INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT & MANAGEMENT

IJRCM

A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

Indexed & Listed at:

Ulrich's Periodicals Directory ©, ProQuest, U.S.A., EBSCO Publishing, U.S.A., Cabell's Directories of Publishing Opportunities, U.S.A.,

Open J-Gage, India [link of the same is duly available at Inflibnet of University Grants Commission (U.G.C.)],

Index Copernicus Publishers Panel, Poland with IC Value of 5.09 & number of libraries all around the world.

Circulated all over the world & Google has verified that scholars of more than 1771 Cities in 148 countries/territories are visiting our journal on regular basis.

Ground Floor, Building No. 1041-C-1, Devi Bhawan Bazar, JAGADHRI – 135 003, Yamunanagar, Haryana, INDIA

http://ijrcm.org.in/

CONTENTS

CALL FOR MANUSCRIPTS

We invite unpublished novel, original, empirical and high quality research work pertaining to recent developments & practices in the area of Computer, Business, Finance, Marketing, Human Resource Management, General Management, Banking, Insurance, Corporate Governance and emerging paradigms in allied subjects like Accounting Education; Accounting Information Systems; Accounting Theory & Practice; Auditing; Behavioral Accounting; Behavioral Economics; Corporate Finance; Cost Accounting; Econometrics; Economic Development; Economic History; Financial Institutions & Markets; Financial Services; Fiscal Policy; Government & Non Profit Accounting; Industrial Organization; International Economics & Trade; International Finance; Macro Economics; Micro Economics; Monetary Policy; Portfolio & Security Analysis; Public Policy Economics; Real Estate; Regional Economics; Tax Accounting; Advertising & Promotion Management; Business Education; Management Information Systems (MIS); Business Law, Public Responsibility & Ethics; Communication; Direct Marketing; E-Commerce; Global Business; Health Care Administration; Labor Relations & Human Resource Management; Marketing Research; Marketing Theory & Applications; Non-Profit Organizations; Office Administration/Management; Operations Research/Statistics; Organizational Behavior & Theory; Organizational Development; Production/Operations; Public Administration; Purchasing/Materials Management; Retailing; Sales/Selling; Services; Small Business Entrepreneurship; Strategic Management Policy; Technology/Innovation; Tourism, Hospitality & Leisure; Transportation/Physical Distribution; Algorithms; Artificial Intelligence; Compilers & Translation; Computer Aided Design (CAD); Computer Aided Manufacturing; Computer Graphics; Computer Organization & Architecture; Database Structures & Systems; Digital Logic; Discrete Structures; Internet; Management Information Systems; Modeling & Simulation; Multimedia; Neural Systems/Neural Networks; Numerical Analysis/Scientific Computing; Object Oriented Programming; Operating Systems; Programming Languages; Robotics; Symbolic & Formal Logic and Web Design. The above mentioned tracks are only indicative, and not exhaustive.

Anybody can submit the soft copy of his/her manuscript **anytime** in M.S. Word format after preparing the same as per our submission guidelines duly available on our website under the heading guidelines for submission, at the email address: infoijrcm@gmail.com.

GUIDELINES FOR SUBMISSION OF MANUSCRIPT

1. **COVERING LETTER FOR SUBMISSION:**

DATED: _____

THE EDITOR
IJRCM

Subject: **SUBMISSION OF MANUSCRIPT IN THE AREA OF _____.**

(e.g. Finance/Marketing/HRM/General Management/Economics/Psychology/Law/Computer/IT/Engineering/Mathematics/other, please specify)

DEAR SIR/MADAM

Please find my submission of manuscript entitled '_____' for possible publication in your journals.

I hereby affirm that the contents of this manuscript are original. Furthermore, it has neither been published elsewhere in any language fully or partly, nor is it under review for publication elsewhere.

I affirm that all the author (s) have seen and agreed to the submitted version of the manuscript and their inclusion of name (s) as co-author (s).

Also, if my/our manuscript is accepted, I/We agree to comply with the formalities as given on the website of the journal & you are free to publish our contribution in any of your journals.

NAME OF CORRESPONDING AUTHOR:
Designation:
Affiliation with full address, contact numbers & Pin Code:
Residential address with Pin Code:
Mobile Number (s):
Landline Number (s):
E-mail Address:
Alternate E-mail Address:

NOTES:

a) The whole manuscript is required to be in ***ONE MS WORD FILE*** only (pdf. version is liable to be rejected without any consideration), which will start from the covering letter, inside the manuscript.
b) The sender is required to mention the following in the **SUBJECT COLUMN** of the mail:
New Manuscript for Review in the area of (Finance/Marketing/HRM/General Management/Economics/Psychology/Law/Computer/IT/ Engineering/Mathematics/other, please specify)
c) There is no need to give any text in the body of mail, except the cases where the author wishes to give any specific message w.r.t. to the manuscript.
d) The total size of the file containing the manuscript is required to be below **500 KB**.
e) Abstract alone will not be considered for review, and the author is required to submit the complete manuscript in the first instance.
f) The journal gives acknowledgement w.r.t. the receipt of every email and in case of non-receipt of acknowledgment from the journal, w.r.t. the submission of manuscript, within two days of submission, the corresponding author is required to demand for the same by sending separate mail to the journal.

2. **MANUSCRIPT TITLE:** The title of the paper should be in a 12 point Calibri Font. It should be bold typed, centered and fully capitalised.

3. **AUTHOR NAME (S) & AFFILIATIONS:** The author (s) **full name**, **designation**, **affiliation** (s), **address**, **mobile/landline numbers**, and **email/alternate email address** should be in italic & 11-point Calibri Font. It must be centered underneath the title.

4. **ABSTRACT:** Abstract should be in fully italicized text, not exceeding 250 words. The abstract must be informative and explain the background, aims, methods, results & conclusion in a single para. Abbreviations must be mentioned in full.

5. **KEYWORDS:** Abstract must be followed by a list of keywords, subject to the maximum of five. These should be arranged in alphabetic order separated by commas and full stops at the end.

6. **MANUSCRIPT:** Manuscript must be in ***BRITISH ENGLISH*** prepared on a standard A4 size ***PORTRAIT SETTING PAPER***. It must be prepared on a single space and single column with 1" margin set for top, bottom, left and right. It should be typed in 8 point Calibri Font with page numbers at the bottom and centre of every page. It should be free from grammatical, spelling and punctuation errors and must be thoroughly edited.

7. **HEADINGS:** All the headings should be in a 10 point Calibri Font. These must be bold-faced, aligned left and fully capitalised. Leave a blank line before each heading.

8. **SUB-HEADINGS:** All the sub-headings should be in a 8 point Calibri Font. These must be bold-faced, aligned left and fully capitalised.

9. **MAIN TEXT:** The main text should follow the following sequence:

INTRODUCTION

REVIEW OF LITERATURE

NEED/IMPORTANCE OF THE STUDY

STATEMENT OF THE PROBLEM

OBJECTIVES

HYPOTHESES

RESEARCH METHODOLOGY

RESULTS & DISCUSSION

FINDINGS

RECOMMENDATIONS/SUGGESTIONS

CONCLUSIONS

SCOPE FOR FURTHER RESEARCH

ACKNOWLEDGMENTS

REFERENCES

APPENDIX/ANNEXURE

It should be in a 8 point Calibri Font, single spaced and justified. The manuscript should preferably not exceed ***5000 WORDS***.

10. **FIGURES & TABLES:** These should be simple, crystal clear, centered, separately numbered & self explained, and **titles must be above the table/figure**. **Sources of data should be mentioned below the table/figure**. It should be ensured that the tables/figures are referred to from the main text.

11. **EQUATIONS:** These should be consecutively numbered in parentheses, horizontally centered with equation number placed at the right.

12. **REFERENCES:** The list of all references should be alphabetically arranged. The author (s) should mention only the actually utilised references in the preparation of manuscript and they are supposed to follow **Harvard Style of Referencing**. The author (s) are supposed to follow the references as per the following:

- All works cited in the text (including sources for tables and figures) should be listed alphabetically.
- Use (**ed.**) for one editor, and (**ed.s)** for multiple editors.
- When listing two or more works by one author, use --- (20xx), such as after Kohl (1997), use --- (2001), etc, in chronologically ascending order.
- Indicate (opening and closing) page numbers for articles in journals and for chapters in books.
- The title of books and journals should be in italics. Double quotation marks are used for titles of journal articles, book chapters, dissertations, reports, working papers, unpublished material, etc.
- For titles in a language other than English, provide an English translation in parentheses.
- The location of endnotes within the text should be indicated by superscript numbers.

PLEASE USE THE FOLLOWING FOR STYLE AND PUNCTUATION IN REFERENCES:

BOOKS

- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.
- Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio" Ohio State University, Nigeria.

CONTRIBUTIONS TO BOOKS

- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

JOURNAL AND OTHER ARTICLES

- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

CONFERENCE PAPERS

- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–22 June.

UNPUBLISHED DISSERTATIONS AND THESES

- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

ONLINE RESOURCES

- Always indicate the date that the source was accessed, as online resources are frequently updated or removed.

WEBSITES

- Garg, Bhavet (2011): Towards a New Natural Gas Policy, Political Weekly, Viewed on January 01, 2012 http://epw.in/user/viewabstract.jsp

NATURAL RUBBER PRODUCTION IN INDIA

DR. P. CHENNAKRISHNAN
ASST. PROFESSOR
THIRUVALLUVAR UNIVERSITY
SERKKADU

ABSTRACT

India's natural rubber production surges 3.7% in 2010-11 and other countries have been successfully deploying their low-cost labour-forces and easily-available lands to expand in this sector, particularly India and China. The natural rubber consumption accounted for some 40% of the total amount of rubber consumed worldwide.

KEYWORDS
natural rubber, rubber produation.

INTRODUCTION

Rubber was known to the indigenous peoples of the Americas long before the arrival of European explorers. In 1525, Padre d'Anghieria reported that he had seen Mexican tribes people playing with elastic balls. The first scientific study of rubber was undertaken by Charles de la Condamine, when he encountered it during his trip to Peru in 1735. A French engineer that Condamine met in Guiana, Fresnau studied rubber on its home ground, reaching the conclusion that this was nothing more than a "type of condensed resinous oil".

The first use for rubber was an eraser. It was Magellan, a descendent of the famous Portuguese navigator, who suggested this use. In England, Priestley popularized it to the extent that it became known as India Rubber. The word for rubber in Portuguese - borracha - originated from one of the first applications for this product, when it was used to make jars replacing the leather borrachas that the Portuguese used to ship wine.

As rubber is an important raw material that plays a leading role in modern civilization, chemists soon became curious to learn more about its composition in order to synthesize it. In the XIX century, work focused on this objective, soon discovering that rubber is an isoprene polymer. The Russians and the Germans broke fresh ground in their efforts to synthesize rubber. But the resulting products were unable to compete with natural rubber. It was only during World War I that Germany - pressured by circumstances - had to develop the industrialized version of this synthetic product. This was the springboard for the massive development of the synthetic rubber industry all over the world, producing elastomers. Natural rubber is a solid product obtained through coagulating the latex produced by certain plants, particularly the Brazilian rubber-tree (Hevea Brasiliensis). This raw material is usually tapped from the rubber tree, which is native to Amazonia. Although there a large number of species that exude secretions similar to latex when the bark is cut, only a few produce sufficient quantities of a quality adequate for exploitation on economic bases.

AIMS AND OBJECTIVE

The aims and objectives, for which the Federation is established, are:

1. To encourage, promote and protect the interests of waste tyre, rubber and plastics merchants, new and remould tyre manufacturers, dealers, rubber compounders, plastics and rubber recyclers, machinery manufacturers, dealers and remoulders in the exercise of their trade throughout the world.
2. To co-ordinate the interests of its members and to secure for them the advantage of mutual co-operation.
3. To encourage and promote the settlement of any disputes by conciliation, or arbitration and to nominate arbitrators or umpires on such terms, and in such cases, as may seem expedient.
4. To foster technical knowledge in the tyre, waste tyre, rubber and plastics trades, new and remould tyre trades, rubber compounds trade, plastics and rubber recycling trades, tyre remoulding industry, by the encouragement of research.
5. To do all such lawful things as the Federation may deem necessary or desirable for the furthering of the interests of the Federation, either alone or in conjunction with other trade organisations.

FACTS ON RUBBER PRODUCTION IN INDIA

India is the largest manufacturer of reclaim rubber.India is the third largest producer of rubber. India is at fourth position in respective to consumption of rubber goods. India is fifth largest for natural and synthetic rubber goods consumption.

India at present is not only catering the needs of domestic market but also fulfilling the International requirements. It is exporting these products to country like UAE, Germany, UK, USA and France. But as their consumption have reached to its saturation point in western countries so more avenues are explored in Asian countries for the export.

Demand for these products can never vanish as it has huge and varied number of industries to serve. From aviation to engineering, pharmaceutical and railways, all use one or other kind of rubber items. Thus there is always a scope for betterment. There are basically two types of rubber industries in India, one uses latex as a raw material and the other one uses rubber sheets for the production of rubber products.

There are various natural as well as manmade factors that helps in the intensification of rubber production in India. It has excessive rubber plantation area with ever growing local market to consume these products. Also there is an easy availability of raw material as well as labor. Moreover available of easy training in technical training institutes is further leading to the trained labor who are helping in the production and growth of this sector. Also with the change in the lifestyle of common man products made from quality rubber are in demand leading to the overall growth. Recently there has been seen 8% growth in this sector that on one hand has given India an economic boost whereas on other hand it has given livelihood to many homes. This is further increasing and giving way to rubber production machines, rubber cutting machines and other related industry instruments and machines.

REVIEW OF LITERATURE

The production and productivity of natural rubber should be enhanced in the medium- to long-term in order to meet the ever increasing demand, said Vijaylaxmi Joshi, additional secretary (plantations), Ministry of Commerce and Industry. The government can only make programmes and policies aimed at this, but it is up to the growers to implement them at the practical level in the field, she said. Rubber Board chairperson Sheela Thomas pointed out that in spite of the reasonably good prices of NR, the sector is facing several problems and these can be addressed by the joint efforts of the Board and the growers.

The board is aiming to enhance productivity of smallholdings so that growers benefit from the prevailing prices. The productivity of the holdings mainly depends on tapping methods. The highest productivity has been noticed in holdings where scientific tapping methods are adopted, she said. Good tapping depends on many factors such as girth and tapping height of trees, direction and slope of the tapping panel, depth and consumption of bark and time of tapping. Such holdings give sustainably good yield for many years and are comparatively free from diseases. The mass contact programme, Tapping 2011, is scheduled to be held from June 6 to July 22. It is aimed at creating awareness among the rubber growers about the significance of scientific tapping and to promote modern scientific practices in all spheres of rubber plantation industry.

Four thousand meetings with a participation of 150,000 growers and tappers will be arranged in the traditional rubber growing belt of Kerala, Tamil Nadu and Karnataka with the involvement of the Rubber Producers' societies, self-help groups, non-governmental organisations and other voluntary organizations, a Rubber Board press release said. In addition to the main theme of rubber tapping, topics like importance of replanting, climate change, quality planting materials, significance of scientific planting and maintenance of rubber plantations, rainguarding, use of Jebong knife, spraying of oil based fungicides using micron sprayers, scarcity of skilled tappers and strengthening of RPSs will also be discussed in the campaign meetings.

Two associations of rubber-consuming industries have asked for increasing the production of natural rubber in the country to meet the growing demand for value-added products domestically. Otherwise, the import of such products will go up, they say. Making a presentation to the Rubber Board here on Monday on their suggestions to be included in the 12th Five Year Plan proposals on the rubber sector, the All-India Rubber Industries' Association (AIRIA) and the Automotive Tire Manufacturers' Association (ATMA) said that taking a cue from China, the government should make urgent policy interventions to ensure timely availability of competitively priced rubber to the industries. "There is a growing deficit between domestic production and consumption of rubber. Rubber import is, therefore, inevitable; or else, import of finished products will take place, denying the opportunity of value-addition within the country," "In the past five years, the international scene has undergone a sea change. India stands at the cusp of opportunity to emerge as a low-cost producer of rubber products, both tire and non-tire. There is enough domestic demand to be catered to. However, the domestic natural-rubber deficit and the expensive imports have been inhibiting the full blossoming of the rubber industry in the country," he said.

Two-pronged strategy "A two-pronged strategy needs to be adopted to bridge the growing deficit between domestic production and consumption. The domestic production needs to be enhanced by taking up replanting as a top priority and undertaking major planting initiatives in non-traditional areas. However, enhancing natural-rubber production being a long-drawn-out affair, duty-free imports to the extent of domestic deficit need to be allowed every year," Rajiv Budhraja, director-general, ATMA, said.

In the past four financial years, the production of natural rubber has increased by only 1 per cent, while the consumption has increased by more than 15 per cent. In the current financial year, new capacities and major expansions undertaken by tyre companies to cater to the booming automobile industry will lead to an increase in consumption by 1.5 lakh tonnes. The industry has, therefore, reiterated its demand for a duty-free import of 2 lakh tonnes during the current financial year, he said. "In view of the widening gap between natural-rubber supply and demand, coupled with growth in tyre demand, a rise in volume of imports of finished products is likely, notwithstanding the adequate domestic capacity. As a result, value-addition from natural rubber to finished products, particularly tyres, will take place outside the country, especially in China, which has ensured adequate and timely availability of natural rubber to its industry through timely interventions, including acquisition of land outside the country," Mr. Budhraja said.

The Rubber Board has projected an increase in consumption by only 40,000 tonnes during the current financial year. Accordingly, the gap between production and consumption has been put at 75,000 tonnes, which is at wide variance with industry estimates based on actual capacity expansion. The conservative consumption estimates by the board could impact the desired policy-making for the rubber sector, he said.

Mr. Simon emphasised the need for appointing a development commissioner, similar to those in the jute and the textile sectors. He said the consumption of natural rubber by the non-tyre sector had gradually declined to 33 per cent. Even the absolute consumption by the sector had recorded a decline, which was worrying since India was on a major growth curve. The office of the development commissioner should oversee the development of the rubber industries, particularly small and medium enterprises, which had borne the brunt of an unprecedented increase in the rubber price and were turning unviable.

USES OF RUBBER

Rubber is used for making innumerable articles ranging from footwear, sports goods, cushions, insulated material for cable, pencil erasers to tyres and tubes. However, it is its use for making tyres and tubes of automobiles which is of greatest importance. Thus, indirectly, rubber helps in promoting the system of modern transport and communication. Malaysia will continue to play its dominant role in world's rubber production and export.

PROBLEMS OF THE RUBBER INDUSTRY

Kishore, present, the policies of the Malaysian Government are not as favourable to foreign investors as previously. The Government regulations, regarding benefits and wages to native workers, are more strict, and the taxes are higher. The rubber planters also face the problem of surplus production (it is because the huge areas are available for the rubber plantation), which results in lowered prices and profits. The abundant production of synthetic rubber in the U.S.A. and other countries has also given a great set back to marketing. The synthetic rubber, which is made from petroleum, coal, alcohol or other materials, is obtained at a very low cost of production. Another problem is the need to replace a large proportion of the trees, which are very old, with new ones of very high yield. The Government has laid a special tax on exported rubber, and the money, thus, raised is utilized for the cost of replanting trees. Because of all these hazards, the rubber planters are now converting the rubber estates to that of palm. But it does not mean that the rubber plantation system will discontinue. The synthetic rubber is excellent for certain purposes, but it is not yet as satisfactory as natural rubber for general purposes, such as tyres. As such, with an expanded role of the Government in the management of the rubber plantation, the production of rubber in Malaysia will undoubtedly continue, and, perhaps even increase in importance.

M SARITA VARMA, during a tough season of domestic rubber shortage, India has found some consolation. The country's natural rubber (NR) production growth in 2011 is poised to soar higher than the overall rubber output growth of ANRPC (Association of Natural Rubber Producing Countries). In absolute production volumes, however, India remains fourth among the nine top rubber producers.

The growth rate of rubber production in (January-December) 2011 in all ANRPC members is expected to be only 4.9%, according to the number-crunching by ANRPC countries. In the corresponding period, India's rubber production is anticipated to perk up by 5.7%. "Climatic conditions have been partial to Indian rubber plantations this season, while other rubber-producing countries like Malaysia and Thailand were affected by adverse situations like flood. Besides, India's NR productivity has retained its lead among peer rubber farmers," Sheela Thomas, chairman of Singapore-based International Rubber Study Group (IRSG), said, when contacted by FE.region in Central Kerala did not go through too much rain or too much dry climate in the first half of 2011. Shortage of skilled labour was a grave issue, she admitted. "But even labour shortage is manageable, provided there are higher wages," said Thomas, also chairman, Rubber Board. By and large, Indian rubber has stayed disease-resistant. "Supply from Vietnam during the third quarter of 2011 is expected to fall 9.4% on year due to severe oidium leaf disease in its upcoming rubber regions," says Tom Jose, Senior Economist, ANPRC. Among individual countries, only Phillipines, Cambodia and Indonesia are estimated to post a higher rubber production growth than India in 2011. In the second quarter of 2011, China even shows a growth rate of minus 13.9% in NR output.According to all estimates, total supply from all ANRPC members during this year is anticipated at 9.959 million tonne. "This is 4%...higher than that of previous year," says Kamarul Baharain Bin Basir, secretary general, ANRPC in the latest statistical bulletin (July 2011) of the Kuala Lumpur-based rubber producers' outfit.

At the same time, ANRPC warns that globally the NR supply situation may stay tight till 2018. While giving its detailed statistical forecasts on global NR supply from 2012 to 2018, the report argues that supply is unlikely to grow beyond 3-4% during 2012. The shortage would be more acute after 2016, it says.., what goes up must come down, they say. This need not be true when it comes to the price of natural rubber. Since year 2000, the price of natural rubber (RSS 4 Grade) in the Indian market has increased by 7-8 times, breaching the Rs 200 per kg-mark for the first time ever last November. It has stayed in the Rs 225-235 band in the first eight months of 2011 – a jump of around 60 per cent in the last 10 years. Interestingly, despite the steady rise in the price of natural rubber over the years, the demand for it has never slackened. While industrial users of rubber—mainly tyre companies—clamoured for the easing of import controls to keep their raw material costs under check, the high price of rubber has had a salubrious effect on rubber farming in India. Farmers in rubber growing states—Kerala, Karnataka, and the north eastern states of Tripura and Assam—are looking at fresh ways to increase acreage under rubber plantation and have intensified tapping efforts. Even farmers in states such as Gujarat, which do not have a history of rubber cultivation, are keen to take to rubber.

This frenzy for rubber growing may help reduce the demand-supply gap in the domestic market over the next three to five years, say experts from the Kottayam-based Rubber Board, a promotional body under the Ministry of Commerce and Industry. However, in their effort to cash in on existing plantations, many farmers

are postponing the re-planting of new trees. Typically, it takes seven years for a rubber tree to be ready for productive tapping. Experts say the effects of this delay in fresh plantation would be more visible toward 2017-2020 inevitably leading to a price hike. Most experts therefore expect the price of natural rubber to hover around the Rs 200 per kg mark in the near future, depending on global cues.

The demand for natural rubber has been consistently exceeding supply. FY2010, the production of natural rubber in the country stood at 831,400 tonnes, while its consumption was at 930,565 tonnes (India had to import 176,756 tonnes of natural rubber). Similarly, in FY2011, the country produced 861,950 tonnes of natural rubber against a consumption of 949,205 tonnes. Meanwhile, the global rise in demand for natural rubber has kept up the pressure on international prices as well. China, where the consumption of rubber has jumped sharply over the last decade, has emerged as the largest consumer of rubber in the world. In 2003, it consumed 15,38,000 tonnes of rubber, which rose to 36,34,000 tonnes in 2010, a whopping jump of 136 per cent. Growing demand from within India, the fourth largest producer of rubber and its second largest user, has further put pressure on the supply of the commodity. Major rubber producing countries like Indonesia, Malaysia Thailand and India have to cater to internal as well as external demands.

Dr James Jacob, Director (Research), Rubber Research Institute of India, points to something interesting. “There is direct correlation between GDP growth and rubber consumption,” he says. India and China, for instance, have been growing at significant pace in the last three years. With global auto majors eyeing India as a hub for small car production, auto analysts do not expect any dip in demand for rubber to come from the automobile industry. “The auto industry accounted for 62 per cent of the demand for natural rubber in the country in 2010,” says Alok Goyal, Deputy Secretary General, All India Rubber Industries Association.

Sheela Thomas, Chairperson, The demand-supply gap may narrow by 2015 due to increase in tapping. But it will widen by 2020, Rubber Board “Rubber farmers are finally getting a fair price,” says Professor P Yageen Thomas, head of the Department of Statistics, University of Kerala. In the ’80s and ’90s, farmers were hit by huge fluctuations in rubber price so much so that many farmers in Kerala—which accounts for 80 per cent of India’s natural rubber production — shifted to other crops such coconut and cashew. But over the last ten years, rubber prices in India have moved in tandem with global rates. It’s the sharp rise in the international prices of rubber that added to its price pressure within India. For example, the price of natural rubber (RSS 4 Grade) in Thailand moved from Rs 9,227 per 100 kg in July 2009 to Rs 28,039 per 100 kg in February 2011. “Prices in India for commodities like rubber mirror international trends,” says Subhranil Dey, Research Analyst (Commodities-Fundamental), SMC Global Securities Ltd. “They are the price setters, we are the price takers.”

According to an International Rubber Study Group, the global natural rubber demand is set to rise by 3.8% in 2011 and 5.4% in 2012. And, assuming normal growing conditions, global natural rubber production is also forecast to rise by 5.6 per cent in 2011 and 8.2 per cent in 2012. This, says experts, could provide some kind of respite in prices, but Jacob is quiet certain: “I don’t expect to see a slump in rubber prices anytime soon.”

S Chandrasekharan Nair, examine "The current level of natural rubber production could meet domestic industrial demand, Conversely, the land under rubber cultivation in certain major rubber producing countries has been declining. The total area under rubber cultivation in Malaysia was 13,25,600 hectares in 2003 but it was down to 10,28,840 hectares in 2010. “Farmers in Malaysia have been shifting to palm oil cultivation over the years,” observes Dr K J Joseph, Chair Professor, Research Unit on Plantation Development at Trivandrum-based Centre for Development Studies.

Geojit Comtrade analyst Anand James points to the age-profile of rubber trees. “Rubber plantations are now ageing in India,” he says. A Rubber Board presentation says that the share of rubber trees above the age of 22 has gone up from 24 per cent in 1990 to 36 per cent in 2009. A rubber tree is most productive between 10 and 25 years of its age.With ageing trees, India’s production will take a dip unless re-plantation is done in a timely and effective manner, making way for the prices of rubber to remain high, but here’s the catch—farmers may prefer not to replant because the rubber tree is non-productive for the first seven years of its life. “A farmer would think a bird in hand is worth two in the bush,” says Rajiv Budhraja, Director General, Automotive Tyre Manufacturers’ Association. “He doesn’t know what the prices of rubber will be seven years or even seven quarters from now, so he will continue with lower production with an old tree than have nothing for the next seven years.” This will reflect in India’s production figures of natural rubber, more towards the end of the current decade, in the period 2017-2020, confirms Rubber Board chairperson Sheela Thomas. “The demand-supply gap is likely to increase by 2020,” she says. She hastens to add that by 2015, the current gap in production and domestic consumption may narrow due to increase in tapping although Thomas believes that natural rubber’s price line is likely to hover around the Rs 200 per kg mark in the near future.

Experts from Association of Natural Rubber Producing Countries point out that prices are likely to remain high internationally as a large number of rubber producing trees—which were planted during the 1980s—will have to be uprooted between 2012 and 2018, reducing the total area of plantations worldwide. Another concern among experts is the lower productivity of Indian rubber farms, largely due to the smaller size of holding. About 10% of rubber production comes from large estates. “Many small farms are tempted to turn into holiday resorts and residential homes, in which monetary returns are higher,” says a Rubber Board official. Labour shortage in rubber farms and an approximately 50% jump in cost of labour in the last 12-18 months also have many farmers worried.

AS Mehta, Director (Marketing), JK Tyre And Industries "Imported rubber, a raw material for tyres, is of better quality and cheaper than domestic rubber." Many farmers, such as 62-year-old S Chandrasekharan Nair from the current level of production of natural rubber in the country could meet the domestic industry’s demand. He says the government’s policy of allowing cheaper import of rubber by tyre manufacturers (against their exports obligations) is distorting the market. The government, he says, is using the import route to keep a check on the domestic prices of rubber. “The import policy erodes the price of our product,” agrees Dr SG Churchinben, a medical practitioner from, who also manages a family-owned 10-acre rubber plantation. Manufacturers such as JK Tyre Industries meet 15% of their demand for rubber through the import route. With reduced import duty, this rubber is of better quality and cheaper than domestic rubber, points out AS Mehta, Director-Marketing. Nair, who also runs a multi-lingual blog on rubber farming, considers this a missed business opportunity for Indian farmers. Over time, the Rubber Board plans to reduce farmers’ dependence on a single industry and encourage the setting up of downstream industries like rubber band and balloon making units, units making medical gloves, etc., near rubber plantations and farms. Rubber wood is being promoted for making furniture and crafts.

The long gestation period for which farmers have to nurture rubber trees before they start getting productive returns, the Board has advised State governments to incentivise farmers to remain in rubber farming. There is a drive to spread rubber growing among the North Eastern states. Tripura is already second to Kerala when it comes to acreage under rubber plantation. But as long as rubber prices remain perched in the Rs 200 per kg range, not many farmers are overtly complaining. The tyre industry might have to adjust to steep prices

INDIA'S NATURAL RUBBER PRODUCTION

India's natural rubber production has risen 3.7% in 2010-11 to 8,61,950 tons, according to Rubber Board. Revealing the data at the 165th Annual meeting of the Board here, Sheela Thomas, Rubber Board Chairman said that domestic production stood at 8,31,400 tons and anticipated production for 2010-11 was 9,02,000 tonnes. The anticipated consumption in 2010-11 was 9,77,000 tons.

B C Khatua, chairman of FMC said: “Our presentation to the working group was based on well founded facts and not mere sentiment. Today a farmer has multiple options for selling his products- either in a mandi or a spot exchange . While we are continuing with our awareness programme, what is not realised is that farmers need a sound price discovery system and thus, his interest is in futures market to plan and execute pricing of his sale rather than just selling the products in the spot market.” However, we did not intervene since higher margins would have affected the genuine domestic consumers who were anyway fighting higher prices for procurement. Higher trade margins would have hurt genuine hedgers and traders.

Rubber production in India this season (Sep 2010) has rose by 4.3% because of the excessive rain and favorable natural conditions. Total rubber production this year is 77,500 tonnes as compare to 74,300 tonnes in Sep 2009. Moreover at present this industry is one of the fastest growing industries. It has about 6000 rubber manufacturing units. Through these units 35000 kinds of different rubber items are produced. Boom in the automobile industry is one of the biggest factors that has contributed to this magnanimous growth. If we look from the rubber tyre production perspectives, then we will see that tyre manufacturing has increased from 3.48 lakh tones (last year)to 3.75 lakh tonnes (this year). Also there has been seen growth in the production of natural rubber and there is an increase of 7.6%. These are the major contributing factors to the growth of rubber production.

TABLE - 1: WORLD RUBBER PRODUCTION AND CONSUMPTION ('000 tonnes)

Year	Production			Consumption		
	Natural Rubber	Synthetic Rubber	Total Rubber	Natural Rubber	Synthetic Rubber	Total Rubber
1998	6,634	9,880	16,514	6,570	9,870	16,440
1999	6,577	10,390	16,967	6,650	10,280	16,930
2000	6,762	10,870	17,632	7,340	10,830	18,170
2001	7,332	10,483	17,815	7,333	10,253	17,586
2002	7,326	10,877	18,203	7,556	10,874	18,430
2003	8,005	11,341	19,361	7,952	11,348	19,300
2004	8,744	11,961	20,707	8,718	11,840	20,558
2005	8,896	12,100	21,004	9,200	11,900	21,100
2006	9,706	12,653	22,444	9,677	12,691	22,368
2007	9,833	13,387	23,188	10,144	13,264	23,408
2008	10,042	12,743	22,779	10,173	12,603	22,776
2009	9,662	12,087	21,704	9,390	11,754	21,144
2010*	10,291	14,002	24,293	10,671	13,858	24,529

Source: International Rubber Study Group (IRSG) Vol 65, No 7-9, January-March 2011

The Association of Natural Rubber Producing Countries (ANRPC), a 11-member international organisation, projects 6.2 per cent growth in the production of the commodity this year. The expected growth matches the 6.4 per cent increase registered in 2010. The latest estimates of ANRPC project global output to be at 10.06 million tonnes in 2011 as against 9.47 million tonnes last year.

The increase in output is expected due to a rise in the area under natural rubber. An additional 203,000 hectares has been brought under natural rubber this year. The total sown area is expected to be 7.19 million hectares compared with 6.99 million hectares in 2010. The average per hectare yield is likely to increase to 1,398 kg per hectare from 1,355 kg per hectare last year. Supply from Thailand, the world's largest producer, accounting for 34 per cent of the global supply, is likely to rise 5.5 per cent or 3.43 million tonnes this year due to area expansion. About 114,550 hectares of trees planted in 2004 and a portion of 173,000 hectares planted in 2005 are expected to be tapped now. ANRPC projects an increase of eight per cent in the supply from Indonesia and the estimated supply for this year is 2.95 million tonnes. As the world's second-largest producer, Indonesia accounts for 29 per cent of the total global supply. In Malaysia, supply would be around 975,000 tonnes as against 1.05 million tonnes targeted by the government.

TABLE - 2: INDIAN RUBBER PRODUCTION IN 2010 (in tonnes)

Sl.No	Month	Prev.Bal.	Pro.	Imp.	Ava.	Cons.	Ex.	Mis.	Stock
1	April	200015	51520	10421	261956	73470	724	-168	187930
2	May	187930	53550	19828	261308	71250	116	-18	189960
3	June	189960	54255	20258	264473	74220	46	3917	186290
4	July	186290	50250	27100	263640	78910	06	-1	184725
5	Aug.	184725	64740	20119	269584	79750	58	-9	189785
6	Sept.	189785	74300	20172	284257	78765	554	-12	204950
7	Oct.r	204950	88775	8574	302299	79950	2274	-460	222535
8	Nov.	222535	93500	7124	323159	80500	4165	-556	239050
9	Dec.	239050	100850	6504	346404	80250	2506	-692	264340
10	Jan.	264340	97500	7645	369485	80500	2716	-651	286920
11	Total	261956	261308	264473	263640	269584	284257	302299	369485

Source: International Rubber Study Group (IRSG) Vol 65, No 7-9, January-March 2011

TABLE- 3: PRODUCTION OF NATURAL RUBBER IN MAIN PRODUCING COUNTRIES 2010

Sl.No	Year/Counrty	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
1	Thalin	2320	2615	2876	2984	2937	3137	3056	3090	3164	3253
2	Indo	1607	1630	1792	2066	2271	2637	2755	2751	2440	2592
3	Mala	882	890	986	1169	1126	1284	1200	1072	857	1000
4	India	632	641	708	743	772	853	811	881	820	884
5	Vien	313	331	364	419	482	555	606	660	724	770
6	China	478	527	565	573	541	538	588	548	643	671
7	Sri lanka	86	91	92	95	104	109	118	129	137	143
8	Barazil	88	89	94	101	107	108	116	123	104	NA
9	Phillippines	71	76	84	80	79	88	101	103	96	102
10	Libera	107	109	107	115	111	101	106	81	77	NA
11	Cambo	42	43	32	34	20	21	19	19	34	44
12	Nigeria	45	42	38	45	40	41	42	49	45	NA
13	Others	581	273	282	322	335	326	275	508	481	NA
14	Total	7252	7337	8020	8746	8904	9791	9801	10036	9617	9459

Source: International Rubber Study Group (IRSG) Vol 65, No 7-9, January-March 2011

India's supply may touch 884,000 tonnes this year, up 3.9 per cent from last year due to an estimated 14,000 hectares increase in the area and better yield. Incidentally, India at present has the highest natural rubber productivity across the globe. Production in other leading producing countries like Vietnam and China is also estimated to increase this year, according to ANRPC data. Vietnam will have a production of 755,000 tonnes, China (647,000 tonnes), Sri Lanka (153,000 tonnes), Philippines (99,000 tonnes) and Cambodia will supply 42,000 tonnes in the current year.

Domestic consumption has increased by 2 per cent in 2010-11. During 2010-11, growth in tyre production in the automotive sector grew by 23 per cent. Export of tyres also increased by 20 per cent. However, truck and bus tyre exports declined by five per cent. During 2010-11 fiscal, exports stood at 28,424 tonnes compared with 25,090 tonnes in the previous fiscal. Imports accounted for 1,77,482 tonnes, 73 per cent of which was through duty free channels. Rubber Board does not foresee any shortage for the commodity as the opening stock of rubber in 2011-12 was relatively high at 2,77,095 tonnes against 2,11,290 tonnes in 2010-11. Meanwhile, the Automotive Tyre Manufacturers Association (ATMA) has urged the rubber board to take steps to avoid delays in mandatory inspection of imported rubber which is affecting the raw material availability for manufacturers. The onus of ensuring quality of imported rubber should lie with the manufacturers and not the government, ATMA said.

The ministry of food and consumer affairs is not in favour of recommending a ban on forward trading of essential commodities. The ministry is currently working on the final recommendations based on suggestions made by a working group on consumer affairs headed by Narendra Modi and co-chaired by chief ministers of Maharashtra, Andhra Pradesh and Tamil Nadu. These recommendations then will be sent to the Prime minister thereafter. The working group had strongly recommended banning forward trading in essential commodities. The ministry, albeit is in favour of many recommendations made by the working group, especially those on reforming the Agricultural Produce Marketing Committees across states for bridging the gap between the wholesale and retail food prices and amending the Essential Commodities Act to check hoarding.

TABLE – 4: CONSUMPTION OF NATURAL RUBBER IN MAIN PRODUCING COUNTRIES

Sl.No	Year/Counrty	2001	2002	2003	2004	2005	2006	2007	2008	2009
1	China	1330	1395	1538	2000	2266	2743	2812	2940	3460
2	Usa	974	1111	1079	1144	1159	1003	1018	1041	687
3	India	631	680	717	745	789	815	851	881	905
4	Japan	729	749	784	815	857	874	887	878	636
5	Malasiya	401	408	421	403	387	383	450	469	470
6	Indonasia	142	145	156	196	221	355	391	414	422
7	Thailand	263	278	299	319	335	321	374	398	399
8	Korea	332	326	333	352	370	364	377	358	330
9	Brazil	216	233	256	255	302	394	345	357	254
10	Germami	245	247	258	242	259	269	282	247	171
11	France	226	218	230	230	220	220	200	109	181
12	Canada	131	155	146	146	156	145	138	138	103
13	Italy	137	134	138	151	154	148	144	134	90
14	Taiwan	90	107	115	120	114	100	115	97	90
15	Uk	98	76	91	86	82	68	91	77	43
16	Spain	176	181	188	192	186	189	195	178	124
17	Russian	36	19	32	29	34	41	42	39	25
18	Others	1129	1084	1183	1263	1299	1345	1412	1327	1072
19	Total	7333	7554	7952	8718	9200	9677	10144	10173	9390

Source: International Rubber Study Group (IRSG) Vol 65, No 7-9, January-March 2011

TABLE – 5: COUNTRY-WISE EXPORT OF NATURAL RUBBER PRODUCTION

Sl. NO	Year/Counrty	2001	2002	2003	2004	2005	2006	2007	2008	2009
1	Thailand	2042	2354	2574	2637	2632	2772	2704	2675	2726
2	Indonasia	1497	1502	1661	1875	2025	2287	2407	2296	1991
3	Malasiya	345	887	947	1106	1128	1131	1018	917	704
4	Vitnam	270	455	432	513	554	704	716	659	731
5	Libra	107	109	107	115	111	101	106	81	77
6	India	04	44	63	72	60	71	30	77	16
7	Cambodia	38	40	36	32	28	25	25	15	36
8	Sri Lanka	32	36	35	40	32	46	50	46	54
9	Nigeria	30	24	22	29	25	24	25	26	32
10	Total									

Source: International Rubber Study Group (IRSG) Vol 65, No 7-9, January-March 2011

FIG. 1

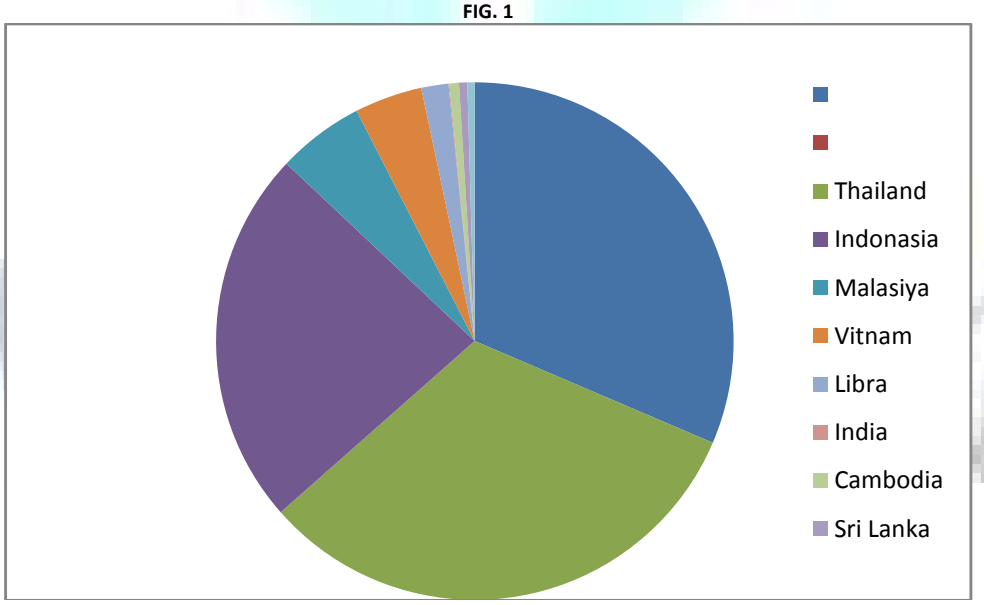

Table 5 shows that the country wise export of natural rubber production in indonica export value 1497 (24 %), whereas malayisan export value 345 tonnes in 5 percent of export vitnam in 4 percent,libra 12 percent, Combida 1 percent, SriLanka 1 percent the digram denote that export based of more than export of thiland.

CONCLUSION

The natural rubber trade underwent several radical transformations over the period 1870 to 1930. First, prior to 1910, it was associated with high costs of production and high prices for final goods; most rubber was produced, during this period, by tapping rubber trees in the Amazon region of Brazil. After 1900, and especially after 1910, rubber was increasingly produced on low-cost plantations in Southeast Asia. The price of rubber fell with plantation development at the same time, the volume of rubber demanded by car tire manufacturers expanded dramatically. Uncertainty, in terms of both supply and demand, (often driven by changing tire technology) meant that natural rubber producers and tire manufacturers both experienced great volatility in returns. The overall evolution of the natural rubber trade and the related tire manufacture industry was toward large volume, low-cost production in an internationally competitive environment marked by commodity price volatility and declining levels of profit as the industry matured.

REFERENCES

1. Akers, C. E. Report on the Amazon Valley: Its Rubber Industry and Other Resources. London: Waterlow & Sons, 1912.
2. Allen, Hugh. The House of Goodyear. Akron: Superior Printing, 1936.
3. Alves Pinto, Nelson Prado. Política Da Borracha No Brasil. A Falência Da Borracha Vegetal. São Paulo: HUCITEC, 1984.
4. AS Mehta, Director (Marketing), JK Tyre And Industries "Imported rubber, a raw material for tyres, is of better quality and cheaper than domestic rubber." . Business outlook India 17 September 2011.
5. Babcock, Glenn D. History of the United States Rubber Company. Indiana: Bureau of Business Research, 1966.
6. Barham, Bradford, and Oliver Coomes. "The Amazon Rubber Boom: Labor Control, Resistance, and Failed Plantation Development Revisited." Hispanic American Historical Review 74, no. 2 (1994): 231-57.
7. Barham, Bradford, and Oliver Coomes. "Wild Rubber: Industrial Organisation and the Microeconomics of Extraction during the Amazon Rubber Boom (1860-1920)." Hispanic American Historical Review 26, no. 1 (1994): 37-72.
8. Barham, Bradford, and Oliver Coomes. Prosperity's Promise. The Amazon Rubber Boom and Distorted Economic Development. Boulder: Westview Press, 1996.
9. Baxendale, Cyril. "The Plantation Rubber Industry." India Rubber World, 1 January 1913.
10. Blackford, Mansel and Kerr, K. Austin. BFGoodrich. Columbus: Ohio State University Press, 1996.
11. Brazil. Instituto Brasileiro de Geografia e Estatística. Anuário Estatístico Do Brasil. Rio de Janeiro: Instituto Brasileiro de Geografia e Estatística, 1940.
12. Dean, Warren. Brazil and the Struggle for Rubber: A Study in Environmental History. Cambridge: Cambridge University Press, 1987.
13. Drabble, J. H. Rubber in Malaya, 1876-1922. Oxford: Oxford University Press, 1973.
14. Firestone, Harvey Jr. The Romance and Drama of the Rubber Industry. Akron: Firestone Tire and Rubber Co., 1932.
15. Kishore, A part time blogger, Word Press Developer and the Author of this blog, Rubber Cultivation in Malaysia, on February 3, 2010
16. M Sarita Varma the Financial Express, Saturday, Thiruvananthapuram, Jul 30, 2011
17. Santos, Roberto. História Econômica Da Amazônia (1800-1920). São Paulo: T.A. Queiroz, 1980.
18. Schurz, William Lytle, O. D Hargis, Curtis Fletcher Marbut, and C. B Manifold. Rubber Production in the Amazon Valley by William L. Schurz, Commercial Attaché, and O.D. Hargis, Special Agent, of the Department of Commerce, and C.F. Marbut, Chief, Division of Soil Survey, and C.B. Manifold, Soil Surveyor, of the Department of Agriculture. U.S. Bureau of Foreign and Domestic Commerce (Dept. of Commerce) Trade Promotion Series: Crude Rubber Survey: Crude Rubber Survey: Trade Promotion Series, no. 4. no. 28. Washington: Govt. Print. Office, 1925.
19. Sheela Thomas, Chairperson, The demand-supply gap may narrow by 2015 due to increase in tapping. But it will widen by 2020." Business outlook India 17 September 2011.
20. Shelley, Miguel. "Financing Rubber in Brazil." India Rubber World, 1 July 1918.
21. The Hindu, Online edition of India's National Newspaper,Sunday, May 15, 2011

REQUEST FOR FEEDBACK

Dear Readers

At the very outset, International Journal of Research in Commerce, IT and Management (IJRCM) acknowledges & appreciates your efforts in showing interest in our present issue under your kind perusal.

I would like to request you to supply your critical comments and suggestions about the material published in this issue as well as on the journal as a whole, on our E-mail i.e. **infoijrcm@gmail.com** for further improvements in the interest of research.

If you have any queries please feel free to contact us on our E-mail **infoijrcm@gmail.com**.

I am sure that your feedback and deliberations would make future issues better – a result of our joint effort.

Looking forward an appropriate consideration.

With sincere regards

Thanking you profoundly

Academically yours

Sd/-

Co-ordinator

ABOUT THE JOURNAL

In this age of Commerce, Economics, Computer, I.T. & Management and cut throat competition, a group of intellectuals felt the need to have some platform, where young and budding managers and academicians could express their views and discuss the problems among their peers. This journal was conceived with this noble intention in view. This journal has been introduced to give an opportunity for expressing refined and innovative ideas in this field. It is our humble endeavour to provide a springboard to the upcoming specialists and give a chance to know about the latest in the sphere of research and knowledge. We have taken a small step and we hope that with the active co-operation of like-minded scholars, we shall be able to serve the society with our humble efforts.

Our Other Journals