

*PR*  *SENSE*

**175**

**Volume 8**

**General &  
Exclusives**

**Compiled by  
Prime Point Srinivasan  
Priyadharshni Rahul**

**Prime Point Foundation | Chennai**

1 PreSense 175: Volume 8 | General and Exclusives

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## Table of Contents

### **INTRODUCTION ----- 6**

Foreword From Dr. APJ Abdul Kalam For The First Edition PreSense100-----	7
Preface to the First Edition-----	8
Preface to the Second Edition-----	11
Preface to the Third Edition -----	12
Preface to the Fourth Edition -----	13
Preface to the Fifth Edition-----	14
Journey of Ezine PreSense - Milestones -----	15
Editorial Board – October 2021 -----	17
Prime Point Foundation and its Initiatives-----	18

### **GENERAL AND EXCLUSIVES ----- 20**

“Parents and teachers have to set an example of the value system” – Dr APJ Abdul Kalam -----	21
“Youth Should Create Sustainable Rural Development Model” – Dr APJ Abdul Kalam-----	24
“Wiki Respects Every Individual’s Contribution” – Jimmy Wales, Founder of Wikipedia-----	28
“You need to be really passionate about making something to happen” - Dr Vinton G. Cerf, Father of Modern Internet -----	31
“Enhance Innovation and Invest in R & D” – Dr APJ Abdul Kalam -----	34

"Building a Good Image is as Crucial as Doing a Good Business Plan or Technology Strategy" – Dr Y S Rajan, Co-Author of the book India 2020 -----	36
"Indian Election Commission is the eighth wonder of the world" – T S Krishnamurthy, Former Chief Election Commissioner of India -----	38
Saluting ISRO – India's Pride – Dr Radhakrishnan, Chairman, ISRO: Scientist, Spiritual Person & Artiste -----	41
"No deserving student should be deprived of higher education for want of funds" – Dr K C Chakrabarty, Deputy Governor of Reserve Bank of India -----	45
"Greed is the Outcome of Materialistic Society" – Dr Subramanian Swamy -----	49
Astrology Can Never Go Wrong - Shiva -----	51
An Evening With Some Earthly Stars-----	56
Sivakasi – Pride of India – The Inspiring Story of Villagers Who Converted Challenges to Opportunities -----	61
MS, The Immaculate Voice-----	68
The Nobel Prize, The Most Coveted Prize on Earth, Awarded for "The Greatest Benefit to Mankind" -----	72
Divya – The Inspiring Story of Destiny and Perseverance -----	75
Earth's Precious Environment – Threats and Mitigation -----	78
Ode to Mother Nature, Who Broke Down in Tears -----	85
Plastic Pollution – A Threat to Life on This Planet-----	87
Floyd Schmoie, The Good Samaritan for War-Stricken Hiroshima -----	92

Bank Consolidation: Is Big Beautiful? -----	95
Our Soldiers, Our Guardians A Tribute on Armed Forces Flag Day (December 7 <sup>th</sup> ) -----	99
The Pulse of an Indian Soldier – In Service of the Nation -----	106
Celebrate Heroes, not Anti-Heroes -----	110
The Global Educational Scenario - Part I - School Education --	112
The Global Educational Scenario – Part II Higher Education and Research -----	117
Young Indian Professionals in USA – Need for Better Personal Skills for Better Prospects -----	124
The Pride of India – Achievement of Institutions and Services in the Country -----	128
Are We Destroying Our Outer Space Environment Like We Have With Mother Earth? -----	133
CIBIL – A Double-Edged Sword? -----	137
Plastic Pollution – a Ticking Time Bomb, Waiting to Explode---	141
Thunberg and the Climate Change – Is It “Now or Never” or “Much Ado About Nothing”? -----	150
Violence – The Beginning of the End -----	153
Money and Position are Nothing Before Nature – A PreSense Survey -----	156
Bank Mergers -----	160
Interview with Shri T.N.Manoharan, Chairman, Canara Bank – The Impact of Merger of Banks-----	165

The Economic Consequences of Covid-19----- 170

India Secures 48th Rank, the Best in Four Decades, in Tokyo Olympics ----- 177

Index----- 180

## **Introduction**

## Foreword From Dr. APJ Abdul Kalam For The First Edition PreSense100

Dr. A.P.J. Abdul Kalam  
Former President of India



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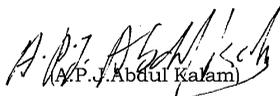
### FOREWORD

I am very happy to know that the PreSense monthly ezine published by Prime Point Foundation is bringing out a book based on some of the unique articles, interviews and events published in its editions so far since from March 2006. The 100 issues of the publication have gone through an eventful journey, focusing on knowledge capture and important knowledge dissemination. I recollect my direct association with PreSense in July 2008, when I launched the cartoon character, 'Prince', created exclusively for PreSense.

I see PreSense continuing in its journey under the mentorship of Prime Point Srinivasan, maintaining its status as a must-read ezine, in the fast moving and evolving world of communication, knowledge and connectivity.

I congratulate the Editorial Team of PreSense for bringing out the 100<sup>th</sup> Edition as a Collector's Digest.

28<sup>th</sup> May 2015

  
A.P.J. Abdul Kalam  
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## **Preface to the First Edition**

The emergence of Internet in the 1980s changed the way of communication globally. When Videsh Sanchar Nigam Limited (VSNL) introduced the internet for commercial use on 15<sup>th</sup> August 1995, India too adopted the new communication model and medium.

Way back in 2002, we published our first electronic newsletter in a move that was viewed as progressive and visionary in nature. After 8 issues, we had to discontinue the newsletter as its electronic form was not regarded contemporary then. In March 2006, we resumed with an ezine titled 'PreSense' with a shift in focus to creating awareness about the essence in personal and corporate communication.

Interestingly, at that time, no bigwig was willing to give an exclusive interview for the re-launching ezine, or even launch it, as there was apprehension about the success of the concept of an electronic magazine. Dr Y S Rajan (co-author of the book, India 2020, with Dr APJ Abdul Kalam) however encouraged us and volunteered to launch the ezine online.

And so we progressed, introducing interesting interviews with eminent personalities recorded on podcast and synchronised with the ezine format, so that the readers were treated to both online reading of contents as well as audio version of interviews. This enabled the readers to a feel of listening to the personalities they have read about in the ezine. We also introduced the concept of Guest Editorship, enabling the association of renowned professionals to share their experience and viewpoints as Editor for the month. This move gave an uplift to the outlook of the ezine and a new trend in its journey ahead.

Many newsletters and ezines launched during the same period were discontinued later for various reasons. PreSense however, survived the test of time and continued till its 60<sup>th</sup> edition in February 2011. After a deliberate brief break of a few months, we resumed the publication of our ezine, with a new look and a shift again in the focus to a social and general theme, with the tagline,

'Spreading Positive Vibrations'. This shift in focus enabled a more holistic approach to the theme and subject of communication. The attention moved to global current news, historically significant events, and knowledge-based breakthroughs in technology. This turned out to be an exciting challenge for the editorial team to sustain the positive strain while including novel and currently interesting topics for the reading pleasure.

Although an ezine might not be comparable with a giant-sized main line medium of communication, it has its own advantages as a medium of reaching out. The *Sansad Ratna* Award Scheme and the Education Loan Task Force were two major initiatives by our ezine, giving it the privilege of being recognised as the host to two major issues of national relevance.

Over a period of 9 years, our ezine has given opportunities to many young people to experience firsthand, the nitty-gritty of digital magazine making, editing and publishing. At the request of many of our loyal readers, we are now bringing out this book called 'PreSense 100', containing 100 plus articles, handpicked from the past 99 editions of our ezine. We felt that the selected articles qualified as a collector's item, and hence this special issue is described as a Collector's Digest. It is our belief that the reader too will appreciate it as one.

Up until now, our ezine has been published, not for commercial gains. We are proud to have many professionals on board, contributing their valuable time and talent in the making of the ezine every month.

I place on record my gratitude and appreciation to all the past Editorial Team Members like Satish Naaraj, Vidya, Tushar Panchal, Veena Vinod, Swetha and innumerable others who contributed immensely to make the ezine a professional one.

I personally thank our ezine's Editorial Team members for their sustained support in bringing out this book. I acknowledge the valuable support given by Susan Koshy, V Rajendran, T N Ashok, Prof. Jagannathan, Sukruti Vadula and Dr Ramamurthy Natarajan for editing and formatting this book.

At this stage, it is pertinent to mention that during the process of publishing every edition of the ezine, there was the collective, professional and committed involvement and input of every editorial team that was associated then. It has been the endeavour of the team to maintain a progressively high standard of the contents and readability of the ezine. We believe these efforts met the expectations of the readers, based on the positive and constructive feedback we kept receiving from our diverse and loyal readership base.

Right from the beginning, we have always been the beneficiary of the blessings and guidance of Dr APJ Abdul Kalam, Former President of India. I also thank Mr V Ponraj, (Scientific Advisor to Dr Abdul Kalam) who supported us in the selection of its contents.

When we planned to publish this book for free distribution, Dr Maria Zeena of Sathyabhama University volunteered to sponsor the cost. I thank her and her team for the noble gesture. I thank Polaris (Padmini and her team) for designing the cover. I thank Sri Logeswari Prints and its owner, Shri M Muthaian for bringing out this book on time.

I thank the innumerable readers and well-wishers who have given unstinted and close-knit support during our journey. Finally, I thank God Almighty for the divine blessings during the journey of 100 editions.

K Srinivasan  
Chairman, Prime Point Foundation  
Editor in Chief, PreSense

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## **Preface to the Second Edition**

The First edition of PreSense 100 was released in June 2015 as a digest of articles published in the earlier 99 editions. The first edition received an overwhelming response from multifarious groups as students, IAS aspirants, parliamentarians, bureaucrats, and other intellectuals. In view of the support received from the readers, our editorial team decided to come out with the second enhanced edition titled PreSense 100+ with additional articles published between June 2015 and April 2016.

We thank Dr P Ganesan, Chairman of Sony Fire Works (Pvt) Limited and AAA College of Engineering and Technology, Sivakasi who volunteered to sponsor and print this second edition for distribution. The Editorial Team gratefully acknowledges the support given by Shri Bharath Matha Mohan (Educationist at Chennai) and Shri VSM Velmurugan (Chairman of VSM Groups, Kovilpatti) in bringing out this second edition. We also thank Smt. Padmini and her team at Intellect Design for designing the wrapper. We thank innumerable other people who contributed to make this second edition possible.

K Srinivasan  
Editor in Chief  
PreSense

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## **Preface to the Third Edition**

The first edition of the Digest titled PreSense 100, containing articles published in the first 100 editions of our ezine was released in June 2015. The second enhanced edition titled PreSense 100+, covering 110 editions, was released in June 2016. Due to the overwhelming response from our readers, we are now bringing out the third enhanced edition, covering important articles published in 130 editions of our ezine PreSense. This Digest is titled PreSense 130.

Dr P Ganesan, Chairman of Sony Fire Works (Pvt) Limited and AAA College of Engineering and Technology, Sivakasi has always been a source of inspiration to us. He sponsored the second edition of Digest. This time too, he has volunteered to sponsor and print this third edition for distribution among youth.

We also thank Smt. Padmini and her team at Intellect Design for designing the wrapper. We thank innumerable other people who contributed to make this third edition possible.

K Srinivasan  
Publisher & Mg. Editor  
PreSense

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## **Preface to the Fourth Edition**

The journey of the eMagazine PreSense since March 2006 is amazing and exciting. During this journey, we were able to publish in the print format three editions Digest of articles published in the 100,110 and 130 issues respectively.

We have been receiving large number of appreciation from readers on the contents of Digest. Enthused by this, we are now pleased to release the fourth edition of digest in digital format titled PreSense150 containing select articles published in the 150 issues.

We thank Dr B Muthukumaran, Co-Founder of Digital Security Association of India (DiSAI) and Advisor to Digital Journalists Association of India (DiJAI) for all technical support in making this eDigest. We also thank Smt. Padmini and her team at Intellect Design for designing the wrapper.

I personally place on record my gratitude to Mrs Susan Koshy, Mr Rajendran, Mr Triambak Sharma and other editorial team members for the sustained support they are giving for successful publication of the eMagazine PreSense every month. We thank innumerable other people who contributed to make this third edition possible.

K Srinivasan  
Publisher & Mg. Editor  
PreSense  
24 August 2019

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## **Preface to the Fifth Edition**

The eMagazine PreSense which was started in March 2008 on the suggestions of Dr APJ Abdul Kalam for positive journalism has reached the 175th edition in September 2021. This digital only eMagazine is passionately run by a group of eminent volunteers without any commercial motive and without accepting any advertisements.

Looking back, we have published high quality articles on various subjects, including current affairs in every issue. Earlier, we have published Digest of articles after 100, 110, 130 and 150<sup>th</sup> editions. We had the great honour of getting the Foreword from Dr Abdul Kalam himself for the first Digest published at the end of 100<sup>th</sup> edition.

This is the fifth Publication at the end of 175<sup>th</sup> edition. Earlier, we provided all articles in a single book. Due to the large number of important articles, we have grouped all the articles in 8 categories. We are now publishing PreSense175 in 8 volumes covering (1) Indian Heritage, (2) Spotlights from History, (3) Politics and Governance (4) Prince cartoons (5) Media and Communication (6) Science and Technology, (7) Health and (8) General and Exclusives.

I am thankful to Priyadharshni Rahul (Editor), T N Ashok (Consulting Editor), Dr R Jagannathan (Editorial Advisor) and Srinivas Gopal (Technology Advisor) who helped in compiling the select articles published in the past editions.

K Srinivasan  
Publisher and Managing Editor  
PreSense  
26<sup>th</sup> September 2021

## **Journey of Ezine PreSense - Milestones**

Dec 1999	Launch of Prime Point Foundation, Publisher of the ezine.
Feb 2006	Launch of ezine, PreSense online by Dr Y S Rajan.
Aug 2006	Integration of Podcast with the ezine contents.
Aug 2007	Introduction of Guest Editors.
Feb 2008	Second Anniversary Edition with Dr Abdul Kalam's exclusive interview. Masthead changed.
Apr 2008	First ezine to become 'Media Partner' for a global event held at London.
July 2008	Introduction of cartoons – Cartoon Character 'Prince' launched by Dr Abdul Kalam.
Sep 2008	Change in layout, introducing photographs on the cover.
Jan 2010	Ezine's new initiative 'Education Loan Task Force' (ELTF) launched to create awareness among students and parents.
May 2010	Ezine's second initiative to honour top performing Parliamentarians, with the <i>Sansad Ratna</i> Award launched. Golden Jubilee (50 <sup>th</sup> ) Edition launched.
Feb 2011	Diamond Jubilee (60 <sup>th</sup> ) Edition.

### **A hiatus after 5 years of uninterrupted journey**

Apr 2012	Ezine resumed in a new format of contents. The tag line changed from 'Communicate the Communication' to 'Spreading Positive Vibrations'.
Apr 2013	Tamil Nadu Governor launched a special edition on the Indian Parliament, coinciding with the <i>Sansad Ratna</i> Awards.
Jun 2013	Platinum Jubilee (75 <sup>th</sup> ) Edition launched by the youth at three places simultaneously, across the nation.
Jun 2015	100 <sup>th</sup> Edition - PreSense 100 released in print format.
Mar 2016	Ezine's third initiative 'Digital Journalists Association of India' (DiJAI) launched.
Jun 2016	Second edition of PreSense 100+ released in print format

16 PreSense 175: Volume 8 | General and Exclusives

- Dec 2017 Ezine's fourth initiative 'Digital Security Association of India' (DiSAI) launched.
- Mar 2018 Third edition of Digest PreSense130 released in print format.
- Aug 2019 Fourth edition of Digest PreSense150 launched in pdf format.
- Sep 2021 Fifth edition of Digest PreSense175 in 8 volumes released.

The Journey Continues.....

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## **Editorial Board – October 2021**

### **Publisher and Managing Editor**

K. Srinivasan (Prime Point Srinivasan), Digital Journalist

### **Editor**

Priyadharshni Rahul, Advocate, Supreme Court of India,  
New Delhi

### **Consulting Editor**

T N Ashok, Former Editor, Press Trust of India and freelance  
Journalist at Delhi

### **Cartoon Editor**

Triambak Sharma, Editor, Cartoon Watch, Raipur

### **Editorial Advisors**

Dr R Jagannathan, Provest, Saint Theresa University, West  
Indies

Dr. Sudarshan Padmanabhan, Associate Professor, IIT Madras

Dr Ashok Pandey, Educationist at Delhi and Columnist

Ramesh Sundaram, Senior Journalist

R Nurullah, Senior Journalist and columnist

M B Jayaram, Chairman Emeritus, Public Relations Council of  
India

### **Editorial Team**

Srinivas Gopal, Technology Expert

Nandini Alagar, Digital Marketing Expert, Author, Writer and  
Musician



## Prime Point Foundation and its Initiatives

**Prime Point Foundation**, a Non-Profit Trust and NGO was founded in December 1999 by Shri K Srinivasan (popularly known as Prime Point Srinivasan), a former Senior Banker and a Digital Journalist and Communication Professional, to promote leadership and communication skills among the youth. Very eminent persons are associated with the Foundation.

In the past 21 years, the Foundation has organised several seminars, workshops, training and interactive sessions, both offline and online, on various subjects of national interest. The Foundation manages various online discussion groups and podcasts on communication, and digital journalism.

The Foundation has formed 5 initiatives to create awareness in various domains. All these initiatives are managed independently by passionate experts. These initiatives are non-commercial, and focussed on youth.

**PreSense:** The eMagazine PreSense was started in March 2006 on the suggestion of Dr APJ Abdul Kalam to promote positive journalism. Till September 2021, the Foundation has published 175 editions. This is a digital-only magazine.



Digests, containing select articles upto 150 editions of the eMagazine, have so far been published. Dr Abdul Kalam has written the foreword for the Digest of articles upto 100 editions. PreSense publishes the cartoon character Prince, which was launched by Dr Abdul Kalam in 2008. PreSense will be publishing a Digest of select articles published upto 175 editions in the month of September 2021.

**Sansad Ratna Awards:** This is a flagship initiative started in 2010 to honour top performing Parliamentarians



every year, based on various performance parameters, and selected by a Jury Committee of eminent Parliamentarians. Dr Abdul Kalam himself inaugurated the first edition of the Awards event in May 2010. Till 2021, the Foundation has conducted 11 editions and presented 75 Awards. IIT Madras was the supporting Partner upto the 9<sup>th</sup> Edition. 10<sup>th</sup> Edition was held at Raj Bhavan, Tamil Nadu. 11<sup>th</sup> Edition was held at Constitution Club of India, New Delhi.

**Next Gen Political Leaders (NGPL)** is an off-shoot of Sansad Ratna Awards. This is a registered NGO operating since 2018.



NGPL has organised several workshops online and offline, for young political leaders and aspirants. Ministers, parliamentarians, legislators and retired constitutional authorities have participated and shared their views. NGPL will shortly be instituting Awards for young promising politicians.

**Education Loan Task Force (ELTF)** was started in 2010 to create awareness about education loans, among students and parents. More than 30,000 queries have been responded to, through email, and more than



5000 serious complaints have been taken up with the top management of the banks concerned, for redressal. Many policy issues have been taken up by Sansad Ratna Awardee MPs, in the Parliament for solution. ELTF does not facilitate loans.

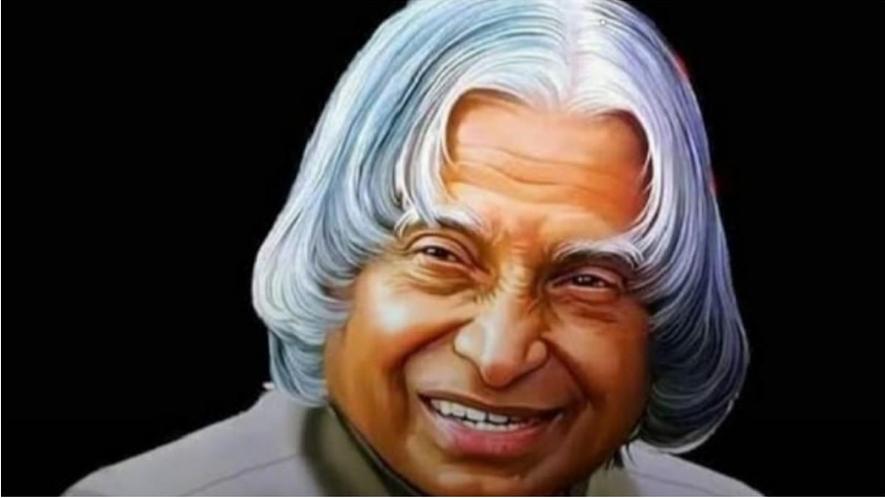
**Digital Journalists Association of India (DiJAI):** DiJAI is an independent NGO founded in 2017 to create awareness about digital journalism and its implications, among the public and particularly among the journalists. DiJAI conducts several



online and offline workshops and seminars, with panels of domain experts.

## **General and Exclusives**

## **“Parents and teachers have to set an example of the value system” – Dr APJ Abdul Kalam**



In an exclusive interview with K Srinivasan, Editor-in-Chief, Dr APJ Abdul Kalam, former President of India spoke on the various contemporary issues faced by the youth. This interview was recorded during the release of the Golden Jubilee issue (April 2010) of PreSense. Excerpts:

**Q: In this technology-driven global village, everything is looked at from the RoI (Return on Investment) angle. Packaging is the name of the game. We see a consistent degeneration in the society’s value system. The present education system produces only graduates and not human beings. What, according to you, should be done to bring back the values in life, and live with pride?**

A: Parents and teachers have to set an example of the value system. Schools can conduct moral science classes at least once in a week to talk about great personalities who demonstrated the value system to the society. The school curriculum should include selfless societal work such as teaching the needy, planting trees, caring for the old, orphans and differently abled. These actions will promote values in the minds of the young.

**Q: Talking of unsung heroes - the media across the canvass has become a product. *Ipsa facto*, the thrust is only on selling. In such a case, the 'unsung heroes' will forever be confined to oblivion. How do we remedy the situation?**

A: Organisations like Prime Point Foundation should initiate action to remedy this situation.

**Q: We do not have the kind of political leaders like Mahatma Gandhi, Rajaji, Nehru, Kamaraj and Sardar Patel anymore. The youth get easily frustrated with the political system and many do not even participate in the election process. What do you think should be done to make the young people participate in the political process and to bring about a transformation in the current situation?**

A: The major parties should recruit educated youth with passion for societal work, in the party structure. These members must be put through special training for developing unity of minds and development politics. They will be leaders who will make India a land of prosperity with a value system.

**Q: After graduation, many want to take up jobs. They are more driven by the immediate money and monetary perks provided by the employers. They do not want to become entrepreneurs. How can they be inspired to become 'employment generators' rather than just 'employment seekers'?**

A: It is not true. When I addressed the participants of the Confluence seminar at IIM Ahmedabad, I asked the question, "how many of you would like to become an entrepreneur?" Almost 75% of the audience responded in a loud affirmative. The trend is changing. We have to make the system and procedures simple and user friendly for an entrepreneur to flourish.

**Q: A personal question. Politics and bureaucracy are generally perceived as the most corrupt fields in our country. You were working in this system very closely for**

**many decades. In spite of your proximity to the system, you have remained 'above board' and many young people regard you as a 'role model'. What makes people like you – the straight forward and honest ones - survive and come out unscathed?**

A: I maintained the principle "work with integrity and succeed with integrity". Do not be worried about others. You follow what your conscience says.

***Source: April 2010 issue of PreSense***

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## **“Youth Should Create Sustainable Rural Development Model” – Dr APJ Abdul Kalam**

*(This is the text of the speech delivered by Dr APJ Abdul Kalam on 17<sup>th</sup> January 2009, while addressing the members of 'Action 2020 - UnConference' organised by Ezine PreSense)*

Dear members of “Action 2020 - UnConference 2009”, my greetings to all of you. I am very happy to communicate with all of you telephonically, when you have assembled at Chennai, discussing about how to achieve Vision 2020 with peoples’ participation.

On 15<sup>th</sup> January 2009, I inaugurated the Youth Meet at Pune and interacted with nearly 1500 young people. The theme, I selected for the youth was “The ignited minds of the youth is the most powerful resource on the earth, above the earth and under the earth”. Here it was important to remember the powerful call given by Swami Vivekananda: “how has all the knowledge in the world been gained but by the concentration of the power of the mind? The world is ready to give up its secret if we only know how to knock, how to give it the necessary blow. The strength and the force of the blow come through concentration. There is no limit to the power of the human mind. The more concentrated it is, the more power is brought to bear on one point. That is the secret”.

When I put forth this thought to the young, there was tremendous enthusiasm and the youth repeated the statement. Then I brought out the power of three great minds:

“It doesn’t matter who you are; you will achieve if you work for it”. Mario Capecchi – a street boy who became a noble prize winner in 2007 for his remarkable work on the gene that can be used to cure diseases such as cancer.

Failure did not deter him. Srinivasa Ramanujam with his optimum capability generated his own equations and became an expert in the number theory. He failed in his FA Exam, but he did not bother. Mathematics became his friend. He saw divinity associated with each number. He became a renowned number theorist and a great

mathematician recognised by the world of mathematics including the Royal Society.

“Plant a tree and plant an idea”. Prof Wangari Maathai had a passion for the environment and bio-diversity and has been contributing to the sustainable development and growth of Planet Earth through tree plantation. She was instrumental in getting 31 million trees planted in 20 countries in the African region. She won the Nobel Prize for this unique contribution towards environmental upgradation. With these three thoughts, “It doesn’t matter who you are, you will achieve if you work for it”, “Failure didn’t deter him” and “Plant a tree and plant an idea”, the 1500 youth at Pune looked ignited; they were all asking, “tell us, what we can give?”

I asked the audience, “Why don’t you, young boys and girls, share your experience?” One girl got up and introduced herself as from rural Maharashtra. She said, “Mr. Kalam, let me share with you what my classmates and I have done. There is a hospital in our small town, where the entire place is dirty and the patients are not at all cared for. Seeing the situation, the student community decided to go to the hospital once a week to clean up the entire place including the toilets. And we also provide necessary help to the patients such as communicating with their relatives, drying their clothes, buying their medicines and giving them a feeling of cheer by talking to them.” What a noble mission?

A series of questions came in afterwards. The main question was what the youth could do to eradicate corruption in our system. Here I gave my experience at Adichunchunagari Mutt in 2005 when I addressed 50,000 students and thousands of parents in the presence of spiritual leaders and political leaders. After my address on Vision 2020, a girl named Bhavani got up. She said she was studying bio-science in the ‘10+1’ class, and she wanted to know from me and the leaders sitting on the dais, what action the youth should take to eradicate corruption, so that we could live in a corruption-free society. The funds allotted for development could then reach the citizens fully. There was no response to this question forthcoming from any other quarter, so I had to answer. I said, “Dear Bhavani, your question is very important in the present context of the nation. You know, we are a population of

one billion. We live in 200 million homes. It is estimated that 30% of the homes may be corrupt, that means 60 million homes are corrupt. Each home has on an average of 5 members: Father, mother, two sons + one daughter or parents + two daughters + one son. Now I have got a question for you Bhavani. In case your parents, particularly your father is unfortunately corrupt, will you go to your father and say "Father, please stop corruption - Our scriptures will not allow that, our teacher taught us so." Will you say this to your father? There was pin drop silence.

Then came the surprise. Almost all the children got up and said in a chorus, "We can do it. We will stop our parents if they are corrupt." I could not believe this. Of course, I turned to the thousand of parents who were sitting there. I asked the mothers particularly, "How will you react to your daughter or son coming to you and saying that you should stop your corrupt actions?"

After some thought, a mother gave the following statement, "Mr. Kalam, so far no one has asked us such a direct question. But I want to tell you one thing on behalf of womanhood that daughters and sons have a unique relationship with their parents. They have a great and grand tool called mutual love and affection. If our child comes and tells us that we are corrupt, it is a great insult to me and my husband. We have to change, we have to change, we have to change." Then the whole gathering took the oath, "I will lead an honest life, free from all corruption and will set an example for others to adopt a transparent way of life".

I asked the youth of Pune, what is your reaction? They said, "We would like to take the same oath and abide by it." The entire hall reverberated when they took the oath. I realised that the Vision 2020 of transforming India into a developed nation will definitely succeed with such a committed youth power. Mr Prime Point Srinivasan, you may kindly see my website, [www.abdulkalam.com](http://www.abdulkalam.com) and click PURA as a business proposition. Here, many successful operational PURAs in different parts of the country have been described. Our young participants can definitely create such sustainable rural development model in their own area which will accelerate the realisation of our development of Vision 2020.

***Source: January 2009 issue of PreSense***

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## **“Wiki Respects Every Individual’s Contribution” – Jimmy Wales, Founder of Wikipedia**

*K Srinivasan, Editor in Chief of PreSense interviewed Jimmy Wales, Founder of Wikipedia on 25<sup>th</sup> February 2007 during his visit to Chennai. Excerpts:*

**Q: Good morning Mr. Jimmy. What made you to start Wikipedia?**

Jimmy: I have been watching the growth of the free software moment, i.e. the open source software movement, and I have seen people coming together online to make software products of very high quality, all using free licences. So, people can copy, modify, and re-distribute the work commercially and non-commercially. Then I realised this is a new social model which will allow the people to collaborate on anything and all kinds of things. Therefore, I thought ‘encyclopaedia’ would be a good project. I wanted a free online encyclopaedia available to all. That was the beginning of the idea.



**Q: In which year did you start Wikipedia?**

Jimmy: Wikipedia was started on 15<sup>th</sup> January 2001. Prior to that for two years, I had a project called “Nupedia”, which had the same objective as Wikipedia, in terms of a free licensed encyclopaedia with thousands of volunteers, but I did not have the idea of the “Wiki” editing model then. So, it was designed as a very traditional top down model that showed something generic.

**Q: So, how do you ensure the credibility of the information, and integrity?**

Jimmy: There is a very good community of users very actively and meticulously policing the site and they elect administrators amongst themselves. There are many mechanisms too on the

website that allow the community to exercise controls and quality. For example, every single change is recorded in the “recent changes” page and all of the past versions of the articles are saved forever so that if someone comes up and makes an article that is of a lower quality than it was before, someone can restore the best version. Several little techniques like that empower the community to actually build something that is more valuable.

**Q: What would happen if somebody gives wrong information or manipulates the information?**

Jimmy: Typically, that is a multiple step process. We are a very friendly and welcoming community and try to help people understand what we do. If somebody comes in and puts in some wrong information, say as a joke, they will get a preliminary warning that will say, “Please do not do this to Wikipedia. In our effort to create a high-quality encyclopaedia, we found your action inappropriate”. You would be surprised that many people, when they read this would say “You know, actually I probably shouldn’t have messed with Wikipedia.” Beyond that, if they repeat it, they can be blocked from editing and the community can then revert to the previous version.

**Q: How can it help the corporate world?**

Jimmy: Many companies are now finding Wiki very useful for their employees to share the information quickly. The word “Wiki” comes from the Hawaiian word “Wiki Wiki” which means “quick”. It is a quick collaboration. And so, one of the challenges that many companies face, particularly the large companies, is how to get the information flowing through the organisation in a fast and effective manner. Many times, companies make poor decisions simply because one part of the organisation has some information that the other part does not. The idea of Wiki inside a company is to enable people to really share information in a faster, broader, and simpler way. Many companies find Wikipedia very useful.

**Q: Do you have any advice for the corporate world?**

Jimmy: I think the best advice is to experiment with Wiki, respect the medium and understand what makes Wiki successful viz.

“respect for every individual’s contributions”, so that even if someone in the company is doing something that is not so great, if you have a positive attitude of encouraging them, the others will see this and think for themselves about posting information. If you have a very hierarchical company, Wiki will not work for you because the employees will be too afraid to type something that may upset their bosses. If you can accept that, Wiki will be an open process and it can work very well.

**Q: What inspired you to start Wikipedia?**

Jimmy: Originally, as I said it was the open source software, i.e. free software movement. As a child, when I was growing up, I had parents who really strongly emphasised about education. I went to a very small private school. There were only four children in my grade! It was a one-room school-house, very old fashioned, and small. I had lots of fun when I used to read the encyclopaedia. I used to read the words in Encyclopaedia Britannica. As a child I always had the idea of broad information and just loved reading.

**Q: How do you see the future of Wiki in another 5 to 10 years?**

Jimmy: I think one of the most important things that you are going to see in five to ten years is the editing process becoming a lot easier, a lot smoother and a lot more approachable by people who are not necessarily IT specialists. I think that is probably the most important thing that you are going to see. And I think you are going to see that Wiki is used for more things that are useful. You will realise that people can write for Wiki and can do fictions and all kinds of things in Wiki that I would have never expected, but I’m seeing all this creativity emerge online. I actually don’t know. I think we have to watch and see what people come up with.

**Source: February 2007 issue of Ezine PreSense**

## **“You need to be really passionate about making something to happen” - Dr Vinton G. Cerf, Father of Modern Internet**

Thirty years ago, on 1<sup>st</sup> January 1983, the world entered a new era of communication with the birth of 'Modern Internet' which we use today. This communication revolution was enabled by the TCP/IP protocol, developed by Dr Vinton G. Cerf and Robert E. Kahn. They are now regarded as 'Fathers of Modern Internet'.



In those days, ARPANET was the wide-area network sponsored by the US Defence Advanced Research Projects Agency (DARPA). It went live in 1969, when Vinton Cerf was an ARPANET scientist at the Stanford University. The military became interested in a common protocol as different networks and systems using different and proprietary protocols began to hook up to ARPANET, and they found that they could not talk to each other easily.

On 1<sup>st</sup> January 1983, the new Internet Protocol TCP/IP, which replaced the older system, was accepted as the standard, and modern Internet was born. The Internet, a revolutionary and cost-effective communication system has transformed the lives of billions of people across the world. Using data "packet-switching", the new method of linking computers and sharing information paved the way for the arrival of the World Wide Web.

Dr Vinton G. Cerf (70), the main architect of Modern Internet, is presently the President and CEO of Google Special Services Inc. and Chief Internet Evangelist at Google. He visited Chennai in mid-January 2013 to participate in the annual meeting of the Association for Computing Machinery (ACM) – India Council. Dr Vinton is the International President of ACM. We had the opportunity of recording his inspiring interview for PodUniversal and PreSense. (Link for his interview is given at the end of this article).

While people with less qualification and achievement pose themselves as great men, this legendary person, who revolutionised the entire globe with his invention, looked simple and unassuming. In the 45 minutes of conversation with him, he came across as a down-to-earth man.

Dr Vinton Cerf has won hundreds of national and international awards for his achievement. He is the recipient of the 'Turing Award' for Technology, equivalent to the Nobel Prize, in Computing. Recently, President Obama appointed him as member of the National Science Board in the US Government.

Dr Vinton suffers from a hearing impairment from an early age, and he later attributed some of his interest in computer networking to its promise as an alternative communications channel for the hearing impaired. His personal disability triggered a great communication revolution in the globe.

In an exclusive interview with K Srinivasan, Editor-in-Chief of PreSense and PodUniversal, Dr Vinton said that at the time of the invention, his team had high hopes that this would become a powerful infrastructure in future. "I think those hopes have been largely realised" he added with pride.

On computer security, he said, "There is still plenty of work to be done on the technical side and on the training side to get users to adopt safer communication practices." He suggested the 'two-factor authentication' for the safety of the users.

On his passion, his achievement, and his message to the Indian youth, he said, "The simple message here is that you need to be really passionate about making something to happen and you better be prepared to be patient and persistent because some ideas, the Net included, will not be widely accepted." In the same breath, he also appreciated the Indian entrepreneurs for exporting their skill, talents and inventions to the rest of the world.

PreSense is proud to feature him as 'Man of the Month' (though he is the Man of the Century) in the current issue, when the world celebrates the 30th year of modern Internet.

Please listen to his interesting Podcast through the link given below:

<http://youtube/V6VOAAQEyE0>

***Source: January 2013 issue of the Ezine PreSense***

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## **“Enhance Innovation and Invest in R & D” – Dr APJ Abdul Kalam**

*PreSense celebrated its Second Anniversary in Feb 2008. In an exclusive podcast interview with K Srinivasan, then Editor in Chief, Former President of India, Dr A J Abdul Kalam shared his views on “Role of Indian Industries in Realising Vision 2020”. Excerpts:*

Prime Point Srinivasan, my greetings to all of you, particularly for the e-magazine which you have started. I am glad that it is doing very well.

Now the topic is the role of Indian industry in realising India Vision 2020.

National economic development is powered by competitiveness. Competitiveness in turn is powered by Technology and Innovation. Indian Industry has to build International Competitiveness. There is a direct relation between Innovation Index and Competitiveness Index.

Today, India ranks 48<sup>th</sup> in the Global Competitiveness Index and 23<sup>rd</sup> in the Innovation Index. The Indian industry has to work to achieve a rank above 10 in the Global Competitiveness Index. That is my view. This will need enhancing the innovation and also investing in Research and Development to generate Technology locally.

Another aspect is “Profit with Integrity”. Profit with Integrity should become the motto of corporates, and it is essential for sustainable growth.

We have now achieved a GDP growth rate of 9%, which has to be increased to beyond 10% per annum. This should sustain over a period of a decade before India can become a fully developed nation.

When we grow, we have to look for inclusive growth. To spread the growth to the rural sector, we have to create nearly 7000 PURA (Providing Urban amenities to Rural Areas) Complexes covering

about 6,00,000 villages, where 70% of the people live. Creation of PURA Complexes will need the active support of Corporate India. PURA Complexes help develop PURA Enterprises for local talents. This will ensure faster development of the whole nation. Another aspect is fulfilling Corporate Social Responsibility (CSR). Two major areas of CSR are:

- Providing quality education to all eligible candidates with employment scheme; and
- Providing health care to all the citizens.

In addition to the two major areas, corporates can consider providing quality employment to 'differently abled persons' by imparting quality training and skills. The corporates should contribute towards bridging the rural-urban divide and also facilitate the harmonious working of the three sectors, namely, Agriculture, Manufacturing and Service Sectors.

Emphasis in those areas, which I have suggested will enable faster development of the country leading to equity, prosperity and justice to all the citizens of the country.

***Source: February 2008 issue of PreSense***

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## **“Building a Good Image is as Crucial as Doing a Good Business Plan or Technology Strategy” – Dr Y S Rajan, Co-Author of the book India 2020**

Dr Y S Rajan is the co-author of the book, India 2020 along with Dr APJ Abdul Kalam. He is one of the well-known scientists of the country. In an exclusive interview for the inaugural issue (Mar 2006) with Ms Meera, Dr Rajan shared his views on the need of the communication. Excerpts:



**Q: How do you assess the prevailing environment in the communication industry (PR/Corpcomm), particularly in India? How has it evolved in the last five years?**

A: In terms of utilisation of technological tools in India, Corporate Communication (CC) have picked up well. In terms of soft skills much more can be done, especially if our communicators can draw from our cultural ethos and use the forms of native creativity. As for contents, CC has a long way to go. Presently, the audience base is very narrow.

Corporates should touch the heart of people through communication, generating positive feelings. But this is to be done carefully. Unnecessary and unreal hype will boomerang. If we do not project the real performers, and instead rely on their conventional icons alone, the faith and confidence of their consumers will be eroded. Merely showcasing celebrities as their ambassadors has its limitations.

Therefore, there is plenty of scope for breaking new grounds of communication, making it (a) a democratic dialogue and (b) a developmental disseminator.

**Q: How can communication help the giant Indian corporate sector achieve global leadership?**

A: There are success stories of the giant Indian corporate sector, and even of smaller ones as ICT, where global presence for trade, service and supply-chain-presence have been achieved. In spite of it, there are several misconceptions and concerns about India - whether it is about the quality of the products sold or reliability as a trade partner. Communication is one medium through which we can overcome these apprehensions. The strength, the uniqueness and the relevance of the Indian companies need to be showcased to the foreign countries to convince them and their communities of the dependability of the Indian corporate sector.

For example, the message to be conveyed needs to be that "We are not here for marketing alone but also to improve the quality of your life". IBEF (India Brand Equity Foundation) a joint effort of the Ministry of Commerce & CII (Conderation of Indian Industry) is helping the corporate and the communicator in building a positive image branding. A good corporate image building plan is as critical as a good business plan or technology strategy.

**Source: March 2006 issue of PreSense**

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## **“Indian Election Commission is the eighth wonder of the world” – T S Krishnamurthy, Former Chief Election Commissioner of India**

In these days, when many of the companies break their heads about communicating with their few hundreds of internal stakeholders involved in projects, an organisation in India successfully communicates and completes a ‘mega project’, which involves 5 million internal stakeholders, within 60 days. That is the Indian Election Commission, whose functioning can be classified as the ‘eighth wonder of the world’.



In India, the Election Commission holds general elections once in five years to elect ‘legislatures’ for the Union Government’s Parliament and 35 State Governments and Union Territories. During the general elections, the Indian Election Commission involves around 800 political parties, 5 million election officials, 700 companies of para military forces, 670 million voters, 800,000 polling booths and one million Electronic Voting Machines (EVMs). The entire precision-fine “world’s largest election” is completed within 60 days in the presence of national and international media to the satisfaction of all stakeholders and even the judiciary. Similar operations are being carried out for the assembly elections of State Governments.

The entire internal communication model adopted by the Indian Election Commission has raised the eyebrows of the entire world. In an exclusive interview with Narrendiran and Sakthi Prasanna of PreSense, Mr T S Krishnamurthy discloses the strategies of the communication. Mr Krishnamurthy who retired recently as Chief Election Commissioner of India, has successfully conducted one general election and several state elections during his tenure. Presently, he is being invited by many governments across the world to share his suggestions.

It was during his tenure that the election operations in India were

made cent per cent electronic, the only one of its kind in the world to use EVMs for such a large voter population. Excerpts from his interview:

**Q: What are your strategies to communicate to 5 million government officials, who act as election officers during the elections?**

A: We have a two-tier system of communication with our officials. In the first tier, the Head Quarters of the Election Commission at Delhi provides training inputs to 'observers' who are deputed to oversee the election process, and other officials who in turn train at field level. In the second tier, the ground level officials are trained periodically by District Collectors. In these trainings, they are briefed and provided booklets (English and local languages) on the procedures, rules, use of EVMs etc. The entire training process is time bound and well monitored. Now, in India, we have around 4 million officials who can handle the election process efficiently.

**Q: How do you create awareness amongst the voters about their rights?**

A: In India, we have around 670 million voters spread across the country, including remote places. The Election Commission uses various tools like demonstration, film shows, posters and the print/electronic media to create awareness among the voters. Presently, in India, around 60 percent of the voters exercise their franchise. This does not happen even in developed countries. Our officials visit even remote places through different modes of transport like boats and elephants, to create awareness and conduct elections.

**Q: How do you communicate with political parties?**

A: We meet the representatives of all political parties every year and discuss with them about the various processes involved. All the good suggestions are taken up. We have an online newsletter "Election India". The website [www.eci.gov.in](http://www.eci.gov.in) is a very informative site, with more than 10,000 pages of content. Once the election process starts, the Election Commission briefs the media on a daily

basis to update the stakeholders. The entire operation is done in a transparent manner using electronic voting machines, in the presence of all media. This has improved our credibility globally. With the use of technological tools, we are able to implement, probably the largest 'Face to Face' communication exercise, successfully.

***Source: June 2006 issue of PreSense***

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## **Saluting ISRO – India’s Pride – Dr Radhakrishnan, Chairman, ISRO: Scientist, Spiritual Person & Artiste**

### **Launch of GSLV D5**



**GSLV D5**

After 20 years of continued research and a few failures, the Indian Space Research Organisation’s (ISRO) team of scientists successfully launched the GSLV-D5 rocket using indigenous cryogenic engine, on 5<sup>th</sup> January 2014. They also successfully injected the 1982-Kg GSAT-14 communication satellite into its orbit.

Earlier on 5<sup>th</sup> November 2013, the ISRO team successfully launched *Mangalyan*, Mars Orbiter Spacecraft, which is now on its way to reach Mars by September 2014.

Both these events are significant milestones in the Indian space programme and ISRO has made every Indian proud. The credit goes to the dedicated and committed team of scientists under the leadership of Dr K Radhakrishnan, Chairman of ISRO.

### **Dr Radhakrishnan, a Team Builder and Leader**

Dr Radhakrishnan (64) hails from Irinjalakuda, an ancient town near Thrissur (Kerala). He joined ISRO in 1971 as an engineering graduate. He completed his post-graduation in Management from the Indian Institute of Management (IIM), Bangalore and acquired a doctorate from the Indian Institute of Technology (IIT), Kharagpur, while working in ISRO.

After serving in the space organisation at various levels, he took over the chairmanship of ISRO in November 2009. As chairman, he has been consistently displaying leadership qualities.

In April 2010, when the much anticipated indigenously built GSLV D3 mission failed due to a technical error in the Indian Cryogenic

Stage, Dr Radhakrishnan appeared before the waiting media and explained the reasons, with an assurance to the nation that the mission would be successfully re-launched within a year. Within three months when the PSLV was launched successfully, Dr Radhakrishnan introduced his team of key persons involved in the project, to the media and encouraged them to speak to the media about the mission. This gesture reflected the true spirit of leadership and teamwork of Dr Radhakrishnan.

During the recent launch of GSLV D5 with indigenous cryogenic engine, he paid tributes to Dr U R Rao, former ISRO chairman and the brain behind the proposed mission 20 years earlier, and gave due credit to him during the media conference. When the Prime Minister and later the President of India, after witnessing the successful launch of the two space missions, met Dr Radhakrishnan at Sriharikota, Dr Radhakrishnan had his entire team of scientists with him to meet them. On 25<sup>th</sup> January 2014, the Government of India honoured him with the Padma Bhushan Award for his contribution to the nation.

### **Exclusive Interview with PreSense - Future Plans**

In an exclusive telephonic interview with K Srinivasan, Editor-in-Chief of the ezine, PreSense, Dr Radhakrishnan said that India currently held the 6<sup>th</sup> global position in space mission achievements, after USA, Russia, Europe, Japan and China. He also proudly added that currently, India ranked topmost in 'space applications' and that many countries were seeking guidance from India in this area of expertise. He said that India's space programme was 'application-oriented' in areas of education, disaster management, telecommunication, environmental protection, and the like.

When asked about future plans, he said that ISRO was already working on high power communication in K-A band, which would be three times higher in output than the present one. In microwave remote sensing, he said that ISRO was moving towards X, S and L bands, in addition to C band. ISRO would be launching *Chandrayan II* with indigenous lander and rover. On the launch vehicle side, GSLV Mark 3, which could take 4000 kg payload (as

against the present capacity of 2200 kg) would be launched soon. Dr Radhakrishnan said that GSLV Mark 3 would reduce India's dependence on other countries in satellite launch. An experimental flight of GSLV-Mk 3 is planned to study its performance during the crucial atmospheric phase of the flight and here the cryogenic engine will not be activated.

"ISRO is planning its first developmental flight to put a satellite in the orbit by 2016. We are also developing high power 'semi-cryogenic engine' with 200-ton thrust. With these, we can move to the next level of launch vehicle to carry 6 tons to 10 tons. Our team is doing the 'phase zero study' for this purpose", said Dr Radhakrishnan proudly.

### **A Spiritual Person and an Artiste**

This internationally renowned rocket scientist is an artiste besides being spiritual. He visits the Tirupathi Temple, before and after the launch of every vehicle. "I have been visiting the temples since my childhood days. I have trekked to Sabarimala 52 times, starting from my childhood, and I have taken the harshest route to the Temple thrice", said Dr Radhakrishnan humbly.



"I love reading spiritual books and I am deeply influenced by the Bhagwad Gita, which I read regularly. I believe in the power of God," he added.

Many people may not know that this rocket scientist is also a trained 'kathakali' artiste. He loves carnatic music and practises vocal music every day early morning, even in the midst of his tight schedule. He begins and ends his day listening to Carnatic music.

### **Remembering the Gurus**

Before signing off the telephonic conversation, Dr Radhakrishnan recollected his days with Dr Vikram Sarabhai, Dr Satish Dhawan and Dr U R Rao, the great architects of Indian Space Mission and

remembered the inspiration he received from them. No doubt, the scientist, the spiritualist and the artiste in Dr Radhakrishnan has influenced in making him a great leader too.

***PreSense congratulates Dr Radhakrishnan and his ISRO team for making India proud.***

***By K Srinivasan, Editor in Chief, PreSense  
Source: January 2014 issue of PreSense***

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**“No deserving student should be deprived of higher education for want of funds” – Dr K C Chakrabarty, Deputy Governor of Reserve Bank of India**

In a freewheeling telephone interview with K Srinivasan, Editor in Chief, Dr K C Chakrabarty, Deputy Governor of Reserve Bank of India vehemently declares, “No deserving student should be



deprived of higher education for want of funds”. Here is an edited excerpt:

**The 21<sup>st</sup> century is widely acclaimed as the knowledge century. What role will knowledge and education play in the development of India 2020?**

India has transformed from an agrarian to an industrial economy. From here, it has moved to service and now it is moving towards becoming a knowledge economy, where education is key. 55% of our population is below 25 years of age and 33% is less than 15 years old. As such, in 2020, the average age of our population will be 29, compared to 37 in China, 45 in Western Europe and 48 in Japan. If this population is trained and educated as per international standards, they will be equipped with skills that meet global requirements and this will present a great opportunity for the country.

**Statistics from the RBI website suggest that only 0.6% of the loan amount allocated to education is being utilised. Why is this?**

Only 10% of the population in India has access to bank credit. However, this amount is going up in leaps and bounds. It has grown from 6,800 crores in 2005 to 28,000 crores last year – nearly four times in the last four years. The number of education loan accounts is growing at the rate of three lakh per annum. As and when our penetration improves and education gets more professional, awareness will increase and more students will come forward to avail this opportunity. Once students pay back loans, they will become customers and such schemes will be encouraged.

**It has been generally observed that bank managers are reluctant to encourage education loans and many poor but deserving students, especially from rural areas, do not find adequate support from the banking system in securing such loans. What steps are being taken to address this problem?**

I agree that there may be reluctance on the part of bank managers in allotting education loans. Perhaps they are not convinced of the viability and antecedents of such loans due to past experiences of people who may not have paid. Bank managers need to be conservative in giving loans. Therefore, in order to popularise education loans, banks need to perceive this product as a business. We need to create the necessary confidence in bank managers. The government can implement an insurance scheme for students who are not able to meet loan requirements. This will help to create confidence. Any deserving student, who has been unable to secure an education loan, needs to bring this to our notice. They can also write to the chief executive of banks, to nodal officers appointed at the RBI and even to me.

**Can you think of any aggressive campaign by the chairmen and CEOs of various banks for helping deserving students?**

Instead of the chairman, local branch managers should be involved for effective education loan campaigns.

**There have been complaints of banks charging a high rate of interest on education loans and demanding third party guarantee even for small loans of up to four lakh rupees. What is your opinion on such grievances?**

The rate of interest differs from bank to bank. Public sector banks have already been advised to provide loans at reasonable rates. In my view, reasonable rates should be no more than 12% as of today and most public sector banks are lending around this rate. It is important to understand that banks need to get money at this rate to recover the cost to the organisation.

**We have created various institutions like IDBI, NABARD and National Housing Bank to assist sectors like industry, agriculture and housing. In a similar vein, with the growing priority of education, is it possible to think of an institution like Vidya Development Bank of India to focus on this sector?**

We develop specialised institutions like IDBI for certain sectors because banks are not able to evaluate and formulate projects in these sectors. However, in education, no project needs to be prepared. Educational institutions make the projects and provide education and banks are only required to provide the finance – a normal business of the bank. Besides, the government already has institutions like the University Grants Commission and similar bodies that work towards developing education infrastructure and spreading education. As such, there is no need for a separate institution in this domain.

**Any words for students who are considering taking a bank loan?**

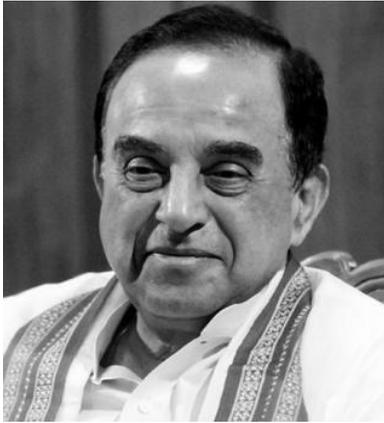
The 21<sup>st</sup> century can be India's century and students have a tremendous opportunity if education develops their skills; they acquire knowledge of a world standard and work hard. We at RBI have tried to ensure that no deserving student is deprived of higher education because of a lack of funding. Once students avail their loans, they should ensure their success and pay back the loan amount. This will motivate bank managers to extend loans to hundreds of other students. All the best!

***By K Srinivasan, Editor in Chief, PreSense.  
Source: January 2010 issue of PreSense***

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## **“Greed is the Outcome of Materialistic Society” – Dr Subramanian Swamy**

Dr Subramanian Swamy, President of the Janata Party and a well-known Indian politician is known for his perseverance. Whatever the issue that he takes up, he pursues it to its logical end. Though many media houses have been talking about the current 2G scam, it was only through the sustained approach of Dr Swamy through the judicial route that the culprits were arrested. In an exclusive interview with K Srinivasan, for PreSense and PodUniversal, Dr Swamy shared his insights about the qualities of perseverance. Excerpts:



**You are known for your perseverance. Whatever issue you take up, you take it to its logical end. In your opinion, how can our youngsters imbibe the qualities of perseverance?**

If you are brought up in the Hindu tradition, you learn that you have only the freedom of action. Output of your efforts is not directly proportional to the efforts. Sometimes, you put in lot of effort and get nothing; sometimes, with least efforts, you get a lot. The same is described in the Bhagawad Gita as the Law of Karma. Everyone should pursue the goal, putting its best efforts without the anxiety and stress about the outcome. If you understand and develop this attitude, 'perseverance' comes. If you get disheartened, perseverance evaporates. Generally, people are averse to taking risks. You cannot achieve anything without taking risks. When you take the risk, there is the possibility of failure too. Risk-taking attitude should be developed. Perseverance is the amalgam of multiple intelligences like emotional intelligence, social intelligence, moral intelligence and spiritual intelligence. India is known for spiritual intelligence, which connects to cosmos. Perseverance comes when you realise that you are an instrument

in the hands of the 'divine' and what you are doing is only the 'duty'.

**Whenever we see you on the television, you look very cool, even during apparently tense moments. How do you manage this?**

That is what is called 'suppression of ego'. Tension occurs when you think that you are responsible for the good or bad things that happen. Anybody, who thinks that he is only the instrument in this whole thing and that he is doing only his duty, will never be tensed.

The interview can be watched at

**[https://www.youtube.com/watch?v=j\\_JoQZeRmsw](https://www.youtube.com/watch?v=j_JoQZeRmsw)**

***Source: February 2011 issue of PreSense***

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## Astrology Can Never Go Wrong - Shiva

*M S Shivakumar (40), who researches and practises astrology as his passion, is a Learning & Development professional. He has served at the top level in L&D department of Fortune 500 companies across the globe. Shiva, a highly qualified person and alumnus of many prestigious institutions including IIM, strongly believes that the principle of astrology is to "Make things Happen" rather than "Watch things happen or wonder what happened". In an exclusive interview with K Srinivasan, Editor in Chief, Shiva shared some interesting aspects of astrology. Excerpts:*

### **What is the history of Astrology? Who first developed this concept and when?**

It is very difficult to say when the concept of astrology was developed in India. Vedas and Upanishads talk about the planetary movements and their impact on the human being. Many *Rishis* have contributed to this knowledge. Even the Epics like Ramayana and Mahabaratha have references about astrology. Astrology dates back to 6000 to 10000 years. Vedic Astrology is also known as *Jothisha*.

In ancient days, this knowledge was passed on to the disciples through *Guru Parampara*. It was not available to the common men, to prevent misuse of this concept. In those days, there were experts, who advised the kings while taking important decisions, based on astrology.

There are three major categories in Astrology. (1) *Siddhantha* (*Panchanga* based), (2) *Samhitha* (for kings and their kingdoms) and (3) *Hora* (time-based prediction of events).

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There are three major categories in Astrology.

- (1) *Siddhantha* (*Panchanga* based),
- (2) *Samhitha* (for Kings and their Kingdom) and
- (3) *Hora* (time based prediction of events).

- M S Shivakumar



*Parasara Maharishi* conducted a detailed study from the Vedas, Upanishads, Puranas and scriptures, written thousands of years ago. He filtered and consolidated the concept of astrology.

Several schools of thought came up later. The *Parasara* school of thought is mainly followed. *Jaimini, Saravali, Jathaka Parijatha, Saravartha Chinthamani* were the main schools of thought that came up later.

### **What is the basic concept of astrology? How is astronomy used in astrology?**

Anything that is related to the 'out of earth' atmosphere is known as astronomy. The Study of the connection between the Celestial (study of sky) and the Terrestrial (study of earth) is astrology. It is purely based on the metaphysical principle, using the mathematical relationship. Astrology involves a lot of mathematics. Mathematical relationship is needed to understand and express the quality of energy of planets (sound, shape, angles, numbers, etc.)

Planets and stars emit energy of different strengths at a variety of instances. These energy and its frequencies are the cause of the creation, sustenance and ending of events in one's life.

Astrology involves 27 stars, 9 planets and 12 *Bhavas* (houses). To predict an event that can occur in future, we may need to analyse 2916 data points for accuracy ( $27 \times 9 \times 12$ ), which will let us know the influence and impact of planets and stars on an event.

If a person starts learning astrology at the age of 8, dedicating 8 hours per day for 800 years continuously, he will learn only one-sixteenth of astrology. It involves a lot of cosmic intelligence and calculation of planetary movement.

There are three levels of consciousness – simple consciousness (5th sense), self consciousness (6th sense) and third cosmic consciousness (7th sense). Each consciousness can speak to each other.

The planets in the universe communicate with each other through light, heat, rays, neutrinos, x-rays, etc. It has a huge impact on the human neural network. To understand cosmic consciousness, one needs cosmic intelligence.

If you see the astrologers, they normally prepare two charts (*Rasi* and *Navamsa*), based on the date of birth, time and place. They are called Divisional Charts D1 and D9. These charts indicate the planetary positions at the time of birth of a person. We can make 144 such charts to understand deeply. The charts can be prepared from D1 to D144.

### **How Astrology Works?**

There are three outcomes – event, experience and environment. Events are like occurrence of job, wedding, position, health, wealth, etc. Experience is emotions and feelings, derived out of an event. Environment is the boundary of the limitation within which a person's life operates.

**Potential and Manifestation** are the two wheels of astrology. A person may have great knowledge about business or may be highly talented. The potential of the person can be so high that he can make things happen and can become rich. But in reality, if you check, he would not be able to produce success or achieve growth. That is called manifestation.

One planet determines the skill and another planet determines the results. One may have the potential, but if not manifested in reality, it is of no use. In order to make use of the best time and increase the success rate, the branches of astrology like *Kaala*, *Ganitha*, *Jaataka*, *Prasna*, *Murtha* and *Nimitta* help.

**Vidhi, Madhi and Gadhi** - *Vidhi* is fate, what is shown in the chart. *Madhi* can be utilised to escape *Vidhi*'s difficulties or challenges. *Gadhi* is known as Surrender to Almighty.

Bucke, a Canadian psychiatrist, says "cosmic consciousness is an interconnected way of seeing things, which is more of an intuitive knowing than it is a factual understanding. Astrology is not just a belief but knowledge about belief.

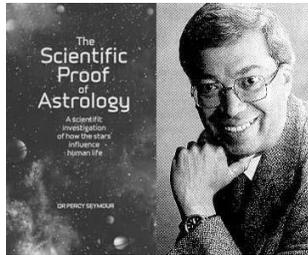
Action + confidence + faith = belief

It is like cautioning and helping a person to achieve maximum potential to manifestation.

Astrology can never go wrong. An astrologer can go wrong.

### **Is Astrology a Science or an Art?**

According to me, astrology is pure science. Today, astrology is seen as the 'Law of Possibility' rather than the 'Law of Accuracy'. Dr. Percy Seymour conducted research on the Mechanism of Astrology in Plymouth University (USA). He concluded that planets move like tidal tugs; they interact with each other, and they have an impact on human lives. He also claimed in his book titled "The Scientific Proof of Astrology" that the movements of the sun, the stars and the planets can influence the brains of unborn children in measurable ways. Several researches on astrology have been initiated in various universities across the world. There are scientists who do not consider astrology as science. Everything need not be classified under science. I feel the opposite of science is not pseudo science, myth, spirituality or belief. I call it 'unexplored science'.



“  
The movements of the sun, stars and planets can influence the brains of unborn children in measurable ways

”  
Dr. Percy Seymour  
Plymouth University  
USA

Science and spiritual belief co-existed for ages. Even today, we see many scientists who believe in spirituality, culture and values. People who are rational are also spiritual. It is not either science or culture, rational or spiritual. It is a combination of both.

By positioning ourselves on both sides, we may be able to understand the subject better. A single-sided perspective will only increase the blind spots. Proven science can only work within limited and restricted grounds. Studies are still being carried out in the unexplored areas of supernovae explosions, gamma ray bursts, and cosmic microwave background radiation. Although it consumes time, we need scholars to conduct more study to bring in evidence, logic and witness behind astrology and get the fullest benefit to mankind and take this subject to a larger audience for more fruitful findings.

### **How Western Astrology Differs from Indian Astrology?**

Western astrology is sun sign-based. Indian astrology is moon-based. Vedic astrology is the oldest. All other schools of thoughts, whether Indian or Western, are derived from Vedic Astrology. Astrology is a wonderful science that provides guidance to maximise growth and success and minimise loss or distress. It helps you to be at right place at right time with the right people, with the right health and the right intention, guided by the right *Guru* or God Almighty. Make use of this science and be benefited! Shivakumar can be reached at [msshiva@yahoo.com](mailto:msshiva@yahoo.com)

***Source: Jan 2016 issue of PreSense***

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## An Evening With Some Earthly Stars

It was an evening to remember when the Editorial Team met up with some students from various Government Schools in the city of Chennai. These students were recently recognised and awarded for their achievements in their respective areas of proficiency. The awards function was organised by 'You Are Loved', a local NGO



**(Left to Right) Noorul Hasbiya, D.Gopi, D.Yukesh Babu, K.Chandru, S.Premkumar, Ranjith, S.Sangeetha, Samuel (in front)**

(Non-Governmental Organisation) that supports

education and allied causes. All these students hail from economically challenged domestic backgrounds but their spirit, achievements and dreams soar in spite of these challenges.

The children, who were students of Standard 10 and 12 classes, turned up smart and spruced in their school uniforms. They all had a sparkle in their eyes and a bounce in their gait, reflecting the confidence and enthusiasm they emanated. As we sat down to chat with them, each one of them shared their dreams and aspirations with us.

We generally tend to look for talents in high-end schools. We rarely expect to find talents and jewels in the lesser known Government or Corporation schools. The Editorial Team wanted to showcase the talents from unexpected quarters, and meet such talented children and motivate them. Interestingly, the Editorial team returned home after being motivated and inspired by these children instead.

Sangeetha is a true embodiment of girl empowerment. Even as a pavement dweller, her housemaid-mother as a single parent, and her elder sister motivate her in her studies. Sangeetha is an ace footballer and represented India (the sole representative from the state of Tamil Nadu) in an 8-member team at the Homeless World Cup at Glasgow, Scotland in July 2016. India won the 5th place

among 46 countries that participated. Sangeetha shared her experience about how dreams were dreamt to make them happen. She said she used to run out to the streets with her pavement friends at the sound of a passing aeroplane in flight, and wave out to it, hoping the passengers on board, would see her. Last July, when she arrived at the airport to board the aircraft on her way to Glasgow, she choked with emotion as she realised that she herself



was boarding one of them to fly out. We were curious if she remembered to wave down from her window seat in the aeroplane. She smiled in response. Sangeetha is also a long-distance runner, a long-jumper and a shot-putter.

Chandru won his award for his overall consistent academic performance. He aspires to be a pilot, with Dr. APJ Abdul Kalam, the late former President of India as his inspiration. Coming from a home with a single parent, Chandru helps support his family by delivering newspapers at doorsteps every morning before school. He is also skilled in masonry and works during holidays.

Ranjith Kumar, recognised for his discipline and outstanding academic performance, is a topper in his school. He aspires to be in the Indian Police Service (IPS), aiming to provide protection to women and senior citizens, who form the vulnerable section of the society today. Ranjith comes from a poor family where his father squanders as an alcoholic. His mother, his brother and his uncles are his support. His motivator is his school teacher who drives him to dream and work towards the dream. Ranjith is active in the sports field, and plays volleyball.

Premkumar aspires to be a scientist with the Indian Space Research Organisation (ISRO). He has keen interest in robotics and he won the prize for the second best project in robotics at a national level science exhibition held in the city of Bengaluru. After an outstanding performance in the Standard 10 examinations, he is striving to beat the record of the previous year's state top

ranker, who is his namesake. Premkumar's role models are Subramania Bharati, the Indian writer, poet, Indian independence activist and social reformer, and Dr APJ Abdul Kalam.

Noorul is a talented oratorical champion and essay writer. She has been a consistent topper in academics in her school. She hopes to repeat her performance in the forthcoming Standard 12 public examinations. Nurul aspires to become a District Collector as she dreams of promoting education among girls, just as it has brought her the empowering spirit to dream and achieve. She wants to be the 'Malala' of India.

Gopi is another school topper in the Standard 10 public examinations. He wants to study so that one day he will acquire a doctorate. He dreams of working in the Indian Administrative Service and dedicate himself in the field of education because he is well aware that education is a powerful tool in life. Gopi shared his life episode of how he returned to school after dropping out for about 6 months due to an attack of typhoid fever. The fever kept him in bed for three months when he was studying in Standard 7. Having been an outstanding student during his entire school years, he felt embarrassed to get back to school after the break and suffer a possible dip in his academic record. He therefore went to work as a vegetable vendor. In the evenings, while he worked on the accounts for the day, his neighbour flower vendor would observe him, impressed with his handwriting, his intelligence and his adeptness with mathematics. He cajoled Gopi to return to school. Gopi who was aware of the dire financial state in his family, approached his aunt for support. Gopi soon returned to school to join the class in standard 8. There was no looking back thereafter.

Gopi is also a good orator and debater and has won several prizes.



**Bharathi with her mother**

Yugesh Babu has been a consistently outstanding academic performer. He has held himself high as a role model both in school and at home. This is especially worth mentioning as he comes from a drug and violence prone neighbourhood at home. Yogesh has soared above the challenges of

financial crunch at home, a physically challenged father and a violence prone neighbourhood. Yogesh dares to envision being successful in life while maintaining his integrity, and help his family out from the depressing environment. He is keen to learn computer technology.

Samuel is the youngest in the group, being a student of Standard 8. As the youngest recipient of the award, he stands out as a promising candidate for proficiency and academic achievement. He was recognised for his talent in the fine arts, especially oratory, singing and dancing. However, he aspires to be a scientist like his role model, Dr APJ Abdul Kalam. Alternatively, he hopes to be of service to the society as a doctor.

Bharathi is an academically outstanding student. She stood first in her school in the public examinations for Standard 10. She will soon be appearing in the public examinations for Standard 12. She was recognised for the award for her leadership skills. She too comes from a single-parent home, with her mother working as a sweeper in the school she studies in. Bharathi has outstanding oratorical skills that won her a place in the final competition of a state-level competition held earlier this year, organised by the Rotary Club with the Corporation of Chennai. She reached the finals from among 2000 student participants. She thus won herself an educational trip to Malaysia. Bharathi aspires to be in the Indian Administrative Service (IAS) with an ambition to help eradicate poverty.

The Editorial Team met these students in the premises of the Chennai Higher Secondary School in Shenoy Nagar, Chennai. Not surprisingly, all the children considered Dr Abdul Kalam a role model. When asked about the current 'Demonetisation' initiative of the Government of India, all the children uniformly welcomed the initiative and deplored black money holders as enemies of the society. However, they felt that they were inconvenienced for want of smaller denominations, which they were willing to put up with for the sake of the nation.

Jesse Jackson, an American Civil Rights Activist and a former candidate for the US Democratic Party presidential nomination,

once said about himself, "I was born in a slum but the slum wasn't born in me". A similar spirit embodies these children who hail from challenging homes and backgrounds, and have soared to prove themselves and stand out like the stars that sparkle in the sky. As the line from a popular song goes, "Let these stars not get lost on this earth."

***Susan Koshy, Editor***

***Source: November 2016 issue of PreSense***

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## **Sivakasi – Pride of India – The Inspiring Story of Villagers Who Converted Challenges to Opportunities**

When we fire crackers during Diwali and other festival days or when we use a match box to light a candle or a stove or when we receive New Year diaries and calendars, we seldom recognise that these products were made in a small South Indian town Sivakasi, nearly 200 kilometres from the southern tip of our country. Presently more than 95% of fireworks and crackers and 90% of safety match boxes used by India are produced and supplied by Sivakasi.

### **Looking Back**

Nearly 90 years ago, the residents of this small village of 7 square kilometre area were entirely dependent on agriculture, without any rivers in the vicinity. When the monsoon failed, times were tough for them. A near zero literacy coupled with economic backwardness made their lives miserable, since they were not required anywhere.



Two great young visionaries from Sivakasi – Ayya Nadar and Shanmuga Nadar went to Calcutta and learnt the techniques of sulphur match. They started making the first sulphur match in 1923 at Sivakasi. The sulphur match would burn when struck against a rough surface. Then they started making the present form of 'safety match' in 1932. This is the humble beginning of the 'Journey of Sivakasi', which was described as 'Kutti Japan' (meaning Little Japan) by Pandit Jawaharlal Nehru in the later years. Sivakasi has now become the hub of the fireworks industry in the world, second only to Liuyang, the Chinese fireworks city.

When all the centres of India display 'No vacancy board', Sivakasi welcomes uneducated and unskilled labour and train them.

## Sivakasi – a Brief Profile

Presently, 956 factories operate with approved licences, of which nearly 550 factories have the licence of the Central Government to handle more than 2000 kilograms of chemicals at a given time. It is estimated that nearly Rs.4000 crore (Rs.40 billion) of fireworks/crackers are marketed through these licensed factories every year.

Nearly 25% of the fireworks factories also produce 'matches'. Since the process is less risky, the licensing formalities are easier. Nearly 5000 units produce 95% of the safety matches required for India. They also export nearly Rs.400 crore (Rs.4 billion) worth of match boxes.



Interestingly, both fireworks and match industries do not require much water and electricity. They are all done manually. These industries enjoy the required climatic condition too.

In addition to handling chemicals, several jobs like paper tube making (for crackers), printing of labels, packing materials, etc. provide large-scale employment opportunity to the local people. In order to print their own labels, the industrialists purchased printing machines and developed the capacity to print diaries, calendars and text books. Twenty years ago, Sivakasi was catering to nearly 80% of the country's printing job, Nowadays, due to technological growth, Sivakasi contributes to only 15 to 20% of the nation's printing job. Today, nearly 1500 printing machines provide direct employment to 20,000 persons.

60% of the production of fireworks and crackers are used during the *Deepawali* season and the rest are used across the country during other occasions like *Holi*, weddings, political meetings, etc. throughout the year. 4480 permanent shops and more than one lakh (100,000) temporary shops (for Diwali season) across India

have been licensed to sell fireworks and crackers. Fireworks/crackers are manufactured throughout the year.

Considering the production, ancillary jobs, transport, retailing, etc., Sivakasi provides employment opportunity to 1 million people directly and indirectly in the neighbourhood and 10 million people across India.

## **Challenges**

Though the Government has stipulated strict conditions for this hazardous industry, it is reported that many people due to their greed violate the norms in order to increase production. Many people produce fireworks and crackers in unlicensed premises, flouting safety methods. This leads to accidents. During the past 16 years since 2001, 350 deaths have been reported due to accidents, with an average of 20 deaths per annum. Considering the nature of this industry involving dangerous chemicals and engagement of nearly one million people, the death of 20 persons appears negligible, but it could have been totally avoided. However, a huge hype is made about the mishaps in this industry as if this is the only dangerous industry in the country.

Some Non-Government Organisations (NGOs) funded by some foreign countries create an impression among the people across the country that compel them to boycott fireworks and crackers due to deaths, child labour and environment pollution in this industry.

Our Editorial Team visited Sivakasi in the last week of March 2017 and interacted with various owners, labourers, Government officials and people. The Team also attended the awareness programme organised by the Government jointly with The Tamil Nadu Fireworks and Amorges Manufacturers' Association (TANFAMA), the apex body of licensed manufacturers. During this event, the District Collector confirmed that Sivakasi has 'zero' child labour.

Around 20 years ago when the industry was growing, children were used as labour in the industry. Everybody, including the

Government officials now confirm that there is no child labour in the district anymore. When we visited the factories, we too did not see any child labour. "Some forces are working against Sivakasi's growth. They silently indulge in destroying the native culture of this country and the festivals. They first created an impression in the world about child labour in Sivakasi. Even the international media like BBC visited Sivakasi and confirmed that there was no child labour", said Dr P Ganesan, Spokesperson of TANFAMA. Dr Ganesan himself is the owner of a leading brand 'Vinayaka Sony Fireworks' and has more than 900 sheds.

Although Chinese crackers are prohibited in India due to their usage of banned chemical potassium chlorate, they are still imported on a large scale by unscrupulous traders hiding them under imported toys with the connivance of some of the Government officials. These Chinese crackers flood the market during the *Diwali* season and are sold at very low price, even though they are banned. These crackers are not safe for use in hot countries like India. TANFAMA has been taking up this issue with successive Governments. During the past two years, these imports have reduced but they have still not been arrested completely.



Dr P Ganesan

Some of the NGOs have now started taking up the issue of noise pollution. The industry has regulated itself to produce crackers of sound volume less than 125dB. The sound level is managed by proper mixing of chemicals in a prescribed ratio.

After the *Diwali* festival of 2016, the Delhi High Court banned fire crackers in Delhi NCR alleging 'air pollution'. Later, a study by IIT Kanpur and images of NASA disclosed that the air pollution was not mainly due to the fire crackers, but it was due to mass burning of agricultural waste in the neighbouring region. This mass burning has affected Lahore too, a city which did not celebrate *Diwali*.

## Quality Control

After much research, some of the leading manufacturers have introduced 'fancy



**NewYork Times report and  
NASA image of smog recorded 5 days after Diwali**

fireworks' to provide a variety of safe experiences with fireworks for the consumers. A majority of the factories has its own R&D set up, laboratories, quality control mechanism, etc. They also test and verify the noise level of the finished products to ensure that they are well within the permitted level. Our team witnessed the testing of the quality at every stage right from raw materials to the finished product. This facility is available at major factories. The small licensed factories do not have this facility. Some of the major factories offer their testing service facilities to small licensed factories.

Some people produce fireworks and crackers illegally in unlicensed premises. They do not have the proper facility for checking the quality of raw materials and end products. The poor quality products are pushed into the market at low prices through second level traders. All the fatal accidents happen only because of these unlicensed productions. Due to corruption and political influences, they could



**A view of the sheds and  
neem trees**

Due to corruption and political influences, they could

not be controlled. The mistakes committed by these illegal producers tarnish the image of Sivakasi.

### **Social Responsibility**

"In 1971, Sivakasi had only 60 licensed factories with 1500 sheds. Today, we have 956 licensed factories with 40,000 sheds. In spite of all challenges, people like to enjoy *Diwali* and other festivals with fireworks, which is the livelihood for more than one million people. At the time of Independence, we had almost zero literacy in our area. As part of our social responsibility, major brands of Sivakasi run 7 Engineering Colleges, 4 Arts & Science Colleges, 2 Polytechnics and 15 Higher Secondary Schools where more than 20,000 students get the opportunity to study at low cost. We provide fee concession and scholarships to the children of our employees. Many of the new generation boys and girls study abroad too. Though we may run the risk of shortage of labour in future, we want our town to be positioned in the global map", said Dr Ganesan proudly.

Generally, all the industries in India offer a one-month bonus to their employees once a year. Here at Sivakasi, all the factories give bonus amounting to five and half months' salary twice a year, to coincide with *Diwali* and other local temple festival.

To provide a cool and healthy climate, all the factories plant neem trees in their premises. "We have around 5000 neem trees in our own Sony Group factories. Even small factories have around 200 neem trees in their premises", Dr Ganesan added.

### **Towards Sivakasi V2.0 – Vision 2025**

Since the industry involves the livelihood of one million people throughout the year, the Government has to ensure that all illegal and unlicensed producers, who cause harm to the reputation of the industry are dealt with severely. Dr Ganesan says that if GST is pegged at a minimum level of 12%, even the unlicensed producers have to be brought under the legal ambit.

Safety awareness programmes should be held regularly without waiting for accidents. Wherever possible, mechanisation can be introduced. With many technology institutions around, the new generation should strive to bring creativity and innovation with better safety measures.

The nation salutes the hardworking and vibrant people of Sivakasi, who were economically and educationally most backward in 1947 and have now converted their challenges into an opportunity to position themselves in the global map.

PreSense is confident of seeing Sivakasi V2.0 by 2025.

***By K. Srinivasan, Editor in Chief, PreSense***

***Source: March 2017 issue of PreSense***

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## MS, The Immaculate Voice



Madurai Shanmugavadivu Subbulakshmi or M.S.Subbulakshmi, the *Swara Ganga* or 'Voice of Ganga', (Ganga being India's most sacred and lifeline river), was a world-renowned vocalist of Carnatic songs and *bhajans* (devotional songs). Born on September 16, 1916 in the town of adurai in the Southern state of Tamil Nadu, M.S.Subbulakshmi was fondly known by several names, the most popular being MS. As a child, back home in Madurai town, she was Kunjamma or Kunju to her family. Her unique voice and rendering of music won her several accolades as 'Queen of Music', 'Nightingale of India', 'The Eighth Tone of Music' and 'Goddess of the Perfect Note'.

MS was recognised both at the national and international arenas. In 1998, she was the first musician ever to be awarded the *Bharat Ratna*, India's highest civilian honour. India had also released a stamp as a tribute to her in 2005, a year after her death.

Earlier in 1974, she was the first Indian musician to receive the Ramon Magsaysay Award, which was considered Asia's Nobel Prize. The citation to the Award read, "Exacting purists acknowledge Srimati M.S.Subbulakshmi as the leading exponent of classical and semi-classical songs in the Carnatic tradition of South India'. In 2013, Google, the American multinational technology company that specialises in internet-related services and products, paid tribute to her by dedicating a colourful doodle on her 97<sup>th</sup> birthday. The doodle illustrates a lady singer holding a *Tambora*, accompanied by other Indian instruments as a *Ghatam*, a *Tabla* and a *Mridangam*.



Stamp issued by the United Nations to mark MS' birth centenary

However, MS' fame surpasses these awards. Her voice and musical prowess reached and touched listeners across religious, regional and national borders. During the India Independence movement, MS participated in it by using her voice and her singing to make a

statement and express her solidarity. Although MS was born with a golden voice, she worked hard, both as a child from an impoverished background, and as a prodigy in music. She worked hard to cultivate her voice so that her God-given gift blossomed to its fullest. Incidentally, her vocal grooming was facilitated by her being born into a family of musicians. Hailing from the traditional community, her grandmother was a violinist and her mother, Shanmukhavadi Ammal was a veena player and a stage performer.



97th birthday - Google doodle

MS underwent rigorous voice and music training from an early age under established gurus as Semmangudi Srinivasa Iyer for Carnatic music, and Pandit Narayanrao Vyas for Hindustani music. She was also able to hone her knowledge of Carnatic music through her regular interactions with exponents as Karaikudi Sambasiva Iyer, Mazhavarayanendal Subbarama Bhagavathar and Ariyakudi Ramanuja Iyengar.

With such rigorous and refining training, MS did her first performance on stage and recording at a tender age of 11 years. There was no looking back for her thereafter. She moved to Madras (now Chennai) and did a few films, both singing and acting in them. But after a short uneventful stint with the films, MS concentrated on her singing talent.

MS went on to become a legendary vocalist in the classical Carnatic music, popularising the traditional Indian classical music among the people across India, who were enthralled by her voice and rendering. Touching the musical interest of many across the world, MS was regarded the cultural ambassador of India, bringing the richness in the nuances of Carnatic music to the world, through her international concerts. She continued to perform till 1997), when she lost her husband, Kalki Sadasivam. MS was 81 years of age then.

M.S.Subbulakshmi died in Chennai on December 11, 2004 when she was 88 years of age, and was laid to rest with full State honours. The then President of India, Dr APJ Abdul Kalam visited

Chennai to personally pay homage to her. In his condolence message, he said, "She was born in music and lived in music. In the end, she changed to become the music of God. The greatest good that she has done to the country is that through her music, she has made us all good human beings." Such was the reverence she enjoyed from the people, both Indians and foreigners alike, dignitaries and common citizens alike, music exponents and amateurs alike.

On her centenary birthday in 2016, the United Nations (UN) honoured MS posthumously with the release of a special stamp. This recognition by UN came as no surprise as she is fervently remembered for her stupendous vocal rendering of a song of peace and hope called the *Maitreem Bhajatha* at the UN General Assembly in 1966, on the invitation of the then Secretary General, U Thant. The lyrics were composed by Shri Kanchi Sankarachaya himself.

M.S.Subbulakshmi was a rare gem, a once-in-a-lifetime seen heavenly star that studded the world with her devout and perfect rendering of Sanskrit hymns. MS, in her humility, attributed it to the Divine, saying, "Indian music is oriented solely to the end of divine communion. If I have done something in this respect, it is entirely due to the grace of the Almighty who has chosen my humble self as a tool."

### **Snippets:**

- M.S.Subbulakshmi was known for her Kanjeevaram sarees which she wore in the traditional Indian Brahmin style. A particular shade of blue called the '*mayil kazhuthu kalar*' became popularly known as 'MS blue'. It is reported that in commemoration of her birth centenary year, handloom silk saree cooperatives re-introduced the 'MS blue' sarees.
- The signature 'MS look' was her *blue jager* diamond nose studs, a necklace of emeralds, her hair put up in a bun and adorned with fresh jasmine flowers, and red vermilion and ash marks on her forehead.

- MS, during her childhood, practised hard to train her voice. Her typical day would begin early at 6.00am, and after a South Indian breakfast of *idli* or *dosa* with filtered coffee, she would practise her singing, pitching her voice in tune with the *Tambora*, which is a long-necked Indian instrument used in recitals to provide a harmonic drone. Even after her practice session, she would wander around the house, singing, and hours later, she would still be in tune with the *Tambora*, she had pitched her voice in tune with.

***By Susan Koshy, Editor***

***Source: Sep 2017 issue of PreSense***

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## The Nobel Prize, The Most Coveted Prize on Earth, Awarded for "The Greatest Benefit to Mankind"

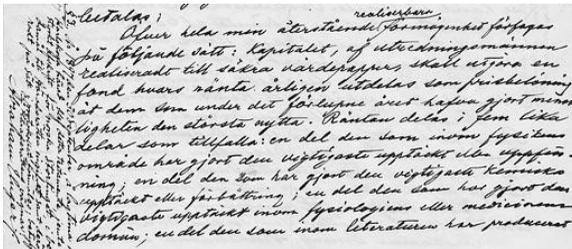
On 27<sup>th</sup> November 1895, a year before his death, Alfred Nobel signed the famous will which would implement some of the goals to which he had devoted much of his life. Nobel stipulated in his will that most of his estate of more than SEK (Swedish Krona) 31 million (today approximately SEK 1,702 million) should be converted into a fund and invested in "safe securities". The income from the investments was to be "distributed annually in the form of prizes to those who, during the preceding year, have conferred the greatest benefit to mankind." This prize is the Nobel Prize.

The Nobel Prize was first awarded in 1901 on the fifth death anniversary of Alfred Nobel. The award is since being given on an annual basis under a number of categories, in recognition of advances in the fields of physics, chemistry, physiology or medicine, literature and peace. There are five Nobel Committees responsible for the selection of the awardees for the Nobel Prize, one for each Nobel Prize. Four of these Committees for physics, chemistry, physiology or medicine and literature are in Sweden, while the fifth Nobel Committee for the Nobel Peace Prize is in Norway.



**Alfred Nobel (1833 - 1896)**

Physics was the category for the prize, which Alfred Nobel mentioned first in his will. At the end of the nineteenth century, many people considered physics as the foremost of the sciences, and perhaps Nobel saw it this way as well. His



**Alfred Nobel's will**

own research was also closely tied to physics.

At the Awards' ceremony, each recipient or laureate, receives a gold medal, a diploma and a sum of money, which is decided by the Nobel Foundation. As of now, each prize is worth US \$1.2 million. The Nobel Laureates take centre-stage in Stockholm on 10th December every year, when they receive the Nobel Medal, the Nobel Diploma and a document confirming the Nobel Prize amount, from King Carl XVI Gustaf of Sweden. In Oslo, the Nobel Peace Prize Laureates receive their Nobel Peace Prize from the Chairman of the Norwegian Nobel Committee in the presence of King Harald V of Norway. An important part of the ceremony is the presentation of lectures by the Nobel Laureates. In Stockholm, the lectures are presented days before the Nobel Prize Award Ceremony. In Oslo, the Nobel Laureates deliver their lectures during the Nobel Peace Prize Award Ceremony.

### **The Selection Process**

Nomination forms are sent by the Nobel Committee to about 3,000 individuals, usually in the month of September of the year before the prizes are awarded. These individuals are generally all the living Nobel laureates and prominent academics working in the relevant area, globally. The deadline for the return of the nomination forms is 31<sup>st</sup> January of the year of the award. No person can nominate himself for the Nobel Prize.



**Nobel Medal**

The Nobel Committee nominates about 300 potential laureates from these forms and any additional names. The nominees are not publicly named, nor are they told that they are being considered for the prize. All the nomination records for a prize are sealed for 50 years from the year of the awarding of the prize. The nominee, if his name is leaked, will be dropped from being considered for the prize.

The Nobel Committee then prepares a report reflecting the advice of experts in the relevant fields. This, along with the list of the preliminary candidates, is submitted to the prize-awarding institutions. The institutions meet to choose the laureate or laureates in each field by a majority vote. Their decision, which cannot be appealed, is announced immediately after the vote.

A maximum of three laureates and two different works may be selected per award. Except for the Peace Prize, which can be awarded to institutions, the awards can only be given to individuals. The Nobel prizes are not awarded posthumously.

The 2017 Nobel Prizes were awarded in recognition of the following:

<b>Category</b>	<b>In Recognition of</b>
Physics	For detecting gravitational waves
Chemistry	For developing cryo-microscopy
Physiology/Medicine	For discovering the mechanism of human circadian rhythm
Literature	For writing novels of great emotional force
Economics	For contributions in understanding behavioural economics
Peace	For drawing attention to the catastrophic consequences of use of nuclear weapons

So far 923 laureates have been awarded the Nobel Prize since 1901. Among them, only 12 are Indians, even though India has a population of 132 crore (1.32 billion), out of a global population of 760 crore (7.60 billion).

It is hoped that the new education policy of the Government of India will help in grooming potential Nobel Prize Laureates in the near future.

**By Dr R Jagannathan, Editorial Advisor**  
**Source: November 2017 issue of PreSense**

## **Divya – The Inspiring Story of Destiny and Perseverance**

*“When you want something, all the universe conspires to help you to achieve it”. – Paulo Coelho, author*



This story of this unsung hero is one that is close to the hearts of those associated with PreSense as well as the team in Action 2020, its partners in voluntary work. This is the story of young Divya Hemalatha Balakumaran.

Divya comes from a humble family background. She lost both her parents at a very tender age of 4 years. Her grandparents took Divya under their care and nurtured her growth with their meagare

pension. Divya excelled in studies winning a scholarship that took care of her studies.

However, her extended family was a constant source of irritation leading to frequent quarrels and disputes which impacted her emotionally. So, her grandparents moved to another village to avoid the challenges posed by the quarrelsome family.

Divya continued to excel in the new school and won scholarships to pursue her final two years in school, even though she lost her grandmother in the course of her schooling. She remembers with gratitude the support her young friends extended to get her hand-me-down text books and other aids for her schooling.

Divya went on to pursue the engineering course for graduation, after securing the top score in the district. Not able to afford the fees for the course, Divya had approached the banks for educational loan. The banks stipulated stiff conditions such as disbursing the loan as reimbursement and not as advance credit. It was during this challenging period that Action 2020 came to her rescue, adopting her as their ward. Incidentally, the Education Loan Task Force (ELTF – one of the initiatives of PreSense) was formed as a fallout of the ordeals experienced by Divya while seeking education loan from a bank. The efforts of well-wishers from Action2020 Team and Team Everest helped overcome the hurdles and secured the loan for Divya so that she could pursue her engineering course uninterrupted. ELTF nominated Lakshmi Radhakrishnan, an educationist as mentor and counsellor for Divya during her days as student.

During her college days, another tragedy struck Divya when she lost her grandfather who was her only family supporter. Action 2020 team continued to stand by her as her foster family. Divya soon took up a part-time job even while studying, in order to meet her basic daily expenses for sustenance.

She completed her engineering course with a university rank and was employed by Tata Consultancy Services (TCS), an Information Technology Consulting Company. Combating several life challenges on a relay basis left her emotionally fatigued by then,

but with the support of her colleagues and friends, she overcame her emotional turmoil. Divya is now deputed by her company to work in Amsterdam, Netherlands in Europe. It is a matter of pride to mention that her team won an award for excellence from her company recently. Divya had earlier won several awards from TCS for excellence in her individual capacity.

Divya had nurtured a dream to explore the world and interact with different types of people. She is grateful that her current job gives her that opportunity. She is also grateful that her other dream of having a circle of family is accomplished in her circle of innumerable friends and people who care for her.

Today, she endeavours to do her bit to give back to the society. She says her life principle is simple and uncomplicated – to continue to evolve as a good person, live happily, and spread that happiness and love to others.

She has repaid the entire Education Loan availed from the Bank ahead of time and has become a role model for all Education Loan borrowers.

Her advice to the emerging generation of youngsters is:

*“Accept your life as it is and do not regret over it. Forgive yourself and believe in yourself. You are very strong irrespective of what you are, where you are and in whatever circumstances you are in life. Do not let anything or anyone make you believe otherwise. The past is a bygone. Live in the present moment, for the present is more important as it is there before you to live it out, and these little moments will be the ones you will cherish later. Love everyone around you. Life is short, and people are valuable. Care for them.”*

**By Susan Koshy, Editor-in-Chief**  
**Source : March 2018 issue of PreSense**

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## Earth's Precious Environment – Threats and Mitigation



*(Since our June 2018 issue was dedicated to the Sansad Ratna Awards, this story is published in the July 2018 edition, in view of the importance of its theme – Editor)*

Humans and all living beings instinctively want to live as long as possible and as comfortably as possible. For this, the nascent environment of Earth which creates and sustains life on this planet, must be maintained without degradation. The present day global warming, climatic changes, and trillions of tonnes of plastic wastes floating in the oceans are serious signals alerting mankind to change their life styles, and the Governments to regulate the environmental balance scientifically.

### **Environmental Threats**

**Climatic changes** and the resultant extreme weather conditions are cited as the top concerns. Adverse climatic changes are increasing the frequency and intensity of natural calamities like droughts, wildfires, heat waves, rainstorms, tropical cyclones, and hurricanes, explains the Scientific American, a popular American

science magazine. This can lead to disrupted food production, and famines. The carbon dioxide level in the atmosphere has increased from 280 parts per million to 400 parts per million in the last 150 years, due to excessive burning of fossil fuels, intensive agriculture, and other human activities. This has also resulted in an increase in the global temperature by one degree Celsius when compared to that at the pre-industrial level. This rise in temperature has also raised sea levels upto 4 feet since 2010, and caused Arctic ice caps to shrink, says NASA.

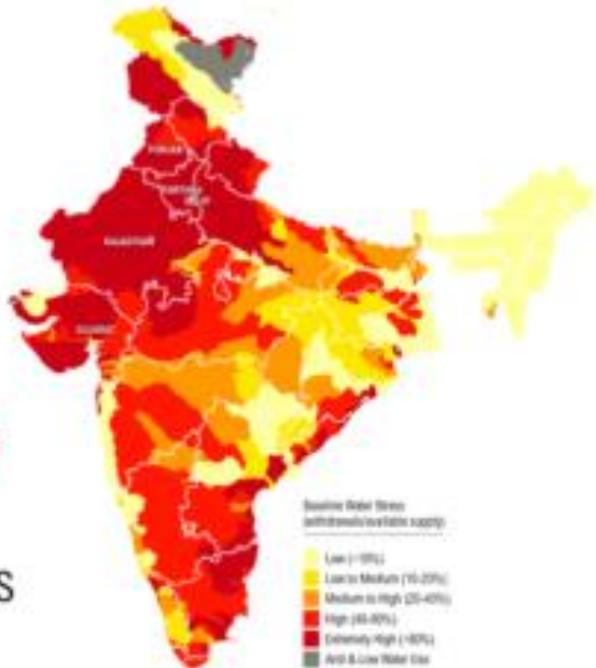
Tropospheric ozone depletion, caused by CFCs (chlorofluorocarbons) used in aerosol sprays, packing materials and refrigerants, etc, increases the levels of emission of greenhouse gases, traps heat and results in global warming. NASA has recorded that temperatures have risen by 1.7°F since 1880, with a corresponding decrease by 13% per decade in Arctic ice cover, and about a 7-inch increase in sea levels over the last 100 years.

**Increase in pollution levels** has caused loss in biodiversity due to extinction of species, and this is considered a threat not just for the environment but also for the global economy. An alarming rate of extinction of species is happening worldwide. The human induced rate of death of species is estimated to range from as slow a rate as 1,000 times, to as rapid a rate as 10,000 times the normal rate, reports the World Wildlife Fund (WWF). Greater preservation tactics and strategies are needed with laws put into place, to protect species. Intensive agriculture, unsustainable fishing, wildlife poaching, habitat degradation and destruction, acid rain, and climate change are threatening thousands of species.

**Air, water, and land pollution** has been named in the Global Risks Report 2018 as one of the prominent threats to environment. Ninety-two percent of the world population lives in areas with polluted air which causes 11.6% of global recorded deaths, points out World Health Organisation (WHO). The quality of atmospheric air is particularly bad in cities, and this situation is going to worsen as more people move to cities. Plastic pollution is so high that micro-plastic is found in 83% of tap-water in the world. Chemical

pollution from agriculture and industries is another problem where plants and animals are killed or affected by toxins.

**54%**  
of India  
Faces  
**High to  
Extremely  
High**  
Water Stress



[www.indiawaterportal.in](http://www.indiawaterportal.in)

WORLD RESOURCES INSTITUTE

**Water crisis:** All the continents are affected by water shortage. We must remember that although 70% of Earth's surface is covered by water, only 2.5% is fresh water that people, plants and animals can use to survive. Water shortage does occur due to physical lack of water, but in most cases, it is due to careless overuse.

Central Asia, the Arab world, parts of China, India, and the western parts of the United States suffer from water shortage. This can have devastating social and economic consequences. This can also lead to conflicts among people. In most places, the problem is

more that of mismanagement, than a real lack of water. This therefore, is a problem that can be scientifically resolved.

**Contamination of fresh water** used for household needs, as well as pollution of rivers, lakes, and reservoirs, also rank high on the list of environmental concerns. There are scientifically set standards to ensure the quality of drinking water to protect public health, by limiting the levels of various contaminants like micro-organisms, disinfectants and their by-products, and inorganic compounds. The respective governments must take steps to implement them in the right spirit.

**A growing world population** is an obvious threat to the environment. Consumption by an increasing population adversely affects the supply-demand balance of natural resources. It is observed that the annual requirement of renewable goods for humans, needs one and half years to produce!

**Deforestation:** Global Risks Report 2018 notes that in 2016, 29.7 million hectares of forests were cut down. The remaining forests which cover 30% of the land are not protected either. This leads to loss not just of biomass and plant species, but also of the habitats of animals. Deforestation is the driver of climate change as trees that normally absorb carbon dioxide and balance the optimum proportion of gases in the atmosphere, are no longer there. When a region loses its biodiversity, it becomes more vulnerable to other environmental elements. Deforestation also disrupts the natural balance of ecological systems in the area where the trees have been harvested. Food production can be impacted due to drought, and erosion is directly linked to the loss of forests.

Rain forests cover only 2% of land but support 50% of its species. Yet, in tropical forests, the area of rainforests cleared is the maximum, and most of it is export driven. Every year, an area of rainforest the size of Chennai city is cut down and destroyed.

**Soil degradation** is caused by soil erosion, soil compaction (moisture deprivation) and application of agricultural chemicals. Erosion of soil can happen due to wind or water, when the

protective cover of forests and other vegetation is removed, and the topsoil is lost. Soil compaction occurs due to over-grazing, and heavy tillage, which is a characteristic part of industrial agriculture, explains Food and Agriculture Organisation (FAO). As a consequence, the soil loses its fertility and porosity, when the topsoil, rich in minerals that are necessary to nourish micro flora, plants, trees, and crops for their growth and survival, is lost. Soils become compacted, affecting the hydrology of the area. American Scientist, an American science and technology magazine, points out that it takes 1000 years to form 3 centimetres of topsoil. And we are recklessly ruining it!

**Land degradation** affects 1.5 billion people around the world, according to the United Nations (UN). It is brought about by excessive farming, grazing, clearing of forests, and logging. Extreme degradation leads to desertification due to which 12 million hectares become unproductive annually.

**Land misuse:** Changes that result in replacing natural vegetation with urban sprawl and farms lead to habitat destruction, fragmentation, lack of free space for people and more carbon emissions.

**Endangerment of species,** animal and plant extinction, coral bleaching, introduction of invasive species and poaching all result in loss of natural animal habitats. The world is currently experiencing its sixth extinction event driven by human activities, reports the World Wildlife Fund (WWF). It is estimated to be 1000-10,000 times faster than natural extinction rates, and each year 200-2000 species go extinct in various parts of the world. Mother Nature Network (MNN, world's leading source of environmental news) reports that 38% of all land animals and 81% of fresh water vertebrates went extinct between 1970 to 2012, due to habitat loss and land degradation.

**Fishing and its effect on marine ecosystems:** Many forms of fishing like blast fishing, cyanide fishing, bottom trawling, whaling, and over-fishing have had an adverse effect on aquatic life.

**Other pollution issues:** Light pollution and noise pollution can affect the quality of life, health and behaviour. Light pollution upsets the natural biological clocks and also affects migratory birds, insects, and even aquatic life.

**Ecosystem destruction:** Shrinking habitats such as aquaculture, estuaries, shellfish protection, landscaping, and wetlands are responsible for species loss, and can be protected through ecological restoration. Although global initiatives like the Convention on Biological Diversity (CBD), signed by nearly 200 countries are aimed at protecting the ecosystems, a scientific review in 2016 found that nearly half of the habitats is still severely threatened.

**Toxins:** Toxic chemicals are used in industry, agriculture, laboratories, hospitals, waste management systems and even residential homes, and include chlorofluorocarbons, heavy metals, pesticides, herbicides, toxic waste, PCB (polychlorinated biphenyl), DDT (Dichloro Diphenyl Trichloroethane), bio-accumulation, endocrine disruptors, asbestos. These can also arise from poorly implemented safety measures and hazardous waste management, affecting the quality of the atmosphere and the environment.

### **Turning Concern into Remedial Action**

The present and urgent need is for the media, the public, the government and the scientific communities to focus the concerns that Earth is currently facing. Many of the concerns are interconnected, following the web of life. As increasing evidence shows the devastating effect humans have on the environment, more people must take steps to protect the environment and educate others. The State Governments must also proactively implement immediate measures to save Earth's environment, for example, impressing upon the use of renewable energy for home and business, effecting energy efficiency, and avoiding fossil fuel use, to mitigate climate change and protect the environment.

**Carbon footprint:** A carbon footprint is the amount of carbon emission each person creates out of any of his activity. Individuals can reduce this footprint and their effect on the environment,

through use of renewable energy sources (solar power, geothermal heat pumps), recycling, and sustainable living.

	<u>Annual CO<sub>2</sub> Footprint</u>
1. A car giving 15 km/lit, covering a distance of 20 km daily:	4.3 tonnes
2. Consuming 30 grams of meat every day	0.8 tonnes
3. Resources needed for a new pair of pants + a new shirt	1.0 tonne
4. Resources needed to make one dining table with 6 chairs	2.0 tonnes
5. Flight from Chennai to Delhi	2.2 tonnes
6. Every one load of clothes in a dryer	0.1 tonne

Environmental protection and preservation of the planet is the responsibility of every individual and community on Earth. Identify a concern of interest from the above list to take action on a personal and household level, society level and Governmental level, to have an impact on the planet and to educate every member in the community on environmental issues. Every one of us have a duty to leave a liveable Earth, to our next generation.

***By Dr R Jagannathan, Editorial Advisor***

***Source: July 2018 issue of PreSense***

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## **Ode to Mother Nature, Who Broke Down in Tears**

*"Man is the most insane species. He worships an invisible God and slaughters a visible Nature without realising that this Nature he slaughters is the invisible God he worships".*

*– Hubert Reeves*

Mother Nature broke down recently. And when she did, she kept weeping till her tears ran dry, out of fatigue rather than consolation. This is the image that comes to the mind, as the southern coastal state of Kerala, recently experienced torrential rains that filled the dams to near-bursting seams, causing major landslides, collapse of residential mansions and shelters, caving-in of roads, tumbling down of bridges, cracks in constructions, and gushing floods that took with them lives and livestock. People were trapped in flooded houses, possessions were ruined in the muddy waters, and nights were pitch dark without power, food and water. This catastrophe seems to be a forewarning of what is waiting to happen, anywhere and everywhere in the world. It was a sad state as people from all over, reached out to help the hapless victims of Nature's fury. Was it her fury, or was it her grief? Was it not the fallout of the treatment we meted out to her over the years and decades gone by?

Mother Nature speaks:

*"I came into being, beautiful and generous, bountiful and precious, Created by God to co-exist with man, and be respected as Mother, by his clan. I gave freely, I gave with love. I gave all I had, ever ready to share. Man took freely, as a child would from Mother. But he seemed to forget to care.*

*He began to exploit, to ill-treat. He took more, creating in me sore dents. There was nothing to stop him, as he realised his power over my elements.*

*The elements of the mountains, forests and trees,  
Creatures and animals, land, oceans and seas.*

*As he grew in population and in greed, he reduced me in my numbers,*

*He continued to ignore my quiet tears as he stripped my forests for timbers.*

*He molested me for stone and coal, not knowing when to stop.*

*He ignored signs of my breakdown. I could barely hold my teardrop.*

*Today, I am almost naked, barren, deprived, shamed, with punctures.*

*The beauty I once adorned, is today replaced by ugly structures.*

*Life is disappearing in the seas, the forests, the sky; there is barely any,*

*As man choked the creatures with plastics and chemicals or killed for money.*

*The pain of this continuous rape tears my heart. I am breaking down,*

*My tears cannot be stopped, even if they make you drown.*

*What you have done cannot be undone. But please do it no further.*

*Stop this treachery to me, I plead, before your actions turn to my murder.*

*For then I will curl, to give up my life in slow death mode.*

*That's when you too, Man! Your life with the whole earth will also explode.*

*So, stop while you can, if you can, cease your crime! In repentance mourn!*

*Save me your Mother Nature, for only then will you be able to save your own!"*

***By Susan Koshy, Editor-in-Chief***

***Source : August 2018 issue of PreSense***

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## Plastic Pollution – A Threat to Life on This Planet



Plastic pollution is the excessive accumulation of plastic products in the environment, adversely affecting wildlife, wildlife habitat and humans. Since plastics are inexpensive and durable, its production by humans is high. The chemical structure of most plastics renders them resistant to many natural processes of degradation, and as a result they are slow to degrade. These two factors together have led to a high accumulation of non-biodegradable plastic in the environment.

The annual global food production is around 3 billion tonnes, out of which about 1 billion tonnes is wasted and the rest is either consumed or bio-degraded in a few years' time. But as far as plastics are concerned, the world produces about 400 million tonnes of plastics every year. Between 1950 and 2018, an estimated 4.5 billion tonnes of plastic waste have been dumped on land and water bodies, including oceans. During the same period of 68 years, the world has burnt around 500 million tonnes of plastic, which produced toxic by-products, including many carcinogenic gases and other compounds, making this Earth a polluted and hazardous place. Plastics therefore endanger land, air and water and pose a serious threat to life itself.

Some researchers suggest that by 2050 there could be more plastic by weight than fish, in the oceans. Plastics can harm living organisms, particularly marine animals, either by mechanical effects such as entanglement in plastic objects, or problems related to ingestion of plastic waste, or through exposure to chemicals in plastics that interfere with their physiology. Humans are also affected by plastic pollution, through disruption of various hormonal mechanisms.

Plastic pollution has the potential to poison animals, which can then adversely affect human food supplies. The book, '*Introduction to Marine Biology*' by Richard Turner et al, describes plastic pollution as being highly detrimental to large marine mammals, posing as the "single greatest threat" to them. Some marine species, such as sea turtles, were found to contain large quantities of plastic in their stomachs. When this occurs, the animal typically starves, because the plastic blocks the animal's digestive tract. Marine mammals sometimes become entangled in plastic products such as nets, which can harm or kill them.

## **Types of Plastic Debris**

There are three major forms of plastic that contribute to plastic pollution: microplastics, mega-plastics and macro-plastics. Mega and micro plastics have accumulated in highest densities in the Northern Hemisphere, and are concentrated around urban centres and water fronts. They can be found off the coast of some islands because of currents carrying the debris. Both mega-plastics and macro-plastics are used in packaging, footwear, and other domestic items that have been washed off ships or discarded in landfills. Fishing-related items are more likely to be found around remote islands. These may also be referred to as micro-, meso-, and macro debris.

### **Micro-debris**

Micro-debris is plastic between 2 mm and 5 mm (millimetre) in size. Plastic debris that starts off as meso- or macro-debris can become micro-debris through degradation and collisions that break it down into smaller pieces. Micro-debris is more commonly

referred to as nurdles. Nurdles are recycled to make new plastic items, but they easily end up released into the environment during production because of their small size. They often end up in ocean waters through rivers and streams. Micro-debris that come from cleaning and cosmetic products are also referred to as scrubbers. Because micro-debris and scrubbers are so small in size, filter-feeding organisms often consume them.

### **Macro-debris**

Plastic debris is categorised as macro-debris when it is larger than 20 mm. These include items such as plastic grocery bags. Macro-debris is often found in ocean waters, and can have a serious impact on native organisms. Fishing nets have been the prime pollutants. Even after they have been abandoned, they continue to trap marine organisms and other plastic debris. Eventually, these abandoned nets become too difficult to remove from the water because they become too heavy, having increased in weight upto 6 tonnes.

### **Decomposition of Plastic**

Many kinds of plastics exist, depending on their precursors and the method for their polymerisation (a chemical reaction). Depending on their chemical composition, plastics and resins have varying properties related to contaminant absorption and adsorption. Polymer degradation takes much longer as a result of saline environments and the cooling effect of the sea. It is estimated that a foam plastic cup will take 50 years, a plastic beverage holder will take 400 years, a disposable nappy will take 450 years, and a fishing line will take 600 years to degrade.

### **Land**

Chlorinated plastic can release harmful chemicals into the surrounding soil, and then seep into groundwater or other surrounding water sources and also the ecosystem. This can cause serious harm to the species that drink the water. Landfill areas contain many different types of plastics. In these landfills, there are many micro-organisms which speed up the bio-degradation of

plastics. These micro-organisms include such bacteria as pseudomonas, nylon-eating bacteria, and flavobacteria. The breakdown of biodegradable plastics releases methane, a very powerful greenhouse gas that contributes significantly to global warming.

## **Oceans**

In 2012, it was estimated that there were approximately 165 million tonnes of plastic pollution in the world's oceans. One type of plastic that is of concern in terms of ocean plastic pollution is nurdles. Nurdles are manufactured plastic pellets (a type of microplastic) used in the creation of plastic products and are often shipped as cargo. Many billions of nurdles are spilled into the oceans each year, and it has been estimated that globally, around 10% of beach litter consists of nurdles.

The toxins that are components of plastic include di-ethylhexyl phthalate, which is a toxic carcinogen, as well as lead, cadmium, and mercury. Plankton, fish, and ultimately the human race, through the food chain, ingest these highly toxic carcinogens and chemicals. Consuming the fish that contain these toxins can cause cancer, immune disorders, and birth defects.

## **Tap Water**

A 2017 study found that 83% of tap water samples taken around the world contained plastic pollutants. This means that people may be ingesting between 3,000 and 4,000 microparticles of plastic from tap water per year.

## **Biodegradable and Degradable Plastics**

The use of bio-degradable plastics has many advantages and disadvantages. Biodegradables are biopolymers that degrade in industrial composters. Biodegradables do not degrade as efficiently in domestic composters, and during this slower process, methane gas may be emitted.

There are also other types of degradable materials that are not considered to be biopolymers, because they are oil-based, similar to other conventional plastics. These plastics are made more degradable through the use of different additives, which help them degrade when exposed to UV rays or other physical stressors. Although biodegradable and degradable plastics have helped reduce plastic pollution, there are some drawbacks. One issue concerning both types of plastics is that they do not break down very efficiently in the natural environment. Therefore, degradable plastics that are oil-based may break down into smaller fractions, after which point, they do not degrade further.

### **Creating Awareness**

Every year, June 5th is observed as World Environment Day to raise awareness and increase government action on the pressing issue. This year, India is the host to the World Environment Day and the theme is 'Beat Plastic Pollution' with focus on single-use or disposable plastics. The Minister of Environment, Forest and Climate Change of India, invited people to take care of their Green Social Responsibility and urged them to take up Green Good Deeds in everyday life.

The billions of items of plastic wastes choking our oceans, lakes, and rivers, and piling up on land is a real and growing threat to human health. They are absolute threats to plants and wildlife too. Plastic pollution can make human beings an endangered species in our own planet.

***by Dr R Jagannathan, Editorial Advisor***  
***Source : August 2018 issue of PreSense***

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## **Floyd Schmoe, The Good Samaritan for War-Stricken Hiroshima**



August 6<sup>th</sup> and 9<sup>th</sup> mark the days of mournful and solemn remembrance for the world and especially the Japanese people who lost millions of their kin to the impact and effects of the atomic bombing in the cities of Hiroshima and Nagasaki during the Second World War (WWII) in 1945. The two cities were devastated and

reduced to ruins and ash. The people had to rebuild their lives from scratch.

Floyd Schmoe, an American by birth and residence, is a name revered and respected by the Japanese. This is because of the active role he played in their lives post-WWII. Coming from a family with strong moral and religious values, Schmoe professed non-violence, and was a naturalist and a humanitarian. Right from a young age, he passionately loved and cared for Mother Nature, and took care of war-stricken and calamity-affected people.

When Schmoe came to know of the devastation of the two cities in Japan after the atomic bombings, he was shocked. He felt "it was an atrocity, even in warfare", and that merely apologising was not good enough. He said, "If I went to Japan and said, 'I'm sorry', they would have kicked me out. But if I went with my own money, and with my own hands built a house for a survivor, they would understand".

Thus, Schmoe visited Hiroshima when he got the opportunity in 1948. Viewing the damages, he set up a volunteer home-building work camp, naming the project "Houses for Hiroshima". Returning home to USA, he raised funds from his friends, and the following year, he set sail for Japan, equipped with building material for the homes to be built, and food and medical supplies for the Hiroshima hospital, and with three other volunteer Americans. In Hiroshima, he, along with many other Japanese volunteers, went on to build homes for the homeless in the ruined city. Schmoe's "Houses for Hiroshima" project helped build 20 houses in Hiroshima and 12 houses in Nagasaki. These houses were multi-units and community houses, sheltering nearly 100 families.

In 1983, the city of Hiroshima recognised Floyd Schmoe as an honorary citizen of Hiroshima. He had also received Japan's highest civilian honour.

This spectacular contribution by Schmoe to Hiroshima is not a one-off gesture to humanity. His entire life was dedicated to preserving nature, and helping humanity, especially those afflicted by war and

calamity. Floyd Schmoe died at a ripe age of 105 years in his home in America.

***by Susan Koshy, Editor in Chief***  
***Source : August 2018 issue of PreSense***

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## **Bank Consolidation: Is Big Beautiful?**

Small is beautiful, so goes a saying in English. But in banking, it seems small is not only not beautiful but is also not viable. 'The bigger, the more beautiful and more manageable' seems to be the buzzword in present day banking. Yes, we are talking about the recent Government announcement on bank mergers.

The consolidation of public sector banks (PSBs) to just around five or six big banks, has been on the cards for almost three decades now. It is a favourite topic of condemnation for bank employees and their unions, and opposition to it has always appeared in their list of demands over the years. The proposal for bank consolidation was first mooted by a former Governor of Reserve Bank of India (RBI), M. Narasimham, (much after he retired as RBI Governor in 1977), reportedly in a seminar paper in 1991, when he recommended a three-tier banking structure for India with i) three major banks with large international presence, ii) around 10 national banks and iii) a large number of regional and local banks.

Perhaps as the first step in the implementation of the larger mission, the Government of India announced that three public sector banks, viz. Bank of Baroda, Dena Bank and Vijaya Bank will be merged. At the present stage, when Indian banking system, especially with its huge public sector banking, is credited to be quite strong, considering that it was not adversely impacted by the global economic crisis of 2008, it is vehemently being debated whether such a drastic step is necessary and whether bigger banks are better. The Indian market itself has seen several smaller private banks of higher repute and valuation (in the stock market, in terms of managerial efficiency, in the scale of performing assets, and loan assessment methodologies) performing better than their larger peers.

Although the objective has been towards building larger scales, ie. of globally large scale, and strengthening the risk-taking ability, the trigger for the merger now, is the pile of bad assets under which some of the state-owned banks are likely to be buried. It is not known whether this first step (the "Big Bank Theory", as one newspaper put it) will ultimately end with just five or six big banks

or not, triggering a dilemma in the common man or '*aam janata*', not knowing how to react to this largely economic initiative, vehement opposition by bank employees, and apprehension by analysts as a solution for reducing the bad loans.

Bank of Baroda, whose deposits are more than twice as large as the other two merging banks combined, can now stake a claim to being the country's third largest bank. Whether this size will yield the desired result (whatever it is!) and whether this is a good strategy, is a moot point. The combined entity will have Non-Performing Assets (NPAs) of about 13%, worse than Bank of Baroda's 12.4%.

The prime strength of PSBs lies in their large branch network, especially outside metropolitan areas. According to officially reported statistics, about 62% of India's savings' deposits are in the smaller cities, towns and villages, and 78% of household deposits of the nation are with PSBs. If the combined new bank (by whatever name it will be called) is to ensure growth, it should do it through securitisation ie. in a process transforming bad loans into good ones by realising from their illiquid securities, making them 'liquid'. Most of the smaller banks, regional and local banks by virtue of their professional relationship with their borrowers, have acquired expertise in loan assessment and asset recovery. Hence, it is criticised that the merger of banks might not yield the results anticipated in this area. Even in the case of recovery of large NPAs ie. the bad loans of huge corporate houses, it is not certain if 'the bigger the bank, the better' policy could be successful. Recent experience has shown that the merger of the associate banks with State Bank of India (SBI) has not proved beneficial.

Following the merger, gross NPAs of SBI have jumped from 7.23% of its advances, to 9.04%. The merged entity reported a loss of Rs.3,300 crore (Rs 33 billion) last March, as against profits reported earlier by SBI. But this is a short-term assessment.

Banking in India has already seen many mergers, like Bank of Madura with ICICI Bank, Bank of Thanjavur with Indian Bank, Bank of Tamil Nadu and later Bharat Overseas Bank with Indian Overseas Bank and even the public sector New Bank of India with another bigger PSB, Punjab National Bank. In all these cases too, there was criticism and opposition initially. But all the banks were able to stabilise comfortably later on.



Therefore, this move of merger is perhaps stated to be not so much for better efficiency but one for survival of the weaker banks, and to deal with their huge NPA problem. This merger has created a risk for the government as loss-making smaller banks merge to form a large loss-making entity. Quite interestingly, one analyst called the merger move as 'putting lipstick on a pig'!

Looking at the issue, purely from a public perspective, the financial stability of PSBs is not threatened as depositors do not run the risk of losing their money (as long as these Banks remain PSBs with the majority shareholding with the Government of India). The justification for the merger can be for managerial efficiency and cost cutting. Soon after this official announcement of Bank of Baroda, Vijaya Bank and Dena Bank getting merged, there have been reports that Punjab National Bank, Andhra Bank and Oriental Bank of Commerce are next in the list of mergers.

Antagonists argue that the need of the hour is financial inclusion, especially in view of the government's initiatives of direct credit of various incentives, subsidies and grants to the public, and less-cash economy, and not just mergers. However, mergers will certainly bring about cost-cutting, reduction of fixed expenditure from closure of branches (ie. where branches of the merged banks are located in the same commercial complexes or in very close proximity with one another, as continuance of banks in the same name in such close proximity will not be desirable). It is hoped that the merger will yield benefits in the long run, since these were PSBs and will continue to be.

***by V Rajendran, Editor***  
***Source: Sep 2018 issue of PreSense***

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## **Our Soldiers, Our Guardians A Tribute on Armed Forces Flag Day (December 7<sup>th</sup>)**



*"Either I will come back after hoisting the tricolour, or I will come back wrapped in it. But I will come back for sure" – Capt Vikram Batra PVC (Param Veer Chakra)*

India is a large expanse of land spread across an area of 3,287,263 square kilometres (km). Our country runs across 3,214 km from north to south and 2,933 km from east to west. India's land borders run along a total length of 15,200 km and its coastline is 7,517 km long. India's borders with some of its neighbouring countries are especially sensitive, and uncompromising vigilance along the borders is necessary. In spite of such vigilance, there are sporadic attacks from across the borders. The physical features and the climatic conditions along the land borders are also challenging. It is our Indian Armed Forces who protect the borders and the country against enemies both from across the border, and from the terrorists' front. They guard our borders, our land, our seas and our airspace so that the rest of us in our homes, with our families and amongst our friends, can live our lives and enjoy our liberty without batting an eyelid about our safety and our security.

### **Composition of the Indian Armed Forces**

The Indian Armed Forces with the President of India as its Supreme Commander, consist of the three services, *viz.* the Indian Army, the Indian Navy and the Indian Air Force. These services are complemented by three paramilitary forces, *viz.* Assam Rifles (AR), Indian Coast Guard (ICG) and Special Front Force (SFF). The Armed Forces and the Paramilitary Forces come under the Union Ministry of Defence.

The Central Armed Police Forces (CAPF), which comes under the command of the Union Ministry of Home Affairs, also function along the border to check illegal border crossings, encroachments and smuggling, on internal security duties and installation security. CAPF consists of the Border Security Force (BSF), Shashastra Seema Bal (SSB), Indo-Tibetan Border Force (ITBP), Central Reserve Police Force (CRPF) and Central Industrial Security Force (CISF).

Our country's international land borders are guarded by our Paramilitary Forces and CAPF – Indo-Pakistan Border and Indo-Bangladesh Border by BSF, Indo-China Border by ITBP, Indo-Nepal Border and Indo-Bhutan Border by SSB and the Myanmar Border by AR.

A natural question that arises is why the country's borders are guarded by Paramilitary and Armed Police Forces and not the Military Forces. According to international laws of war, there is a distinction between the armed forces of a country and its civilians. Only recognised military forces can fight a war, and military forces can be engaged only after the declaration of war. Paramilitary forces are technically not military forces even though they are often trained in that line. Guarding the borders is deemed a civilian job as it is primarily intended to protect the economic, commercial and security interests of the country. If a country replaces these civilian forces with military, it is interpreted as an offensive move and considered a precursor to war. It is for this reason that undisputed borders are usually guarded by paramilitary forces. Disputed borders however, are guarded by the military. Therefore, we find that the disputed border with Pakistan in Kashmir is guarded by the Indian Army, while the other undisputed borders

including that with Pakistan in Rajasthan and Punjab are not guarded by the Army. Even then, the Armed Forces are ever ready, alert and in station at its various commands and stations in the country.

### **Challenges Faced at the Borders**

When the Indian Armed Forces combat against the enemy, they also have to deal with severely inclement weather conditions. The Siachen Glacier is located in the eastern Karakoram range in the Himalayas at a height of 5753 metres. Its average winter snowfall exceeds 1000 centimetres and the temperatures dip as low as minus 50°C. Even though the soldiers are trained to acclimatise themselves to the conditions before their deployment, the extremities are harsh and challenging as they guard and control the region in order to obtain a strategic advantage over the enemy territory.

Similarly, the town of Dras in the Kargil District of Jammu and Kashmir experiences a sub-arctic climate and is known as the



second coldest inhabited place in the world. The Indian Armed Forces maintain their continuous presence and vigil there, reinforced after the attempted Kargil invasion in 1999, which the Indian Army foiled.

In stark contrast, the area at the border in Rajasthan experiences very high temperatures of upto 50°C with dust storms, sand storms and blistering heat waves, almost unfit for living.

Near the Eastern borders, the Armed Forces face poor connectivity, heavy rainfall and difficult terrain during their patrol. The Indian Air Force plays a prominent role in transportation and supplies under these challenging circumstances.

While the Indian Navy guards the Indian coastal line and waters, and the Indian Air Force monitors the air space throughout the country, a special mention must be made about the 360° vigil over the Andamans and Nicobar group of islands in the eastern seas of the country. The two forces keep a constant guard over this region because of the international trade routes passing through these islands, and the growing presence of some foreign naval forces in the neighbouring seas. The Indian Army personnel is also posted on these islands.

In case of a domestic disaster, we find our Armed Forces in action in order to implement an effective disaster management of the crisis. This is because the civil administration is usually not properly equipped and prepared to deal with the disaster with an effective response and action. Discipline, efficiency and precision is primary in a response to a disaster situation and relief work. The military forces automatically fit to these demands and hence are called in, to deal with the crisis, and they do so successfully every time, as they are trained and prepared for 'Military Operations Other Than War' (MOOTW) as a critical part of their training.

## **The Pride of India**

Our Indian Armed Forces have given the countrymen so many reasons to be proud of them that to enumerate them would mean a long list. Besides the outstanding valour with which they have guarded and won wars at the borders, they achieve the following feats:

- They control the highest battlefield in the world in the Siachen Glacier.
- The Indian soldiers are considered among the very best in high altitude and mountain warfare.
- The Indian Army built one of the highest bridges in the world – the Bailey Bridge in the Ladakh Valley in the state of Jammu and Kashmir. It was built in 1982 at a height of 5602 metres above mean sea level.
- Operation Rahat (2013), which the Indian Air Force undertook to rescue the flood-affected people in the state of Uttarakhand, using helicopters to airlift them, is deemed the biggest civilian rescue operation ever carried out so far, in the world.
- India is the second largest troop contributor (TCC) to the United Nations Peacekeeping Missions, with 7,676 personnel deployed in 10 out of 16 active UN Peacekeeping Missions. Till date, India has contributed nearly 195,000 troops, the largest number from any country, and participated in more than 49 missions, while 168 Indian peacekeepers have made the supreme sacrifice while serving in UN missions. The high standards of performance maintained consistently by the Indian troops deployed on UN Missions under challenging circumstances have won them high regard worldwide.

### **Joining the Indian Armed Forces**

The Indian Defence Services offer lucrative career opportunities that are dignified and prestigious, to the youth of our country. One can serve in any of the three services of the Army, Navy and Air Force on combat duty (at the battle front), on administrative assignments, in the medical and engineering services, in the

judicial services or in the education corps. Every Indian citizen can volunteer for recruitment in the Indian Armed Forces and will be eligible provided he/she meets the prescribed physical, medical and educational criteria. Serving in the Armed Forces gives the opportunity for adventure, benefits and facilities, travelling, acquiring skills, respect and recognition in the society, and service to country and countrymen.

### **Flag Day of India**



On the 7<sup>th</sup> of December every year since 1949, the Armed Forces Flag Day or Flag Day of India is observed and dedicated in honour of our men in uniform, including the martyrs among them, who fight and have fought for the country's safeguard and honour.

The objective of celebrating this day is to collect funds for rehabilitation of the battle casualties, welfare of the families of martyrs, welfare of serving personnel and their families, and resettlement and welfare of ex-servicemen and their families. The Flag Day is significant because it is the responsibility of the civilian population of India to take care of the families, dependents and

personnel of the Armed Forces who have served the country and protected its citizens.

The patriotism that our Indian soldier bears in his heart and fights with his valour is aptly delivered in the sentiments of Capt R.Subramanian, recipient of the Kirti Chakra posthumously:

*"You have never lived until  
You have almost died,  
And for those who choose to fight,  
Life has a special flavour,  
The protected will never know!"*

We salute our Indian soldier. *Jai Jawan!*

***by Susan Koshy, Editor-in-Chief  
Source : Dec 2018 issue of PreSense***

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## **The Pulse of an Indian Soldier – In Service of the Nation**

*In the backdrop of the commemorative Cover Story about the Indian Armed Forces, it is befitting to feature a well-served soldier – Maj Gen Binoy Poonnen, AVSM, VSM, Mahar Regiment (Infantry) (Retired) – as a supplement. A gist of an interesting interactive session with him is reproduced:*

**Q. *You come from a family and generations of servicemen in the Indian Armed Forces. How many of you in the family were or are serving in the Defences?***

A. We are twenty-one of us, running through three generations, who have served or are serving in the Armed Forces. The first generation had my father, his brother, my mother's brother and three of her cousins in the defence forces. The second generation includes me, and four of my cousins, my wife's brother, her brother-in-law and her cousin, and the third generation consists of my two sons, my wife's four nephews and one niece. Quite a lineup that we are all proud of.

**Q. *What was your motivation for joining the Armed Forces? What motivated your sons?***

A. The Armed Forces was always my first choice for my profession because of the sheer thrill of being a leader of men in the forefront of a battle in a life of adventure, of a 'class' defined by values, and most of all, the duty to defend the country. I have also emulated my father, my uncles and my cousins from whom I learnt about these values at first hand.

My sons were educated in the best of schools and colleges in the country and even cleared many entrance exams at the All-India level after school and college, but when it came to finally choosing a profession, it was the Army, where my father and I had served too. As parents, we were glad that they were focused in their choice of profession from an early age. My sons motivated each other right from a young age. The elder son would correct the

younger one if he was caught in an awkward stance, by reminding him that he would never be selected into the army if he slouched!

**Q. You had won several recognitions and awards in the course of your career. Can you enumerate them?**

A. I have been a recipient of recognitions and awards for excellence in performance, right from the beginning of my career with the Army. It would be lengthy to enumerate all of them. Some of the outstanding ones are:

- As Colonel, I commanded my battalion in a highly terrorist-affected district of Assam. The tremendous success achieved by my unit in the operations against the dreaded outfit, United Liberation Front of Assam (ULFA), was recognised with the coveted Chief of Army Staff's Unit Citation. I was awarded the Army Commanders' individual citation twice.
- As Brigadier, I commanded a brigade in the insurgency-affected areas in Assam. I was awarded the *Vishisht Sewa* Medal by the President of India for outstanding performance of the Brigade.
- As Major General, I commanded a division in the North East, which is the biggest division of the Indian Army. I was awarded the *Ati Vishisht Sewa* Medal by the President of India for outstanding command of the division in insurgency-affected states of the North-East.



**As Brigade Commander in Assam  
(standing in the centre)**

**Q. How is the spirit of patriotism cultivated in the soldiers? What kind of training and motivation instils this feeling in the new recruits?**

A. Most of our soldiers come from the rural areas of our country. Their sense of patriotism is unquestionable even though they may

not be outwardly expressive about it. Even then, during the training period, the cadet/recruit is taught the importance of winning as a team member of his regiment. The spirit of regimentation leads to the spirit of 'nation first'. That is how pride and patriotism is instilled amongst the rank and file.

**Q. *How significant a role does the wife of a serviceman play in his life and that of the Armed Forces?***

A. The wife of a serviceman of the Armed Forces sacrifices much on a daily basis, especially when her husband is serving at the borders. She manages the household and the family solely. No doubt, the family of the regiment comes to her support in times of crisis. The wife of a senior officer also helps in counselling, supporting and motivating the new wives in the regiment, especially when their husbands are immediately called away to the borders on duty.

**Q. *How do you lead your retired life, in contrast with the active, frontline life you led while in service?***



**A proud family  
in the spirit of service to the nation**

A. After 38 years of service, and four years into retirement, I have homed into a routine that includes reading, golfing, helping around the house, and in the company of friends. I also take classes for young officers and mentor aspirant officers. I write professional articles especially on insurgency and terrorism, having served more than twenty years in this environment.

Music plays a very important role in my family life. Both my wife and I sing, and I play the guitar and the keyboard. Post-retirement, I have started practising on the saxophone, the trumpet, the flute, the clarinet and my newly acquired 'toy', the aerophone.

**Q. *What is your advice to the civilian youth who aspire, or to inspire them, to join the Defences?***

A. Consider a career in the Armed Forces seriously. No amount of money can give you the thrill of serving the country, and commanding men. While doing so, get your priorities right – career first, romance and worldly pursuits, later. Be an achiever. Your endeavour at all times must be to excel so that you and your loved ones will stand tall and proud whenever your name is mentioned in any forum.

***by Susan Koshy, Editor-in-Chief, in conversation with Maj Gen Binoy Poonnen, AVSM, VSM, Mahar Regiment (Infantry)***

***Source : Dec 2018 issue of PreSense***

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## **Celebrate Heroes, not Anti-Heroes**

The 10<sup>th</sup> edition of Sansad Ratna Awards' function was held on 19<sup>th</sup> January 2019 at Raj Bhavan. It was organised by your eMagazine PreSense to honour outstanding Indian Parliamentarians. Out of the 12 awardees, 4 were first-time Members of Parliament (MPs). Our recent analysis of the performance of Lok Sabha Members till the end of the Winter Session 2018 revealed that first-time MPs performed excellently in the House. We also found them enthusiastic about their contributions in their respective constituencies.

Unfortunately, we have also observed that the media tends to focus on, and project 'anti-heroes' to a greater extent than the 'real-heroes', who have been dedicated and committed in their work. In the past one decade of our experience with the Sansad Ratna Awards, we have observed that many times, the main line media have not found the success story of these achievers and heroes of the Indian Parliament, newsworthy.

Let alone the media, even political parties tend to ignore these heroes. There seems to be a high level of 'insecurity' in the second and middle level leadership in many parties, when they find active, vibrant youth in their own cadre. These seniors seem to dissuade these young and vibrant leaders from showcasing their talents. A couple of years ago, when an active Member of Legislative Assembly (MLA) of a regional party won an award at the national level for his performance, he desisted from publicising his achievement. Instead, he kept the information confidential in order to safeguard himself from the displeasure of the party leadership.

During the recent 10<sup>th</sup> edition of the Sansad Ratna Awards event, one of the vibrant volunteers belonging to a particular regional political party, shared his 'selfie' taken with an award-winning Parliamentarian who belonged to a different political party. That same night, he was removed from his party position. At the same event, another volunteer belonging to a different regional party avoided being seen with the awardees belonging to parties of opposite ideologies. When asked, he replied, "I would be

suspended from my party, if they knew about my meeting with MPs of opposite ideologies". This seems to be the 'tolerance' that political parties display within their parties while they propagate the ideology of tolerance on the public forum.

PreSense appeals to all political parties, particularly the regional parties, to show maturity and better tolerance in their attitude and allow their junior cadre and young leaders to mingle with leaders of other parties and ideologies. A well-informed and knowledgeable cadre is the strength of the party, and to build our beloved nation.

India is getting ready for the election of Parliamentarians for the 17<sup>th</sup> Lok Sabha. All the political parties are identifying their candidates for the Lok Sabha elections. PreSense appeals to the leaders of all the political parties to select as many young and vibrant candidates as possible, who do not carry any criminal record. Political parties can evolve their own mechanism to identify these real 'heroes' within their own ranks. PreSense also appeals to parties to identify the talents within their own cadre and promote them in the interest of the nation, instead of confining only to known faces.

***by K Srinivasan, Publisher & Mg. Editor,  
Source: Jan 2019 issue of PreSense***

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## **The Global Educational Scenario - Part I - School Education**

### **What Does Education Mean to Mankind?**

Education involves the acquisition of knowledge, learning of skills and guiding/leading others. The word education has two etymological sources, namely "*educare*" and "*educere*". These two Latin origins are sometimes used interchangeably. "*Educare*" means "to mould" or "to train" while "*educere*" means "to lead out" or "to lead forth" or "to bring out and bring forth what is within". Education ensures significant progress at the personal and societal level. The higher the educational level, the higher the nation advances economically.

### **Education Systems in India, Finland, Singapore, USA, Australia and Hong Kong**

The Education system in India is based on 5 years of primary education and 3 years of upper primary, followed by 2 years of high school, from the age of 6 upto 16 years. This is followed by 2 years of higher secondary education and finally 3 years of college education for a bachelor's degree.

Let us examine some of the countries that are well-known for their good standards of education. In Finland's education system, compulsory education starts at 7 years of age, with a maximum of one year of pre-school education. There is a national core curriculum, but the timetable and the delivery are left to the schools and teachers. There is no selection in terms of formal tests or national examinations at any stage prior to higher education until matriculation (end of secondary education), at which stage it is required for entry to post-19 education.

The education system in Singapore which is considered among the best in the world has a scheme of Pre-school (3-6), compulsory primary education (6-12), secondary education (12-17) and tertiary education. It is worth noting that at the end of primary schooling, children have to write the Primary School Leaving Examination which is highly competitive and decides the secondary

school allocated to the child.

The education system in USA is based on free and compulsory primary and secondary education; however, the age by which children are compelled to begin and allowed to finish education varies from state to state. Typically, education is compulsory from first grade (usually at age 6) to tenth grade (age 16). At the end of the secondary school, most students sit for the SAT (Scholastic Aptitude Test) examination in order to pursue tertiary education.

The education system in Australia is based on compulsory primary and secondary education from the age 6-19. Prior to primary education, there is pre-primary education which is not compulsory. After secondary education, there is tertiary education at universities or technical schools.

The education system in Hong Kong consists of a voluntary three years' kindergarten, compulsory 6 years of primary and 3 years of secondary education, selective 3 years of senior secondary based on performance, and finally tertiary education offered at universities.

If we summarise the education system of most of the countries in the world, we find that primary and secondary education is free and compulsory in many countries around the world. In most countries, education is compulsory up to the age of 16.

### **Policy Responses to Private Tutoring / Assisted Learning**

Governments of different countries have adopted one of the following approaches in response to the phenomenon of private tuitions, namely, the *laissez-faire* approach, monitoring but no intervention approach, regulation and control approach, encouragement approach, mixed approach, and a prohibition approach. Many countries view private tutoring as an assisted mode of learning.

### **Development of Individuals, Societies and Nations through**

## Education

Education is recognised worldwide to benefit individuals and promote national development. Educating girls and boys produces equal increases in their subsequent earnings and expands the future opportunities and choices for both boys and girls. The meaning, purposes and benefits of education all ultimately point towards the economic advancement of the country. Education is the only tool through which we can transform a nation. Therefore, every country must have the best methods of teaching, evaluation and continuous improvement, based on international benchmarks.

### Finland - A Role Model

The school education system in Finland is deemed to be the best in the world (*Ref. video:*

[https://www.youtube.com/watch?v=E\\_W2oS6HvTo](https://www.youtube.com/watch?v=E_W2oS6HvTo)).

Finland has high levels of literacy and mathematics. The students must take many important classes like physics, mathematics, chemistry, biology, human geography, history, music, two foreign languages. The country provides equal opportunities in education for all its citizens. This opens the door for many opportunities in the global job industry. One of the major reasons behind the success of education in Finland is that its teachers undergo very high levels of preparation, as compared with other countries.

### Why Finland Teaches Better than India

- Finland grooms its school teachers to very high standards of education in preparation. Every teacher is screened for his/her suitability before being appointed and the levels are continually evaluated and re-oriented, to ensure that high standards are maintained. With this grooming, every teacher considers his/her job a national mission. They are highly valued and revered as Finland considers childhood as the foundation for lifelong development. Their pay levels are also very high. Finland's teachers are encouraged to create their own mini-laboratories for teaching styles, keeping what works and scrapping what

does not.

In India, the average quality of its teachers dips, when compared to that of teachers in Finland, based on the measurement of global metrics, warranting a tighter selection and orientation procedure. Besides, the teachers in India have to follow a standardised curriculum and syllabus, constrained by the timetable to complete it within the time frame, to provide their students enough time to prepare for the standardised and competitive examinations at the end of the year. Even though the government-level pay scales for teachers are reasonably good, the motivation towards the profession is not rightly skewed. Most private schools pay their teachers poorly, while setting high expectations and targets with little compensation or motivation.

- All Finnish students are given a similar standard of education without differentiating students from different economic and societal levels. As far as students and parents are concerned, there is no 'competition' while studying, only cooperation. Finland has no private schools. Every academic institution in the country is funded through public money. Teachers are trained to issue their own tests instead of standardised tests. In India, competition is high as each educational institution strives to 'produce' high results as a measurement of its standards. Private tutoring is also often required to compensate for the poor standard of education in schools in general. They are usually very expensive and unaffordable for the poorer students.
- Finland continuously monitors its education standards with a global perception, and revises its own standards upwards periodically, taking into account the national ambition to be on the top in education. There is little political interference in formulating its policies. In India, the education policy is in dire need for review to bring about a better qualitative level of learning and skill training.
- Finnish law requires teachers to give students 15 minutes of playtime for every 45 minutes of instruction. Playtime is important in their curriculum. Studies have found that students given at least one daily recess of 15 minutes or more, behave better in school and do better in assignments.

We find playgrounds and playtime disappearing from the schools in India, especially among the newer ones that have emerged over the recent years. Students are driven to excel only academically, with little time for extra-curricular and sports activities, even though these are essential for the wholesome development of the personality of the child.

- Finnish students have little homework as the Finnish regard time at home for connecting with the family with quality time. In India, children are burdened with homework and additional assignments so that they are left with little family and personal time.
- Since 1978, Finland provides free meals to all pupils, in all classes, in all schools in the country. In India, many state Governments do provide noon meal schemes, but it is not a national scheme.
- Since the Finnish people are appropriately educated, they ensure the election of the right law makers. If the economic performance of the incumbent party is good, they are voted again otherwise their vote goes for the opposition. Election campaigns have only news value and they do not sway opinions. India has a long way to go before it can boast of a good education policy that will benefit its children and the growing generation of future citizens and stakeholders of future India.

## **Conclusion**

Education is the key to everything that is good in our world today. All the children must be initiated into compulsory and good standard of education to mould and motivate them so that they can, in turn, contribute to the development of their nation and to the entire mankind, as they pursue their own personal goals that sync with those of the nation and mankind.

**by Prof R Jagannathan, Editorial Advisor**  
**Source : March 2019 issue of PreSense**

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## **The Global Educational Scenario – Part II Higher Education and Research**

### **Significance of Higher Education and Research**

A better standard of living, economic stability and ability to govern oneself in a near ideal manner are some of the long-term fruits of higher education and research. Nelson Mandela said, "Education is the most powerful weapon which you can use to change the world". In the contemporary world, there are about ten countries in the world, which have been consistently evolving their higher education system towards this goal in an enviable manner.

### **Benchmarking Higher Education System Performance**

**Metric Benchmarking:** Metric benchmarking presents performance information. Countries will be able to use this information to identify the strengths and weaknesses within their own higher education systems and compare their performance against other countries.

**Policy Benchmarking:** Government policy is a key driver in the performance of higher education systems. This benchmarking exercise analyses policies to better understand the linkages between policies and outcome. The comparison of policies and outcome between different systems will help countries learn from each other and develop new policies for improved performance.

**Practice Benchmarking:** Higher education practices in education, research and engagement are driven by the input (financial and human resources) allocated to the system. The output of higher education – what it delivers (e.g. graduates, publications, start-up companies etc.) – are the products of these processes. Practice benchmarking will facilitate a better understanding of the reasons behind these output measures. It will also help identify effective practices, which can be shared among countries and stimulate performance, innovation, and what works in higher education.

Taking into account the different benchmarking, the best countries of the world ranked by their performance outcome is presented

below:

### Ranking of Best of Best Higher Education Systems

Global Ranking	U21 Ranking (Overall)	U21 Ranking (GDP-based)	QS Ranking
1	USA	UK	USA
2	Switzerland	Serbia	UK
3	Denmark	Denmark	Germany
4	UK	Sweden	Australia
5	Sweden	China	Canada
<b>India's Rank</b>	<b>49</b>	<b>15</b>	<b>24</b>

(For full list released in January 2019,

ref: <http://www.trinityhenderson.com/best-higher-education-system-in-the-world-2018/>)

### Ranking of Best of Best Research Systems

Rank	Country	Country's Population in Crore (Millions)	Number of Nobel Laureates from the Country
1	USA	32.7 (327)	375
2	UK	6.7 (67)	129
3	Germany	8.3 (83)	108
4	France	6.5 (65)	69
5	Sweden	1.0 (10)	32
-	<b>India</b>	<b>137.0 (1370)</b>	<b>10</b>

### Higher Education and Research in India and Some Other Countries

Higher education system in India is based on 3 years of bachelor's degree programme in liberal arts and science or 4 years of

bachelor's degree in engineering or technology. This may extend to 5 years for some professional degree programmes like medicine and select engineering streams. Graduate students can take up a 2- or 3-year master's programme. For a Ph.D (Doctorate) programme, there is a standard format *sans* a rigorous control on the quality.

Let us examine some of the countries, well-known for their good standards of higher education.

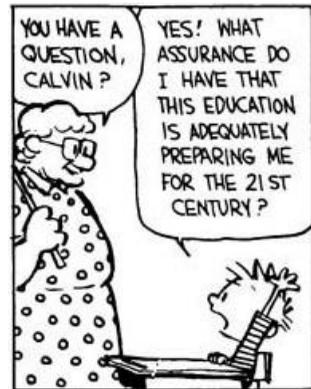
- In USA, university education prescribes high standards of learning outcomes and hence the graduation, masters and the doctoral programmes invariably produce great thinkers. Incidentally, most of the Nobel Prize winners hail from USA.
- Higher education in UK is respected all over the world for its renowned standards and quality. Many eminent people in different professions, whose work has gained global recognition, come from British universities. Some of these universities and other higher education providers are ranked among the top universities in the world. UK's capital city, London is considered the world's capital city for higher education. With its four universities ranked among the world's top ten, London has the highest number of top worldwide ranked universities per city. When the high school is over, Britons have to sit for a standard examination, which decides their eligibility to continue their education in the higher level of education.
- In Germany, universities are independent with no interference from federal or state governments. Universities set their own global cutting-edge standards. Professors and researchers concentrate on teaching and research activities. They are divested of administrative responsibilities.
- In Switzerland's higher education system, the first degree takes 4 to 5 years (for medical degree, it is 6 years). The first degree of Switzerland is considered equivalent to a master's degree of USA. The Swiss economic miracle is based on the intensive development of the country's intellectual potential, to which the authorities and all governments, over the centuries, gave special consideration.

### **Why These Countries are Better than India**

- In the above listed top ten countries, higher education and research aims at extraordinarily high learning standards, addressing the basic needs of mankind.
- Becoming a university teacher/researcher in these countries requires excellent qualifications, maturity and proven leadership skills.
- Admissions to these universities are based on performance in the selection process without any discrimination based on religion, caste, creed, gender and even nationality.
- The students acquire knowledge and not just information in the course of their higher education/research so that they become globally employable in leadership positions.

### Challenges Facing Indian Higher Education System

**Lack of Quality Research Work:** There is no shortage of funding for the top Indian Institutions such as IITs, IIMs and other institutes of national importance. However, due to the limited focus on research and internationalisation, very few Indian higher educational institutes are globally recognised in this area.



Besides, the senior professors are often loaded with administrative work, with little or no teaching or research workload. As senior professors, they draw high salaries but they do not take any class or do any research. A recent news report from The Times of India newspaper revealed that senior professors of Anna University struggle to set question papers for semester examinations. These instances are only a tip of the iceberg. No doubt, IITs, NITs and similar other premier institutions are exceptions to this phenomenon, as even their Deans/Directors take classes and do research.

The number of research papers published in India has increased considerably in the past few decades but they are low in citation impact when compared with other countries like Germany, USA, France and China.

**Poor Quality of Curriculum:** Higher education in India is faced with the problem of poor quality of the curriculum. In most of the higher educational institutes, the curriculum is out-dated and irrelevant.

**Shortage of Faculty and High Student-Faculty Ratio:** In most of the state and central universities, more than 30% of the faculty positions lie vacant, while student enrolment for higher education is growing at an accelerated rate, especially in the past few years.

**Inadequate Infrastructure and Facilities:** Except for the highly recognised higher educational institutes in India, most of the other colleges and universities lack basic and high-end research facilities. Many institutions run without proper infrastructure and basic facilities like library, hostels, transport, and sports, which are desirable indicators to rank the standard of the institution.

Currently, there is little collaboration between the higher educational institutions and the industry sector.

Low employability of graduates is a major problem in India. Only a small proportion of Indian graduates are considered employable. Placement outcome also drops considerably as we move away from the top institutes.

### **Problems of Higher Education in India at the Macro Level – A Perspective**

India's large pool of young people might be considered its biggest strength. Unfortunately, India falls short in putting its act together when it comes to figuring out how to educate these young people. Government data suggests that only one out of every seven children born in India goes to college.

India has a population of about 234 million in the age group of 15–24 years. If India aims to increase its Gross Enrolment Ratio from its present 19% to 30% by 2020, as planned by the Government, India needs to open up at least another 521 universities, 10,510 technical institutions and 15,530 colleges.

India has permitted the private sector to enter the higher education sector to the tune of 59% of the capacity. Over the past decade, people who did not know enough about education – mostly business people with surplus cash, especially from the real estate sector – set up private colleges and universities. Given the fact that they are not academically-oriented, they do not know how to create the ideal environment for education. Unfortunately, students from rural and semi-urban backgrounds fall prey to the lures of these unrecognised institutes and colleges.

UGC (University Grants Commission) and other regulatory authorities have been trying very hard to extirpate the menace of such private universities which run courses without affiliation/recognition.

### **Indian Higher Education System - in a Nutshell**

*"Our university system is, in many parts, in a state of disrepair; in almost half the districts in the country, higher education enrolments are abysmally low; almost two-third of our universities and 90% of our colleges are rated below average on quality parameters. I am concerned that in many states, university appointments, including that of vice-chancellors, have been politicised and have become subject to caste and communal considerations. There are complaints of favouritism and corruption."* – Former Prime Minister, Dr Manmohan Singh in 2007.

In order to attain and sustain the quality of institutions, certain practices need to be strictly followed, viz. selection of staff by merit and continuous staff development through appropriate programmes for academic development. These programmes include appropriate teaching/learning methodology, and mobility of students and faculty between countries, and between higher education institutions and the industry for better exposure to quality education and industry practices. Internal self-evaluation and external review must be conducted in a transparent manner by independent specialists, preferably with international experts.

If the government welcomes such initiatives, the future will be ours. The report of the National Knowledge Commission, if

implemented, can help boost the education sector in India. We will be able to match and compete with other countries, and the dream to be the world's greatest economy will not be difficult to achieve. The roots of higher education and research are bitter but the fruit is sweet.

***By Dr R Jagannathan, Editorial Advisor***

***Source : April 2019 issue of PreSense***

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## Young Indian Professionals in USA – Need for Better Personal Skills for Better Prospects



Recently, PreSense had the opportunity to interact with an established HR Consultant, **Ms Gunjan Kuthiala**, who specialises in Talent Acquisition in USA. In an exclusive e-interview for your eMagazine, Ms Gunjan shared her views about the prospects of young Indian graduates and professionals, who are looking for work prospects or to better the scope of their jobs in USA. We reproduce below the interview:

**Q1. *How many Indians are employed in USA and how are they positioned there jobwise?***

As per a 2016 survey, there are about 3.4 million Indians living in USA. They contribute to the high-tax payer bracket as either IT (Information Technology) professionals or doctors. Some are running successful business enterprises.

**Q2. *How does the USA Government perceive Indians as prospects for employment in their country?***

The most common work visa issued by the US Government to Indians is the H1-B or L1 Visa, depending on the terms of the employment and filed by the employer. Most of the large corporate jobs companies especially in the IT sector in the states of California, Texas, New York, Massachusetts and New Jersey have a majority of Indian H1-B visa holders.

**Q3. *What is the latest trend of Indians getting employment in USA?***

Indians are generally well-known here for their logical and analytical thinking skills and are mainly employed in the IT sector. It is easier for graduates and young professionals from India to obtain the H1 visa to pursue their Masters in USA or be employed

in the IT domain as most employers have a higher annual H1 Visa hiring quota from talent acquisition strategy perspective. The much sought-after skills currently in the USA market are latest technology Software Engineers such as Java/J2EE, Front-end Engineers, UI Developers, Data Engineers, Software Architects, Cloud Engineers, Systems Engineers and Network Engineers. We find that these are the positions for which Indians are most commonly hired.

**Q4. Does pursuing higher education in USA facilitate the Indian youth in getting employment in USA? If so, what are the qualifications required to study in USA?**

After completing Bachelors or Masters in USA, one usually gets F1/OPT (Optional Practical Training) visa usually for 27 months. It allows one to work in USA after completion of the studies. Most good colleges in USA have Co-op programs which allow students to get experience in the corporate sector as part of their education curriculum. Co-op is a short-term work permit issued by the college. Most employers subsequently process for the H1 visa for those employees working with them on OPT visa, depending on their performance while with the company.

Therefore, pursuing further education in USA does help in career opportunities in USA. I personally recommend a Bachelor's degree in India and then after some experience, pursuing Masters in USA so that when looking for a job in USA, the graduate will have the advantage of experience and a good academic qualification. I also recommend maintaining a minimum of 3.4 GPA (Grade Point Average which is the accumulated grades earned during the academic course) to improve the prospects of getting a personal interview faster.

**Q5. What are the visa regulations and salary guidelines for Indians employed there?**

Currently, the minimum wage for H1 visa holders is \$60,000 per annum but the law is contemplating increasing it to \$90,000 per annum. Most employees on H1 visa are able to earn more than the

minimum wage dependent on their skills, experience level and the state's cost of living.

**Q6. *What is the general shortfall you find among the Indian youth who seek international employment or compete internationally? What do you suggest to overcome this shortfall?***

Indians generally excel in technical interviews but they lack personal skills and their research on their potential employers. My advice to the Indian youth aspiring to relocate in USA is to first gain experience and also work on their interpersonal skills as they are important while facing interviews. Good communication skills play a vital role in phone interviews and help to establish a good rapport with the interviewers in personal interviews.

**Q7. *What do you find lacking in the resumes you receive from Indian job seekers?***

A focused resume explaining one's potential for the applied job increases one's probability of creating a good first impression and hence resumes reflecting frequent job changes reflect lack of stability in the prospective candidate. I would advise employees to not change jobs too frequently as this does not create a good impression with most recruitment managers.

**Q8. *Any other advice that you would like to add for the benefit of the Indian youth who read PreSense?***

In USA, hands-on experience is given more weightage than education. I suggest the Indian youth to practise working on projects related to their line of education so that the experience will strengthen to the resume when hunting for jobs in India or USA. Hands-on experience gives clarity to the theoretical knowledge acquired in the classroom.

*Ms Gunjan Kuthiala heads Jobgini ([www.jobgini.com](http://www.jobgini.com)), a software application for job seekers to manage their job search. Besides career coaching, she is involved in holding seminars on best practices of resume building and job hunting in colleges, and*

*supporting clients with recruiting drives. She holds an Executive MBA and a Masters' degree in Computers. She also owns NRILIFE Productions, an organisation supporting development of talents among local NRIs in USA.*

*Ms Gunjan can be contacted at [admin@jobgini.com](mailto:admin@jobgini.com) / [gunjan@nrilife.us](mailto:gunjan@nrilife.us)*

***by Susan Koshy, Editor in Chief***  
***Source : April 2019 issue of PreSense***

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## **The Pride of India – Achievement of Institutions and Services in the Country**

India as a country has travelled a long way since its independence. India is the world's largest and oldest continuous civilisation. As per the 1961 census, India had 1,652 languages. It has the world's largest democracy, is rich in culture and tradition, is known for its warmth in hospitality, and has vision and passion. There have been great moments of immense pride for Indians to belong to this great country, and for good reasons. One of the reasons is that India has the second largest pool of scientists and engineers in the world, and they are doing a great job behind the scene, building India and etching its name in the hallmark of achievements.

### **ISRO**

Indian Space Research Organisation (ISRO), established on August 15<sup>th</sup> 1969, has the motto "Space Research to Benefit the Nation". With a mere \$90 million annual budget, it has developed the cryogenic technology indigenously, and produces all the rocket and satellite components inhouse. ISRO has its own atomic clock and plans to have its own GPS (Global Positioning System). India is the only country which was able to reach the moon in the first attempt itself. Again, India is the only country to have put in orbit 104 satellites in one launch itself. The mission to Mars was flawless in the first attempt itself.

ISRO's achievement is especially commendable when we compare with NASA of USA. NASA, with an annual budget of around \$1200 billion and an enviable record of more than 1000 successful unmanned launchings and about 200 manned launchings, was able to reach the moon only after 12 failures. NASA's Mars mission cost 10 times more than ISRO's Mars mission. However, in all fairness, compared to NASA's expertise on deep space rockets and satellites, ISRO's space journey is still in the infant stage.



## DRDO



The Indian Defence Research and Development Organisation (DRDO), established in 1958, does researches through its respective specialised research boards in Life Sciences (LS), Missiles and

Strategic Systems (MSS), Micro Electronic Devices, Computational Systems & Cyber Systems (MED, CoS), Aeronautical Systems (Aero), Electronics & Communication Systems (ECS), Armament & Combat Engineering Systems (ACE) and Naval Systems and Materials (NS&M).

Like USA, India officially has the following as its own: unmanned, armed, combat aerial vehicle and unmanned tank, nuclear delivery capability from land, air and sea, self-ejectable black-box for airplanes, anti-satellite system, electronic intelligence satellite and inter-continental ballistic missiles - all developed at DRDO.

## Nuclear Research

As of 2016, India has signed civil nuclear agreements with 14 countries, viz. Argentina, Australia, Canada, Czech Republic, France, Japan, Kazakhstan, Mongolia, Namibia, Russia, South Korea, the United Kingdom, the United States, and Vietnam.



India produces more than 75 radioisotopes benefitting more than 10 lakh (1 million) cancer patients annually through about 120

nuclear medicine centres and through the National Cancer Grid. India is the first country in the world to purify blood using certain liquid nuclear wastes and even countries like USA buy these blood purifiers commercially from India. India now has a Global Centre for safe, sustainable and secure nuclear energy operationalised in India, in collaboration with the International Atomic Energy Agency.

On the military front, India has a declared nuclear No-First-Use (NFU) policy and is in the process of developing a nuclear doctrine based on "Credible Minimum Deterrence" which assures second strike capability.

## Health

World Health Organization (WHO) has officially declared that India is 'Polio Free'. As a vast country with a very large population, eradicating polio is no mean feat and it is a commendable achievement that all Indians should be proud of.

The health care facilities available in India is world class, both in terms of the competence of its physicians and surgeons as well as hospital infrastructure. Besides, the cost of healthcare is low (an ultrasonic scan of the abdomen



costs about ₹350 in India as against about ₹25,000 in USA) and the waiting period in India is 'little to no waiting period'. (An average American has to wait for about 2 to 3 weeks for a dental root-canal treatment whereas in India you can get it done even without an appointment in some cases).

The facilities offered at the specialty hospitals in India are at par with other world class centres. It was found that the cost of treatment in India start at around one-tenth of the price of comparable treatment in the United States or in the United Kingdom. This economy has drawn many patients from across the world to India, mostly for alternative medicine, bone-marrow transplant, cardiac bypass, eye surgery, and hip replacement.

In India, anyone in the general public can visit a doctor at any time they need to, order any investigation and get any procedure done as per their plan - such options are not available even in developed countries like USA and UK.

### **A Great Leap for Integral Coach Factory**

The "Made In India" initiative has made India visible across the world, with our metro trains and monorail trains finding ready markets in Brazil and Australia. Other western countries are also positively looking at India. With an



aim to turn the country into a global manufacturing destination, a total of 450 metro coaches are to be made in India for export to Australia over a period of the next two and a half years.

### **Our Society**

India is one of the most diverse lands in the world. From language/dialect to dressing-style, the country has been hailed as one of the most complex amalgamations of various cultural identities.

India produces the largest number of engineers in the world. India is the second largest troop contributor in the world to the UN (United Nations) Peacekeeping. India is the largest producer of feature films in the world. India has the largest English-speaking population in the world. India has the largest number of vegetarians in the world. India has the largest workforce in the world. Thus, we find that India's large population is its asset.

### **Our Nature**

UNESCO has included the Western Ghats in the list of World Heritage Sites, along with 39 other places in India. The Western Ghats is considered one of the top eight hotspots of biological diversity in the world. The area plays host to around 5,000 species

of flowering plants, 139 mammal species, 508 bird species, 179 amphibian species and 288 freshwater fish species. It is believed that many undiscovered species live in the Western Ghats and at least 325 globally threatened species are found here. The perennial rivers like the Ganges, Brahmaputra, Yamuna, Narmada, Tapti and Sindhu with their river basins are amazing wonders of India.

## **Conclusion**

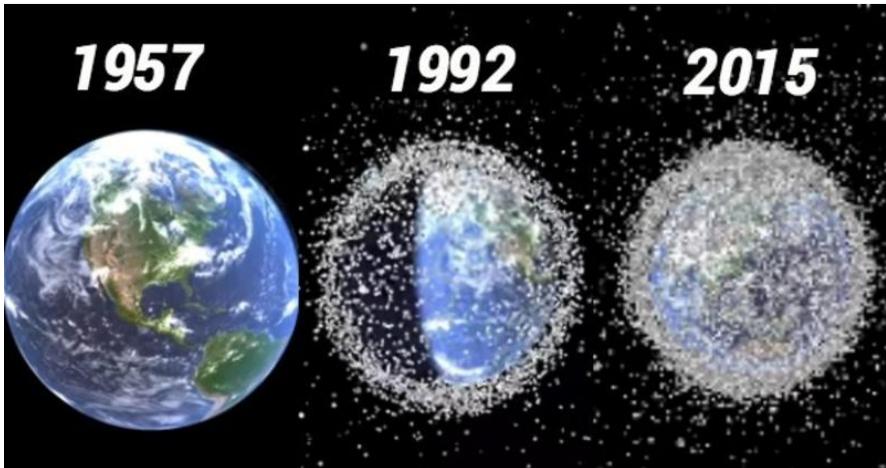
The large number of different cultures in a closely knitted matrix makes India's diversity one of the wonders of the world. India has everything for every Indian to feel proud about. It is time for all Indians to celebrate the diversity and achievements of this great country, and infuse pride in the succeeding generations of India. In 1982, when the first Indian to go into space, Rakesh Sharma was asked by the then Indian Prime Minister, Mrs Indira Gandhi, how India looked from outer space, he replied, "*Saare Jahan Se Achcha*" (meaning "better than the rest of the world"), taking the cue from the Indian patriotic song, "*Saare Jahan Se Achcha, Hindustan Hamaara*" (meaning "Better than the rest of the world is our India").

***By Dr R Jagannathan, Editorial Advisor  
SourceL August 2019 issue of PreSense***

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## **Are We Destroying Our Outer Space Environment Like We Have With Mother Earth?**

### ***Our Space Scientists Must Be Alert for the Sake of Our Future Generation***



*(Image Courtesy: Indiatimes.com)*

### **Number of Satellites Orbiting the Earth in Outer Space, Over the Years**

It was as early as 1957 that man first marked his presence in space with the first satellite, Sputnik I sent by the Soviet Union, followed closely by USA in 1958 with Explorer I. Since then, several countries including India, have launched satellites for purposes of communication, surveillance, vigilance, exploration and research. Many more spaceships are sent into outer space and to other planets, looking for resources to augment the depleting reserve on Earth, and for better surveillance and defence of borders from overseeing satellites. Besides, missiles have been fired on dying satellites in orbit as targets, to test and validate nuclear arms and ammunition capabilities from outer space. Many of these satellites and spaceships after having lived out their useful lives, either burn out in Earth's atmosphere or become space debris in eternal orbit.

According to the 'Index of Objects Launched into Outer Space' maintained by the United Nations Office for Outer Space Affairs (UNOOSA), there are 4,857 satellites currently orbiting the planet. 5,000-plus satellites have been launched since the first in 1957, leaving a trail of debris in the Low Earth Orbit (LEO), Medium Earth Orbit (MEO) and Geostationary Orbit (GEO).

So far, there seems to be no panic over the 'pollution' of the outer space with the debris, except for a stray objection by USA to India over its anti-satellite weapon test in March 2019 that could have left some debris in orbit in space. This objection could be more out of the threat of India's warfare capabilities than concern for environmental pollution. Even then, this stray expression must draw one's attention to the potential threat of pollution of outer space that might have adverse impact on Earth and its inhabitants in the future. This apprehension must not be brushed aside as paranoia.

Back on Earth, when the world first turned to natural materials and environment-unfriendly processes that made lifestyle easier, more convenient and fashionable, people were happy. The world continued to use up fossil fuels without any reserve, made almost everything plastic, most of which were disposable but not biodegradable, deforested large areas to accommodate the growing world population as well as to unscrupulously develop real estate. Industrial, economic and digital revolution happened in the name of progress and modernisation. There was little concern for the adverse effect on life that exist on land, in water and in the air, and on the elements of nature. The slow death of the environment continues to happen. The culprit is not development which is appreciated, but the insensitive and binging consumption and desecration of the natural resources and the environment.

Today, there is late realisation that we are becoming victims of the very assault we have done on nature and the environment, propelling a 16-year-old student named Greta Thunberg to deliver an emotional speech to the participating delegates at the United Nations Climate Change Summit held at its headquarters in USA on September 23<sup>rd</sup> 2019. She said, "*People are suffering. People*

*are dying. Entire ecosystems are collapsing. We are in the beginning of a mass extinction."*

We are not sure if the wake-up call to environment consciousness has come too little too late. We are already experiencing and suffering from the impact of the pollution in the form of incurable diseases, inexplicable physical, mental and emotional abnormalities, lack of space resulting in warfare amongst brethren, and climatic and environmental disasters.

Having almost exhausted the resources of the earth and stripped it of its health and wealth, we are now top-gearred for outer space exploration. Considering the mammoth size and the mystery of the unknown outer space, we are barely aware of any danger or the risk of unreserved exploration or exploitation of our outer space.

Therefore, should we not have a parallel monitoring of the risk potential, if any, of our exploration of the outer space in order to avoid a repeat of environmental disaster? How can we assess the potential risk of 'polluting' the environment in outer space to avert a future disaster? Only the space scientists can give some clue for answering this question, and we hope they are bearing this question in mind while they work on their calculations to 'go where no man has gone before'.

It is understood that a company named Astroscale has been established in 2013 as a space-debris removal company. It plans to launch the ELSA-d (End of Life Services by Astroscale – demonstration) in early 2020. ELSA-d is designed to help to bring 'retired' or failed satellites out of orbit and back into the Earth's atmosphere where they will burn on re-entry, leaving no further debris behind.

The point to be driven home is that while we continue to explore the Universe for our global benefit, we need to parallelly be sensitised towards, and respect the elements of our Universe so that it does not rebound in devastation and disaster in the future because we were careless. At this stage, this responsibility lies with the space scientists, to be sensitised about the exercise of caution and discipline while exploring the outer space.

***by Susan Koshy, Editor-in-Chief***

***Source: Sep 2019 issue of PreSense***

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## **CIBIL – A Double-Edged Sword?**

Privacy of personal information in the public domain has always a major concern and a point of discussion. We want to protect our privacy, and only when necessary, we share our feelings or emotions selectively. However, the concept of privacy and confidentiality of information is being viewed differently by different people. In the famous Supreme Court Judgement of Justice (Retd)



Puttaswamy Case delivered in August 2017, its landmark ruling stated that privacy is a fundamental right. In this backdrop, what exactly constitutes privacy especially data privacy assumes enormous significance. With the Data Privacy Act yet to be passed in India, the issue is being widely debated, discussed and deciphered.

Let us now move on from privacy to loans, before we highlight the relevance of privacy of data in lending. When we apply for a loan to any bank or other financial institution, the first major prerequisite is how we score as a credit-worthy or reliable borrower. Our credit score in the CIBIL (Credit Information Bureau of India Ltd) is a major yardstick to assess and evaluate our credit worthiness. Even if the borrower is known personally to the lender, the score given to him as borrower by CIBIL assumes significance and forms part of the loan assessment document. Credit rating is an evaluation of the credit risk of a prospective borrower, predicting his ability to pay back the debt, and forecasting likelihood of the debtor repaying on time or else defaulting. This is based on available information on him, his history of performance and assessment of his potential to repay.

CIBIL was founded in 2000 as a joint venture of banks and TransUnion (part of the American multinational group) with both public sector and private sector banks and other Non-Banking Financial Companies (NBFCs) too having a substantial stake in the

ownership. CIBIL comes under the Reserve Bank of India (RBI) authorisation as per the Credit Information Companies (Regulation) Act, 2005 to regulate the actions of credit information companies in India and to facilitate efficient distribution of credit and matters connected to the same.

CIBIL functions with the objective to introduce transparency and seamlessness in the credit rating process in the country. It collects and maintains credit-related information of individuals and corporates, including loans and credit cards. These records are submitted by member institutions (banks and other financial institutions) to the credit bureau on a periodic basis. The information is then used by the bureau to create credit reports and issue credit scores.

CIBIL started its commercial operations in 2006 and ever since, functions as a database of credit information. It does not make any lending decisions. It only provides data to banks and other financial institutions, which use it to filter applications for loans and credit cards.

At the time of inception of CIBIL, many public sector banks, private sector banks and other financial companies had a stake ranging from 2.5% to 10%. Subsequently, many banks like ICICI Bank, HDFC Bank and Bank of Baroda, and some other institutions sold their stake to TransUnion which is now reportedly owning the major stake. CIBIL as an organisation is now being referred to as TransUnion CIBIL, though the score and rating are more popularly known as CIBIL rating and CIBIL credit score only.

TransUnion CIBIL Ltd maintains credit files on 600 million individuals and 32 million businesses. All lenders, particularly banks have been meticulously following the credit score given by CIBIL to individuals to assess whether any new or additional loan could be given to them

Now, let us get back to where we started. From data privacy point of view, let us imagine the volume of data, its confidentiality and uniqueness that CIBIL has been possessing all these years. And now consider the fact that the agency is no longer owned by public

and private sector banks but is owned and controlled by an Indian entity, which is part of a multinational corporation (MNC), *ie.* a private sector firm. TransUnion CIBIL is a profit-making MNC which has taken over an Indian company along with valuable critical personal data worth billions of rupees. The company has acquired access to the critical personal data of Indian citizens through a process of takeover of a company with its data assets *ie.* information assets of lakhs of individuals in India. Perhaps in the days to come or hopefully in the months to come, the government and other data-conscious stake holders will awake to the fact that voluminous, critical and highly confidential, data of lakhs of borrowers with lots of valuable evaluation parameters is lying with this entity. Again hopefully, much debate will take place over details like RBI control over this entity and RBI inspection if any (reportedly not done so far), and the accountability of this firm to the government and the data owners, *viz.* the borrowers or the banks which provide them with the data.

With so much data analysis, data profiling, borrower profiling (of individuals as well as the MSME sector) being done by this entity, internal controls if any being followed by the firm before sharing such data to others and the modus operandi being adopted before any such sharing takes place have to be looked into. Compliance audit especially with regard to the existing provisions of 'reasonable security practices and procedures' applicable for 'body corporate' as enshrined in the Information Technology Amendment Act 2008, from a regulatory perspective may be a timely and effective process to initiate now. Hopefully, the Data Privacy Act will be in place shortly in India. The proposed Act provides for 'explicit consent' and such other procedures when critical data are being collected and processed, and to continue to be in business, TransUnion CIBIL has to conform to such procedures. It is interesting to wait and watch what the regulator RBI proposes to do now, *ie* act now as per the existing provisions of IT Act and its IT Amendment Act 2008 and conduct audits and ensure compliance, or wait for the proposed Act and ensure that the firm conforms to the provisions immediately. From a common man's perspective, citizens are quite concerned about the way their loan details are stored, processed, analysed, evaluated and shared!

There are many complaints against CIBIL, with allegations of incorrect data being stored, data being taken from an earlier mobile number with outstanding shown against the person who uses the number but has not taken any loan, mismatch of PAN and Aadhaar, duplication of PAN details and mismatch of borrower's individual capacity with an official capacity, and so on. With many such complaints against CIBIL already being discussed, there may even be complaints of data being shared illegally and incorrect data being shared. It is time the regulator acted and took remedial steps swiftly.

***by V Rajendran, Editor***

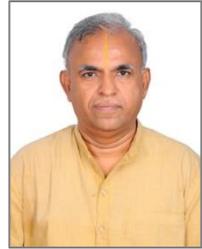
***Source: Sep 2019 issue of PreSense***

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## Plastic Pollution – a Ticking Time Bomb, Waiting to Explode

***"Single-use plastic is a ticking time bomb for the environment. Avoid it wherever and whenever possible." – Jennifer Nini, Writer, Activist***

Today, we live in a throwaway society, influenced by consumerism. There is excessive production accompanied by over-consumption. People prefer to go for short-lived disposable items, made mainly of plastics, instead of durable goods that can be repaired and have long shelf-life. Thus, every year, around 5 trillion disposable plastic bags are used by people around the world. On an average, a plastic bag is used for just about 12 minutes and then disposed. This bag then takes 500 years to decompose and get back into the carbon life cycle. The United Nations has made a grave observation that with an ever-expanding population, the world produced more plastic in the last decade than in the previous century.



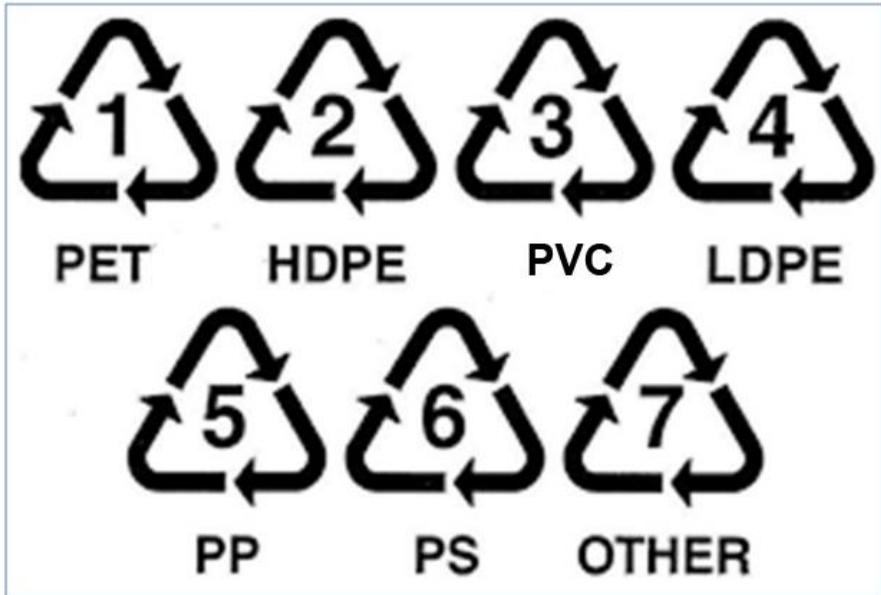
**Dr R Dhamodharan**

Dr R. Dhamodharan, Professor in the Indian Institute of Technology, Madras (IITM), an authority in plastics, shared his views and suggestions about why and how we need to combat the overwhelming threat of plastic pollution.

### **Why Plastics Have Become Harmful**

There is concern about this voluminous accumulation of disposed plastic because it adversely affects the environment and all life on it, including humans. During the natural process of breakdown of plastics, the additives used in their manufacturing first come into contact with the environment without undergoing any change. Some of these additives have been established to be toxic and dangerous to health. Then, the plastic itself undergoes chemical transformation due to constant exposure to the ultraviolet (UV) light from the sun and oxygen in the atmosphere. The chemical transformation makes it brittle, leading to its breakdown into small particles upon encountering mild mechanical forces. These

microparticles can get in to the food cycle through the food chain on land and sea.



### Classification of Plastics

There are two important classifications of plastics: i) fossil-based (non-degradable and biodegradable) and bio-based (non-degradable and biodegradable); ii) bulk and special/functional plastics (bulk plastics are those produced in large volume, eg. polythene), and special plastics, produced in small volume (e.g. TEFLON) for specific purposes.

Plastic products are graded by numerals along with recycling signs. These numerals are printed on the finished plastic products to identify them.

#### **Poly(Ethylene Terephthalate) PET (1)**

Commonly used for bottled water or soft drinks, it should never be used to carry hot beverages. This kind of plastic degenerates into its contents over time. India and Germany are pioneers in recycling this plastic.

**High Density Poly(Ethylene) (2)**

This plastic is often used for detergent and shampoo containers among other common items.

**PVC (3)**

Among the few items in this category of plastic are peanut butter jars.

**Low Density Poly(Ethylene) (4)**

This is the variety of plastic that reusable shopping bags are usually made of.

**Poly(Propylene) (5)**

It is commonly used in ice-cream cups, drinking straws and syrup bottles and other containers for medicine or food. It is generally considered the safest of all plastics.

**Poly(Styrene) (6), and Others (7)**

Plastics with numerals (6) and (7) should have red flags. Accidental burning of Polystyrene can produce very thick soot. Polycarbonate can contain residual Bisphenol A (BPA) that can act as serious hormone disruptor in the human body. BPA can imitate body hormones, and it can interfere with the production, secretion, transport, action, function, and elimination of natural hormones. Poly(Styrene) is commonly used to manufacture plastic spoons, plastic forks and coffee stirrers while bottles and microwaveable food containers are made out of Polycarbonate.

Globally, about 350 million metric tons (MMT) of plastics are produced every year. Among these, those produced in very large volume are the following five plastics:



**High Density Poly Ethylene (HDPE)**



**Polypropylene**



**Low Density Poly Ethylene (LDPE)**



**Poly Ethylene  
Terephthalate  
(PET)**



**Polystyrene**

- Poly(Ethylene) or PE,
- Poly(Propylene) or PP,
- Poly(Styrene) or PS,
- Poly(Vinyl Chloride) or PVC,
- Poly(Ethylene Terephthalate) or PET.

In view of the relatively low cost of crude oil utilised in their production, the cost of the above five plastics is also very low (around Rs. 100/kg).

Each one of these five plastics produced in very large volume have several unique and socially beneficial uses:

- High density PE is useful in storing corrosive chemicals in very large volume in comparison to many other materials. The Sintex water storing tank is also an example.
- Ultra-high molecular weight PE is useful as orthopaedic replacement joint.
- Low density PE finds a unique use as bubble wrapper.
- Foamed PS (in the form of pop-corns as well as hard foams) finds use as shock-absorbing packaging material.
- PVC is probably the only material in which blood can be stored.
- PET in the form of Terylene serves as a good synthetic fabric.

However, the easy availability of these plastics and their low cost have led to their extensive use for non-essential purposes.

**Single-use plastics** or disposable plastics are used only once and thrown away. They are more easily identified by their end-use than by name. These are sachets, cigarette-butts, bottle-caps, beverage-bottles, wrappers (food as well as consumer goods), carry-bags, straws, stirrers, plates, folders, trays, banners, flags, foam take-away food containers, etc. The common plastics that are present in these single use plastics are invariably low and high-density Poly(Ethylene), Poly(Propylene), PET and Poly(Styrene). Among the plastics, PE and PP based finished products dominate the market as they are produced in a very large quantity (to the order of 150 MMT per annum globally) and are readily available at very low cost. People can afford to live without using PE and PP in single-use plastics.

The major contributors to plastic pollution are

- Food and beverages (the most common single-use plastics that we encounter everyday are food and beverage packaging)
- Bottle and container caps
- Plastic bags
- Straws and stirrers
- Beverage bottles and containers

## How to Combat Plastic Pollution

Dr Dhamodharan clarified that knowledge about the fundamental science behind plastics, learnt over the last century, has given a lot of new information, especially about the undisputable and perhaps unavoidable use of plastics in medicine, safety, miniaturisation of electronics and a host of other applications for beneficial use. It is the temptation to use them at will because they are inexpensive, that needs to be curbed. If we let our greed overtake our needs, then the unrestricted use of any material will soon threaten the environment and make mankind an endangered species on earth. The right direction forward would be intelligent molecular engineering of plastics so that they would break down within a reasonable period after use.

One of the important steps in the efforts to reduce plastic pollution is to ban the use of single-use plastics. Single-use plastics are used to a very large extent for mass catering such as marriages. The caterers buy the plastic material from the wholesaler, use it and dispose it for the local municipality to take care of the rest of the disposal process. The starting point for banning single use plastics can begin with the caterers.

- Ban water containers of volume less than 1 litre.
- Ban the use of plastics in all items of net worth less than Rs. 10 (eg. sachets).
- Ban plastic cutleries such as knives, forks, spoons, stirrers, straws, small food carrying boxes (used for pickles, chutney, etc.). This may have to be enforced on any mass gathering where food is served.
- Hotels must be banned from packaging cooked food in plastic bags, insisting that the public should bring their own containers for this purpose.
- Ban flex banners, flags and posters (which often accidentally end up as cattle food), carry bags, gift wrappers for flowers and plastic gift wrappers.
- In addition, taxing the parent plastic that is responsible for creative uses of the plastic is also recommended, similar to the manner petrol and diesel are taxed. After all, it is the society

at large, represented by the Government, that must be responsible for the actions of its people. Even though single-use plastics are cheaper for the customer, their long-term cost and harm to the society and the environment at large should be factored in and what better way than making polluters pay for it through heavy taxes?

- Every plastic product should have prominent labelling, indicating the type of plastic used (there is an international convention in place) and the identity of the manufacturer of the finished product. None of the carry bags in India has this identity.

It is important to make the producer of these products and end-users pay for the irreparable damage to environment. Education alone is not effective. Incentives (eg. promoting the reuse of popcorn filler, urethane foam, poly (ethylene) foam, Styrofoam packaging, bubble wrap) and fear of punishment must go hand in hand.

### **Biodegradable Plastic**

Biodegradable plastics can be produced using natural resources such as lactic acid as well as from petrochemicals. Moulded plastic articles from Poly(lactic acid) are known to degrade rapidly in soil. Unfortunately, they are currently about twice as costly as plastics from fossil resources. Hence subsidising such plastics would help reduce the indirect and long-term cost. Biodegradable plastics from petrochemicals, derived in turn from fossil resources, are also known, eg. Poly(butylene adipate terephthalate) and its derivatives with Poly(lactic acid). Some of the recent substitutes for the Poly(Ethylene) carry bags are made from these plastics. They cost about 1.5 times that of Poly(Ethylene).

Besides, plastics HDPE, LDPE and PP can be easily separated at source and converted to petrol through heating. The Gas Authority of India Limited (GAIL) sponsored a project executed by IIP, Dehradun and a pilot plant with capacity to treat 1 MT of plastic waste was inaugurated in September 2019. PS can be converted into useful organic chemicals by heating. Plastic

4 can be reused as well as recycled into useful chemicals. To enable recycling the valuable carbon resources, it is essential to separate plastic waste at source, for which very simple methods usable by the lay person, are available.

Dr Dhamodharan said that the management at IITM has taken a conscious decision to avoid single-use plastics at all its events and activities even if it means spending more. For example, water for meetings is not supplied in PET bottles. Instead, 1-litre stainless steel flasks that are light-weight, are used at the office and during meetings. Plastic cutlery has been replaced by wood-based cutlery. Snacks are served in disposal plates made out of betel/corn husk. Shop owners, service providers and the campus community are persuaded not to use single-use plastics. In spite of these eco-friendly initiatives, since we live in an eco-system that is not free from single-use plastics, they do find their way into the campus when the faculty-staff-students living on campus purchase provisions and eateries from shops outside the campus.



**Earth Green Recycle**

Interestingly, back in 1998, IITM had developed a process for converting waste plastic coffee and tea cups to useful organic chemicals. This innovation was done by a post-graduate project student. The process was subsequently improved upon to convert PE (1) as well as PP (2) to petrol. One kilogram of these plastics could be converted to 900 ml of petrol. Any municipal waste is most likely to contain about 50% of plastics (1) and (2).

In conclusion, Dr Dhamodharan said, "Our generation grew up with cotton/jute bags, glass containers, clay pots and vessels, and metal containers. Aluminium and tin containers can be recycled profitably. The availability of a material at very low cost to the

customer cannot be the only criterion for promoting the use of that material. The cost to the society at large over a prolonged period has to be weighed in. In other words, the cost to the environment has to be factored in. We can re-introduce paper straws in the place of Poly(Propylene) straws, wood-based stirrers instead Poly(Styrene) stirrers, and cloth banners in the place of PVC. We can certainly avoid/ban the use of plastics in packaging cooked food.”

Erik Solheim, Head of UN Environment had said, “Making the switch from disposable plastic to sustainable alternatives is an investment in the long-term future of our environment. The world needs to embrace solutions other than single-use, throwaway plastic”.

***by Susan Koshy, Editor-in-Chief  
in conversation with Dr R. Dhamodharan, Professor,  
Indian Institute of Technology Madras (IITM), Chennai  
Source: Nov 2019 issue of PreSense***

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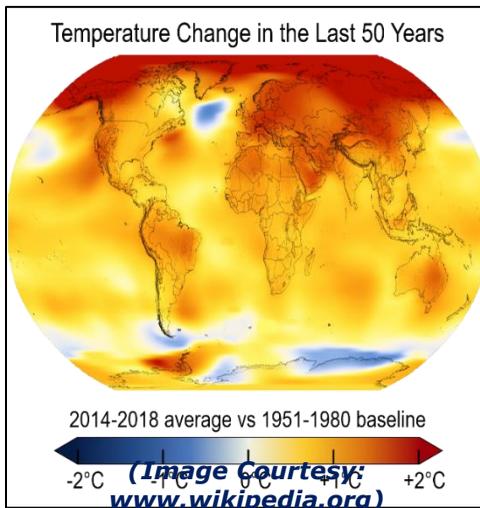
## Thunberg and the Climate Change – Is It “Now or Never” or “Much Ado About Nothing”?

The spotlight on the opening day of the World Economic Forum (WEF) on January 21<sup>st</sup> 2020 at Davos, Switzerland was on a 17-year-old climate activist, Greta Thunberg. She took on the world leaders as she spoke aggressively about the lack of action by the governments over the climatic crisis. Her sharp ‘reprimand’ brought an equally sharp retort from a world leader who had in an earlier response said, “This is not a time for pessimism.....We’re committed to conserving the majesty of God’s creation and the natural beauty of the world.” But Thunberg insists, “Our house is still on fire. Your inaction is fuelling the flames by the hour.”



**Greta**

Is Thunberg making much ado about nothing....or at least nothing really serious? Or are the world leaders just burying their heads in the sand over the matter? We need to look at the facts and reports about climate change and its impact, if any, on our planet and our lives to decide whether Thunberg is being paranoid or should be taken seriously.



The US National Oceanic and Atmospheric Administration has recorded that 2019 was the second hottest on record, being the sixth consecutive year of highest global temperatures on record – Y2014 through to Y2019! NASA (National Aeronautics & Space Agency), an independent agency under the US Federal Government states on its webpage that global climate change has already affected the

environment with loss of sea ice, accelerated sea level rise and more intense heat waves and more droughts. Earth's average temperature has increased by about 2 degrees Fahrenheit during the 20<sup>th</sup> century and NASA webpage says this is an unusual event in our planet's recent history, causing enormous changes in the environment. This change means extreme and more violent weather. At this rate, it is expected that the Arctic will soon have ice-free summer seasons by the mid-century.

The most recent catastrophe was the Australian bushfires which had been raging since last July. Lives – human, wildlife and vegetation – have been destroyed. Even rescuers were not spared. Houses have been gutted. Air became polluted causing health hazards. It was only the recent rains that could put out the fires. The worst drought in decades, swelteringly high temperatures and strong winds have fanned the fires, making firefighting operations difficult.

Elsewhere, the world has been experiencing unusually severe storms that have caused damaging floods. The storms have been recurring once too often that each was being named to identify one from the other. These climatic changes have been affecting agriculture, wildlife and human health. It is feared that these changes will lead to the ultimate death of the planet as it becomes either too cold or too hot to live in.

The reason for this crisis is attributed to humans continuing to burn fossil fuels, and the rising amount of heat-trapping gases entering the atmosphere. The expressed hope is that we still have time to change the trajectory but it has to be right now. Fossil fuel exploration and extraction needs to stop immediately. Several key countries, especially the developed ones with their economies driven by fossil fuels, are mainly responsible for doing this and this is what Thunberg is trying to drive home, in all her protests both inside conference halls and outside on the streets.

Maybe for a change, we should not discard the frantic cries of a teenager climate activist as an anger management problem. It is a fact that we have been plundering our Earth and it is only a matter of time when we will have to pay the penalty for our

misdeed, as Nature and Earth will always have the last and final say. And by then, it might be too late to redeem Earth and save our existence.

***by Susan Koshy, Editor-in-Chief***

***Source: Jan 2020 issue of PreSense***

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## Violence – The Beginning of the End

*Image*

*Courtesy:*



As  
the  
fear  
of  
the

Corona Virus Disease 2019 (COVID-2019) epidemic seizes the whole world, another type of fear is seizing India – the fear of an unhealthy mob mentality and its reactions based on mischievous provocation by insensitive radicals in the political and social circles. The result is violent and fatal outbursts in pockets in the country. These violent provocations are taking up a communal complexion, leading to a dangerous trend of mobs taking law into their hands to 'weed out' out specific communities only because of their personal faiths. This is not the India that our freedom fighters had died for. This is not the India that the Constitution of India was drafted for. This is not the India that we dream of as we speak of our technological advancement, outer space pursuits, international harmony, economic progress and social upliftment. This is not the India that every peace-loving and law-abiding citizen dreams of and hopes to wake up to, every morning.

The thing about a virus is that it starts as a microscopic invasion and if it is ignored and not arrested, it grows like a mob, spreading slowly but surely, taking lives as it suffocates the environment. The mob violence that happened in our country recently, has taken innocent lives, destroyed property and livelihoods and ruined the peace and tranquillity of the land in a couple of specific localities in

the country's capital city. If not arrested by the strong hand of the law enforcement and public/political restraint, it will threaten to grow like the virus to overtake the whole country, its economy, its peace, its people and its existence. And India has enough, if not too many, enemies with malicious intent, waiting to ignite this dangerous course.

Today's India looks at protests as a matter of right, and under that perception, the protestors resort to aggression, including stone-pelting and attacking the police. This is not democracy. This is violence and anti-nationalism. What is disheartening is that the youth of the country both from colleges (even reputed ones) and outside, are involving themselves in violence and aggression in the name of democracy and citizens' rights. As already emphasised in an earlier editorial carried by this eMagazine, rights always have their corresponding and equally important responsibilities. This is often ignored or slighted by these demanding protestors. Besides, many of the protestors are driven by emotions and provocations rather than intelligence and knowledge. The media is consciously or unconsciously instigating this unhealthy environment by their lop-sided and emotionally charged reporting. Attacking the law – the police or the armed forces – is an offence. The media ignores the violence on the police but points out attacks on the mobs by

the police. Both the protestors and the media fail to realise that the police are our fellow citizens, just doing their duties. They too, like our working compatriots, leave home and their families for work and look forward to going back to their homes and families at the end of their shifts. Why is there such insensitivity about the attacks on the policemen? Where are the human rights'

**Why is there such insensitivity about the attacks on the policemen? Where are the human rights' activists and forums? Why are they not reacting?**

activists and forums in this case? Why are they not reacting?

What is happening in the country today is not right. We need to stop passing the blame on the politicians and the systems. We need to learn to behave ourselves and conduct ourselves appropriately and properly, before we point our finger at the failures of the system and the governance. As the familiar song learnt from school goes,

*"Oh! When I point my finger at my neighbour,  
There are three more pointing back at me!"*

We need to stop and take charge of ourselves first. If we are told that something is not right, we must verify for ourselves, using our knowledge, wisdom and reasoning if it is true, and if so, we must use legitimate avenues to protest – not take to the streets, inconveniencing our own fellow citizens, blocking traffic, hoping to catch the media camera and be on television, as is the trend these days – emotional outbursts voiced for the camera and the microphone. This tendency for violent protests must stop or we will soon face the beginning of the end of our democracy.

***by Susan Koshy, Editor-in-Chief***  
***Source: Feb 2020 issue of PreSense***

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## **Money and Position are Nothing Before Nature – A PreSense Survey**



In a quick online sample survey conducted by PreSense in the last week of April 2020, 100 respondents who participated, indicated that money and position have no value before the fury of Nature. PreSense collected views from a cross section of people from different states, age groups, professions and genders.

Nearly 80% of the respondents felt that the total lockdown has helped contain the spread of Covid-19. The respondents have been generally appreciative of the discipline maintained by the people by staying at home, barring a few instances. They were also appreciative of the medical staff, conservancy staff and the police for their dedicated work across India.

There was a sense of hostility among the respondents against China for this current state of affairs. Many of them were hopeful

that India would attract more investments in the future because of the global attitude towards China.

More than 60% of the respondents felt that small and micro enterprises and the small business segment, including daily wage earners, would be adversely affected, followed by the service sector, agriculture and major industries.

Some of the main observations by the respondents are enlisted below:

### **Lessons Learnt by Respondents**

- Health consciousness of the people increased. Hygiene and cleanliness of the environment improved.
- Public unity during crisis time – prepared to face an emergency.
- Digital use for normal transactions.
- Acknowledgement that Nature is supreme. Money and position have no priority over Nature.
- Forgotten ancient Indian medical systems are being revived for better health.

### **Suggestions by Respondents**

- Provide support to small businesses and small enterprises, with subsidy and low interest rates on bank loans.
- Reduce GST on some essential items.
- Toll charges not to be collected for one year. (The Government has increased the toll charges during the lockdown period, and this has drawn much criticism).
- Encourage 'Make in India' and 'Buy in India'.
- Increase funding to the health sector and for medical research.
- Cut down unnecessary Government expenditure.
- Respect Nature and Mother Earth. Do not tamper with them for monetary gains.

### **Opportunities as Foreseen by Respondents**

- Lockdown helping 'self-realisation'.

- Economic opportunity for India due to possible migration of investment from China.
- Strengthening Research and Development in an aggressive manner.
- Improving the digital use and technology, including e-commerce, online teaching, online film launch, etc.
- Promoting Indian health care systems like Ayurveda and Siddha.
- Increasing India's manufacturing capabilities.

### **Our Recommendations**

Despite the inconveniences, there was optimism in the minds of the respondents that India will overcome this challenge and emerge as a strong nation. Even in the past, every challenge faced by India has made the nation stronger. This Corona challenge has 're-set' the entire global system, including India's.



The PreSense Team also discussed with experts about the observations of the respondents. While they all generally agreed that the Coronavirus crisis has opened up new opportunities, they felt that the Government of India and the State Governments should have proper plans in place and utilise this opportunity to increase investments in India, based on the global goodwill earned. India can emerge as an alternate manufacturing hub to China.

Presently, India is not spending enough on Research and Development. With the support of world class institutions like IIT, IIM and IISc, the Government can encourage more research and innovation.

After the lockdown, India will face serious economic impacts. Small vendors and SMEs (Small and Micro Enterprises) will face serious issues. It may lead to retrenchment and closure of some units. There is a perception among the people that the Central Government has not been handling the economy of the country effectively in the last four years. The Government should set up an 'experts committee' with people who have the knowledge and experience in handling such critical situations. Prime Minister has shown good leadership during this crisis. PreSense hopes that he will continue to show his leadership in managing the post Covid-19 economic situation smoothly.

***by K Srinivasan, Publisher and Managing Editor,  
with Priyadharshni Rahul, Deputy Editor  
Source: March 2020 issue of PreSense***

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## Bank Mergers

### Introduction

In a path-breaking 1991 report on banking sector reforms, M. Narasimham, a former Reserve Bank of India Governor, had recommended mergers to form a three-tier structure with three large banks with international presence at the top, eight to ten national banks at tier two, and a large number of regional and local banks at the bottom. Then followed the P.J. Nayak Committee with the suggestion that state-run banks should either be merged or privatised.

Over the past couple of years, Public Sector Banks (PSBs) in India have seen mergers and the latest took place in the beginning of this financial year (1<sup>st</sup> April 2020). The focus of this cover story is the merger of Public Sector Banks in the light of this recent merger.

A bank merger is a situation where more than one bank pool their assets and liabilities to become one bank. In a merger, there is an anchor bank and an amalgamating bank or banks, where the amalgamating bank or banks get merged with the anchor bank. Mergers of Public Sector Banks have generally been done in the past to revive poorly performing banks as

the risk from these banks are taken over by the better performing anchor bank. Some of the other advantages of such mergers are growth in terms of customer base, and size of the balance sheet and profits, even if the process poses challenges to a seamless



transition. The merger is expected to create fewer and stronger global-sized banks to boost economic growth.

### **Merger of PSBs in 2020**

On 1<sup>st</sup> April 2020, ten PSBs merged to become four large banks.

- Oriental Bank of Commerce and United Bank of India merged with Punjab National Bank to form the merged and currently second largest PSB, Punjab National Bank.
- Syndicate Bank merged with Canara Bank to become the merged and currently fourth largest PSB, Canara Bank,
- Andhra Bank and Corporation Bank merged with Union Bank of India to become the merged and currently fifth largest PSB, Union Bank of India, and
- Allahabad Bank merged with Indian Bank to become the merged and currently seventh largest PSB, Indian Bank.

The Government of India approved the amalgamation of public sector banks to bring down the number from 27 PSBs in 2017 to the current status of 12 PSBs, post-merger of April 2020. In 2019, Vijaya Bank and Dena Bank had merged with Bank of Baroda. State Bank of India ranks first among the PSBs. Six PSBs continue to remain independent for the time being, viz Indian Overseas Bank, UCO Bank, Bank of Maharashtra, Punjab & Sind Bank, Bank of India and Central Bank of India. There have been speculations circulating in the markets about the plans in the pipeline for the future course of action for these six banks.

The mega consolidation would help banks with scale comparable to global banks, and be capable of competing efficiently in India and globally. The greater scale and synergy would lead to better cost benefit, and impact the Indian banking system positively. Even though the stock market is initially reacting negatively to the merger, with the shares of the anchor banks falling, in the long run, the position is expected to stabilise once the merger process is completed. It is believed that the adoption of best practices across the amalgamating entities would enable the banks to improve their cost efficiency and risk management, and also boost the goal of financial inclusion through wider reach.

Even then, there is much debate about the merits and demerits of bank mergers, since mergers are never a seamless process. For example, the Officers' Association is of the opinion that mergers is not good news, as 'India needs financial inclusion, and merger would exclude small customers from the banking map.' They argue that 'it is a myth to believe that by merging, the large banks would become globally competitive.' They cite the example of the banking crisis that happened in USA, where the big banks that were 'too big to fail, collapsed like a pack of cards.' Large global banks had collapsed during the global financial crisis while smaller ones had survived the crisis due to their strengths and focus on micro aspects. They feel that India cannot afford to take such risks by mergers into big banks.

### Merits of Merger



Primarily, the chances of the survival of the underperforming, amalgamating bank increases as it gains the benefit of merging with the stronger anchor bank. Its customers too, stand to gain from the survival of

the weak bank. This status of rescue and survival is vital for the country's economy. The national objective of financial inclusion and widening the geographical reach of banking is better achieved with merger, leveraging on the rural branch network and staff expertise in these specialised sectors for finance. With a larger capital base and higher liquidity, the burden on the central government to recapitalise the public sector banks over and over again will come down substantially.

Mergers also minimise the scale of inefficiency, which is otherwise pronounced in the case of the weaker bank. The merged bank is also better able to manage the risk, and NPA (Non-Performing Assets) portfolios.

Merger enables better integrated growth in the banking sector, as against a fragmented approach in the presence of multiple small and large banks covering overlapping geographical and sectoral areas for their business. Merger enables the larger bank to cater to large corporates as generally they prefer to deal with large banks, with better capabilities to advance large corporate loans. Thus, a large bank can hold higher group exposure limits in advances to industrial sectors.

A merged anchor bank has an instant access to a large number of new customers from the amalgamating bank. It also gains more capital for lending and investments. This reduces the cost of banking operations. While on the subject of costs, multiple posts of top executive positions are done away with, resulting in further financial savings. There is improved efficiency and reduced cost of operations as employees will be reassigned, providing better efficiency ratio for business operations as well as banking operations which is beneficial for the economy.

A larger bank is capable of facing global competition and financial needs. At present, only SBI is listed among the top 100 banks in the world. It is imperative that the Indian banks gain greater recognition and higher global ratings to become a global player.

### **Demerits of Merger**

Most of the problems arising from mergers are emotional and social in nature than technical or managerial. For example, employees, especially from the amalgamating bank are apprehensive about their future in the bank. This fear is not unfounded as roughly 30% of employees on an average, are deemed redundant, after a merger. Besides, staff who have been used to associating their professional identity with their earlier bank which is the amalgamating bank, have to cope with realigning their identity with the anchor bank. It is critical that the management of the merged bank maintain constant communication with its employees to reassure about their security and welfare so that employees are not distracted, and are able to work towards a smooth merger.

The customers who have been loyal to the amalgamating bank, could feel insecure about their portfolio in the new merged bank. Here again, it is critical that prompt, regular and reassuring communication by the merged bank is dispatched to all the old and new customers. It should spell out the steps taken by the bank for smooth inclusion and service of all the customers. If customer perception is not managed with frequent and careful communication, it could lead to loss of business and this is not good for the bank.

## **Conclusion**

It is imperative in the national economic interest that poorly performing public sector banks be integrated with stronger efficient banks. The overall value of the merged bank generally increases after merger. This proves that the market believes that well-crafted and executed mergers will create value.

Bank mergers are complex procedures with the possibility of extraordinary payoff or extraordinary peril. It is therefore important to keep these benefits and dangers in mind while merging the processes of the merging banks and the merged entity for successful merger. So far, the report card for the Indian banks that have merged, has been good and successful. Even the merger of the ten banks into four that happened in the peak of the COVID-19 pandemic, has been underway in a best smooth process under the given circumstances, with little inconvenience to customer and staff.

***by Susan Koshy, Editor-in-Chief***

*Resources Input:*

***Dr K Prabhakar, Editorial Advisor***

***C Badri, Former General Manager, Canara Bank***

***R Venkatesh, Corporate Trainer & Consultant***

***Source: July 2020 issue of PreSense***

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## **Interview with Shri T.N.Manoharan, Chairman, Canara Bank – The Impact of Merger of Banks**

In an exclusive interview, Susan Koshy, Editor in Chief, PreSense sought the views of the Chairman of Canara Bank, Shri T.N.Manoharan, since Canara Bank had undergone a recent merger in April 2020. Canara Bank was one of the anchor banks in the recent merger of Indian Public Sector Banks. Syndicate Bank merged with Canara Bank to become the consolidated entity, Canara Bank. We reproduce below excerpts from the interview. For the full text of the interview, please read from the following link:

<http://www.prpoint.com/doct/manoharan.pdf>

Shri T.N.Manoharan is Chairman of Canara Bank since August 2015.

Hailing from a freedom fighter's family with agriculture as occupation, Shri T.N.Manoharan is a Chartered Accountant of 37 years' standing. He was the President of the Institute of Chartered Accountants of India (ICAI). He has authored books on Indian tax law for professionals and students. He is an acknowledged teacher having been a visiting faculty of renowned Institutions.



T.N.Manoharan

Shri Manoharan was a Member of the Advisory Board on Banks, Commercial and Financial Frauds (ABBCFF), constituted by the Central Vigilance Commission (CVC). He was also a Member of the Appellate Authority, constituted by the Union Government with reference to the disciplinary mechanism governing the accountancy profession in India.

He was honoured with several awards in recognition of his exemplary professional achievement and leadership, the most prestigious being the civilian honour 'Padma Shri' Award from the President of India, which he received in 2010.

**Q1. Will the merger of banks help in better NPA and Risk Management? Would you please explain how it does?**

After merger, the merged entity will have better infrastructure, resources and bigger scale of expertise in place for better NPA and Risk Management practices and to face the emerging challenges in a more prudent manner.

**Q2. What is your view on the problems arising due to mergers and acquisitions?**

It is merger of equals, with the banks in the same environment and having the commonality of services. In the case of merger of Syndicate Bank with Canara Bank, we have done premerger due diligence. Both had culture of conservatism, efficiencies and playing within the defined appetite of risk.

There is a minor challenge in the Technology front. Even if two banks run on the same CBS (Core Banking System) platform, its implementation is different in different banks according to the products offered and processes adopted by each bank. Technology integration may take a little time to fully integrate, and we are doing it in a planned manner. In spite of the complexity and efforts required, IT Integration provides the opportunity to streamline the systems and choose the better products for the amalgamated entity.

**Q3. Bank mergers go beyond merger of the books of accounts and technology. It entails merger of different working culture of the staff. How can this be dealt with for the best seamless merger?**

We need to acknowledge the merger as an instrument to strengthen the banks against various economic shocks which otherwise will be very difficult to sustain as an individual bank. We also need to thrust cultural realignment without prejudice against/in favour of the workforce, with mixed deployment at all levels with shared responsibility and hand holding. Similarity of culture has ensured uniformity of behaviour and attitude. The expected synergy is almost achieved. We have the mechanism to receive continuous feedback to understand employees' concerns and issues. Before merger, teams from both the banks have

collectively unified policies by adopting best practices, policies and procedures.

**Q4. Large global banks had collapsed during the global financial crisis while smaller ones had survived the crisis due to their strengths and focus on micro aspects. In this scenario, how would you support mergers?**

During the 2008 financial crisis, US banks and other big financial institutions were deemed 'too big to fail' and it was sub-prime lending which caused the crisis. A study released from a Federal Reserve Bank (USA) shows that a surprising number of community banks not only survived the financial crisis — they thrived. A 'thriving' bank is one that earned a continual CAMELS rating of 1. (CAMELS is a bank-rating acronym that stands for six examination factors: Capital Adequacy, Asset Quality, Management Quality, Earnings, Liquidity and Sensitivity to Market Risk). So, the banks which had high governance standards and committed for quality growth thrived.

The Public Sector Banks' reform agenda and merger of banks remain focused on improving corporate governance, increasing competitiveness, operational efficiencies and improving various financial ratios.

**Q5. What are the challenges that you are facing or expect to face in this exercise of synergising the merged entities?**

The main challenges for the amalgamated bank are IT Systems Integration, IT Surround Applications Integration, Data enrichment and cleansing, all of which are critical for migration and further, the amalgamation process involves significant execution risks given the complexities around business and people, with potential to distract the top team leading to loss of momentum on current business as well as transformation initiatives.

To overcome these challenges, the Bank has prepared a comprehensive blueprint for version upgradation, integration of applications, networks and infrastructure, and a separate cell 'IT synergy' is established to take care of all the technology related

issues, and milestone wise progress is being monitored on a regular basis. To achieve amalgamation timelines, many activities are being done parallel with the support of various stakeholders and we are confident of achieving the intended benefits of amalgamation in the process.

**Q6. Generally, how long does a complete synergy of the two entities to form the merged unit take? What does the process involve?**

With two successful mergers having taken place in the recent past in India viz. merger of State Bank of India with five of its associate banks and Bhartiya Mahila Bank, and amalgamation of Vijaya Bank and Dena Bank into Bank of Baroda, the way forward was very clear. Best practices adopted in the process of the amalgamation of these banks have been considered and adopted while implementing amalgamation of Syndicate Bank into Canara Bank.

In our Bank, we have planned to complete the amalgamation process including version upgradation latest by 31<sup>st</sup> March 2021. However, in view of the present COVID situation, there may be some delay in completing the process. We are of the opinion that to realise complete synergy benefits – both Cost Synergies and Income Synergies, it may take 2-3 years.

**Q7. Customers, particularly old-timers have some emotional attachment to their respective 'small' banks. How would you deal with this category of customers?**

The thrust is on giving best customer service and there is no difference in service, whether a customer belongs to transferor bank or transferee bank. Suitable guidance and instructions have been given to all branches to extend courteous and qualitative service to all the customers.

**Q8. How will the agriculture sector, SMEs and poor people get the benefit from the merged big banks?**

Merged banks with wider geographical spread and tailor-made schemes can play an important role in credit flow to agriculture

and small enterprises. In India, where, the reach of banking is an issue from financial inclusion perspective, there is merit in considering access to bank credit and services through expansion of banking network in unbanked and under-banked regions.

The large bank with its enhanced size, network of branches including better regulatory prescriptions and corporate governance will be able to serve the credit needs better through relationship banking in financing agriculture and SMEs (Small and Medium Enterprises).

A bigger bank can invest higher amounts towards conducting outreach programmes to farmers in the form of technology, marketing and service staffs. Big banks with enhanced capacity to increase credit and bigger risk appetite can venture into new and innovative areas of financing. A bigger bank can provide credit at cheaper rate due to economies of scale. The combined portfolio of both the banks has led to a diversified base, thereby making it possible to leverage in a better way in the amalgamated entity.

Dedicated attention is given to all clients through exclusive SME processing hubs, widened network of SME specialised and SME focus branches, thereby ensuring that the existing customers/business is not lost to the peers. Further, merged entities would come out with more customer friendly offerings that would benefit the existing and proposed clients.

***Source: July 2020 issue of PreSense***

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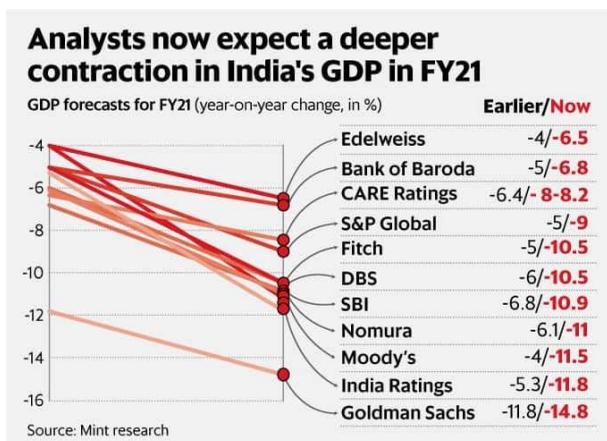
Gross Domestic Product (GDP) represents the money value of the total goods and services produced in a country during a particular period, generally a year. It is assumed that the higher the GDP, the better the country's economy, although this is debated by some economists. Let us assume that it is a rough indicator. The four major components of GDP are:

- Private consumption, expenditure or purchase of goods and services by households;
- Investment expenditure;
- Government purchases of goods and services such as salaries paid by the government and purchase of services by the government.
- Net exports, *ie.* exports minus imports.

Therefore,

1. If households spend more money on goods such as durables (refrigerators, cooking equipment and others) and non-durables, the GDP will increase.
2. If more investment takes place, it will increase the productive capacity of the economy and more growth.
3. The higher the government expenditure, the higher the GDP. (That does not mean it can spend any amount).
4. The higher the exports and the lower the imports, the higher the GDP.

India's share of the world GDP is 3.28%, which is higher than that of Russia, Brazil, France, and Italy. However, it is thinly distributed among a population of 1.3 billion, giving rise to low per capita income. Analysts



across rating organisations posit top position in the emerging markets space to the fifth position. This is not unexpected as India had gone for a total lockdown. The natural consequence is a contraction in its economy.

### **Government's Response**

During the pandemic, the GDP in India shrunk by 23.9%. These figures are for the formal sector and do not include the informal sector which represents 85% to 92% of the people who are employed, for which the impact will be more severe. The shrinking of the GDP has led to unemployment.

Robust social and physical infrastructure and the public health system are likely to address the issues of pandemics. The social divisions in India hinder, and the physical infrastructure is inadequate. The public health system in India is yet to achieve any significant milestones. The public health system is a **conglomeration of all organised activities** that prevent disease, prolong life, and promote the health and efficiency of its people. Some of the highlights of the inadequate public healthcare are that 11.9% of all maternal deaths and 18% of all infant mortality in the world occur in India, ranking it as the highest in the world. Out of every 1000 children born, 36.6 of them are dead by the time they reach the age of five. Besides, the quality of the healthcare by way of wrong diagnosis and corruption in treating patients also played a role in creating an inadequate healthcare system in India.

The Indian economy was showing fault lines with its growth shrinking to 3.5%. The banking system in India is driven by Public Sector Banks, Private Sector Banks, and Non-Banking Financial Companies (NBFC). For quick understanding, NBFCs do everything that a bank does but does not accept deposits from individuals. The failure of IL&FS and a slew of NBFCs plagued by frauds, financial imprudence, and corruption led to mounting Non-Performing Assets (NPAs). It is estimated that the NPAs of Public Sector Banks and NBFCs peaked at 10.36 lakh crore as of 31<sup>st</sup> March 2018. They have fallen to 9.4 lakh crore for the year 31<sup>st</sup> March 2020. (The latest figure up to August 2020 is not available.) Having large NPAs in their asset portfolio, the banks are not willing

to take risks to fund any more business. The profits are used more for provisioning against NPAs. Transmission of interest cuts is yet to be implemented.

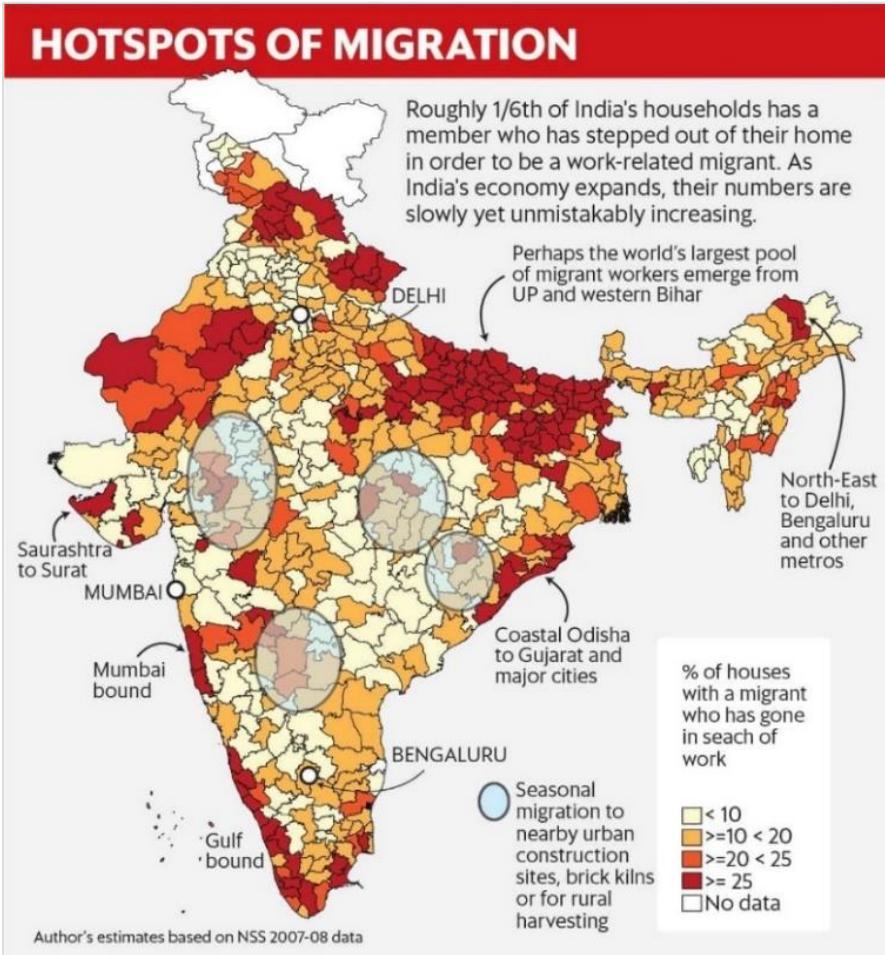
### **Employment Scenario During Pandemic (March-August 2020)**

During the pandemic, Government of India came out with additional loan guarantee to MSMEs (Micro, Small and Medium Enterprises) to the tune of 3 lakh crore. These measures may have impacts on the medium-term for which data is yet to be made public. Another initiative is 'PM Cares'. The total stimulus amounted to 2% of the GDP. The United States of America spent 10% and Japan has spent 15% of GDP on Covid-19 response. If the public debt (currently 70% of GDP) is increased in India, the macroeconomic stability may get threatened.

While official data is yet to be made available, the Centre for Monitoring Indian Economy (CMIE) data reveals that salaried jobs in India to the tune of 2.1 million out of 8.6 million (24.5%) were lost in August 2020. The Labour Force Participation Rate (LFPR, the number of persons employed, willing to work or actively seeking work in the working-age group of 16 years to 64 years) is 49.5%.

### **Agriculture and Covid-19**

At a time when the Indian economy is facing its worst crisis due to the coronavirus-led lockdown, the 'above normal' monsoon is likely to provide some respite to the agriculture sector, which contributes nearly 17% of India's GDP and provides jobs to around 50% of the population. The monsoon rains were 7% above average this year, leading to a 7% increase in the crop sowing. The agricultural sector showed a growth of 3.4% during the pandemic, and is the only sector to have growth (CRISIL Report). The rains are a true act of God.



### Migration and Covid-19

According to Chinmay Tumby, author of 'India Moving', and an expert in migration, approximately 16.67% of the Indian households have one member belonging to the work-related migrant segment (*see image*). The migrants are more circular. The majority of them migrate, not to settle there, as it happens in the case of migration to a country like the USA. In India, the male members move to the other parts of the country, leaving their women and their children back home.

## **Post-Covid-19**

The principle of Hysteresis in economics refers to an event in the economy that persists into the future, even after the factors that led to that event have been removed. Hysteresis can include the delayed effects of unemployment, whereby the unemployment rate continues to rise even after the economy has recovered.

Once the cause *ie.* Covid-19 and its effects on employment are removed, the economy may not bounce back due to hysteresis. The people who went back to their native places due to the pandemic, may not return. A researcher posited that the workers are willing to be in their hometowns even if the wages are 34% less than the wages they would get in urban areas. If enough opportunities are provided in places like Uttar Pradesh and Western Bihar, where a large number of migrant labourers reside, the migration may not happen to the level of the pre-Covid period. The loss of skills of this labour segment may have an impact on the skill inventory of the country. The prolonged lockdown of schools and colleges may also impede skill enhancement.

## **Expectation from the Society**

Considering these challenges, the Covid management in India is exemplary and the credit goes to the visionary leadership of the Prime minister of India, Shri Narendra Modi for limiting the death rates and the spread of the virus by appropriate interventions considering India's huge population. *Atmanirbhar Bharat*, which translates to 'self-reliant India' or 'self-sufficient India' is the vision of the Hon'ble Prime Minister of India of making India "a bigger and more important part of the global economy", pursuing policies that are efficient, competitive and resilient, self-sustaining and self-generating. This strategy is likely to help India in the long run.

## **What the Civil Society Must Do**

1. Follow social distancing and all the protocols for a foreseeable future.
2. Pay taxes and enjoy being a law-abiding citizen.

3. Experts suggest the economy may not come back to the 2018-2019 levels even after three years.
4. Avoid Optimism Bias (or the optimistic bias, which is a cognitive bias that causes someone to believe that they are less likely to experience a negative event. It is also known as unrealistic optimism or comparative optimism – “*I have not seen people whom I know get it and so, I will also not get it.*”
5. Conservatism in spending should help in trying times.

**by Dr. K Prabhakar, Editorial Advisor (Researcher in Social Forecasting)**

*(Data and References from the public domain)*

**Source: Sep 2020 issue of PreSense**

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## **India Secures 48th Rank, the Best in Four Decades, in Tokyo Olympics**

India finished 48<sup>th</sup> in the overall rankings in the just concluded Tokyo Olympics. Considered the best in four decades. India could have actually finished 33<sup>rd</sup> if the calculation went by total number of medals. However, ranking is done primarily based on gold medals won. The previous best was 51<sup>st</sup> rank at Beijing in 2008.



India won 1 Gold, 2 Silver and 4 Bronze medals with its finest performance of all time at the 2020 Tokyo Olympics.

Gold – Neeraj Chopra | Athlete

Silver – Saikhom Mirabai Chanu | Weightlifter

Silver – Ravi Kumar Dahiya | Wrestler

Bronze – Men’s Team | Hockey

Bronze – PV Sindhu | Badminton

Bronze – Lovlina Borgohain | Boxing

Bronze – Bajrang Punia | Wrestling

Indian javelin thrower Neeraj Chopra made history winning India’s first-ever Olympic track and field gold.

PV Sindhu became the only Indian player to win a medal in two consecutive Olympics.

Prime Minister Narendra Modi honoured them hosting a special breakfast at his official residence.

## Olympic Medal Count

The delayed Tokyo 2020 Olympics drew to a close after two weeks of thrilling action as more than 11,600 athletes competed for glory. The United States finished at the top of the medal table with 39 gold medals, China with 38, and the host Japan at 27 respectively. The host country managed the event successfully, braving all the challenges of Covid 19, putting unprecedented safety protocols in place in any Olympic event in terms of security and health care.

TOKYO 2020		TOKYO 2020					LOG IN			
		SCHEDULE & RESULTS	MEDALS	SPORTS	LIVEBLOG	NEWS	VIDEOS	ATHLETES	TEAMS/NOC	F
Rank	Team/NOC	#1	#2	#3	Total	Rank by Total				
1	United States of America	39	41	33	113	1				
2	People's Republic of China	38	32	18	88	2				
3	Japan	27	14	17	58	5				
4	Great Britain	22	21	22	65	4				
5	ROC	20	28	23	71	3				

## New Games and Sports

The Tokyo Olympics, featured new Olympic sports, including surfing, sport climbing, skateboarding, baseball and karate. Japan's Momiji Nishiya aged 13, won the gold in the women's street skateboarding competition to become the country's youngest gold medal winner. Brazil and the US took the gold medals men's and women's competitions respectively in Surfing. Japan won gold in Karate in its debut attempt in this inaugural event.

## Best Moments

Qatar's Mutaz Barshim and Italy's Gianmarco Tamberi chose to share a rare Olympic athletics gold in the high jump event, hailed by many as one of the best moments of the games.



## World Records Broken



Tokyo 2020 saw world records broken in 24 events, with swimmers and rowers making the most breakthroughs, shattering six world records each. Four world records were broken in weightlifting and three in athletics and cycling track events.

The next Summer Olympics is scheduled to be held in Paris, France, from 26 July to 11 August 2024.

PreSense congratulates the host country Japan for managing the biggest sporting event successfully braving the Covid 19 threat. PreSense also congratulates all the Winners from India and other countries.

***By Srinivas Gopal, Technology Advisor, PreSense  
Source: July 2021 issue of PreSense***

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## Index

### A

Alfred Nobel ..... 71  
 Ashok T N.....9, 14  
 Astrology ..... 50, 51, 52, 53, 54  
 Ayya Nadar ..... 60

### B

Bank Consolidation..... 94  
 Bank Merger ..... 159

### C

Carbon footprint..... 83  
 Cartoon..... 15  
 CIBIL..... 136, 137, 138, 139  
 Civil Society..... 174  
 COVID .....152, 163, 167

### D

Digital Journalists Associaiton of India  
 ..... 13, 15, 19  
 Digital Journalists Association of India  
 ..... 13, 15, 19  
 Digital JoyebKUARA aaixuRUIB ID uBSU  
 ..... 13, 15, 19  
 Divya.....74, 75, 76  
 Dr APJ Abdul Kalam .. 7, 8, 10, 14, 15, 18,  
 19, 21, 24, 34, 36, 56, 57, 58, 69  
 Dr K C Chakrabarty ..... 45  
 Dr K Radhakrishnan ..... 41  
 Dr P Ganesan ..... 11, 12, 63  
 Dr R Jagannathan..... 14, 73, 83, 90, 115,  
 122, 131  
 Dr Ramamurthy ..... 10  
 Dr Subramanian Swamy ..... 48  
 Dr V Ponraj ..... 10  
 Dr Y S Rajan .....8, 15, 36  
 Dr. Vinton G. Cerf ..... 31

### E

Education..... 9, 15, 19, 75, 76, 111, 113,  
 115, 116, 146  
 Education Loan Task Force .....15, 19, 75  
 Election Commission .....38, 39, 40  
 Environment..... 52, 77, 90, 132, 148

### F

Flag Day .....98, 103, 104  
 Floyd Schmoe .....91, 92, 93

### G

GSLV .....41, 42

### H

Health ..... 14  
 Higher Education116, 117, 119, 120, 121  
 History ..... 14

### I

IIT Madras..... 19  
 India 2020..... 8  
 Indian Parliament ..... 15  
 Innovation ..... 34  
 Introduction.....6, 15  
 ISRO ..... 41, 42, 43, 44, 56, 127

### J

Jimmy Wales..... 28

### K

K Srinivasan .....10, 18

**M**

M S Subbulakshmi .....	67, 68, 69
Media .....	14, 15
Milestones .....	15
Modern Internet.....	31
Mother Nature .....	81, 84, 85, 92

**N**

NASA.....	63, 78, 127, 149
Next Gen Political Leaders.....	19
Next Gen Political Leaders.....	19
Nobel Prize ....	25, 32, 67, 71, 72, 73, 118

**O**

Olympics.....	176, 177, 178
---------------	---------------

**P**

Perseverance .....	48, 74
Plastic Pollution .....	86, 90, 140, 145
PreSense Survey .....	155
Prime Point Foundation.....	1, 10, 15, 18
Prime Point Srinivasan.....	18, 26, 34
Prince cartoons.....	14
Priyadarshni.....	14
Priyadarshni Rahul.....	14, 158

**R**

Rajendran V .....	9, 97, 139
-------------------	------------

Research... 31, 34, 41, 56, 116, 117, 119, 127, 128, 157
---

Reserve Bank of India ....	45, 94, 137, 159
Rural Development.....	24

**S**

Sansad Ratna Award.....	9, 15, 19, 77, 109
Sansad Ratna Awards .....	15, 19
School Education .....	111
Sivakasi .....	11, 12, 60, 61, 62, 63, 65, 66
Srinivas Gopal.....	14, 178
Srinivasan K .....	10, 11, 12, 13, 14, 18
Sukruti Narayanan .....	10
Susan Koshy.....	9, 13, 59, 70, 76, 85, 93, 104, 108, 126, 135, 148, 151, 154, 163, 164

**T**

T N Ashok.....	9, 14
T S Krishnamurthy .....	38
Tokyo Olympics .....	176, 177
Triambak Sharma .....	13

**V**

V Rajendran .....	9
-------------------	---

**W**

Wikipedia.....	28, 29, 30
World Economic Forum.....	149