on the key players to conduct their business in a sustainable and ethical way, with more and more consumers using their purchase power to question the status quo around sourcing and production methods and demanding transparency, corporate responsibility and, indeed, change.

Issues around sustainability, circular economies, the huge waste and environmental damage fashion manufacturing causes, and how big and small brands can tackle these issues are just some of the many complex challenges that 'old' industry has to deal with leather industry is included in that too. It can also be sensed that also sense a genuine desire among leather's key players to effect change and lead the way in transforming the industry from within.

The more we do immerse ourselves in the leather industry, the more apparent it is how misinformed and misleading the fashion industry is when it comes to the narrative it pursues around the topic of leather and its use in clothing, footwear and accessories. The common misconceptions are perpetuating deep prejudices against leather e.g. exotic skins, its sourcing, processing and finishing, and how biased and misguided the common beliefs around animal welfare and ecological considerations – the most prominent arguments in the fashion industry against the use of leather – are. It is sad, really, that the image of this beautiful, traditional, ancient, natural, lasting and renewable material, which is a by-product of another industry, is being detracted and smeared to such degree.

Let's take the publicity around so-called 'vegan leather' as the prime example. It is widely touted as an ethical, eco-friendly and equivalent alternative to real leather. 'Vegan leather' is promoted as if it is an adequate and unquestionably better option than the real thing. But what these campaigns so conveniently omit, and what is very sure that consumers are therefore less aware of, is that these professed 'vegan leathers' are of course loaded with chemicals, and their environmental impact is often a lot more severe than that of leather. They are either synthetics - essentially plastics – or bio-based, but even then require a host of chemical treatments, or they would simply rot away. Even designer Stella McCartney, one of the figureheads in the fashion industry for eco-friendly apparel and advocate of 'vegan leather', had to admit that it's not without "environmental concerns".

The consumer fashion press is adding to such deception, selling copies and click-baiting with suggestive headlines such as 'All the surprising leather alternatives you can opt for if you care about animals', as recently published in Glamour Magazine, insinuating that if you wear leather you can't be an animal lover and care for another species. A recent article in an internal magazine, 'The Leather Debate: Is Vegan Leather A Sustainable Alternative To The Real Thing' is probably the most leveled editorial in the discourse that we have come across so far and, at least on the surface, attempts to give a balanced view, but it also falls short of real facts and information, and most worryingly, fails to seek the perspective of the leather industry and its representatives. Evidently, we still have way to go before there is an unbiased, open and constructive form of reporting. As a journalist myself, I'm not proud of this lazy, one-sided journalism. I can't help but wonder why the leather industry has allowed its narrative to be hijacked and twisted in such a way. It sure could do with a good PR campaign to reverse this. Of course, it is everyone's personal preference and legitimate decision to buy leather products or not and, overall, it is a good thing that shoppers are starting to make more considered choices. But it's not right that the fashion industry is dominating public perception in such a manner and no doubt influencing well-meaning consumers for its own agenda. The fashion industry needs to stop vilifying leather. But they have also to feel the leather trade needs to step up and take charge of its reputation by educating consumers about its efforts for sustainability, eco-processes and frameworks for humane approach towards animal welfare. We need an open, honest dialogue and debate; only then will we be able to demonstrate the true credentials of leather and take control of its portrayal. Consumer interest in all things sustainable and environmentally friendly is at its peak; now is the time to harness this for and on behalf of the industry, and prove that the 'green non-leather materials' that consumers are buying to ease their ecological conscience are not as green as they think.



Dr. Goutam Mukherjee
Hony. Editor, JILTA

From the desk of General Secretary

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 517th 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. LUNCH BREAK : 1-30 to 2-30 PM	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

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

69th Foundation Day Celebration of ILTA

The Executive Committee at its 518th Meeting held on Tuesday 28.05.2019 had detailed discussion on how above could best be celebrated on Wednesday 14th August, 2019.

Various suggestions were put forward. Consensus was reached on celebrating the day generally in the following manner :-

03.00 PM to 06.00 PM : B. M. Das Memorial Lecture & felicitation of Award Winners

06.00 PM to 06.30 PM : Tea Break

06.30 PM to 08.30 PM : Cultural Celebration of our Foundation Day

08.30 PM to 09.30 PM : Dinner

Venue may be Science City, if available. Detailed programme when finalized will be notified to individual Members in due course.

With profound grief and a heavy heart we announce the sad demise of Basudeb Ganguly, a life member of our Association on 20th May, 2019..

May his soul rest in peace and May God give strength to the members of the bereaved family to bear the irreparable loss.

You are requested to :-

a) Kindly inform us your '**E-Mail ID**', '**Mobile No**', '**Land Line No**', through E-Mail ID : admin@iltaonleather.org / mailtoilta@rediffmail.com or over Telephone Nos. : 24413429 / 3459. 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

Executive Committee Members meet every Thursday
at 18-30 hrs. at ILTA Office.
Members willing to participate are most welcome.

BENEFITS OF ETHICAL AND SUSTAINABLE PRODUCTION IN THE INDIAN LEATHER INDUSTRY - A REVIEW

[1]Shubhangi Agarwal, Post Graduate Scholar,
[2]Dibyendu Bikash Dutta, Associate Professor,
Dept. of Fashion Management, National Institute of Fashion Technology, Kolkata

Abstract

The demand of the consumers, mostly in western countries, for ethically produced, sustainable goods has been increasing. Fair trade has hence been gaining popularity. Multinational companies are also turning towards ethically manufactured and sourced products. The Indian leather industry is heavily dependent on exports. The importers from the western countries follow a strict compliance related to the ethics and the sustainability of the means of production. The developing countries like India wherein the leather exports take place from go through a scrutiny due to the compliance because of the present unsustainable modes of production. Most of the conventional leather manufacturers believe that adopting a sustainable approach and growth are not positively correlated, which is untrue. Therefore, there is an urgent need for the industry to improve the practices and adopt ethical and sustainable means of production and avoid environmental damages. This article gives a brief review about the scope of niche but the growing market of ethically produced sustainable leather products.

Keywords : leather industry, tannery, vegetable tanning, ethical, sustainability, environment

Introduction

The debate around the sustainability of leather production is gaining momentum in the fashion industry. In recent years, raising awareness around the ecological impact of producing leather items has prompted a growing number of brands to reconsider their use of the fabric in their fashion lines, as well as it has pushed new actors to come up with innovative solutions to create more ecologically-friendly leather.

The initial raw material for leather production is animal skin which originates from animal farming, a process which usually relies on huge amounts of feed, pastureland, water, and fossil fuels with negative ecological impacts. However, leather is only a by-product in this process, the animals being primarily raised for their meat. Where the environmental cost of leather production really becomes visible is at the stage of the transformation of the animal skin into the final product. Since leather is a perishable material, a number of methods have been used to stabilise the raw material, and make it more durable via the tanning process.

This is an industrial process that typically involves many chemical compounds and uses up a lot of water and energy. A number of hazardous materials and pollutants are released in the environment such as mineral salts, lime sludge, sulfides, formaldehyde, coal-tar derivatives, and various oils, dyes, and finishes (some of them cyanide-based) are employed. Water is used in high quantity as a solvent, which is all the more problematic.

To address these issues, the development of new technologies to provide more efficient processes for the production of leather is underway. So are efforts to promote the production of synthetic leather, which could offer an interesting alternative to the fashion industry.

Over the years, the fashion industry has been taking strides towards sustainability in an effort to reduce the industry's collective carbon footprint and avoid animal cruelty worldwide. One of the most popular sustainable trends that have been

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perpetuating is vegan leather, otherwise known as faux leather. Vegan leather is an alternative to genuine leather that uses polyurethane or even some plant-based leathers made out of pineapple leaves to give off the illusion of real leather. The sustainable products made from alternatives are not only ethical and necessary, but also super stylish.

Choosing fair trade, organic and cruelty free consumer goods is known as positive buying, and is arguably the most important form of ethical shopping because it directly supports socially minded and progressive companies. Conversely, negative buying involves avoiding products which have a detrimental impact on communities, animals and the environment. These include factories that exploit workers' rights and do not adhere to ethical standards.

Literature review

Two of the most serious tests for the leather firms in the modern period are the rising stress on ecological and pollution control ethics and the greater inquiry over labour practices. More extreme contribution from the government and industries is requisite to aid local firms, particularly the smaller ones, who meet upcoming challenges. An already low technical efficacy level for Indian leather companies proposes that compliance costs are likely to disturb them in a noteworthy manner. The query of cost efficacy becomes all the more significant on the face of the rising opposition from China. The Indian government and the local players should understand that measures like approving higher ecological standards, cleaner machineries, as well as respectable labour practices aid in the growth process instead of trading off with growth (Chakraborty & Chakraborty, 2007).

The modern consumer is becoming conscious. Sustainability is an ancient concept with context to fashion. In the early years, producing of fabrics was a time taking process and hence, only the selected group of people had enough money to contribute completely in fashion. Even the affluent saved fabrics, modified clothes and traded undesirable items in the second-hand market. Sustainability was a lifestyle. Today, more and more consumers are interested in knowing about the hands behind the products that they use. Fair trade is hence becoming popular and a person would rather buy an ethically produced product than an unethical product (Hethorn & Ulasewicz, 2008). According to World Fair Trade Organization (WFTO), "Fair Trade is a trading partnership, based on dialogue, transparency and respect that seek greater equity in international trade. It contributes to sustainable development by offering better trading conditions to, and securing the rights of, marginalized producers and workers. Fair Trade organisations have a clear commitment to Fair Trade as the principal core of their mission. They, backed by consumers, are engaged actively in supporting producers, awareness raising and in campaigning for changes in the rules and practice of conventional international trade." Along with the ethical way a product is manufactured, many consumers are also concerned with the environmental damage caused by the product.

Many big giants like Louis Vuitton and Feng Tay Group are investing in India's leather industry. A lot of concern had been raised against such organizations since their sourcing means of raw materials had not been ethical in the past (Unnikrishnan, 2018). They have already begun a number of initiatives to improve their brand image by sourcing materials which are produced ethically and consciously with respect to the environment. Hence, the Indian leather industry should align with the vision and mission of these global players and be an active fair trade partner to maximize their revenue (White, 2017).

It has already been seen in the past how India's exports in leather fell drastically because of the restrictive environmental measures adopted by other countries. For example, Germany had a share of 18% of the exports from India with respect to leather and its products. However, in 1989, Germany imposed a ban on all items having PCP (pentachlorophenol) content of more than 5ppm (mg/kg). This ban was followed in many other countries thereafter including Denmark, Holland, Netherlands, USA, Japan, etc. Many tanneries in India used PCP since it was the cheapest anti-fungal preservative and thus, this affected the leather industry adversely. Even though the ban was imposed for the same by India in 1991, the industry had already faced immense loss in those two years. Hence, it is very important for the Indian leather industry to forecast the global policies as well as the demands accurately and act upon it quickly. To negate the situation further, essential substitutes of leather including leatherette, polyvinyl chloride leather and polyurethane are non-biodegradable in nature and they add onto to global waste (Roy, 2012).

Most of the leather tanneries in India are SMEs (Small and Medium Enterprises). Studies show that the use of sustainable means to develop business is very low amongst the SMEs. Some other factors which cause a lag in the SMEs in the developing nations are the absence of proper infrastructure, meagre communication networks between participants, low saving rate and deficiency of mentorship (Pardo et al., 2012).

The consumer would not mind paying an extra premium for such products since studies show that an individual would rather pay a premium for an ethically sourced and manufactured good than to make a direct donation (Salvador et al., 2014). The consumers feel good on consuming such products since they think they are contributing towards the growth of the society and hence, making the world a better place to live in. Therefore, the demand for ethically produced products is sharply increasing, especially in western countries (Koppel & Schulze, 2013). At departmental stores in USA, the sale of a product with the fair trade tag is more than the sale of its conventional substitute (taking into account the placebo effect) (van Herpen et al., 2012). India exports leather to mostly western countries like USA, Germany, UK, and Italy. Hence, the leather industry has a sustainable potential in this niche and nascent market.

Fair trade also means less interference by middlemen. In the absence of middlemen, the Indian exporters can be in direct contact with the global retailers and hence, increase their scope of margin. To promote this, the Indian players can set up an e-commerce platform for rigorous online marketing and direct selling to the buyers or consumers.

Objective

The Indian leather industry, instead of having considerable heterogeneity, strives to achieve its best. While sustainability is now an inevitable factor in the leather industry, analysis of various sustainability issues and factors that can facilitate and slow the achievement of sustainability is essential. The objective of the study was to identify the gap in the Indian leather industry and study its scopes with respect to sustainability and ethical trade.

Methodology

The study was based on the secondary data composed from different research papers, journals, and government reports to understand the sustainability and ethical trade in leather industry.

Discussions

Problems Faced in the Indian Tanneries

The tanning process mostly takes place in countries like India wherein the working conditions need immense improvement. On one hand, enormous amount of harmful chemicals like chromium sulphate, formaldehyde, heavy metals, short-chain chlorinated paraffin, and other volatile compounds are used or produced as by-products which affect the health of the workers as well as the environment adversely. On the other hand, the workers are underpaid and child labour is seen to an extent in this industry. Most of the tanneries in India lack in the use of technologically efficient techniques which also results in wasteful use of water and chemicals, emitting high volumes of effluent pollutants and reducing productivity. Despite the tanneries being under the Factories Act, the working time of the employees are bizarre. They have really long and vigorous working shifts. All these characteristics are inversely related to the characteristics of fair trade (Schjolden, 2000).

Solid wastes produced in the leather industry carry pollution issue in terms of sludge, biochemical oxygen demand and total dissolved solids. Unprocessed trimmings and wet blue trimmings are valuable in evolving glue and gelatin. Keratin hydrolysate can be used as a thorough assistance for chrome tanning. Likewise, fleshing hydrolysate can also be used as a tanning instrument by appropriate chemical alteration. Fleshing wastes can also be used to cultivate glue, gelatin and poultry food. Chrome and buffing powder are beneficial in developing retanning instrument; hen food, compost and landfill sites (Kanagaraj et al., 2006).

The enormous amount of water required in the processing of leather leads to the formation of massive quantities of liquid waste. The enormous effluent size requires immense investments for waste treatment plants to meet the obligatory requirement for the release of liquid wastes in rivers and other water bodies. Hence, minimization of water usage in leather tanning adopts significance because of augmented treatment prices. Only end-of-pipe treatment systems do not meet the

requests and therefore, in-plant control actions are getting prominence. Pre-tanning and tanning processes add about 57% of the water usage in leather handling and the washes around 35%. The correct choice of working settings and in-house inspection of process constraints can aid leather manufacturers make their procedures much cleaner and economically viable (Rao et al., 2003).

Chrome and Its Alternatives

Chromium salt tanning is the most popular system of the leather tanning procedure. However, this system has been under scrutiny since environmental activists. For consumers today, the method of production is as important as the aesthetics of the products. Hence, numerous studies have been going on since years to develop more sustainable procedures for leather tanning. Even the governments of nations are putting pressure on the leather industry to mend their ways and consider human health and the environment. New regulations are emerging in context to the chrome content of waste and the chrome comprising solid wastes like sludge, slivers, leather trimmings, and buffing dust, on a regular basis and making the working of the tanners difficult.

Hence, the increasing demand for tanners to adopt chrome free ways of tanning has been observed. There are a lot of advantages to chrome-free tanning which include absence of chromium in the waste, attaining completely recyclable shavings and end-products for pastoral uses, no jeopardy of Cr(VI) creation, metal free leathers, enhanced categorization in the pre-tanned phase, and white and light coloured, vivid leathers. The chrome-free processes adopted by tanners differ since the characteristics they desire in the leather are different. Different properties of chrome tanned leather are desired by different tanners which include texture, ampleness, smoothness and hydrothermal steadiness.

Alternatives to using chromium salt are the use of tanning salts of other metals which include Fe(II)/(III), Al(III), Zr(IV), Ti(III)/(IV), etc. (Covington, 2008). Many alternate tanning means have been discovered for their solo tanning features, yet, no specific tanning agent has however matched the characteristics of chromium (Saravanabhavan et al., 2004).

Cleaner preservation method using silica gel system has been wished-for by authors over orthodox and unsustainable chromium method. This recommended preservation technique aids in reducing costs, easy to implement and is an eco-friendly method. This technique uses silica gel which is set by mixing proportions of sodium meta-silicate and hydrochloric acid at pH of 5.5 and trailed by spray aeration. The subsequent powder is used for preservation (Kanagaraj et al., 2015).

Although a lot of prediction has been going around the removal of chromium from the leather tanning process, many researchers believe that the process of total elimination of chromium from the process might not be possible in the short term and hence, focus should also be put on the better management of chromium as an immediate action in tanneries. Processes like chrome recovery and chrome reuse (for wet blue producers) or closed pickle tan loop with high collapse chrome tanning for a cohesive (raw to finish category) tannery could be adopted. The development of chromium (VI) in the leather could also be evaded through appropriate process control methods. The release of chromium and liquefied solids in wastewater can be controlled through product-process variations engaging organic, less-chrome or no chrome skills. Hence, in-plant regulator seems to be the most striking answer to chrome tanning linked pollution glitches. Apart from these approaches, feasible methods for chrome shavings and chrome sludge application should also be considered. (Rao et al., 2002)

Case Study: The Loyal Workshop

The Beislys advocate against the high usage of chemicals in tanneries and also the employment of child labour. They did not see a future with leather goods due to its unethical business culture. However, they were introduced to an Eco-Friendly Fair-Trade tanner in Kolkata which made them explore a new and sustainable industry.

Paul and Sara Beisly visited Kolkata for the first time in 2002 and were introduced to Freeset. Freeset is an organization fighting slavery. They realized that they wanted to do something in the same field and hence began their research. In 2010, they spent a year in Bangladesh and learnt the Bangla language. They moved to Kolkata in 2011 for further research regarding their business. They were introduced to Harry Croucher in 2012 who later became the designer for their products. They spent

time in the red light area in Kolkata to recruit women for employment and looked for sources of ethical leather locally. They opened their workshop in 2014.

The tanner they source their leather from is Patrick Lee who runs the Sheong Shi Tannery in Kolkata. Lee developed a secret natural recipe which has been accepted by the Fair Trade Association. He has replaced the chromium which is usually used in the tanning industry in his recipe. He also accumulates rainwater to cut his water use and does not involve in child labour employment. He has developed a unique, ethical, full-grain veg-tanned eco leather for the Beislys.

To keep the supply chain simple, the Beislys make an attempt to source as many materials as possible locally. To make their business ethical, they stick to certain regulations which include: providing health insurance to their artisans, actively fighting for freedom from slavery, paying fair wages, educating the women artisans and ensure their children get proper education, reinvesting the profits into the business, etc.

Conclusion

Concepts like "slaughter-free leather" are coming into the picture wherein leather is sourced from animals that have died because of natural causes rather than slaughtering them for profitable purposes. The demand for these slaughter-free leather commodities is at a nascent stage but, is growing rapidly because of the increasingly environment-conscious consumers.

Because of this rise in the demand for sustainable and ethical products, fashion designers and stylists have also starter remodelling their ways. They are cashing in on the opportunity which has given a boom to startups like Grain and Khara Kapas. At Grain, cruelty-free or ahimsa leather meets good design for stunning, contemporary bags and Khara Kapas, meaning 'Pure Cotton' in Hindi, started with the belief that well designed clothes made from pure fabrics can bring happiness into people's daily lives.

Brandless is another Indian startup by Aanchal Mittal that designs its products based on solving the everyday problems faced by its users and, they also ensure that no raw material goes wasted in the process of production. Brandless has a product line comprising of travel accessories made of exotic leather. They ensure that their leather is sourced from ethical tanneries.

The leather industry can adopt fair trade measures in the following ways.

- æ It can ensure fair wages for its workers.
- æ The chemicals used during tanning can be replaced by natural materials. Vegetable tanning can be brought into play again.
- æ Health and safety measure like protective equipment, emergency protocol, natural light and ventilation, health insurance, pension funds, etc. should be provided to the employees.
- æ Every one kilogram of leather tanned requires around 320 litres of fresh water. Since a lot of water is required in the tanning process, industries should adopt ways like rainwater harvesting to conserve water.
- æ Improving the infrastructure of the tanning factories should also be considered. The factories should have proper flooring and should be kept clean.
- æ Since many tanneries are situated in clusters, they could together build restrooms and canteens for their employees and crèches for their children.

The extra time and resources that these processes and measures take can increase the cost of the process. However, according to studies conducted, consumers will not mind paying that extra cost for an organic and ethically manufactured product.

These one-time costs would benefit the leather industry immensely. They would be suited to join the fair trade associations which would increase the goodwill of the tanneries. The marketing of these "green and ethically produced" products would also give companies an edge over others and can be a competitive strategy to increase their market share. Some tanneries in India have already joined the fair trade force and are being applauded for it globally. It will only be optimum

for the organizations to choose the same path as their customers and, the path only seems to be getting conscious and greener.

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KANPUR CLUSTER COULD CLOSE PERMANENTLY

Only days after The Indian People's Party (BJP) confirmed its victory in the 2019 general election in India, and its leader, Narendra Modi, began his second term as the country's prime minister, reports have emerged from the north of the country questioning the ability of the tanning cluster in Kanpur to survive.

A temporary closure, imposed on Kanpur's 260 tanneries towards the end of 2018 (ostensibly to lower pollution levels in the River Ganges) now looks likely to become permanent. The restrictions came into force in mid-December at the instructions of Mr Modi's BJP colleagues, who run the state government in Uttar Pradesh.

They said they wanted to lower pollution levels in the sacred river in time for ritual bathing at Allahabad during this year's Ardh Kumbh Mela religious festival. But the festival ended in March and the tanneries hav not yet received permission to start production again. Speculation is rife that the BJP's renewed political strength, following its general election win in May, could mean they never will.

"Unfortunately this news is true," Taj Alam, managing director of Unnao-based tannery Kings International. He explained that the much smaller clusters at Unnao and Bantha, which are on the opposite bank of the Ganges from Kanpur, are being allowed to continue production for now. But Mr Alam is also the president of the Leather Industry Association of Uttar Pradesh and said the BJP government, at national and at state level, seems to him to be determined to keep the Kanpur cluster closed.

"It's very sad," he added. "All Kanpur tanneries are undergoing financial hardship because the closure has now lasted six months. Hundreds of thousands of workers along the supply chain have now been made unemployed and the value-added finished product sector is being badly impacted too because they cannot get finished leather."

Reuters and other media outlets have linked the prominence of the BJP with an increase in clashes, many of them violent, between people trading cattle, meat and hides and Hindu nationalists, who venerate cows. BJP politician and Hindu priest Yogi Adityanath became chief minister of Uttar Pradesh just over two years ago. Tanners in and around Kanpur soon spoke of their fear that moves against the meat industry and its by-products were likely to follow and immediate actions that the state government took included a crackdown on slaughterhouses and meat outlets.

(Leatherbiz.com – 30/05/2019)

LEATHER EXPORTS CONTINUE TO FALL

Leather exports are still on the downward trend, with data from the Council for Leather Exports (for 2016-17 until February) showing a negative growth of 4.12% for overall leather exports.

In absolute numbers, the total exports during FY16 for the same period was at $5396.7 million and for FY17, it fell to $5174.12 million. Considering the fluctuation of the rupee, data shows a negative growth of 1.40%. "We can attribute the fall to the unstable European markets. However, the negative growth is not as steep as the trend in 2015-16, as the Europe-focused approach is changing. Increasing reliance on the US market is paying off and we will register a positive growth this fiscal, "said Israr M Ahmed, regional chairman, south, Council for Leather Exports (CLE). Factory owners say that the negative growth has narrowed only compared to the previous year, and the business has not picked up compared to 2014.

(Times of India - 09/05/2019)

IULTCS PRESIDENT SAYS SUPPLYING SCIENCE-BASED INFORMATION IS KEY

The president of the International Union of Leather Technologists and Chemists Societies (IULTCS), Thomas Yu,has said in the build-up to the XXXV IULTCS Congress in Dresden (June 25-28) will give the organisation an important platform for addressing some of the big challenges facing the global leather industry.

"The leather industry and leather chemical industry are under great pressure over environmental issues," Mr Yu said in recent comments. "IULTCS is a very important organisation because it can provide reliable, science-based information and promote innovative technology."

He said he welcomed the congress's return to Europe because more participants from downstream industries, including automotive, footwear and furniture, are likely to attend. Mr Yu

said this is likely to make discussions at the event broader and more meaningful.

(Leatherbiz.com – 12/05/19)

LEATHER INDUSTRY HIT BY CLEAN GANGA PLAN

The Rs 12,000 crore finished leather industry in Kanpur has seen closure of about 250 tanneries over the past four months.

Kanpur tanneries were ordered to close between December 15, 2018 and MARCH 15, 2019 for ensuring a cleaner Ganga during the Kumbh Mela downstream Prayagraj (Allahabad). However, even after the Kumbh's culmination, barely a tenth has resumed operations ,since the UP Pollution Control Board has not issued the necessary clearances, say owners .

UP comprises three major leather industry hubs, of Kanpur - Unnao, Agra and Noida. Of the Rs 20,000 crore estimate of its annual worth, half is accounted for by the export market. The state accounts for almost a third of India's annual leather trade and export.

As a result of the Kanpur shutdown, the finished leather segment is witnessing a severe beating in export volume, even as other segment continue to grow. Finished leather commands the third largest share of 14 percent in the broader leather industry sphere, topped by leather footwear and leather goods at 38 and 25 percent, respectively.

(Business Standard – 05/04/2019)

HIGHER IMPORT DUTY SOUGHT ON CHINESE LEATHER, FOOTWEAR

Industry has raised alarm bells as imports of finished leather goods and footwear from China have increased amid falling exports of these products from India. Even though is a net exporter of raw hides and skins to China, it is a net importer of footwear and other articles of leather such as handbags, saddler and harnesses from its neighbour.

Footwear is a major import item from China into India, accounting for about 68% of total foot wear import into the country. Value-added products such as leather products and footwear constituted 91% of imports of leather, leather products and footwear from China, as per industry estimates.

"As far as leather and footwear sector is concerned, balance of trade now is in favour of China," said an official in the know of the issue which was recently discussed at a meeting of the department of commerce and various industry bodies on containing the trade deficit with China which was down by $10 billion to $53 billion in 2018-19.

(Economic Times – 22/04/2019)

VIETNAM FOOTWEAR EXPORTS TO ALMOST ALL MARKETS SAW GROWTH

In the first nine months of the current year, Vietnam exported nearly 11.8 billion US dollars' worth of footwear, a 10.5% increase over similar period in 2017, according to data released by the Vietnam Customs Office.

The upward trend is expected to continue, with Vietnam taking advantage of the increasing production costs in China and estimates by Lefaso, the Vietnam Leather, Footwear and Handbag Association point out to an increase of 9.0% in the whole year compared to total footwear exports in 2017.

HAND STICHED LEATHER BAGS FOR THEUNDERSTATED INDIAN

Just like its line of luxurious furniture, de Sede's line of bags comes with precious detail

You'll find a curved, dark brown de Sede couch in Giambattista Valli's Sloane Street store in London. The Swiss brand's iconic Skeleton chairs have also made appearances in James Bond films and in the British sitcom, *The IT Crowd*. Vintage circular white sofas have pride of place in the drawing room of fashion designer Roubi L'Roubi. No doubt, the leather furniture from

this brand is in fine company indeed, so can its fashion accessories be far behind? Designed for the boardroom and power circles, more than the red carpet, the bags were recently introduced in the country. The 54-year-old brand, head-quartered in Klingnau, has been in the Indian market for about two years now.The bags will be equally successful, says Ursula Grenacher, chief of marketing at de Sede, adding, "It wasan important strategic step."

Shine on

The line includes a tote, three sizes of clutches, a men's clutch, a practical twin bag, a generous weekender and a messenger bag. While the bags, with clean lines, are generally unembellished, the limited edition Angel is the exception. Sonal Saxena, sales head for de Sede bags in India and several other South East Asian countries, says, "These are produced completely by hand in Switzerland, and feature 166 diamonds on the clasp and the handle attachments. There's a two month wait period, and the production is capped at 100 pieces."

The hardware too is made of gold and platinum, customised to match the colour of the leather — choosefrom a dozen shades, including burgundy, bright red, deep green and teal. Gold appliqués by Zurich-based Blum Juwelier are hand-cast in white, rose or yellow gold. A smaller clutch version has a modest 18 diamonds, and comes in black, white and grey.

Grenacher says they will be collaborating with a soon-to-be-named Indian jewellery designer to create a new diamond bag for this market. "We want it to be an investment, similar to expensive jewellery, and will present it as a new way to sport diamonds as part of an ensemble. We're planning to present it in autumn,with exclusive private parties for a select target group," she says.

Leather loving

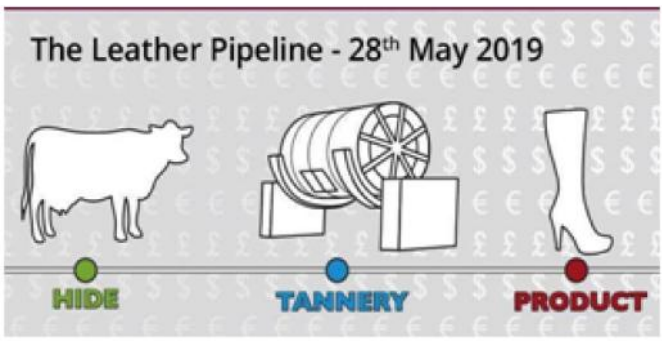
Like their furniture, the bags are made of semi-aniline leather, where the natural grain and markings of thematerial can be seen through a thin layer of pigment coating. It's also meant to be weather-resistant and dirt and water-repellent. One of the signatures of the craftsmanship is the hand-sewn seam, while the handles are embellished with cross-stitch to add a touch of design and structural integrity.

Saxena says that the range is targeted at serious buyers — CEOs, business owners, HNIs — who are looking for understated elegance. "The pricing is on par with brands like Louis Vuitton, but without explicit branding that might make it look too flashy," she says. Like you can tell a Bottega Veneta by its signature weave, the tear-drop detailing on all the bags is a tell-tale sign of a de Sede, she adds.

The design is also biased towards functionality. For those endlessly rooting through the dark interiors of bags for keys or a pen, the bright yellow lining helps. "It's meant to increase visibility. The men's bags havea pale blue lining for the same reason," she explains.

(The Hindu - 31/05/2019)

LEATHER PIPELINE : COOPERATION IS THE ONLY THING THAT WILL HALT THE DEMISE



No one in the supply chain foresaw a time when certain hides would be so cheap that there would be little value in processing them, and they would go to waste. "Nobody had a Plan B," says the author of our exclusive Market Intelligence report. "The industry is beginning to face the situation that hides are now going to waste and meat producers are starting to act.

"Trimming everything that cannot be used for specific leather productions as early as possible is a big step forward. This prevents waste along the production chain and the dream of many tanners to maximise cutting yields by reducing unusable input is beginning to be an option."

However, he feels the entire supply chain, from meat producers to finished goods brands, must sit down and discuss how they can tackle the problem of material going to waste.

On the plus side for some, "there has never been a time when material was so abundant and so cheap".

(Leatherbiz.com - 28/05/2019)

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QUALITY CONTROL AND IMPLEMENTATION OF STANDARD SPECIFICATIONS FOR PROMOTION OF FINISHED LEATHER EXPORT

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Abstract

Though the export performance of the leather industry showed an overall increase during 1968-69 and 1969-70, the contribution of finished leathers is far from satisfactory and is insignificant being only about 2% of the total export earning of Rs. 85 crores in 1968-69 and Rs. 98·5 crores in 1969-70. If the target fixed for export of finished leathers at the end of Fourth Plan period is to be achieved we have to produce standard and quality leathers at competitive prices for which adoption of quality control and ISI Certification marks, among other measures, is advocated.

Introduction :

In the Seminar organised by the Export Promotion Council for Finished Leather and Leather Manufactures in 1969 on "Rs. 115 crores Leather Exports —A Challenge to Meet", a number of important resolutions were adopted on different aspects of the leather and footwear industry and on meeting the industry's export potential. Besides accepting the export target of Rs. 115 crores by 1973-74, the last year of the Fourth Five year plan, as recommended by the Development Council for the Leather and Leather goods Industries, it was further decided to recommend to the Development Council to consider the feasibility of increasing the export target to Rs. 160 crores based on the proposals put forward by some distinguished participants in the Seminar. However, the Leather Export Promotion feel that it would be possible to achieve a target of Rs. 125 crores. In the target already accepted, the share of finished leather has been fixed at Rs. 12 crores against Rs. 1.62 crores contributed during 1968-69 and Rs 2·25 crores during 1969-70 and that of footwear at Rs. 25 crores against Rs. 7·1 crores and Rs. 7·03 crores during the said periods. The predominating part in the overall export are being played by EI tanned and blue chrome leathers.

Considering the present poor production of both finished leathers and footwear quantitavely and qualitatively, difficulties of raw materials supply, lack of modern machinery and non-availability of suitable chemicals and leather

auxiliaries of consistent standard quality, and insignificant export performance of finished leathers during past years, the target fixed at such a high level for finished leathers and footwear appears to be too ambitious and not based on reality. Until and unless speedy action is taken to increase the productivity and improve the quality by adopting necessary measures, the target may not be fulfilled within the stipulated period. If we examine the export performance of finished leathers during 1966-67 to 1969-70 we find that the values of export of tanned and finished hides and skins have remained almost at the same level without registering any remarkable gain.

Let us analyse the values o export of finished leathers during 1968-69 itemwise :—

(1)	Finished Chrome, semi-chrome Upper leather	: Rs.	2,24,252
(2)	Finished calf leather of vegetable tannage	:	5,66,405
(3)	Chrome uppers	:	2,20,547
(4)	Semi-chrome diaphragm leather	:	37,638
(5)	Semi-chrome grain garment	:	92,140
(6)	Suedes including grain finished	:	3,58,755
(7)	Other chrome tanned leather	:	25,29,217
(8)	Bark tanned case leather	:	8,56,245
(9)	Buffalo sole leather	:	2,000
(10)	Other leather of vegetable tannage	:	75,418
(11)	Bark tanned lining of sheep lamb skin	:	1,20,747
(12)	Sheep & lamb finished leather of vegetable tannage NES	:	1,04,411
(13)	Chrome and semi-chrome sheep suede	:	14,85,261
(14)	Other leather of sheep lamb skins	:	20,97,478
(15)	Chrome and semi-chrome goat suede	:	5, 78,276
(16)	Goat lining	:	1,52,563
(17)	Glazed kid	:	32,83,772
(18)	Finished leather of vegetable tannage NES of Goat, kid skins	:	2,68,000
(19)	Other leather of goat, kid skins NES	:	3 94,805
(20)	Chamois leather	:	4,44,472
(21)	Parchment dressed leather	:	4,058
(22)	Finished leather NES	:	23,42,081
			Rs. 1,62,38,541

(Compiled by the Economics Project, CLBI, Madras

The statistics mentioned above reveal how meagre is the value of upper

leather export and how enormous an effort should have to be put in during this short period to reach the target set for finished leather export, a nearly seven times expansion of the present capacity. Additionally, about three and half times expansion of exports of footwear, as fixed in the target, will require a huge quantity of good quality upper leathers, availability of which is already insufficient. The target fixed viz. Rs. 115 crores by the Development Council cannot be met by the large-scale units existing in the country at present. Even if they expand to a great extent and few more large scale unit are established it is doubtful whether the aspiration will be fulfilled. Hence the small tanners who are credited to the 80 or 90% of the entire production to-day have got to come forward to help the large units to meet the target. But unfortunately there are several handicaps for the small tanners for effective participation in the export trade.

Present handicaps

The problems of leather industry in India are many and varied, the foremost one of vital importance being that the hides and skins of the desired variety for production of exportable finished leathers are not sufficient enough to satisfy the needs of quality leather manufacturers. The inherent defects of Indian hides and skins due to poor substance, improper curing, unscientific flaying, grain damages etc make them useless for production of export quality leather and pose a great problem to leather manufacturers. To fulfil the export target for finished leather, the raw material base should be strengthened through concerted efforts diverted towards organised and better system of raw hides and skins collection, opening of modern slaughter houses, better distribution for assured supply of raw materials to tanners and stabilising raw material prices essential for economic production by stopping speculative practice as otherwise it would affect the competitive position of our exports adversely.

The next factor ef equal importance is the present structure of the leather industry in India which is mainly in unorganised small scale sector and not so well equipped with machinery and technical personnel to produce quality leathers for export market at competitive prices. Small scale units have limited capital and investment potential is very limited and this fact bars them from progressing further inspite of their willingness to do so.

Moreover, their methods of production are unscientific owing to lack of scientific knowledge and reluctance to adopt quality control and as such their products are sub-standard.

In the small scale sector, two groups of tanners exist : One group,

consisting of older practical tanners who on the basis of their practical experience for a number of decades are very conservative and consider themselves knowing their jobs very well and as such resist any mod ification or improvement of the processes through scientific control. This group of practical tanners predominates.

The other group, viz. the younger generation and the new entrepreneurs are enthusiastic and progressive and they feel that the standard of Indian leather should be comparable to leathers of technically advanced countries like the UK, Germany and others. It is high time that immediate rapid measures are adopted to induce the tanners of the small scale sector to improve the quantum and quality of leathers so as to compete effectively in world market.

Another reason for the poor performance of our finished leather in foreign markets is lack of modern mechanised finishing units in small scale sector. The setting up of mechanised units will not only improve the productivity but will also help to standardise the product.

Need for Quality Control and Standardisation

In the present age of increasing competition both at home and abroad, it is essential for small scale industries to produce quality goods at an economic level. Modern markets, specially those of foreign countries are highly sophisticated. There are two important factors which determine the saleability whether at home or abroad ;—one is the quality and the other the cost of product. The two are obviously inter-related. The principles and techniques of quality control if fully adopted lead to improvement in quality, increase in production and reduction in cost. In order to enforce quality control the first essential requirement is standardisation. Quality control and standardisation are inseparable. Implementation of Indian standard specifications under the ISI Certification Marks scheme ensures the quality of goods produced whether for export or for home consumption. For building up reputation it is essential that the small scale tanneries manufacture their products according to the specified quality standards.

It is disappointing that though the leather industry is among the earliest to be covered by Indian Standards, a Leather Sectional Committee (CDC 16) having been set up under Indian Standards Institution as far back as 1950 for formulating Indian Standards in the field of leather, footwear, leather goods and auxiliaries, the industry has shown very little interest towards the standardization work and has not fully accepted the idea of standardization. It is, of course, true that the small scale sector face special problems such as

non-availability of raw materials, standard chemicals and auxiliaries. lack of modern machinery, equipments and laboratory facilities and are not capable of employing suitably qualified technologists for quality control all of which are obstacles to production in accordance with ISI standard. But to establish markets, the goodwill and confidence of the buyers, both here and abroad, have to be created by supplying quality goods according to standard specifications. Such products have a greater consumer appeal. If a manufacturer in a developing country wishes to introduce his product abroad a simple assurance that the product complied with Indian Standard specifications will be more convincing than any other sales compaign. To promote export of our finished leathers an all out effort for vigorous application of quality control and implementation of standard specifications is extremely essential.

At every stage, effort to maintain quality can only produce a standard quality product. It should start right from the selection of raw materials to the final finishing of the product. The machinery, raw materials, chemical and leather auxiliaries, storage of these materials and process control at every stage of operation in the course of leather manufacture will individually be counted for the standard quality of the product. The testing of each and every material used for the manufacture of leather is also very important to control the processes adopted because, if the chemicals and auxiliaries available in the market are of inferior and sub-standard quality, it is impossible to produce finished leather to standard specification.

Need for Assesement of the Quality of Finished Upper Leathers.

An upper leather must possess some essential properties as they affect shoe making and the subsequent performance of the shoe in wear. Hence it is necessary to measure those properties which are relevant to the efficient utilisation of the leather by the shoe manufacturer and full satisfaction of the shoe wearer. It is necessary to ascertain the two most important properties—the Tensile strength and Grain elasticity of upper leathers. The extractable grease content of leather, fastness of the finish to dry rubbing and wet rubbing in the presence of water and solvent, adhesion of finish and flexural endurance should also be ascertained as most of the complaints that are received relate to the finish. The measurement of percentage set is becoming increasingly important with the introduction of new heat setting and moulding techniques.

There are standard test methods for testing the physical properties of leather, adopted by the International Union of Leather Chemists' Society. The Indian Standards Institution have also drafted Indian standard for the physical testing of leather which is to be finalised.

As mentioned earlier, modern markets especially those of developed countries are highly sophisticated and at the same time highly competitive which mean that to establish our finished leathers in the foreign market, the leathers should conform to the standard specifications relating particularly to the physical properties of leather to meet the requirements of shoe manufacturers. Hence, for exportable leathers, arrangement should be made for routine test for the above mentioned properties which help to achieve the desirable effects in leather. At present facilities for carrying out all the tests under standard specification may not exist in many control and test laboratories in our organised tanneries but efforts should be made to equip the laboratories with the necessary testing instruments.

Testing and Inspection Facilities for Small-Scale Units.

For reasons of financial inadequacy of the small-scale units, the quality control and standardisation required and obtaining ISI certification mark on their products may not be possible. It is generally not worth-while for a small-scale tannery to invest money in equipping and manning a testing laboratory as it will add to the cost of their products creating difficulty to face the competition and it will be a great burden to maintain and run such a laboratory. Therefore the matter of providing testing and inspection factilities should be the responsibility of the Government, Central as well as State, who can set up common facility laboratories for testing and check up of quality of products in the vicinity of small tanners' concentration at important tanning centres. The Central Leather Research Institute may take the lead in this respect by providing the testing and inspection facilities through their existing Regional Extension Centres established at important places in India by equipping the existing laboratories with additional instruments which may be necessary for chemical and physical tests of raw materials and finished leather. Indian Standards Institution and the Export Inspection Council may affiliate these laboratories and a collaboration among Central Leather Research Institute. Indian Standards Institution and the Export Inspection Council is very necessary for speedy promotion of finished leather export.

Conclusion

In order to meet the export challenge, steps should be taken to enforce the measures essential effectively and speedily with special emphasis on :

(1) making the small-scale units quality-conscious, and educating them about the necessity of standardization of products, production methods etc through wide publicity by ISI.

(2) imparting latest technical know-how through wider CLRI Extension

Service to small-scale tanneries for quality improvement and standardisation of the finished leathers to satisfy foreign markets.

(3) extending the scope of ISI Certification Marks scheme to cover small scale tanneries which will compel even the reluctant units to adopt quality control techniques and to standardise their products.

(4) bringing leather in the purview of Pre-shipment Inspection.

(5) setting up common facility test laboratory for standard tests and certification.

(6) greater co-ordination between CLRI, ISI and Export Inspection Council.

Only the implementation of the above steps can ensure the achievement of the export target, failing which it will remain a wishful thinking.

The views expressed herein are those of the Author and not necessarily of the Institute to which he belongs.

GEOLOGICAL FORMATION OF INDIA

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History is the story of the past. Sorry, not story, but the facts. India as we see now in the Atlas was not like this in the prehistoric age. Over the passage of millions of years, not only bacteria, algae, flora and fauna developed and we had a remarkable biodiversity, but also there was a change in the pattern of life, thoughts, beliefs, languages and customs. It should be an interesting 360-degree tour in few hours to see those changes which certainly remained unseen for most of us. If, we have to estimate the chronology and system of indigenous scientific and engineering developments done by our ancestors, we must focus within the history in general and within the periods of the history in particular.

This would be a mammoth task. As a naive in history, like as many engineers are, our discussion should go within the domain of history parallely. Because time is important to know about the development of scientific temper and concepts. Since the tasks of engineering is to exploit scientific knowledge into purposeful actions.

Now going to the discussion, the formation of earth is fairly estimated as 4.6 Billion years ago from the radio-active tracing of the oldest rocks discovered by the historians. Thus, Archean Age is defined between 4.0 billion to 2.5 billion years in the so called, "Geological time". During this period life also aroused from the sea in the form of algae, bacteria etc. (the lower form of life). The life aroused in the very turbulent time, full of thunder showers. The brilliant in vitro experiment of Stanley Miller and Harold Urey (1953) has shown that all the building blocks of life, like amino acids (for protein), Nucleotides and pentose - ribose (for both DNA and RNA) have had produced in the primordial earth's atmosphere, simulated by them in the glass wares with electrodes to generate sparks (thunders). Alexander Oparin and J. B. S. Holden later on concluded that in absence of protecting ozone layer in primordial earth's atmosphere, it is probably huge proportion of UV radiation caused the reducing environment necessary for onward photochemical synthesis to produce amino acids, nucleic acids, acids, bases (purin and pyrimidine), and sugars like pentose and hexose etc. It was Dr. Hargovind Khorana who has discovered that despite the formation of diverse & complex structure of phylogenetic tree, surprisingly all existing 64 genetic codes are common to all – bacteria, fungi, algae, flora, fauna and human being.

Thus while the life grew in complex ways, following the similar trend earth's surface (crust) also changed in dramatic ways. One theory suggests that the initial earth's volume extending further, thus reducing the density of the earth. The diameter of the earth extended gradually to the extent of two third as compared to the initial. That automatically means that the surface area of the globe became larger and larger during 3.5 billion years' passage. This now calls for that the land mass (which is about one third now) is now far apart and disjointed mostly, was not so in 3.5 billion years ago. They were united to some extent. The orientation of paleo-Mg in the rocks (their "pole paths") would conform to each other, if, they are adjacent to each other. This is known as "continental drift" in which Indian subcontinent was subjected to.

India initially belonged to a super-continent designated as "Gondwanaland" situated in the south hemisphere. Gondwanaland was named after the rock named, Gondwana available in central India. India was thought to be a part of the super-continent that once comprised India, Australia, Antarctica, Africa and South America. This fact was discovered by studying early fossils of closely related species in all those continents (as of now) during those periods prior to continental drift. The similarity between Australia and the rest tend to cease after the Jurassic period (144 Million years), when the various parts of the super-continent are supposed to have pulled apart. During 58 to 37 Million years, the portion later destined to form India started to sail towards north to join Eurasian continent comprising much of the land mass of Europe and Asia.

The process of scattering such a huge land mass is attributed today due to the expansion of Ocean-floor. Studies have shown that the ocean-floor is constantly pushing against the land.

This process is also responsible for the formation of tectonic plates. India, Australia and the Indian ocean belongs to Indian plate, which presses the African plate in west and Eurasian plate in north. These plates rest on hypothetical lower soft layer called the "Asthenosphere" on which each tectonic plate would slide, if, not interfered by other plates. The friction between the plates with a convergent motion on one side is balanced by the divergent motion on the other. This has constantly changed the land-form by pushing up or pressing down land along the fault line.

Under these various impulses the land form and sea limits has constantly changed. It is difficult to describe these changes in time frame. By the end of Paleozoic period (248 Millions of year ago), the shape of Deccan peninsular India at least was constant in shape and area. Its base has been supported by rocks formed in the Archean times. This makes Deccan Peninsula as one of the oldest stable blocks in the world. It vertically stuck to the Aravalli are thought to be one of the oldest and surviving mountain range of the world. The earlier Deccan peninsula did not have any fossils, except the remains of the Gondwana rocks, belonging to Carboniferous times (320 to 286 years ago). That means that Deccan peninsula was only a raised land above the sea. Nevertheless, before the end of Cretaceous period (about 98 Million years ago), the Gondwana rocks had fossils of dinosaurs and its other kinfolks.

In the Himalayas and the salt range, rocks containing fossils of marine life goes back to Cambrian period (up to 570 Million years ago), which tells that the rocks were formed from sea sediments. Where the mighty Himalayan range exists now, was once a sea, could be a part of Tethys sea, which was spread between Mediterranean Sea to China. Marine fossils of Himalaya are dated back to the end of the Mesozoic age (about 65 Million years ago). Western Rajasthan and Kutch have yielded marine fossil of Jurassic times (between 213 and 144 Million years ago). Therefore, these two parts must have been covered by sea before.

Massive volcanic catastrophe took place in north-western parts of Deccan and Gujarat in the Cretaceous period (from 144 to 65 Million years ago), and resulting lava and ash-beds, known as 'Deccan trap' cover an area of over half a Million square kilometers. In the beginning of the tertiary period (65 Million years ago) especially in the Eocene epoch, the Himalaya begin to rise. A momentous lift that continued till Miocene (25 to 5 Million years ago) epoch. During this Miocene epoch, the earliest Apes appeared in the screen of Nature. Himalaya and its entire range was believed to be formed due to severe folding caused by the pressure of pushing between the Indian Tectonic plate against Eurasian Tectonic plate.

From the Himalayas a large amount of broken rocks and alluvium were brought down by the glaciers and rivers to form the Shiwalik Hills along the foot of Himalaya as a secondary hill formation. This process continued until one Million years ago. At the same time the alluvium was continuously deposited through the Himalayan Natural drainage below the Shiwalik so that by the Pleistocene epoch (1.8 Million to 10,000 years ago) the Tethys sea, here having varying depth between 2,000 to 6,000 meters was filled up and the great alluvial basins of Indus and Ganga-Brahmaputra rivers were formed carrying the legacy of historical Tethys sea. (May Lord Shiva excuses)!

The matter will be discussed and we shall open up gradually, how the science & technology evolved along with the evolution of society from the prehistoric era to the modern era. After reading the contribution of Nalanda (700 B.C) and Vikramshila from the masterpiece of Prof. Jean Draze and Prof. Amartya Sen in, "An Uncertain Glory: India and Its Contradictions". We felt enthusiastic to carry out a thorough study on the Indian contribution in Higher Education in general and Science & Technology in particular.

[Courtsey : Prof. Irfan Habib, "Prehistory: People's History of India Series Part I, Tulika Books, ND, 9th Edn (2012).]

INDIA'S ECONOMY SEEN LIMPING BEHIND CHINA AS MODI BEGINS SECOND TERM

India probably lost its spot as the fastest growing major economy to China in the January-March quarter as a chill in domestic and global consumer demand hit manufacturers and service providers.

The slowing economy didn't stop voters giving Prime Minister Narendra Modi a landslide victory in an election concluded earlier this month.But it puts an onus on him to deliver reforms that can truly unlock growth, which had waxed and waned during his first five years in office.

A Reuters survey of economists forecast growth slipped to 6.3% annually in the three months ending in March, its slowest pace in six quarters. If they are right, India would lag China, which notched 6.4 pct growth in the March quarter, for the first time in one-and-a-half years.

Modi sworn on 30th May with an expectation to begin his second term by prioritizing growth in an economy that isn't creating enough new jobs for the millions of young Indians entering the labour market each month. His first task could be finding a new finance minister, as Arun Jaitley has asked to step aside due to health reasons. Whoever takes Jaitley's place will have to draw up a budget due to be presented in July.

The government is widely expected to deliver some fiscal stimulus while keeping the deficit at manageable levels. On the plus side, the Reserve Bank of India could have leeway to reduce interest rates as inflation remains subdued. The gross domestic product data for January-March quarter and provisional estimates for the whole 2018/19 fiscal year ending in March will be released on Friday around 1200 GMT.

The RBI has lowered its economic growth forecast for 2019/20 fiscal year beginning April to 7.2%.

The central bank's monetary policy committee (MPC), which has cut policy rates by 50 basis points this year, is expected to cut the repo rate by a further 25 basis points at its June 4-6 meeting, bringing it to 5.75%, the lowest since July 2010. Retail inflation has stayed below 3 percent for last six months, possibly low enough to take the risk of cutting rates without waiting to seeing whether the monsoon rainy season starting next month holds any danger of a spike in food prices.

Several indicators - automobile sales, rail freight, petroleum product consumption, domestic air traffic and imports indicate a slowdown in domestic consumption. Corporate earnings hit a six-quarter low growth of 10.7% during January-March quarter on weakening consumer sentiment and softening commodity prices, ICRA, the Indian arm of the ratings agency Moody's said on Tuesday, citing a sample of over 300 companies.

"The signs of slowdown in domestic demand are visible both in urban and rural areas," Federation of Indian Chambers of Commerce and Industry said in a statement earlier this week, while submitting pre-budget demands to the finance ministry.

Industry chambers have lobbied for a fiscal stimulus including a cut in corporate tax rates and lower interest rates. The government could front-load its budget spending and announce some tax sops for individual tax payers and companies, a senior finance ministry official told Reuters, while citing fiscal constraints due to a slower growth in tax receipts.

But some economists said monetary and fiscal stimulus could have a limited impact.

They fear the economy is in danger of a prolonged phase of slower growth due to stagnant rural wages, rising real interest costs for manufacturers and reluctance to lend among banks and non-bank finance firms due to alarmingly high defaults.

"While cyclical challenges can be addressed through short-term measures, the need of the hour is to address the structural challenges plaguing the Indian economy," said Sunil Kumar Sinha, economist at India Ratings and Research, the arm of Fitch ratings agency.

Some finance ministry officials have suggested Modi's government could push long pending reforms, related to land acquisition and labour, during the coming year, though it will have to coordinate with state governments.

(Economic Times – 30/05/2019)

COLLAPSE IN GDP MEANS MODI HAS TO PUSH FOR SWEEPING REFORMS

Unlike most other ministries where the principal job is to bring about change in a particular area, the finance minister's job has a larger remit. So not only does NirmalaSitharaman have to ensure there are enough tax reforms so as to ensure collections start growing again – and unless they do, the government's ambitious capex plan can no longer be funded – she also has to be the champion for larger reforms across the economy, from genuine privatisation to replacement of subsidies by direct benefit transfers.

From Manmohan Singh to P Chidambaram and Arun Jaitley finance ministers have traditionally been the biggest advocates of reform; Sitharaman now has to emerge as this pro-reform voice and convince the prime minister to back her. Given her stints in commerce, industry and defence, she has the requisite experience to know both the problems of most parts of the economy as well as potential solutions. Her soft touch and persuasive skills will be critical if states are to agree to further reduce the number of items in the higher GST brackets; unless this happens, it is difficult to see GST taking off as planned.

But what is critical to Sitharaman's performance, more than anything else, is theextent to which prime minister Narendra Modi is prepared to back her. If Modi is not willing to expend political capital on privatisation, for instance, not only can she not do anything about it, she will find it difficult to even meet budget targets for disinvestment since the past policy of asking PSUs to buy other PSUs and to deliver large dividends, and even buy back their shares, has played havoc with their balance sheets and has limited their ability to contribute to the exchequer in the future.

Similarly, if prime minister Modi is not willing to risk jibes like suit-boot-ki-sarkaarand proceed to slash the unacceptably high telecom levies, even an efficient minister like Ravi Shankar Prasad who has fortunately been given back the telecomministry, can do little to revive it; in the bargain, the annual amounts the government hopes to get through fresh spectrum auctions as well as from the annual levies will continue to fall as it has over the last few years.

Anyone who thinks individual ministers, no matter how efficient, hold the key to reforms should look at how, even under someone as reform-minded as ManmohanSingh, reforms all but dried up when, after the first few years, PV Narasimha Rao no longer wanted to push as hard. Even Yashwant Sinha, who was one of India's finest finance ministers, was frequently called 'rollback Sinha' due to the fact that prime minister Atal Bihari Vajpayee had second thoughts on several of Sinha's reform measures.

While Amit Shah being made home minister will be critical in meeting various challenges such as containing the flow of illegal immigrants in different parts of the country, the fact that ministers like NitinGadkari and PiyushGoyal have retained their old ministries will ensure the large investment plans in both roads and railways will continue apace; indeed, both have been given other responsibilities as well in recognition of their ability to deliver.

(Financial Express – 31/05/2019)

BANK CAN USE AADHAR FOR KYC WITH CUSTOMER'S CONSENT, SAYS RBI

The RBI specifies Know Your Customer (KYC) norms to be followed by banks and other entities regulated by it for various customer services, including opening of bank account. Also Banks can use Aadhaar for KYC verification with the customer's consent, the Reserve Bank said Wednesday as it updated its list of documents eligible for identification of individuals.The RBI specifies KnowYour Customer (KYC) norms to be followed by banks and other entities regulated by it for various customer services, including opening of bank accounts.

"Banks have been allowed to carry out Aadhaar authentication / offline-verification of an individual who voluntarily uses his Aadhaar number for identification purpose," the central bank said in its amended Master Direction on KYC.

In February, the Union Cabinet had approved promulgation of an ordinance to allow voluntary use of the 12-digit unique number as identity proof for opening bank account and procuring mobile phone connection. The ordinance was necessitated as a bill, passed by the Lok Sabha on January 4 but pending in the Rajya Sabha, would have lapsed with the dissolution of the current Lok Sabha. The ordinance gave effect to changes in the Aadhaar Act such as giving a child an option to exit from the biometric ID programme on attaining 18 years of age.

The RBI further said that 'Proof of possession of Aadhaar number' has been added to the list of Officially Valid Documents (OVD). For customer identification of individuals, the RBI said those desirous of receiving any benefit or subsidy under direct benefit transfer (DBT), the bank should obtain the customer's Aadhaar and may carry out its e-KYC authentication.

For non-DBT beneficiary customers, the Regulated Entities (REs) should obtain a certified copy of any OVD containing details of customer's identity and address along with one recent photograph. "REs shall ensure that the customers (non-DBT beneficiaries) while submitting Aadhaar for Customer Due Diligence, redact or blackout their Aadhaar number in terms of sub-rule 16 of Rule 9 of the amended PML Rules," it added.

The amended KYC norms further said for non-individual customers, PAN/Form No 60 of the entity (for companies and Partnership firms - only PAN) should be obtained apart from other entity related documents. The PAN/Form No 60 of the authorized signatories shall also be obtained. **Form 60 is required to be submitted by an individual who does not have a Permanent Account Number (PAN).**

"For existing bank account holders, PAN or Form No 60 is to be submitted within such timelines as may be notified by the Government, failing which account shall be subject to temporary ceasing till PAN or Form No 60 is submitted," the RBI said.

However, before temporarily ceasing operations for an account, RE shall give the customer an accessible notice and a reasonable opportunity to be heard, it added.

(Business Standrad – 29/05/2019)

INDIA MEETS FISCAL DEFICIT TARGET ALMOST, EXPENDITURE CUT OFFSETS MASSIVE REVENUE SHORTFALL

The Modi government just managed to meet the fiscal deficit target for FY19 as it reduced the expenditure spending to offset the shortfall in the revenue, the official data showed. The fiscal deficit stood at 3.39 per cent of GDP, marginally lower than 3.4 per cent estimated in the revised estimates of the Budget, In absolute terms, the fiscal deficit at the end of March 31, 2019, stood at Rs 6.45 lakh crore as against Rs 6.34 lakh crore in the revised estimates. The revenue gap for FY19 stood at Rs 4.45 lakh crore as against the revised target of Rs 4.10 lakh crore.

The spending was recorded at Rs 23.11 lakh crore as against the revised target of Rs 24.57 lakh crore. The capital spending stood at Rs 3.03 lakh crore compared to revised aim of Rs 3.16 lakh crore. FY19 revenue spending was at Rs 20.08 lakh crore as against the revised aim of Rs 21.4 lakh crore, the data showed.

The fiscal deficit in the month of April was recorded at Rs 1.57 lakh crore, or 22.3 per cent of the budgeted target for the current fiscal year, the data showed. While the net tax receipts in the

first month of the fiscal year stood at Rs 71,637 crore, the total expenditure was Rs 2.55 trillion, it also showed.

"Since the government hasn't done much spending in the first two months of fiscal, the numbers in June should be better in the month of June," Soumyakanti Ghosh, Group Chief Economic Advisor, SBI told CNBC TV18.

Meanwhile, the fourth quarter GDP data for fiscal 2019 released by the CSO showed a 20-quarter low growth rate of 5.8 per cent. The full FY19 GDP growth was recorded at 6.8 per cent, the data showed. On the other hand, the Periodic Labour Force Survey FY18 showed that unemployment stood at 6.1 per cent in FY18, the highest level in at least 45 years.

GST EVASION : SUPREME COURT TO CLARIFY ON REVINUE AUTHORITI'S POWER TO ARREST

The Supreme Court on Wednesday agreed to clarify on various procedural uncertainties regarding GST including the power of the revenue authorities to arrest anyone for GST evasion under the Central Goods and Services Tax Act without registration of an FIR.

The clarification has become necessary as different high courts in the country have held contrary to each other on the issue.

A vacation bench led by Chief Justice Ranjan Gogoi sought response within four weeks from some taxpayers accused of GST evasion on the Centre's appeals seeking SC interference in clarifying the arrest procedure under the tax regime.
The Supreme Court also restrained the high court's from hearing cases on the issue till it clarified the position. While the Telangana and Jharkhand HCs have favoured the tax authorities, the Bombay HC had taken a contrary view and asked the revenue authorities to refrain from taking any "coercive action" against the alleged evaders.

"As different High Courts of the country have taken divergent views in the matter, we are of the view that the position in law should be clarified by this court," Justice Gogoi said, adding that "as the accused have been granted the privilege of pre-arrest bail by the (Bombay) High Court, at this stage, we are not inclined to interfere with the same."

"However, we make it clear that the HCs while entertaining such request (privilege of pre-arrest bail) in future, will keep in mind that this Court (SC) by an order on May 27" had upheld the Telangana HC judgment which had allowed the government authorities to arrest a person in cases of GST evasion.

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