



Horizon of Leather: In Tribute to BM Das

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Tribute to a legendry, BM Das



“ I never had the opportunity to meet or see Professor BM Das, but have learnt of him from my teachers in plenty. When I joined CLRI, there was an aura around the name BM Das. Every one I met spoke of Professor BM Das with a sense respect and awe. Slowly I learnt during my early phase, the reason behind the sense of awe. He truly was the man who painted the horizon for leather sector in India in my opinion. He was an architect par excellence for the present edifice of Indian leather”.

This talk is dedicated to the soul and spirit of Professor BM Das in tribute to his service

Tribute to BM Das



- **Was for the first director of Central Leather Research Institute and created a culture for science for leather**
- **He wrote the Bois Report running into several pages all out of memory of what he saw when he visited Germany during the War time.**
- **The report was depository of information in such details and depth, it is hard to believe that a man could hold all those in memory and reproduce. It is a remarkable encyclopedia for a student of science to learn from.**
- **I learnt when I was a student from the report. He opened a mind of a young learner then. I saw the horizon of leather unfolding in front of my eyes in the mid sixties; all from through the eyes of a man whom I never saw.**

An Anecdote of value to the generations of leather scientists



“It appears that at the time of inauguration of the building of CLRI in 1953, Sir CV Raman was lamenting that it was a shame that an institute for leather research was being inaugurated at Madras rather than an institute for high sciences like biology. Prof BM Das is said to have touched the feet of Sir CV Raman on the dais and said that but for leather what would have happened to the feet of Sir CV Raman” Such was his commitment and belief in science for leather

Central Leather Research Institute: An epitome of dignity of Labour and creating value through science



- **CLRI to me is not just a building built with brick and mater. It is a culmination of labour and service of many tall men and women who toiled to build a research center to serve the cause of a community. To me, CLRI is even grater than Taj Mahal because CLRI was built to serve an immortal cause and a just symbol of love for a mortal. BM Das had the unique privilege of architecting such an epitome.**
- **A Call to the generation of scientists to come**

Preserve the richness of heritage and build further the value of CLRI to the community that it strives to serve for all time to come



Seeing beyond the Horizon

In tribute to Professor BM Das

The future for leather: Is like peep into the horizon

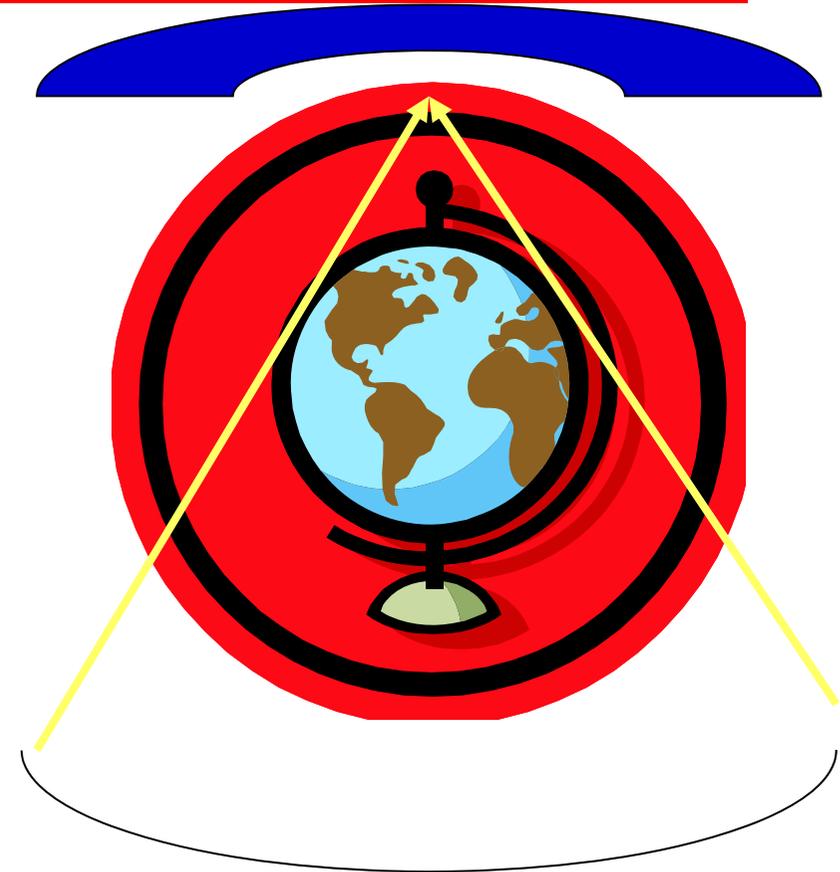


- **Seekers of future are always having to see beyond what is seen and guess intelligently what is beyond the cone of vision**
- **Future forecasts of leather should also therefore be based on what is seen within the cone of vision**
- **Those who plan a future with leather in some professional manner are ceaselessly striving to see beyond the horizon**

Seeing beyond the Horizon: A Challenge



- When we try to observe the environment around us on 360° what is seen in the field of view is limited to the cone of vision
- An astronomer in the north pole can not view the extra terrestrial bodies in the southern hemisphere and vice versa
- To some extent all visionaries in life suffer the challenge of seeing beyond the horizon



Global knowledge economy



- **Is characterized by**

- Competition through innovations
- IPR generation and protection rights
- Stronger coupling of technology and trade
- Creation of consumer values rather than controlling of costs of manufacturing
- Investments of expertise rather than labor
- Creation of knowledge hierarchies
- Coupling of knowledge and wealth creation

Global Economy: Changing fundamentals where knowledge is power



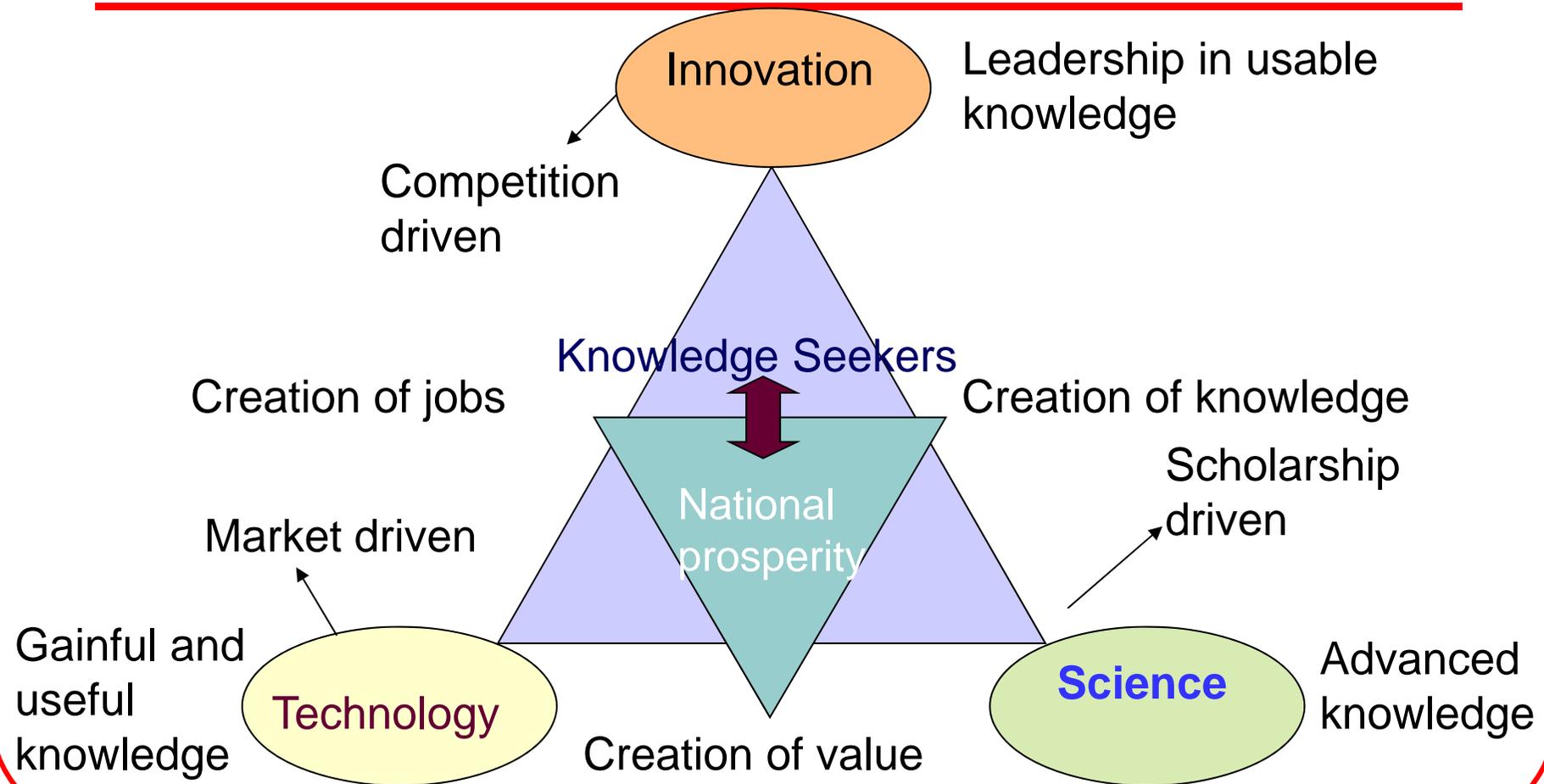
● **Manufacturing economy**

- Access to raw materials
- Control of labor costs
- Cost of money
- Access to market
- Access to technologies
- Developed physical infrastructure
- Coupling resource to value addition

● **Knowledge Economy**

- Competitive innovations
- IPR generation and protection rights
- Creation of consumer values rather than controlling of costs of manufacturing
- Investments of expertise rather than labor
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- Coupling of knowledge and wealth

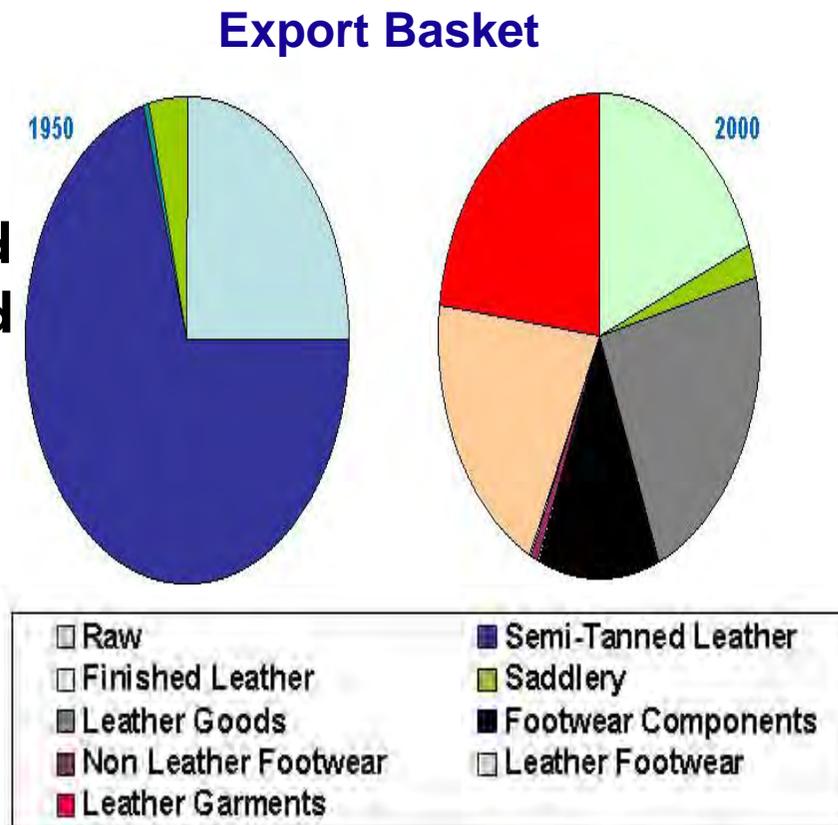
Emerging Space for Knowledge Sector in the new global economy



Indian leather Sector: Past, Present and Future



- **Past: driven by policy, trading materials and job work mind set**
- **Present: Driven by demand of market forces, but based on technology strength**
- **Future: needs a new path and desire to lead; ability to create jobs and distributed wealth creation**



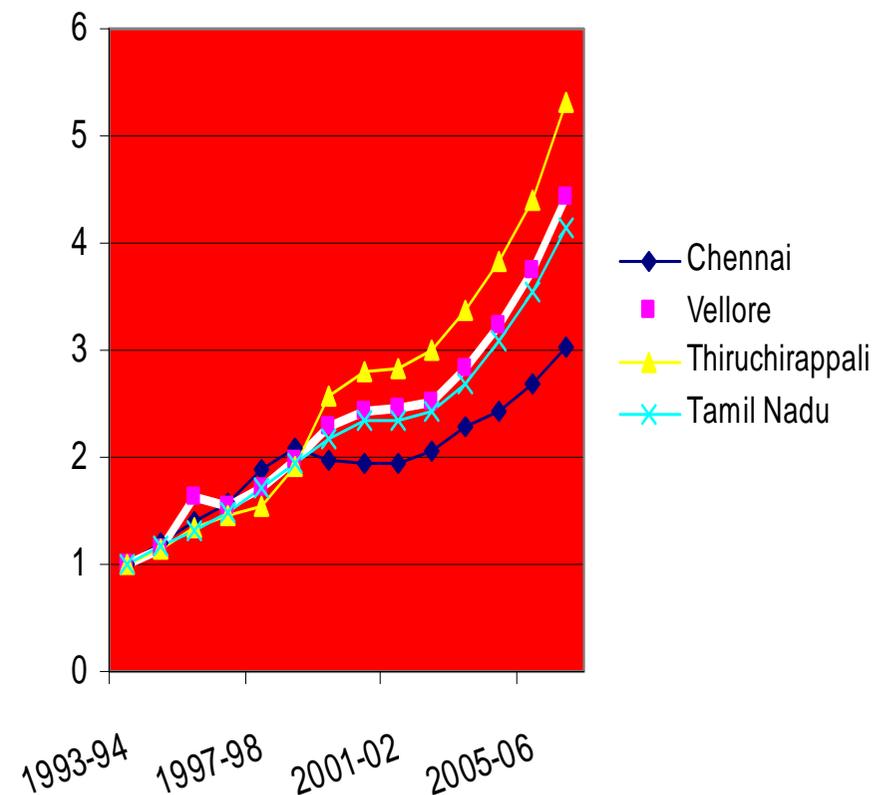
Decentralized production systems: In distributed growth



“ It is estimated that rupees nine crores worth hides and skins is annually exported from India and much of it is returned to her in the shape of manufactured articles. This means not only a material but also an intellectual drain. We miss the training we should have in tanning and preparing the innumerable articles of leather we need for daily use.

Here is the work for cent percent swadeshi lover and scope for harnessing of technical skill to the solution of great problem.”

Gandhi 1934



Indian leather sector in the past: Five major +ve Attributes



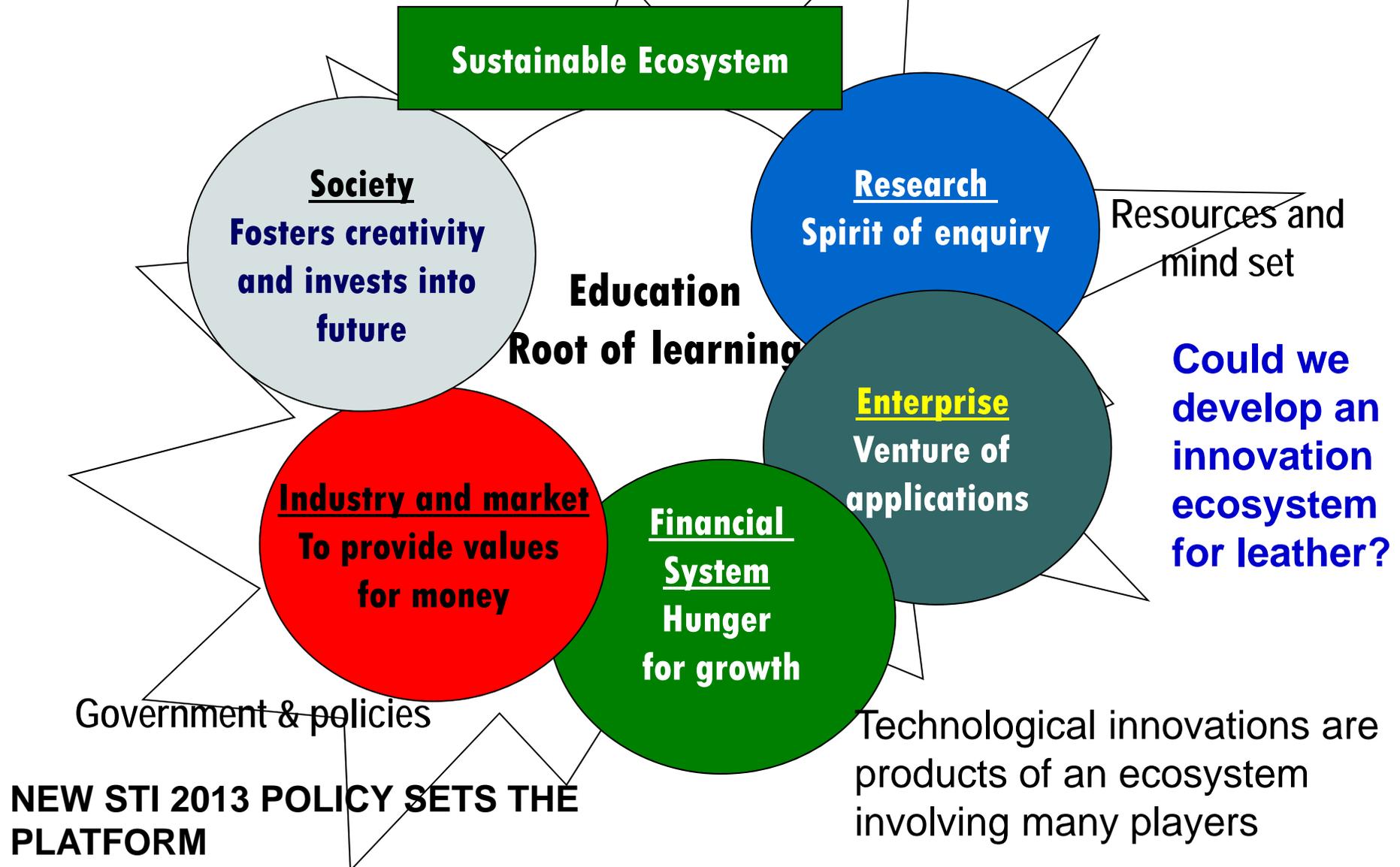
1. **Leather sector has added about 2.5 million jobs since independence**
2. **Decentralized nature of enterprises has added the dimension of wealth distribution**
3. **Contributed to the Women employment and social empowerment**
4. **Show case model for academy-research-industry synergy**
5. **Has gained technology-based development during the last decade**
6. **What next?**

***Stronger coupling of technology
with trade and trade with well
being of people***

Transformative changes through
innovation-led global leadership
through an integrated network
of all stake holders in unison

Designing an Innovation Ecosystem

Indian Leather Sector is unique. It links academy, research and industry well



New Paradigms for Indian Innovation Ecosystem



- **Education:** That prepares mind sets to solve problems and not understanding Nature alone: **Solution science**
- **Research:** That addresses problems that await solutions rather than developing solutions that search for problems: **Demand driven R&D system**
- **Enterprise:** A system that dares to tread an unknown path: **Innovation ready manufacturing**
- **Financial system:** That seeks growth built on the foundation of stability: **Liberation from risk averseness**
- **Industry:** That focuses on value for money gained rather than money invested: **market share focus**
- **Society:** That invests into future rather than expends time in the past: **Desire to lead rather than to follow**

Elements of Inputs Providing Leaderships in Global trade



- **Cost Leadership model**
 - Command on raw materials supply chain management
 - Wealth of Human capital and costs of wage hour
 - Cost of money / economy of scale/ attraction of relocation
- **Quality Leadership model**
 - Access to technology
 - Access to creativity
 - Branding and marketing tools and techniques
- **Technology Leadership model**
 - Access to innovations and ability to create new knowledge
 - Access to expertise and costs of brain hour
 - Technology culture in production systems
 - Ability to create new markets for product innovations

Leather in knowledge Economy



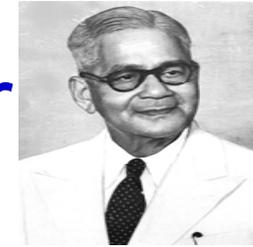
- **Global leather sector in the past was driven by advantages of**
 - access to raw materials
- **Global leather sector in the present is driven by advantages of**
 - Access and control of market
- **Global leather sector of the future will be driven by**
 - Access to creation of consumer values through applications of knowledge and innovations

How do we foresee leather in the knowledge economy of the world?



- **Wealth creation in global economy is being progressively pushed to connect itself with knowledge creation system**
- **Knowledge creation through research has three dimensions viz Science, technology and innovation are scholarship, market and competition driven, respectively**
- **The case of leather has so far been dominated by aspects of access to materials and market. Will it remain so in the knowledge economy of the world as well?**
- **Will global leather sector also move towards the axis of knowledge creation and the technology trade coupling increase?**

Ground Realities of Global Leather Sector



- **Hides and skins availability is coupled to the livestock population, the displacement rates of live stock population, meat eating social habits, changing land use availability for rearing livestock and so on**
 - Ground reality: Hides and Skins availability of the world is not likely to increase, but could decrease
- **Conversion of skins and hides into leather will continue to prevail when there will always remain a supply of hides and skins as a result of meat eating social habits**
 - Such conversions will seek convenient locations rather than the origin of supply of hides and skins
- **Product conversion of leather is an aspect of human aesthetic preferences**
 - The products are progressively becoming preferences of “elite” who wish to distinguish themselves as special owners

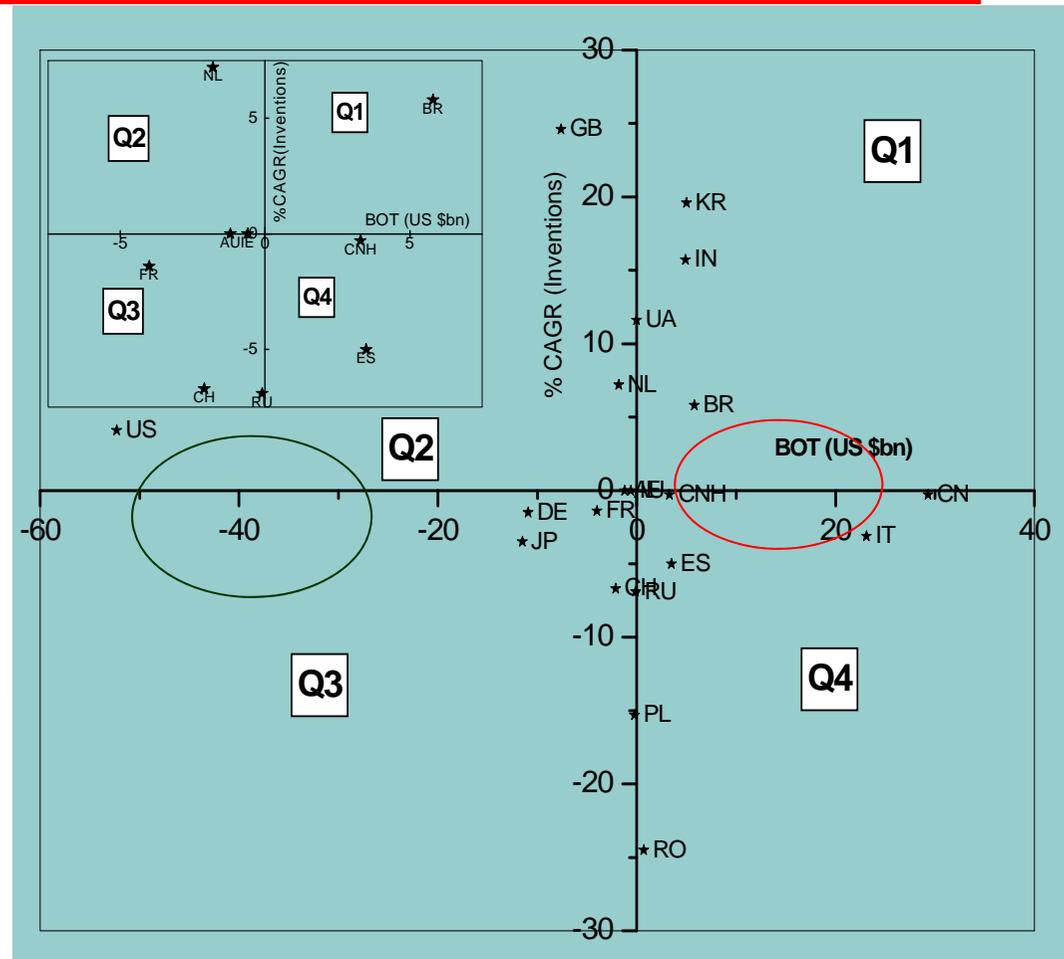
Technology Generation – Trade Linkages: Case of Leather in 2005



Among a group of 40 nations, three recorded positive CAGR in IPR with + Balance of Trade. With 2.5% share as a minimum barrier for computing, one remains with +,+.

India is the only one the +,+ quadrant among high IPR generators

Technology-Trade Coupling in leather seems weak as evidenced from the data

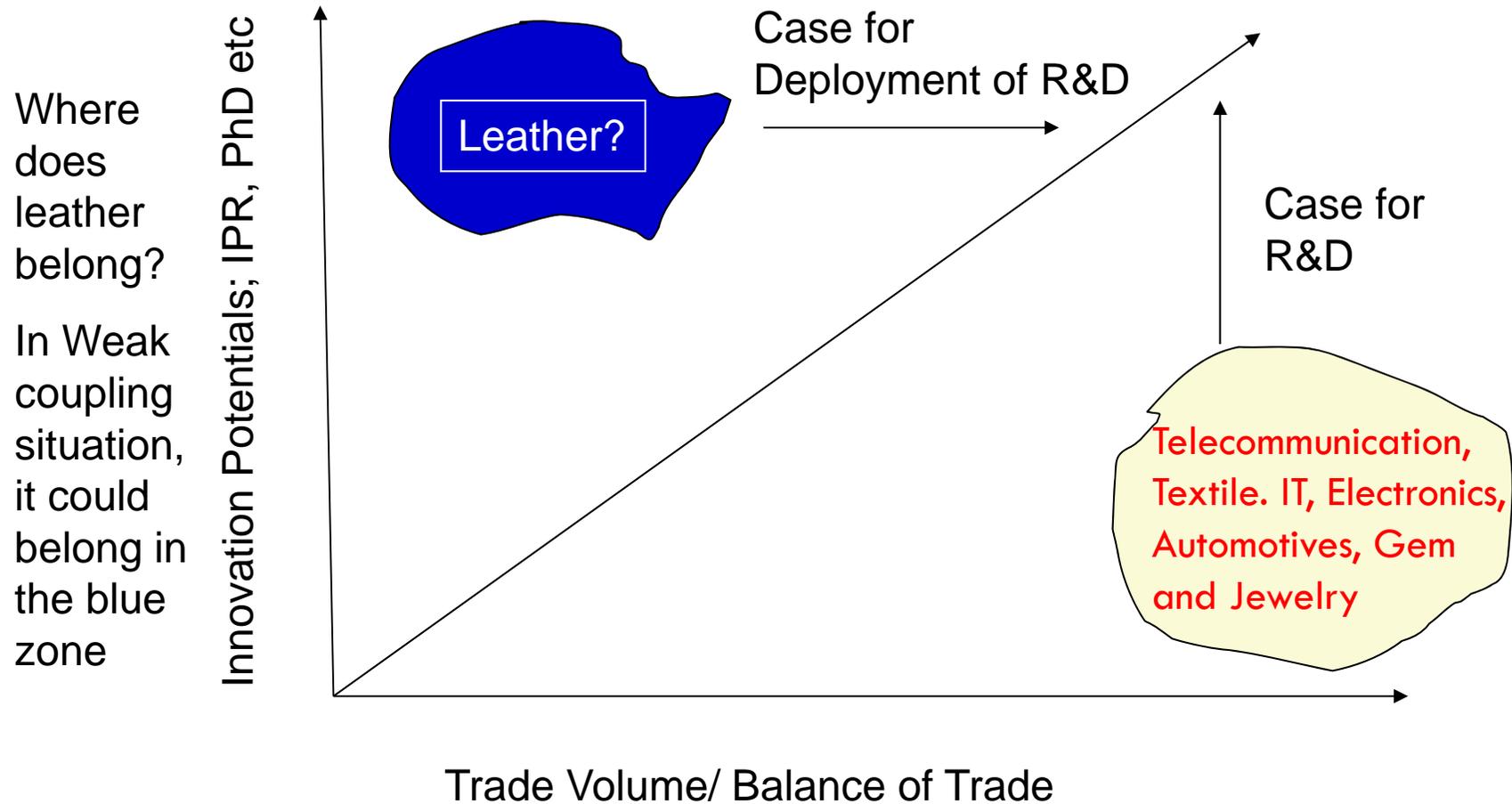


Technology Trade Coupling



- **In sectors where the technology-trade coupling is high, competitive advantages in technology are expected to afford strength in global trade**
 - Pharmaceutical sector is a case in point
- **When the coupling is weak, technology strength may not afford directly much advantage and marketing strength might be the determining factor**
 - Does leather industry form one such?

Technology Trade Coupling relationships (India situation)



How to strengthen Technology-Trade coupling?

A Billion Dollar Question in
leather sector

How do we foresee traditional industries in the global knowledge economy?



- **Stronger coupling of Wealth creation to knowledge creation system in global knowledge economy**
- **Knowledge sector viz. Science, technology and innovation are scholarship, market and competition driven, respectively**
- **Traditional industries have so far been dominated by access to materials and market. Will it remain so or change towards innovation led manufacturing?**
- **Will Technology- Trade coupling increase for such industries?**

Check lists of India's strength in Leather where future holds promise



- Strength in possession
 - Raw material
 - Human Capital
 - Wage hour
 - Expertise base
 - Brain hour
 - Technology
 - R&D base
 - Institutional strength
 - Innovation base
 - Environmental preparedness
 - Fashion forecasting
 - Design forecasting
- Strength to be gained
 - Access to low cost capital
 - Hardware support to adopt innovations
 - System productivity
 - Technology culture in production systems
 - Creativity to suit main markets
 - Brand image
 - Ability to create market for technology and product innovations
 - Self-faith and Desire to lead

Leveraging Technology Tool towards Leadership: India's model

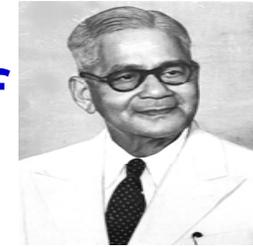
**In Finished leather sector,
where India enjoys a
potential to lead based on
innovative strength**

Challenges to Finished leather industry in global trade: India's counter



- Increasing value realization from poor grade raw materials through processing and finishing technologies
 - E.g Finished leather Indian cow hides from fallen live stock
- Fashion forecasting
 - Of leather colors and textures
- Controlling the costs of compliance to environmental norms
 - Inclusive of control of Total Dissolved Solids and hazardous waste management in a sustainable manner
 - Clean technologies for leather processing
 - Paradigm changes in leather processing

Changing Technology Paradigm of leather making



- **The present leather processing technologies of the world do not maximize the economic potentials of skin and hides**
 - Too much of disused resources
 - Atom and energy economy is low
- **India has potentials to change the idiom and grammar of leather making**
 - Paradigm changes of technology and gain technology leadership in leather world
 - Can we make get more out of skin than leather and bring the cost component of skin in leather to less than 25%?

Beyond the Horizon of current leather making technologies



Lies an opportunity to cut the costs of
skin in the final price of leather to $<25\%$
through technological innovations through
bioprocessing

Case of Footwear



- **Current system of manufacturing is labor dependent and sector is market driven. Volume market is already taken by China leaving little scope for new entrants**
- **Could footwear become innovation driven?**
- **If so India has advantages with low expertise costs and talent base in footwear. How to leverage innovation into to creation of new market space?**
- **Volume space in footwear in an area of new horizon**





Non-leather footwear

- **With advanced research in materials science, non-leather footwear could gain both price and market advantages**
 - Non-leather footwear could command more than 80% of total market
 - Will emerge the major product of mass production and derive benefits from economy of scale catering to merchandise marketing and volume production

Leather Footwear



- **Is likely to lose share of the footwear market to non-leather footwear**
 - Currently non-leather footwear price controls the global average price: China will lead
- **Could become a niche product segment**
 - Leather footwear as a niche product will start determining its own price
- **Leather footwear may move towards customized product segment with market and price advantages**
 - Will it become innovation driven manufactured product? Will economy of scope become the USP?? Is there a new space for India to arrive?



A JOURNEY OF FOOTWEAR SECTOR

Transiting from comparative strength of the present into competitive leadership based on technological innovations seems the way of the journey ahead in footwear sector

Areas of Coverage: Product Sector



**Group
Consolidation**

- **Products for Mass Market**
 - Material Selection
 - Defect removal
 - Productivity optimization
 - Time/motion
 - System integration
 - Cost control strategies
 - Policy frame work
 - Economy of scale model
 - Lean manufacturing
 - Unit centric models

- **Products for Niche Market**
 - Design innovation
 - Value addition
 - Value optimization
 - Advance insight
 - Expertise augmentation
 - Fast response
 - Consumer sensitivity
 - Economy of scope model
 - Cogeneration of customer value to the product

**Customized
Support**

Global Footwear industry: Advantage factors



- **Comparative advantage**

- Raw material base
- Installed capacities
- Skilled manpower
- Domestic market
- Cost of money
- Government policies
- Economy of scale
- Merchandise market

- **Competitive advantage**

- Innovative ability
- Technology culture
- Ability to create consumer value
- Fast response time
- Economy of scope
- Risk bearing strength
- Aggressive marketing

Doing things Differently from the past



**Innovation-led manufacturing,
innovation clusters; new
strategic partnerships for value
creation and market positioning**

Global Alliances with Integrated Networking



- Partnerships and Strategic alliances
 - **Strategic alliances of India with other Nations**
 - **Italy for JVs and technology tie-ups**
- Partnerships / Integrated Networking
 - **Partnerships could be converted into actions.**
 - **E.g. Romania for conversion of uppers**
- Private Sector Initiatives
 - **Private-Private partnerships based on Global Alliances and Networking**

Summary



- **Global leather sector can not resist the change of wind for long where innovation and competition will overtake the present.**
- **Seeing beyond the horizon of global leather sector, I foresee a future for the sector driven by innovations and stronger coupling of technology and trade**
- **Technology and research in leather will command higher relevance**
- **Those who break the barriers of knowledge will prevail over others**
- **India attracts high quality minds for leather and footwear education and research currently. May be in 20 years, we will see the dividends for these investments**

Indian Leather and Footwear: An outsider's perspective

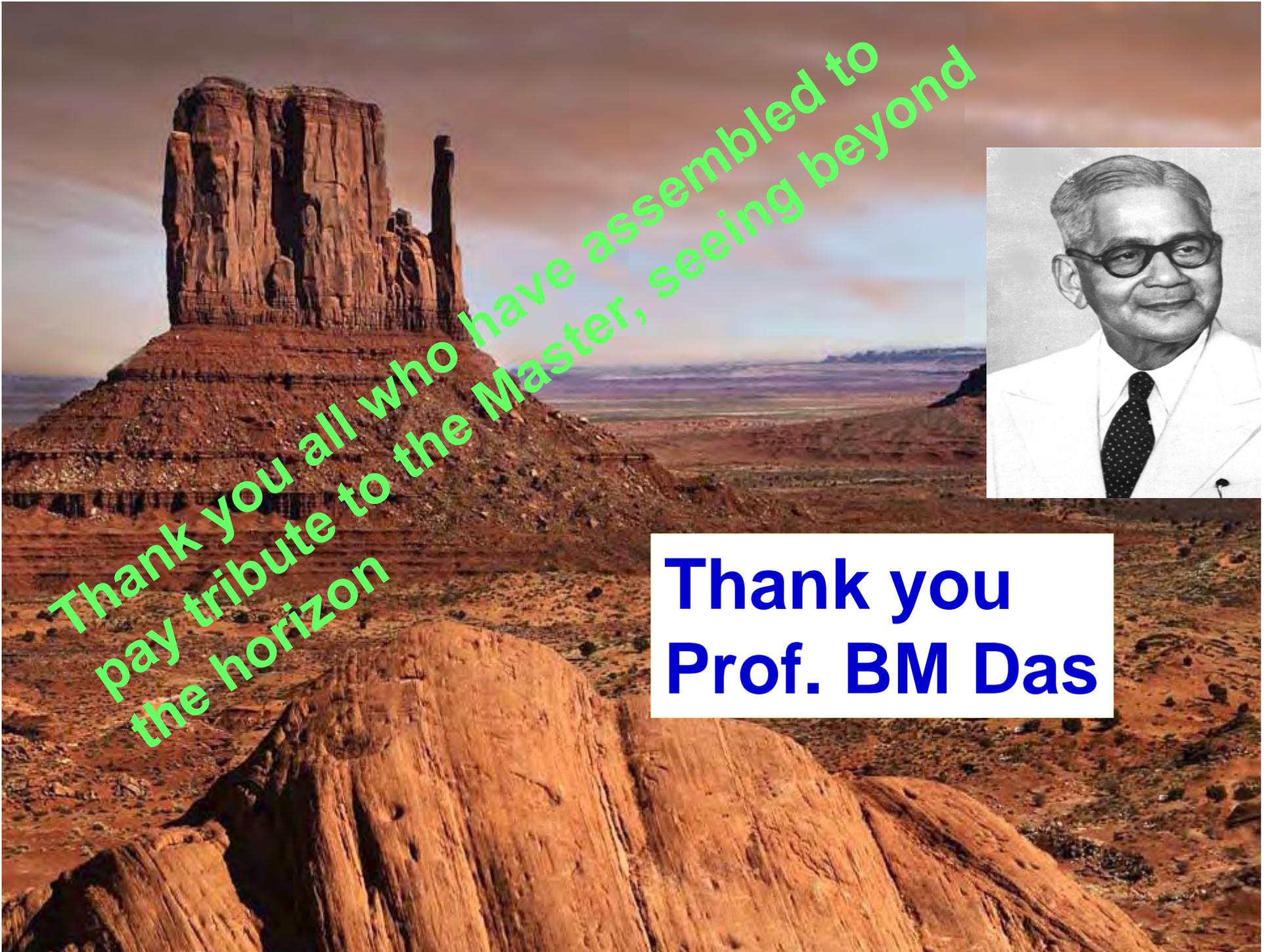


- 1. India is poised for Leadership in leather supported by Socially Responsible and Technological breakthroughs**
- 2. A National Think Tank with back up on marketing innovations for 10-year perspective is step ahead**
- 3. Leveraging our economy of scope model through innovation clusters and creative marketing are needs**
- 4. Establishing Strategic Global Alliances and Innovative Networking**

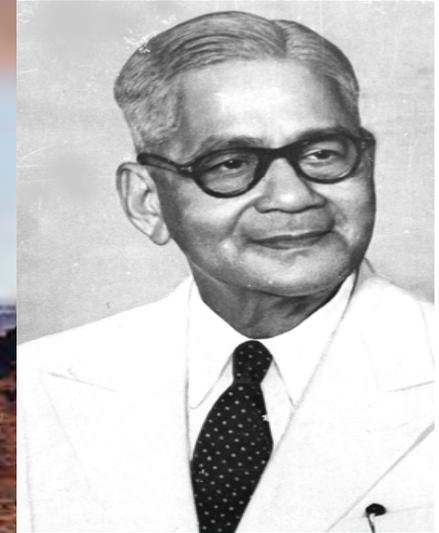
Seeing Beyond the Horizon in Leather sector



1. **There was evidence of poor coupling of technology and trade in leather sector. It should be the thing of the past.**
2. **Future predicts that leather can not resist the wind of change in favor of innovations.**
3. **Could India leverage potentials for innovation advantage in leather, a sector where India could lead and not follow?**
 - Best tribute CLRI could make for Professor BM Das is to make breakthrough innovations in leather a reality
 - CLRI had strived Global leadership in the past. Could CLRI develop Global partnerships for sustainable impact?



Thank you all who have assembled to
pay tribute to the Master, seeing beyond
the horizon



**Thank you
Prof. BM Das**