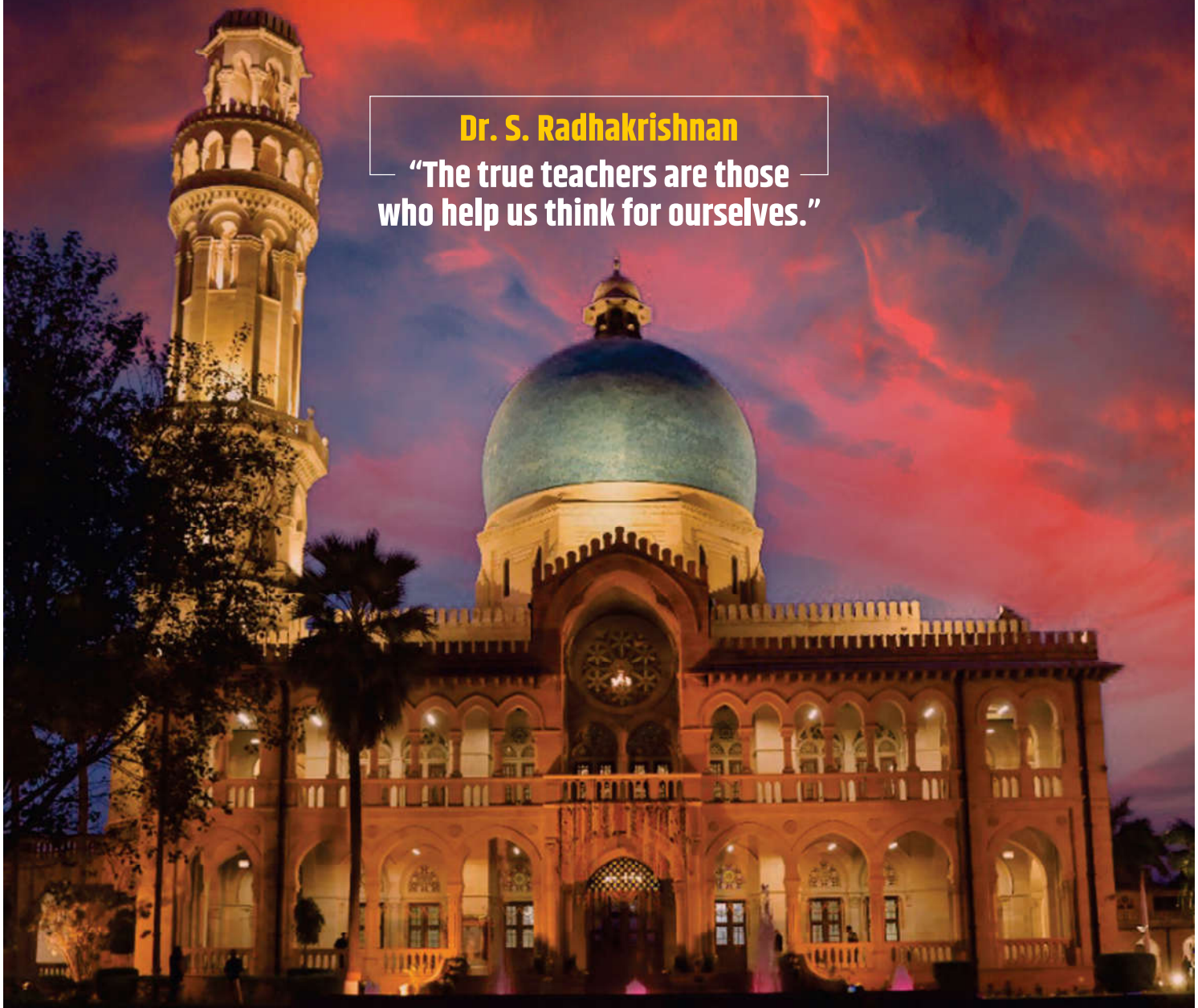
A Journey So Far

AUSTAAM

SEPTEMBER 2022



Dr. S. Radhakrishnan

"The true teachers are those who help us think for ourselves."

ALLAHABAD UNIVERSITY STATISTICS ALUMNI ASSOCIATION

AUSTAA

From the Chairperson

We cannot always build the future for our youth, but we can build our youth for the future

- Franklin D. Roosevelt

Located in the city of the Sangam, a confluence of three rivers, the Allahabad University also represents a confluence of various beautiful ideas. Soon after it was founded in 1887, the University became a ray of hope in the era of darkness. After 135 years of its glorious innings, it continues to remain the go-to place for higher education of excellence and keeps flourishing and blooming even in the changing times enjoying its status as one of the finest Universities of India, and justifying its title as the Oxford of the East.

Over the ages, the University of Allahabad has proved its worth and produced a continuous stream of notable alumni, year after year. These alumni are still connected together carrying the flame of pride of their institution. Alumni of any institution constitute a strong foundation for the giant pillars of any institution. Today AUSTAA is not just an alumni association but a family, where its members across the globe, and from different walks of life, have chosen different paths in life but are still linked together in the name of University Of Allahabad. The common endeavours and strong bond amongst the alumni have always strengthened the AUSTAA family. Ever since its birth, AUSTAA has been acclaimed due to the valuable contributions of its distinguished alumni. Each member aims to contribute significantly for the welfare of students and for University of Allahabad.

AUSTAA' s main aim is to build a capable youth , through guiding them and generating possible opportunities for them, in addition to work on health, education and public welfare with the goal to create a better society for the future generation. Day by day, since its inception, AUSTAA has been achieving newer milestones. These are not only the accomplishments of its notable alumni but hundreds of its members who were working together in this giant family.

With the huge success of last year's AUGUST Edition, the EDITOR -IN-CHIEF and his team have worked hard to see that this SEPTEMBER Edition breaks all records. This September edition is depicting the journey of the Statistics Department of University of Allahabad and its branches over the years. On this occasion, we express our gratitude to our learned professors who contributed so immensely for the growth of the Statistics Department and welfare of its students, especially to late Professor S. K. Bhattacharya, Prof. G.S. Pandey, Prof. Anoop Chaturvedi, Prof. S. Lalitha, Prof. Randhir Singh and Prof. Santosh Yadav. Today AUSTAA has an enormous strength and is capable of bringing a change in the society, that has been possible only under the able guidance of our great teachers. We are also proud of the bright students who have been, or are, part of this great institution. Their achievements and accomplishments have always glorified the department of Statistics. This edition is dedicated to all the enlightened teachers and its bright students who have once part of its glorious journey.

Best wishes to all for future endeavours!

A. K.Singhal
(1971-73 Batch of Graduation)

From the EDITOR-IN-CHIEF

It is with a sense of great delight and pleasure that we are presenting to you the September issue of our AUSTAA voice, "AUSTAAM." Besides the creative splendours and cognitive outputs, the magazine has been a coherence of digital and traditional efforts. Lao Tzu rightly says that "The greatest journeys in life begin with the smallest steps." And with these small efforts, this issue of the magazine has been released. I sincerely thank all the members of my team. Like in the previous issue, our editors have tried to maintain the interest and appreciation of the readers with their enthusiastic writing in this issue. I am thankful to all my seniors and younger, especially Shri O. N. Pathak, Shri Arvind Singhal , Shri Sanjay Mishra , Shri Niyati Joshi, and Shri Himanshu Katyan.

The future of a nation is bright only when it remains connected moment by moment with the pride of its past experiences and heritage. We all know that India has a rich historical consciousness and an immeasurable store of cultural heritage to feel proud of, and now we are celebrating the 75th birth anniversary of India's independence. Programs under the name of "Azadi Ka Amrit Mahotsav" are being organised to celebrate and commemorate 75 years of progressive India. Azadi ka Amrit Mahotsav began 75 weeks before the 15th of August 2022 and will last through the 15th of August 2023. In these 75 years, India has made significant economic progress, although in fits and starts. Unexpected success has been achieved in every field. But now our country is behind in many areas. These backward areas can be made into leaders with a clear policy and approach. Unexpected success has been achieved in every field. But even at this time, our country is lagging behind in some areas. These backward areas can be developed with a clear policy and approach.

Clarity is an important progressive quality. Clarity of mind and purity of heart make for a high level of discernment and proper decision-making. They both help with correct thinking and right understanding of the people and situations around us. Lack of clarity results in a downward spiral of confusion, fear, anger, restlessness, and lack of happiness. It makes things worse and causes harm to our near and dear ones. Clarity develops with a goal. Having a goal helps with clarity of thought. Without a goal, we are without direction, purpose, and meaning. When we are goal-oriented, we are not bothered by unnecessary things. Having multiple main goals is a problem. Multiple channels of attention scatter our focus, so we are not effective in the pursuit of any goal. The sole goal of this magazine is to increase your creativity and give it a platform.

Every piece of work is incomplete without sincerity and dedication, along with hard work. Our magazine is a product of the integration of these elements by a number of working bodies connected to it. I sincerely thank each and every person who sent in their entries. Cheers to the Editorial Board that worked as a team via online platforms to ensure the magazine's timely release. This issue includes articles, poems, anecdotes, artwork, and a host of other things. On behalf of the Editorial Team, I heartily welcome our readers to this digital edition of AUSTAAM. I hope you will find the joy that you are looking for in the pages of our magazine.

Your pleasure marks the success of our efforts.

Best Wishes

Dr. Ashutosh Shukla
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A JOURNEY SO FAR:
STATISTICS DEPARTMENT UNIVERSITY OF ALLAHABAD

Every year thousands of students with millions of dreams, high hopes and aspirations of their bright future and life enter university or college life, with the hope and zeal to make a difference in their lives. Once their studies get completed and university life ends, they choose different paths and move to different walks of life, still it's their university, their departments, their friends, their teachers and countless memories that hold and connect them together.

University Of Allahabad, once known as “Oxford of the East”, is the second homeplace of thousands of students who have grown under the shadow of this giant banyan tree. It has served as a beacon for the growth and all-round development of our nation. For over a century University of Allahabad has occupied an esteemed position among the universities of India. The University of Allahabad is a collegiate central university located in Prayagraj, Uttar Pradesh, India. It was established on 23 September 1887 by an Act of Parliament and is recognised as an Institute of National Importance (INI). It is one of the oldest modern universities in India. Its origins lie in the Muir Central College, named after Lt. Governor of North-Western Provinces Sir William Muir in 1876, who suggested the idea of a Central University at Allahabad, which later evolved to the present university. In view of these achievements, as well as its position among the universities of Uttar Pradesh, the state government accorded it formal recognition in July 1992 as a 'premier institution' (Vishesh Agrani Sanstha).

The foundation stone of the Muir Central College was laid by Viceroy of India, Thomas George Baring, 1st Earl of Northbrook on 9 th December, 1873. The college was named after Sir William Muir, Lt. Governor of United Province, who was the key person in its foundation. Initially, it functioned under the University of Calcutta, later, on 23 September 1887, the University of Allahabad was established, making it the fifth university established in colonial India. In 2005, University of Allahabad was accorded status of Central University through the University of Allahabad Act by the Parliament of India, which also declared the university as Institute of National Importance.

Among the departments of University of Allahabad, AUSTAA’S origin place, Department of Statistics holds its own virtue and importance, from where each member of our AUSTAA family has started his or her journey of life. Today its members have become distinguished personalities across the globe and they are making an eminent contribution in each and every aspect of society.

The Statistics wing came into existence in 1968 as a part of the Department of Mathematics which was established in 1872 and situated in the Muir Central College Campus. The Department of Mathematics, is one amongst the oldest and the most prominent departments of mathematics of Indian Universities. The Statistics wing really became functional with the appointment of three regular teachers of Statistics in 1974 under the esteemed leadership of outstanding statistician and researcher in the field of Bayesian Reliability Analysis, Late Professor Samir K. Bhattacharya. Professor Bhattacharya was the first Professor of Statistics, who became the Head of combined Department of Mathematics and Statistics in the year 1989 and continued till 1995. Prof. Bhattacharya passed away in the year 1995 due to a massive heart attack. On August 21, 2000, the department was separated from Mathematics with Dr. G.S. Pandey was the first Head of Department of Statistics and Dr. Anoop Chaturvedi and Dr. S. Lalitha as other faculty members with Dr.R.K. Tyagi as guest faculty. Thereafter, Prof Anoop Chaturvedi became Head of the Department followed by Prof. S. Lalitha from October, 2013 to 2020 in that order. Dr. Pramendra Singh Pundir with Dr. Anup Kumar had also joined the department in July 2013. After that Dr. Anupma Singh, Dr. Sandeep Mishra and Dr. Prashant Sonkar, Dr. Rohit Patwa, Dr. Pulkit Srivastava, Dr. Anuj Kumar Singh and Dr. Amit Kumar contributed to the department for a period as guest faculty.

In April 2022, Dr. Girish Chandra, Dr. G. Madhu Sudan, Dr. Abhay Pratap Pandey, Dr. Priyanka Singh, and Dr. Prashant Verma joined the Department of Statistics of Allahabad. Presently, this is the first time in the history of the Statistics Department when six teachers are teaching and contributing together to the welfare of this Department. Prof. Shekhar Srivastava, Dean, Faculty of Science, is the executive Head of Department of Statistics.

The Department offers courses for Undergraduate and Postgraduate degrees and has a Doctoral programme leading to the PhD degree. The department provides research in the areas of reliability theory, econometrics, Bayesian statistics, time series, order statistics, quality control, survey sampling, sequential analysis, survival analysis, mathematical demography and stochastic modelling. The faculty members are doing research work in collaboration with the members of several Indian and foreign universities/research institutes in the areas of Bioinformatics, Biotechnology, Botany, Economics, Education, Psychology, Medical Sciences, Zoology, etc. Thus, the Statistics Department is contributing to other interdisciplinary branches that need statistical support. Department contributed for many research projects including (i) Control Charts for Auto correlated Observations on Grid (ii) Sustainable Development: A Mathematical

Model (iii) Joint Big Data project.

The Statistics Department of University of Allahabad has organised two events in this current year, viz. (i) Celebration of "National Statistics Day" on 29th June, 2022 in the presence of Prof. Somesh Kumar, IIT Kharagpur, Prof. Anoop Chaturvedi, Prof. G. S. Pandey, Dr. Rakesh Pandey, Principal, Champawat Degree College, Dr. R. K. Tyagi and other senior faculty members (ii) One day interaction session with Prof. Alok Pandey, a senior alumni , Professor at College of Southern Nevada ,South Carolina about the "Importance of Statistics in Present Era" in the presence of senior faculties and AUSTAA members Mr. Sanjay Mishra , Dr. Niyati Joshi and Mr .Himanshu Katyan and many others.

The messages from the faculty members of the Statistics Department of University of Allahabad for the vision of the department's all-round excellence are placed as under

"The department of Statistics, University of Allahabad has gained significant achievements in terms of teaching, research and extension. It is wonderful to see that recently five new faculties have joined the department. To enhance the activities and strengthen the department ahead, it is essential to make aware the students about the importance of the subject, collaboration with the other institutions/departments, regular organisation of scientific events, integrating departmental alumni association for the continued growth and success for the next career move of the students. Teachers are required to become friendlier with the students to reduce the hesitation and express innovative ideas and voice their opinions. I hope that the department shall achieve substantial growth in the near future with the support, vision and guidance of all dynamic faculties, researchers and students. I wish great success for the Department."

~ Dr. Girish Chandra, Associate Professor

"The classroom has a dynamic environment, bringing together students from different backgrounds with various abilities and personalities. Being an effective teacher therefore requires the implementation of creative and innovative teaching strategies in order to meet students' individual needs. My main focus is to create a familiar environment between students and teachers and develop a creative environment through effective teaching and enhance their learning process. As we know that Statistics is more than just crunching numbers. It has practical applications just about everywhere. I want to give my best to my students so they can experience those applications beyond the classroom."

~ Dr. Abhay Pratap Pandey, Asst. Professor

"I would like to strengthen the statistics teaching, research and its applications. To provide Statistical Data Analytics Skills to the present students in their endeavours for better employment. To arrange Seminars, Debates, Workshops hands-on training for the overall development of the statistics students, because most of the students are coming from rural backgrounds and socially weaker sections."

~ Dr. G. Madhu Sudhan, Asst . Professor

"The Department of Statistics, University of Allahabad has a glorious history. It has produced a significant number of bureaucrats, academicians, scientists, etc. in the past. As a newly joined faculty, I feel privileged to be a part of this esteemed institution and understand the responsibilities that come with it. We, the faculty of this department, are constantly working towards further growth of this department. Our main objective is to provide students with a stimulating academic environment that comprises interactive classroom sessions, innovative pedagogies, practical exposure to real-world problems, and equips them with the necessary technical and analytical software skills. As we know that teaching and research are inseparable, we strive to develop an excellent research ecosystem where students are motivated to do quality research projects and subsequently publish research articles in various high-repute journals. Furthermore, we aim at the holistic development of students, ensuring their overall growth and providing them with a strong academic foundation that will enable them to do well in whatever career path they choose."

~ Dr. Priyanka Singh, Asst. Professor

"It may sound a bit cliché, but today's students are the foundation of future society. Thus, as teachers, our ultimate vision is to create our department a place where students will become a dynamic centre of innovation and provide creativity dedicated to the practical implementation of Statistics, lifelong learning, professionalism, research, entrepreneurship, and partnership with local and global academic/industrial Institutions. Also, we aim to provide students an ambiance and quality education on the advanced analytical techniques, including big data, AI & machine learning to make them competent to meet the challenges of cutting-edge analytics technologies."

~ Dr. Prashant Verma, Asst. Professor

"University of Allahabad has been proving its excellence since 1934 in different dimensions of knowledge and development of the nation. The Department of Statistics, despite being a relatively younger component of this esteemed organisation, is playing a significant role in spreading the fame of our university. Its distinct alumni have left no

stone of success unturned in different walks of life. A number of renowned academicians, ISS Officers, and others feel indebted to this department for their success. I have been a part of this department for the last nine years and have enjoyed the company of most of the senior faculties of this department. I personally try my level best to equip the scholars with the quality knowledge to groom the statisticians living in them. The efforts of AUSTAA can strengthen the bonds between present, past and future of this department. If this vision is being passed down as family heirlooms with emotional-healing then it will certainly resonate in our souls."

~ Dr. Pramendra Singh Pundir, Assistant Professor

Presently, apart from the main campus premises, two affiliated constituent colleges of University of Allahabad, viz., Ishwar Sharan Degree College with Dr. Neel Kamal Tripathi as the head of department with Dr.Ved Prakash Singh and Allahabad Degree College with Dr. Anuj Kumar Singh offer Statistics under graduate programme, whereas its autonomous college, Ewing Christian College with Dr.Randhir Singh as the head of department with Dr. Anupma Singh and Mr. Akhilesh Kumar as the faculty members offer Undergraduate and Postgraduate programmes in Statistics. Earlier Mr. Santosh Yadav was also part of ECC Statistics Department .

University's motto is a Latin phrase "Quot Rami Tot Arbores", which translates to "यावत्यः शाखास्तावन्तो वृक्षाः", in Sanskrit, that means in English language as, "as many branches so many trees". The motto envisages the desired transformation of each BRANCH, represented by its students into the full-fledged TREES, implying that the university wishes to make its students as a self-realised, self-sustained entity, spreading the intellectual and social culture and the ethos of the institution, in accordance with the destiny of each branch to become a tree in its own right. The University is not limited by an abstract commitment to learning, but regards service to the nation, and indeed, to humanity as a whole, to be the central concern of the institution. The University stands for humanism and tolerance, for reason, for a quest of ideas and the hunt for the truth.

(Inputs provided by Senior AUSTAA member, Shri O.N. Pathak, M. Sc. (Mathematics), 1980 batch, have been incorporated in this article, and the same are gratefully acknowledged.).

Mr. O.N. Pathak's Message – " It is heartening to note that the editorial team of AUSTAA is going to publish the second Annual issue of its magazine, AUSTAAM. AUSTAA is a nascent body, yet it has evolved into a vibrant organisation of Alumni of Statistics Department of University of Allahabad in a short span of less than two years. The alumni are spread in various walks of life in India and abroad. It has also within its fold, the students who are currently studying in the Statistics Department of our Illustrious Alma Mater, who are very keen to learn and contribute to the cause of AUSTAA. All the members are always ready to serve any social cause within and outside the group. The Magazine will be an epitome of this ethos. Like last edition, the Magazine will have articles not only of general interest, but will arouse interest of specialists and academicians also. I wish all success to the Magazine, its editors, contributors and AUSTAA in general."

(O.N. Pathak)
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Author's message - I am thankful for the Editor-in-Chief to give me this golden opportunity to cover the theme story of this September edition. I am thankful to my teachers for giving their valuable messages for this article, members of the editorial team, my batchmates, respected seniors who provided necessary information about the department 's history and former faculty members and Students of various colleges who briefed me about their respective Statistics Departments. Last but not the least I want to express my gratitude to our senior AUSTAA member, Mr. O. N. Pathak, for providing me with the best resources for this article and for giving his valuable time and support.

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AUSTAA – An effort

> *Alone we can do so little, together we can do so much.*
> *- Helen Keller*

How does it feel to grow a family of more than 500 people from some of the farthest corners of the world and work for the betterment of the future? You might wonder, if it is possible to build such a family. Well, AUSTAA is the name of one such family whose aim is to nurture the seeds of tomorrow.

AUSTAA began in the year 2019, with the spirit and belief of creating an environment where there is room for innovations, learning, instilling confidence in oneself, and crafting an everlasting relationship of love and harmony amongst all. AUSTAA is everything and more than the vision it held three years ago. We have witnessed exemplary acts of kindness, learning imparted by the members, achievements of young talents, hard work of the distinguished beings and affection and care towards each other. AUSTAA is not just a name or an organisation, but a feeling of belongingness, of being at home.

As Henry Ford said, "Coming together is a beginning, staying together is progress, and working together is success." AUSTAA has achieved many milestones after the massive success of the first edition of AUSTAAM. Members of AUSTAA started an online guidance programme for the students preparing for the IIT JAM. Guidance was first provided to more than 50 students under the leadership of younger family members. Similar guidance programmes were conducted for ISS mentorship and the R Programming course as well. Our senior members thoroughly supported and kept the spirit of the students high throughout. Pranshu Mishra (Data Scientist, TCS) conducted a more than 30-lecture series on R programming, including even those who could not have access to such courses. It is because of the contributions of these people that the younger generation feel confident and acquire skills to stand shoulder to shoulder with the rest of the world.

Another milestone was achieved when the doors of opportunity were opened for the students of Department of Statistics, University of Allahabad. The Hon'ble VC, Prof. Sangita Srivastava, approved the proposal dated 11/02/2022, where students could choose among world universities and industry for co-supervision in their minor and major project work. More than 30 students benefited deeply from such exposure. The alumni of this department, who are working at other Indian and foreign universities or working in different research organisations (Indian or foreign), provided supervision and valuable insights into the project research work of the students. This not only gave good exposure to the students but enhanced their creativity and encouraged them to become the best at their work, which resulted in quality enhancement of their project. Prof. Anoop Chaturvedi (Retd., UoA), Himanshu Katyan (Senior Data Scientist, United Kingdom), and other AUSTAA alumni members, played a major role in making this proposal a success. There are no words to express our appreciation for what they have done.

In the month of July 2022, the Department of Statistics, University of Allahabad and AUSTAA organised an interaction session with Prof. Alok Pandey (Department of Mathematics and Computer Information Technology, Nevada College, Las Vegas, USA). Prof. Pandey emphasised the role of statistics in Big Data Analytics and also motivated and encouraged the students to become a better version of themselves by sharing his own learning experience with them. Dr. Girish Chandra (Associate Professor, Department of Statistics) welcomed the delegates and students, followed by a presentation on "The Role of AUSTAA" by Dr.Niyati Joshi (Director, Department of Animal Husbandry, Govt. of India). Prof. Shekhar Srivastava (Dean, Faculty of Science) and Prof. Anoop Chaturvedi (Former HoD, Department of Statistics) addressed the audience. Sumbul and Jaya moderated the entire program. More than 100 people joined the session through both online and offline mode.

Martin Luther King Jr. once said, "Along the way of life, someone must have sense enough and morality enough to cut off the chain of hate and evil. The greatest way to do that is through love. I believe firmly that love is a transforming power that can lift a whole community to new horizons of fair play, goodwill, and justice." AUSTAA is growing day by day with the collective effort of all its members. We wish and believe that AUSTAA will achieve new heights in the upcoming future, much more than anybody could imagine.

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Trends and Burden of Premature Menopause, Female Sterilization and Hysterectomy in India

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Background: Indian achieved some of important milestones in reducing maternal mortality, infant mortality and child mortality. The life expectancy of women has been increased considerably and overtaken men recently. However, this has been accompanied with ignored health issues of women such as higher prevalence premature menopause, increased rates of hysterectomies and rampant female sterilization. These increasing trends of this three issues related post reproductive health of women are received little attention in the reproductive health programmes and public health researcher in India. With this context, the current commentary examines the trends and prevalence of premature menopause, female sterilization and hysterectomies in India.

Methods: We have used recent round of National Family Health Survey (NFHS- IV) 2015-16 data to shed the light on these important health issues. In seven decades of government family planning programmes failed to include men as a responsible person for family planning.

Results: The female sterilization has been single large method achieved targets of limiting population growth while bearing abundant problems. Increased levels of premature menopause among Indian women pose serious health consequences for women. Women with premature menopause will have more health related problems which leads reduced quality of life.

Conclusion: There is greater need to undertake further research on premature menopause and rapid increase in prevalence of hysterectomy in India. It has very negative consequences for women health in longer run.

Keywords: Reproductive Life, Menopause, Female Sterilization and Hysterectomy

Introduction: Indian achieved some of important milestones in reducing maternal mortality, infant mortality and child mortality (SRS, 2016). The life expectancy of women has been increased considerably and overtaken men recently (Canudas-Romo et al., 2016). India fertility declined in last decade particularly southern states was seen sharp decline (Census of India, 2011; Susuman, Lougue, & Battala, 2016). However, this has been accompanied with ignored health issues of women such as higher prevalence premature menopause, increased rates of hysterectomies and rampant female sterilization. These increasing trends of this three issues related post reproductive health of women are received little attention in the reproductive health programmes and public health researcher in India. Premature menopause is

also known as the premature ovarian failure (POF). It is a sickness characterised by the end of the menstruation cycle before the age of 40 years. Throughout the last decades' interest in the timing of natural menopause has rapidly increased since menopausal age has significant health implications.

It was observed that about 1.5 per cent of women below the age of 40 years were in menopause; consistent with the 1-2 per cent range reported internationally (Shuster et al., 2010). Hysterectomy is a principal cause for non-obstetric surgery in many parts of the world (Byles et al., 2000; Hammer et al., 2015; Whiteman, 2008; Stankiewicz et al., 2014). Though, it is also found to have adverse health effects on women's physical, mental and social health, predominantly on pre-menopausal, young women (Carlson, 1997; Kjerulff et al., 2000; UZUN et al., 2009). The prevalence of hysterectomy varies broadly across different geographic settings owing to the variations in uterine pathology, providers and patient factors and socio-cultural reasons (UZUN et al., 2009; Stankiewicz et al., 2014).

India is the first country in the world to adopt an official family planning programme in 1952 to reduce population growth. In the initial phase of the programme focused were given to the 'traditional methods' recommended by the government. Following the failure of this method due to inaccurate use, the government recommended other family planning methods such as condoms, diaphragms and jelly (Srinivasan, 1988). In the 1960s, the government accentuated the need to motivate couples to accept family planning by an 'extension approach' and many new methods were introduced. The sterilisation was introduced in 1966 with targets to be achieved by health workers (Gwatkin, 1979).

Methods: In 1967 the government introduced cash incentives to attract sterilization acceptors to accelerate the pace of fertility decline. During 1975 to 1977 aggressive sterilisation camps were held all over India and about 8.25 million sterilizations were carried out. However, these camps mainly offered male sterilisation (Gwatkin, 1979). The burden of female sterilization and early female sterilization on health and quality of women is evident. With this context, the current commentary examines the trends and prevalence of premature menopause, female sterilization and hysterectomies in India. We have used recent round of National Family Health Survey (NFHS)-4 data to shed the light on these important health issues.

Results:

Trend of premature menopause:

Table 1 the secondary data of India shows that 7.7 % of currently married women 30-40 year of age were in the menopause stage (NFHS-3, table 1), which now increased to 8.3% in 2015-16. However, the onset of menopause is different across different states of India. A higher percentage of currently married women reported premature menopause in Andhra Pradesh (14.3%), Bihar (14.6%), Meghalaya (14.9%), Telangana (14.1%), Uttar Pradesh (9.0%) and Tamilnadu (8.7%); and at lowest level menopausal women in the Chandigarh (1.1%), Kerala (3.4%), Goa (4.1%) and Haryana (4.5%) in 2015-16. However, during the last decade, the highest increased menopausal women observed in the Meghalaya (246.5%), Mizoram (127.6%), Bihar (84.8%), Himachal Pradesh (75.0%) and Tamil Nadu (74.0%) during 2005-06 to 2015-16. Though, eleven states of India show the declining trend in the per cent of menopausal women, among them Tripura (-28.4%), Andhra Pradesh (-22.7%), Punjab (21.5%), Rajasthan (21.5%) and West Bengal (-19.7%) are the major states. Gujarat is the only state of India which shows the stagnated trend for premature menopause among women during the last one decade, 2005-06 to 2015-16.

These findings have got high policy relevance when one deals with the problems of older women. Unlike developed countries where women enter into menopause during their fifth decade of life, Indian women experience menopause from the 40s, thereby having longer exposure of post-menopausal time and its associated consequences. At the same time, many women continue to have children even in their 40s. Hence, a major challenge for India is to tackle the dual problem of catering to the needs of both maternity and menopausal women simultaneously.

Prevalence of hysterectomy:

In India, in recent years there seems to be an outpouring in hysterectomy cases involving young women. That has led to doubt on the misuse of the procedure. Nevertheless, there are no population-based studies that provide insights into hysterectomy prevalence and its determinants at the national level; consequently, research on this domain of women health is scanty in India. The fourth round of National Family Health Survey has the first time collected the information of hysterectomy in India. Table 2 depicts that the average prevalence rate of hysterectomy was estimated to be 3.2% among

ever-married women aged 15–49 years. There are wide variations in the prevalence rates across the different states and union territories in India, ranging from 0.9% to 8.9%. Among the large Indian states, the lowest prevalence rates of hysterectomy were reported in the states of Assam (0.9%), Chhattisgarh (1.9%) and Haryana (1.9%). On the other hand, states of Andhra Pradesh and Telangana appear to be the hotspots of hysterectomy, with the prevalence rate of 8.9% and 7.7% respectively, followed by Telangana (7.7%), Bihar (5.4%) and Gujarat (4.2%). In the smaller states, Dadra and Nagar reported the highest rate of hysterectomy (3.6%).

Trends in female sterilization:

A new family planning agenda focusing on voluntary acceptance of family planning evolved in the 1980s. During this period, the family planning programme shifted from male sterilization to female sterilization. This shift is mainly decoded by the development of modern technique in female sterilization, side effects of vasectomy; women centred programmes such as 'reproductive and child health (RCH)', and cash incentives (NPSF, 2007). This turnaround is progressing unabated with significant increase in female sterilization in the recent years. Although, method-specific contraceptive targets were removed in 1996 after the International Conference on Population and Development (ICPD) held in Cairo in 1994 (Srinivasan, 1998), the focus of the Indian family planning programme remained mostly on female sterilization. The dominance of female sterilization in India's family planning programme is reflected in many national surveys. According to the most recent National Family Health Survey (NFHS-4) carried out during 2015-16, about 36% of currently married women were sterilized compared to 37.3% in 2005-2006 (table 3). The state wise data from the National Family Health Survey indicate that the Female sterilization rate is marginally decreased in the 23 Indian states and only in six Indian states (Andhra Pradesh, Chattishghar, Jharkhand, Punjab, Rajasthan and Uttar Pradesh) it shows the increasing trend during NFHS-3 to NFHS-4. The highest increased is observed in the Jharkhand (from 23.04 in NFHS-3 to 31.07 in NFHS-4) followed by Punjab (from 30.8 in NFHS-3 to 37.5 in NFHS-4). Uttar Pradesh shows the stagnated trend of female sterilization. Similarly, largest decline in the female sterilization is observed in the Manipur (from 8.1 in NFHS-3 to 3.1 in NFHS-4), Mizoram (from 42.9 in NFHS-3 to 17.4 in NFHS-4), Arunachal Pradesh (from 22.1 in NFHS-3 to 11.2 in NFHS-4) and Goa (from 25.4 in NFHS-3 to 16.3 in NFHS-4) during 2005-06 to 2015-16.

Conclusions:

India experiencing rapid changes in its diseases patterns leading to epidemiological transition. India also experienced rapid reduction in population growth in recent decade. Recently many health indicators shown positive outcomes such as reduction in maternal mortality, infant and child mortality. At the same time some of the critical issues are persistent for long time and some issues are emerging with positive achievements. In seven decades of government family planning programmes failed to include men as a responsible person for family planning. The female sterilization has been single large method achieved targets of limiting population growth while bearing abundant problems. Increased levels of premature menopause among Indian women pose serious health consequences for women. Women with premature menopause will have more health related problems which leads reduced quality of life. There is greater need to undertake further research on premature menopause and rapid increase in prevalence of hysterectomy in India. It has very negative consequences for women health in longer run.

Disclosure statements

Funding: No funding was received for this study.

Conflict of interest: None declared

Ethical statement

This work used the secondary dataset of the NFHS-4, which is available in the public domain and is fully anonymised for further research. Therefore, the authors did not need any ethical approval for this work. Nevertheless, the NFHS-4 survey team sought the necessary ethical approval from the Ethical Review Board of the International Institute for Population Sciences, Mumbai (IIPS & ICF, 2017).

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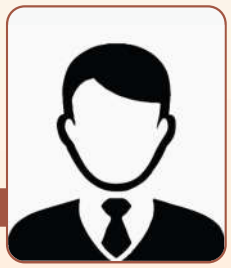
Savita Devi



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The WIN-WIN-WIN Principle of Management and human behavior

I have developed this unique and universal principal of management and interpersonal relationship. It is based on holistic thinking and a corrective extension of win- win principal which can be very exploitative most of the time.

While dealing with interpersonal relationships in the area of management, the principle of Win-Win is quite popular. When two units are interacting there can be four possibilities: — Win - Lose; Lose - Lose; Lose-Win and Win-Win. Generally people want their interest to be watched and satisfied even at the cost of other's loss. This is Win-Lose situation. Most of human instincts are governed by this motivation. When both the interacting parties try for Win-Lose, an emphasis is reached. It often happens that a conflict, struggle erupts and both sides suffer heavily. Ultimately both parties reach to Lose-Lose situation. Some persons by nature strive for Lose-Lose. This may be because of their wrong upbringing and training. For them is the saying that they will neither play nor let others play.

In some situations people always want to lose for other's happiness. This occurs mostly in parental situations and in case of persons of extreme sacrificing nature. Stories of Dadhich and Karna are examples of later. But in most of the normal adult human interactions such Lose-Win attitude is not there.

Then there is the last alternative Win-Win, in which both sides try to reach to such an optimum situation in which both sides feel benefitted, satisfied and happy. This is naturally the search for optimum value and not the maximum value. For this, one should have concern and sentiments for others.

After giving much thought to this principle of Win-Win, I have come to the conclusion that the principle is not sufficient and is limited in its approach, utility and consequences. It may be applicable to routine business transactions or in settings to negotiate the prices, services, values or other things but the principle has no inherent capacity to bring forth all round peace, fulfilment and harmony in life as well as on this earth. For this the principle has to be enlarged in proper perspective.

The Golden Rule of management should be and will be Win-Win-Win. Here the first two Wins pertain to both the interacting entities or parties but the third Win is very important. It pertains to the rest of the universe excluding the two interacting entities. The principle expects that in the process of interaction they should behave/interact/steer in such a fashion that rest of the universe also feels benefitted, elated and enriched. I have discovered this principle of Win-Win-Win after a lot of Contemplation. It will increase the happiness on this earth.

This principle of Win-Win-Win is in many ways linked with various other approaches of thinkers and philosophers. Buddha's 'Middle Path' and Socrates's 'Golden mean' arepractical methods to achieve this situation of Win-Win-Win.

While trying to achieve Win-Win both the interacting parties will try to achieve both's maximum benefit, but once they also realize the 'Win' for the rest of the universe, they cannot strive for their maximum, but they will feel happy with the search of optimum or mean, because only then they will be able to take care of the rest of the world.

To strive for Win-Win-Win solutions, both the interacting parties should have empathy. In fact Win-Win principle presumes that the interaction is taking place in a closed door, isolated and insulated situation while principle of Win-Win-Win presumes that either the interaction is taking place in the open atmosphere or at least a WINDOW is open.

In fact Win is inherent in the window. Through window we get freshness and also we are connected with the rest of the universe.

In most of the scientific and mathematical formulations and operations it is presumed in the beginning that all other things remaining the same, we are going to consider a limited set of variables. But in reality these assumptions do not work.

Therefore all the formulations have their limitations in real life situation. In Modern Management also we have adopted

the same technique. We have developed theories with limited considerations without regard to other aspects. Theories like Win-Win are the result of such thinking where we consider the benefit to limited set of interacting persons be it the producer-consumer or employer-employee, or the financer borrower etc. But we transact without giving an iota of thought on the impact of the transaction or operation of the rest of the world or universe. When we consider the third Win, only then our management principles will be able to sustain in real life situations. These principles are also linked with various layers of intelligence. If a person bothers about the Win for himself only, he may be at the most high in intelligence quotient (IQ) rating, but those striving for Win-Win are high in Emotional quotient (EQ) as well as Intelligence Quotient.

Those striving for Win-Win-Win are adding another dimension to their intelligence. They must be developing **holistic quotient (HQ) or (SQ) spiritual quotient** along with EQ and IQ.

In Vedic scriptures we often find the mantra, **'Om, Shanti! Shanti !! Shanti!!!' (O Almighty God, bless us with Peace! Peace!! Peace!!!).** Here the first 'Shanti' must definitely be associated with the person enchanting the mantra, the second for all around in the audible vicinity and the third for the rest of the universe.

One of my Haiku poems is: **''Happiness is Not an island But an Ocean.''**

Few persons cannot create an island of happiness among themselves. Happiness has to be like a wave, like an ocean. And this real happiness will prevail/spread when we will strive for the Win-Win-Win situation. Nature always tries to work on Win-Win-Win Principle. Therefore, if we want to live and manage in harmony with nature, we have to adopt Win-Win-Win Principle of management, human behaviour and human interaction.

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ROLE OF STATISTICS IN NATION BUILDING

India gained independence on 15th of August,1947 and had to face multiple national and international challenges where the problem of more than 500 princely states had to be integrated in the Indian Union. It had to encounter the 1947-48 war with Pakistan besides military intervention to integrate the states of Hyderabad, Junagarh, Goa and some others. The conflict situation has continued since then where four wars have been fought with Pakistan and one with China besides local conflicts with China in Sikkim, Arunachal Pradesh and Bhutan. The troops were face to face on Line of Actual Control (LAC) in the Eastern Ladakh even now with China.

The wealth of the country was shifted by the British in their own nation being the ruler of the country and economic conditions of the country were not encouraging at the time of independence. Poverty ridden large population was in urgent need of food, medicines, clothing and shelter. Prior to the rule of the British Crown, the East India Company had looted our country in a big way. Our education system was also changed and our rich heritage was nullified.

The country started building itself bit by bit. It adopted a five-year plan model to address its national developmental concerns. It needed quality decisions in all the domains but there were multiple handicaps due to non-availability of requisite data and lack of statistical analysis. The decisions were taken based on the experiences of decision makers with little or no data support.

Data and its analysis to deduce suitable options are the most critical need and this realisation has already come into the country slowly but steadily. Not only for the government but in all facets of human life, it is not only inevitable but can be a game changer in a positive direction. But certain aspects are more important than the others for the good of citizens as well as for the growth of the nation. These are discussed as under:

HEALTH

While there may be subjective views on it as to what is most important in human life? We are all God's special creation; each one has been blessed with one specific profile including some people having some abnormalities and specialities as well.

While we can't do much in certain aspects, we all are free human beings and must be entitled to free and quality healthcare irrespective of our creed, caste, religion, geography or income or any other considerations. We should be delivered this support by the concerned State Governments and the Central Government.

Whether it is doable or not, there are some challenges that can be known only if we collect statistical data with respect to our population dispersion, profile of communities, ailment patterns, quantified medical needs, automation environment and healthcare facilities.

Once the data is scientifically collected, a mechanism must be put in place for regular data updating. Once the data is collected, its scientific analysis must be done using statistical tools. These tools must provide the option as to how current challenges of healthcare can be met including recommending the location of additional facilities in terms of specialisations, number of hospital beds and alike. Statistical tools must also provide the data related to future projections, facility overlap, evacuation time to higher facilities and many other inputs which are needed to provide quality healthcare in India.

EDUCATION

There may also be a debate as to whether the national focus should be first on health or on education. Either view has some definite merit as there are very close linkages between the two. Whatever be the sequence, education is another area of national needs and a lot of work needs to be done. While there has been some progress to open more schools and colleges including the professional ones, these need to be opened based on current and future needs. It is at this point "Statistics" becomes saviour. India is one of those countries in the world where quality educational institutes are less than the religious institutes. While religious institutes are essential as they address our spiritual needs, there is also a requirement of having adequate educational institutes which can empower us. Our national education policy attempts

to cover some of our concerns but geographical spread of the population, current education profile of the students and future needs, availability of adequate number of students before approval is accorded for opening of the educational institution and many more such questions will need to be answered by statisticians using power of data and the associated analytical tools. These people will need to be embedded at each echelon of governance besides in every major educational institution. More colleges and universities need to be opened to include statistics as a subject and course capacities will need to be increased where such a subject already exists. In addition, some kind of practical training needs to be imparted even after graduation level so that statistical level analytical tools can be utilised by majority. Any organisation which needs to make a decision will need the support of statistical data and analytics, if the quality of the decision has to be focused. Therefore, it is evident statistics can play a vital role in every facet of education. This will also need reconfiguring the course curriculum of statistics where practical content has to be increased as against our current focus on the theoretical construct. The course so structured must factor the current national and international needs besides future growth.

EMPLOYMENT

India is currently passing through "Youth Bulge Profile". This can be a major contributor in the progress of the nation, if employment is provided to this aspirational youth. Sad but true, nowadays unemployment has become a major problem. Statistics and statisticians have always played a vital role in this field of nation building. Data needs to be collected with respect to current employment engagement patterns, employable youth linkage with their skill sets, identification of job opportunities, concept of mandatory employment close to their place of living, minimum wages and so many other inputs. The collected data with analytical tools should also provide the option of terminating subsidies and ensuring jobs for all so that people can live with honour and dignity for their living. Lot of wastage will be over and the nation will march on the path of progress and will remain indebted to statistics and statisticians for times to come.

Health, education and employment are not the only subjects where statistical analysis after data collection makes a major contribution. It has to make inroads in every facet of human existence in the country and abroad. Since these are the most important challenges currently faced by the country, the decision makers must use statistical tools which can act as "Jade Ki Chadi" for the majority of our national problems.

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MECHANICAL CHARACTERIZATION EPOXY RESIN BASED COMPOSITE MATERIAL THROUGH ANOVA

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Abstract

In order to improve the use of livestock waste in a sustainable growth of the earth and healthy environment, this research is focused on the use of fish scales as a natural biomaterial that is now used as a waste of the fishing sector. This study examines the mechanical characteristics of a composite made of reinforced dried fish scale powder and polymer resins (epoxy). The effects of different dry fish scale powder weight percentages (0 to 12) in epoxy resin have been studied. The results of the trials show that, with the exception of tensile strength, the addition of dried fish scale powder improves mechanical strength (Impact strength and Hardness) of the finished product. To determine the significance of the findings, ANOVA (Analysis of Variance) is conducted on the measured data.

Keywords: fish scales, composite material, impact strength, Rockwell hardness, tensile strength.

Introduction

India's annual growth in fish output, which has increased from 0.75 million metric tonnes in 1950–51 to 14.2 million metric tonnes in 2019–2020, highlights the potential of the industry. According to table 1, the sector experienced an average annual growth rate of 7.53% from 2014–2015 to 2018–2019. The amount of waste produced by the fish industry is increasing along with fish production every year. Almost two thirds of all fish are wasted, creating serious economic and environmental issues. An yearly loss of more than Rs. 15000 crores to India's maritime and inland sectors was assessed by Bibhu Ranjan Mishra (2013). It represents around 25%, or Rs. 61,000 crore, of India's fishing sectors. Numerous polymeric matrixes have demonstrated that plant-based fibres are an attractive reinforcement characteristic that is both environmentally and economically advantageous (Ramakrishna and Sundararajan 2005). Because they are lighter than synthetic fibres, natural fibres take up more space than synthetic fibres (Wambua et al. 2003; Saheb and Jog, 1999). In this work, epoxy resin is used as the matrix to create a bio composite, and an appropriate hardener is used to turn the liquid into a solid. To improve the material's mechanical strength, stiffness, texture, and other qualities, powdered dried fish scales in a range of weight percentages (wt%) are added as particulates. Polymer-based composites' erosive behaviour can be easily improved by adding bio-filler to them (Kumar et al., 2013)

Objective

- To use the strength of fish scale powder to reinforce epoxy resin so that its mechanical characteristics can be improved
- To find out the extent to which it can improve epoxy resin.
- To find out the potential of fish scale application by studying the resultant composite.

Composite

A composite material is a system of materials that consists of two or more separate components that are insoluble in one

another, have diverse shapes, are distinctly different from one another, and are chemically inhomogeneous. The resultant substance exhibits distinct qualities when compared to the individual constituent ingredients. A composite may be referred to as a bio-composite if it has at least one component made of renewable resources, either the matrix or the reinforcement (Verma et al., 2018). Epoxy resins can form hydrogen bonds with fish scales to increase its tensile, flexural, and hardness properties. According to Satapathy et alFTIR .'s spectroscopic analysis, the creation of hydrogen bonds between the oxygen atom of the epoxy and the hydrogen atom of the polypeptide chain of fish scales at the fiber-matrix interface is what causes the development of this novel type of composites (2012). As particle material, many freshwater fish scales were used. Fish scales include between 40 and 55 percent organic matter (collagen, fatty acids, a variety of vitamins, lecithin, calcium carbonate, etc.), and between 7 and 25 percent inorganic matter (hydroxyapatite, calcium phosphate) (Chinh et al., 2019). Calcium carbonate nanoparticles enhance cross-linking properties while enhancing heat stability (Fan-Long- and Soo-Jin, 2009).

Materials and Methods

Specifically in the present research work, the development of bio-composite requires the matrix (as the major constituent) which is CY-230 Epoxy resin (Figure1), Binding agent (Hardener) which is HY-951 and varied wt % of DFSP as particulate element.

Bisphenol A Epoxy Resin (DGEBA)

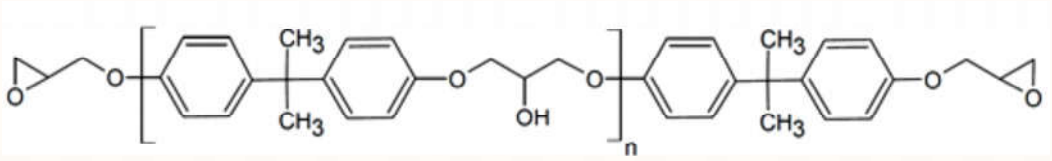

Figure 1: DFSP (Dried Fish Scale Powder)

DFSP is a powder with very minute, brown particles has excellent compatibility with epoxy. The reinforced particles prevent dislocation from moving, which helps to prevent plastic deformation and therefore increases tensile strength and hardness. Particles should be equally distributed throughout the matrix and should be tiny to achieve spectacular and effective reinforcement.

Method of developing DFSP

Steps involved:

- Collect the fish scales from local fish market and soak them in detergent water for 3-4 hours (figure 2 a & b).
- Wash with running water to remove odor, dirt and blood (figure 2 c).
- Remove extra water, by spreading those scales on a cloth and allow it dry for 1 hour (figure d).
- Spread out all the scales into the tray drier at 150 degree Celsius for 8-10 hours or until they become crispy and brittle (figure 2 e).
- Spread dried scales on to a surface to let them cool down to the room temperature (figure 2 f).
- Grind them in domestic mixer grinder to make a fine homogenous powder (figure 2 g).
- Final step is sieving of the powder through a sieve to remove all the larger particles or non grind scales and to get a fine smooth same particle sized powder (figure 2 h) that will aid to better and even mixing of DFSP in epoxy resin.

Figure 2: (a) collected scales, (b) soaking, (c) cleaned scales, (d) spread, (e) tray Dryer, cooling, (g) ground powder, (h) fine powder

Casting

The correct mixing of 400 g of Epoxy resin (CY-230) and 4 g (1 wt% of epoxy resin + hardener) of prepared dried fish scale powder in a glass beaker by a stirrer is necessary for the creation of dried fish scale powder filled composite (plate 3.10 g). After mixing, the beaker was placed for 25 minutes in a convection oven set to 180 °C. After 25 minutes, the beaker is left out in the open to allow the epoxy's temperature to drop to 40–45 °CA thermometer was frequently used to track temperature decline. At 40 °C, 40 grammes of hardener (HY-951) are added (10% weight of epoxy). The addition of the hardener caused an exothermic reaction, which raised the mixture's temperature a little bit and changed it into a viscous one. The entire combination of epoxy and DFSP was well mixed with the aid of a stirrer. The prepared mixture was poured in previously greased acrylic mould (figure 3) and equally spread by using hand layup technique for hardening. Leave the casting for at least 24 hours undisturbed before pulling it out of the mould to get the well settled end product.

RESULTS AND DISCUSSIONS

Systematized manufacturing and testing of composite samples led us to acquire the most suitable blend of DFSP which are based on the different mechanical tests performed at the Dynamics Lab, College of Technology, G. B. Pant University of Agriculture and Technology, Pantnagar.

Izod Impact testing equipment was used to measure the impact energy and strength of the constructed composite at 34 °C ambient temperature and 58% RH. The impact of various DFSP weight percentages on the composite's impact strength and impact energy are shown in Table 2. Maximum impact strength of 1943 kJ/m2 was noted at 8 weight percent. As illustrated in Figure 4, the addition of dried fish scale powder increases the composites' impact strength from 1216 J/ m2 at 0 weight percent to 1943 J/ m2 at 8 weight percent, after which it decreases to 1387 J/ m2 at 10 weight percent. The impact strength of composite material was significantly different among all the composites of DFSP at different wt%. Gopi et al. (2016) found best results at 10 wt% fish scale after that impact strength starts decreasing significantly. Impact strength and impact energy of DFSP reinforced composite are increasing and the major reason for this hike must be proper mixing of the scale powder throughout the mixture and also smaller particle size of the scale powder particles Li et al., (2015). Fish scales can establish hydrogen bonds with epoxy resins at the fiber-matrix interface between the oxygen atom of the epoxy and the hydrogen atom of the polypeptide chain of the fish scale, according to Satapathy et al(2012) .'s Fourier Transform Infrared (FTIR) spectroscopy investigation. However, at higher weight percentages of filler material, due to agglomeration, these forces weaken and are insufficient to create the necessary

bond between the matrix and the filler, which accounts for the declining values of impact strength and impact energy at 10 and 12 weight percentages of DFSP.

% of DFSP	Geometric Dimension (In mm)			Area (mm2) T*B	Energy (J)	Energy/Thickness (J/mm	Impact Strength (J/ m²)
	L	T	B				
0	61.01	7.99	13.01	103.94	0.1253	0.0156	1216
2	61.00	8.02	13.06	104.74	0.1427	0.0177	1372
4	60.79	8.09	12.70	102.74	0.1648	0.0203	1604
6	60.80	8.07	12.80	103.29	0.1899	0.0235	1838
8	60.02	7.90	13.00	102.70	0.1996	0.0252	1943
10	60.00	8.20	12.52	102.66	0.1424	0.0174	1387
12	60.01	7.98	12.95	103.34	0.1231	0.0154	1191

Figure 3 Effect of varied wt% of DFSP on Impact properties of epoxy based composite

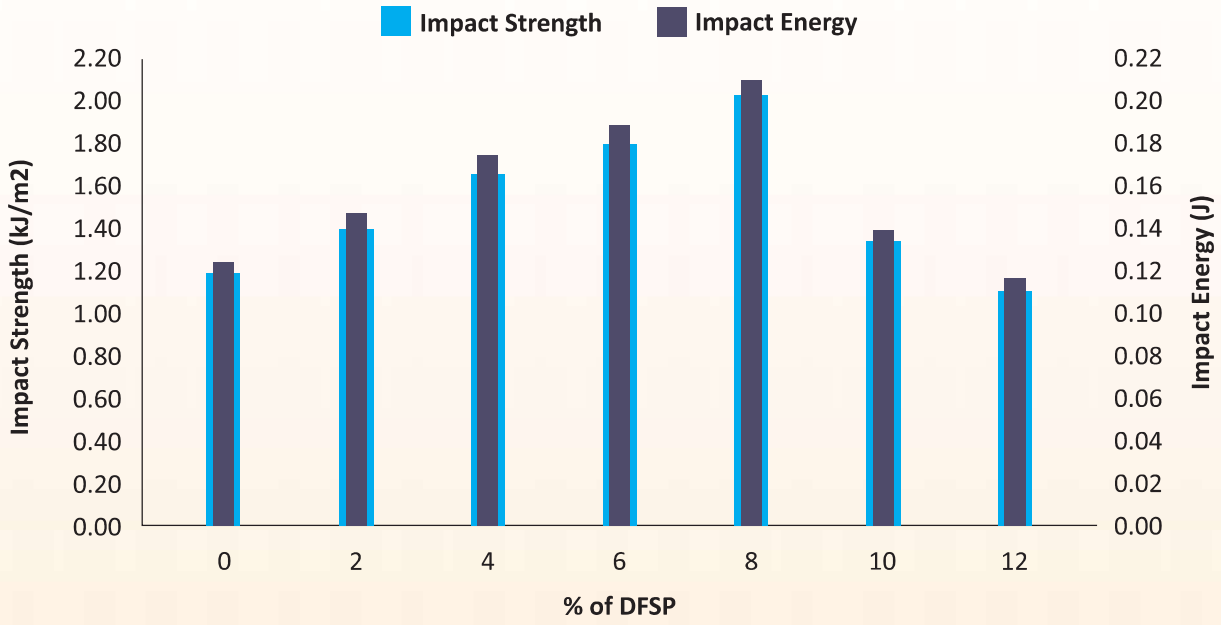

Figure 3: Effect of varied wt% of DFSP on impact strength and impact energy

% of DFSP	Hardness Value (in HRL)							
	R1	R2	R3	R4	R5	R6	R7	Avg.
0	130.79	131.45	130.97	130.85	129.98	131.01	130.95	130.85
2	135.10	136.41	136.00	136.40	135.37	135.92	136.21	135.91
4	139.23	138.54	139.84	139.67	139.57	139.73	139.29	139.41
6	142.77	143.00	143.01	143.20	142.88	143.03	143.05	143.00
8	147.3	146.11	146.34	148.90	147.57	147.02	146.96	147.17
10	130.13	128.93	131.00	130.91	129.72	128.82	129.77	129.89
12	127.46	129.09	128.00	126.97	126.12	127.56	126.08	127.32

Ultimate tensile strength, young's modulus and percentage elongation of DSPF filled composite were determined by universal testing machine (UTM) AMT-SC-01521. Test was conducted as per ASTM D882-12 standards. The specimens are positioned between the jaws of the universal testing machine (UTM), which have been machined to 10mm width and 100 mm length. Three samples of each composition were taken. The specimen gauge length was taken 25 mm with rate of separation of the gripping jaws 4 mm/min. tensile tension was gradually applied to the two ends of the specimen. The specimen fractures after the necking formation. As it is clear from figure 6 tensile strength of the composite was decreasing with increasing wt% of DFSP. The uneven and large particle size of the DFSP, which is unable to withstand the stress distributed equally throughout the matrix, could be the evident rationale for the loss in tensile strength. Sekhar et al., (2012) discovered the same trend of decreased tensile strength in addition of feather fibre. As a result, it can be stated that the addition of DFSP to epoxy is unacceptable in terms of tensile strength. Composite of neat epoxy and hardener had the highest tensile strength (33 MPa).

Percentage of DFSP	Young Modulus	R2 value
0	667.60	0.9999
2	997.32	0.9998
4	1130.27	0.9996
6	1302.54	0.9997
8	822.25	0.9994
10	807.09	0.9995
12	784.67	0.9994

Table 2: Young modulus and reliability factor (R2 value) of various wt% of DFSP filled epoxy resin composite

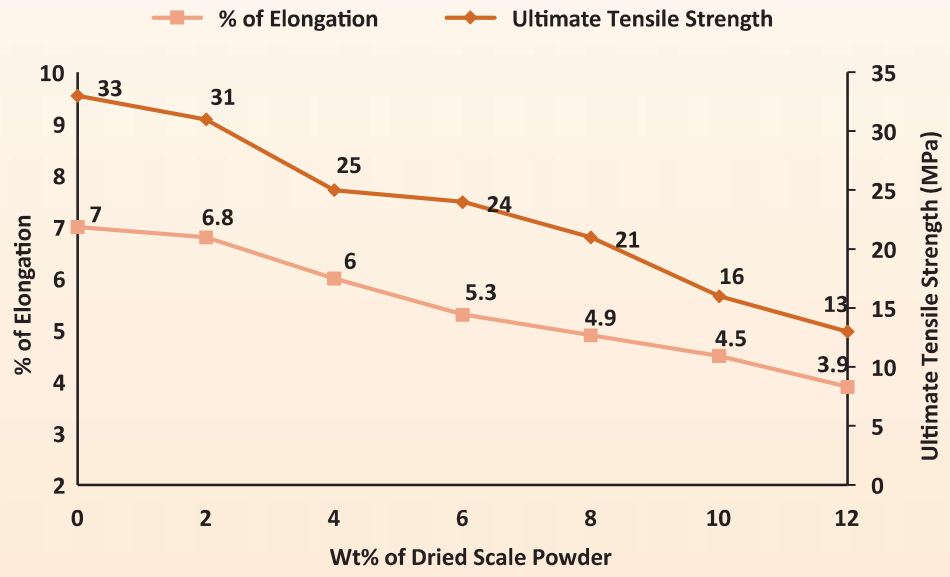

Figure 4: Effect of DFSP wt% on ultimate tensile strength (MPa) and percentage elongation in epoxy resin based composite

DISCUSSION

From the analysis of data of mechanical tests performed on DFSP reinforced composite. The observations are as follows;

The manufactured composite's impact strength and hardness increase as the percentage of DFSP in the epoxy resin increases. At 8 % wt percent DFSP, the maximum impact strength (i.e. 1943 J/ m^2) is obtained, which is 59.78 % higher than the epoxy resin and hardener control. The maximum value of Rockwell Hardness (i.e. 147.17) obtained at 8 wt% DFSP, which is 12.51 % higher than the Epoxy resin and hardener Control. Tensile strength of the composite was decreasing with increasing wt% of DFSP. Composite of neat epoxy and hardener had the highest tensile strength (33 MPa).

Use of fish scales can be an initiative to address the problem of increasing fish waste and a way to put them into a good use as micro structure of hydroxyapatite and calcium carbonate present in fish scale powder forms hydrogen bond with epoxy resin and improves its mechanical characteristics.

POLICY IMPLICATIONS

Resultant biocomposite can be used in automotive coatings due to its mechanical strength, great adhesion to metals, and heat resistance this feature facilitates better protection of vehicle body from corrosion and it is eco-friendly.

DFSP incorporated composite material can be used as protective coating to aircrafts to extend its lifespan. This composite material can be used in construction work as paints, sealers and primers which will increase their longitivity, as it is highly adhesive and non corrosive. Resultant composite can be use to fabricate carriers of oil and gas, and marine industries because it possesses a good resistance against the alkalis, seawater, wine, vegetable oil, gasoline etc and also comes with low cost, good mechanical properties and high specific strength. Resultant composite material can replace fragile glass table tops due to higher impact strength. DFSP reinforced composite material sheet can be an alternative for Ceramic wall tiles because it is light weight feature and increased hardness.

A thin covering of this composite material prior to solidification can also be applied on any surface to get a smoother and even surface. This biocomposite could be a reliable material to replace plastic frames and false ceiling due to its light weight and high adhesiveness property.

DESCLAIMER- The ideas and the views presented in this paper are of the authors independently and in no way relate to the organization where they work.

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Inspiring Youth – Interview Section

AUSTAAM has arranged an exclusive interview with Mr. Sanjay Kumar Mishra, an alumni of Department of Statistics, University of Allahabad, batch(1986-88) is currently serving as District Magistrate of Panna (Madhya Pradesh). Hailing from Village Sahasa, District Ambedkar Nagar, Ayodhya, Uttar Pradesh. AUSTAAM has arranged an exclusive interview with Mr. Sanjay Kumar Mishra. This important, thought- provoking and highly inspiring interview is being presented here in its original form.

AUSTAAM: Accept our heartiest congratulations on your splendid success.

Mr. Sanjay Kumar Mishra: Thank you all.

AUSTAAM: How was your time at University of Allahabad and what challenges did you face during your academic term? How did you overcome those challenges?

Mr. Sanjay Kumar Mishra: I took admission in July 1984, many challenges were faced. Up to 12th, I studied in Hindi medium and university education in totally English medium. But good faculty and easy way of teaching did not pose any problem regarding lectures and I could easily understand the syllabus and exam pattern. The competitive atmosphere in the university and serving PCB Hostel enable me to overcome reach challenges.

AUSTAAM: Does the educational, financial and demographic status of the family of an aspirant have any impact on the preparation?

Mr. Sanjay Kumar Mishra: The educational, financial, and demographic status of the family does not have much impact on the preparation for competitive exam for any aspirant . The target can be achieved by dedicated effort and consistent performance.

AUSTAAM: What inspired and motivated you to carve your path towards the service?

Mr. Sanjay Kumar Mishra: My family background was like that all previous members were employed in the educational sector and seeking financial growth, so I decided to offer a career in the administrator sector. Thus I clear the engineering entrance examination in 1984, but I did not offer an engineering career because I thought that this career may not be helping my goal to reach civil services.

AUSTAAM: "Time Management is a key factor while making preparations as well as in any examination". How did you manage things in civil Exam preparation time?

Mr. Sanjay Kumar Mishra: Time management is no doubt a key factor but target-based time management can help in succeeding in any examination. I decided to complete any task then I forgot the time. The focus is only on chapters or books so that the whole syllabus can be covered in a faced manner.

AUSTAAM: In your opinion at which Educational Level should one start preparing for civil services and what should be the minimum period of time required to prepare for civil services examinations?

Mr. Sanjay Kumar Mishra: For civil services graduation is the qualifying degree, so if anyone decided to go into civil services then he has to clear his graduation degree with flying colors. Only after then he/she can prepare for civil services seriously. During graduation personality development, hobby persuasion, understanding better the surrounding and in-depth knowledge about history, geology, and polity of India can be done.

AUSTAAM: How much your academics at University of Allahabad helped you to prepare for civil services?

Mr. Sanjay Kumar Mishra: I did B.Sc. and M.Sc. at the University of Allahabad in 1986 and 1988 respectively. The course and syllabus of these two degrees were of the high standard that required a lot of effort and preparation. This enables to do hard work and consistent performance for civil services.

AUSTAAM: What is your inspiration that has kept you going forward and overcoming challenges?

Mr. Sanjay Kumar Mishra: My inspiration to keep me moving forward to overcoming challenges may be based on that I was very fan of beacon light by white ambassador car used by district magistrate and administrative officer and seeing the goal I kept and continue my hard work achieving the goal.

AUSTAAM: Who has influenced you the most and to whom would you like to give the credit for your success?

Mr. Sanjay Kumar Mishra: My parents influence me the most to achieve my goal and I would like to give full credit to my wife Alka Mishra and then later my daughter Soumya Mishra.

AUSTAAM: How was your experience as a civil servant in few words?

Mr. Sanjay Kumar Mishra: As a civil servant, my experience is that this is not a monotonous job. Every day I have a new agenda, meeting with new people, meeting new challenges and setting new goals and of course, leading a diverse experience. It provides a vast working area, touching the lives and hearts of millions of poor people. This also enables to lead infrastructure development across the area so that the country's economy and GDP can move up. As a policy maker, civil services provides me an opportunity to formulate a policy that helps in the development of the state and helps poor and needy people.

AUSTAAM: How do you summarize your life journey so far?

Mr. Sanjay Kumar Mishra: I fully satisfied my life journey in a way that I fulfilled all tasks assigned to me at different points of time during my posting. More than 1 lakh CR development projects were handled, guided, supervised, and implemented during the journey. Millions of lives in people's hearts were touched by action during my life journey with different assignments in the last 32 years of my service journey.

AUSTAAM: Any words of inspiration, suggestions or message would you like to give to the younger generation and to the alumni members of AUSTAA?

Mr. Sanjay Kumar Mishra: For AUSTAA alumni members my message is that be ready to work in 24x7 mode and your actions should be towards helping the poor and needy people, don't carry your ego in your performance and achievement.

AUSTAAM: What are the responsibilities of a District Magistrate?

Mr. Sanjay Kumar Mishra: As District Magistrate, I am responsible for law and order and heading the police and prosecuting agency. As Collector, I am chief Officer of the revenue administration and responsible for the collection of land revenue, and also the highest revenue judicial authority in the district.

AUSTAAM: What will you do to improve basic education especially in rural areas?

Mr. Sanjay Kumar Mishra: Improving basic education in a special rural area is a big challenge for the administrator. I found that the teacher did not reach their school regularly not teach there to the student, not improving their school and education capability and all of these resulted in poor attendance of the student in the school. As a civil servant, I ensured the 100% attendance of teachers in the school and requested the parents of the student to send their children to school. These efforts of making available teachers and students to school resulted that better outcomes in performance in the rural area.

AUSTAAM: Panna model was highly appreciated during pandemic? Sir what do you think how should impart that model to all over India?

Mr. Sanjay Kumar Mishra: Panna model covid vaccination based on testing, treating, and vaccinating people in the area polling station-wise. This idea was given by my daughter Soumya Mishra just to ensure that just to figure out how many people vaccinated and how many were left and what should be target vaccination.

AUSTAAM: Sir, we have witnessed that as a DM of Panna you are also very active in social work and charity? What keeps you so motivated?

Mr. Sanjay Kumar Mishra: In this era of information technology the information in the power to all government order

and scheme must be in public domain, keep in this mind I am active in social media in informing public about my action and interaction in social sector . Being in field and having a direct connection with public gives me more power and satisfaction and it keeps me motivated 24 hours.

AUSTAAM: Sir, you have a role model to young generation but who was your role model at your early age?

Mr. Sanjay Kumar Mishra: Swami Vivekanand is my role model.

AUSTAAM: As a civil servant you have done great contribution to the nation but what one thing that you still want to do for the betterment of society and nation?

Mr. Sanjay Kumar Mishra: All branches of government legislature executed and judiciary draws their powers from the public for the betterment of society and nation empowerment in awareness of common man be done optimally, so that service to the common man is achieved through these three being things of Indian Government.

Quick Bits:

1. Favourite Song-Main Zindagi Ka SaathNibhata Chala Gaya
2. Book that I like most-Discovery Of India.
3. Idol Person-Swami Vivekanand.
4. Favourite Hobby- Creativity & Innovation.
5. Educational Qualifications:
   B. Sc - University of Allahabad (1984-86)
   M. Sc - University of Allahabad (1986-88)
   Father's Name- Mr. Bhagwati Sharan Mishra
   Mother's Name- Mrs. Kalawati Mishra
   Wife's Name- Mrs. Alka Mishra
   Daughter's Name- Soumya Mishra

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INSPIRING YOUTH - Interview Section

AUSTAAM has arranged an exclusive and interesting interview with **Ms. Nausheen Musharraf**, alumni of department of Statistics University of Allahabad, batch 2017. In 2019 she got admission in **M.Phil** in statistics in Delhi University under the guidance of Prof. Ranjita Pandey. She secured AIR 6th in ISS 2020. Currently she is in training at **NSSTA.** Previously she was working as Statistical Assistant in GTB hospital, GNCTD.

AUSTAAM: AUSTAA feels really proud of your achievements and success. Please accept our best wishes and heartiest congratulations.

Ms. Nausheen: Thank you all our AUSTAA members for your wishes and blessings.

AUSTAAM: How was your time at university of Allahabad and what challenges did you face during your academic term? How did you overcome those challenges?

Ms. Nausheen: I was in AU from July, 2012 to JUNE, 2017. THOSE 5 YEARS were best years of my life. I got their friends for life. I met people who shaped my present as well as my future. I got motivation to appear in UPSC after getting admission in University. I did not face any such challenges. There were some hindrances which can be easily solved.

AUSTAAM: At what point of time you decided to go through ISS? And what inspired you most to go towards this services?

Ms. Nausheen: Soon after getting admission in B.Sc. in University of Allahabad, I decided to appear in ISS examination. I got motivation from seniors who were already in service at that time and from those also who were appearing in the exam. I always wanted to serve the nation from the very first row by using my understanding and knowledge of statistics. ISS is the only option which provides me opportunity to work for welfare of countrymen using statistics. This fact motivate me a lot.

AUSTAAM: What hurdles do you face while preparing for upsc with statistics as a optional subject?

Ms. Nausheen: I prepared for iss by doing self study. I did not take help of any coaching institutions while preparing for the ISS. So many hurdles were there. Unavailibility of study material and shortage of availibility of questions for practice for paper 1 and 2 to name a few.

AUSTAAM: At what educational level should one start preparing for such positions and what should be the minimum period of time required to prepare ?

Ms. Nausheen: One should start preparing for ISS from B.Sc. first year along with academics. Since essential qualification to appear in ISS is graduation and statistics is the one of those subject which is not included in syllabus till 12th grade. So one will have sufficient amount of time , if he\she starts preparation from B.Sc. part 1. Since syllabus is huge for ISS. So atleast 1 fully dedicated year is required for this exam.

AUSTAAM: In your dream journey, who influenced you the most and whom would you like to give the credit for your success?

Ms. Nausheen: I was very much influenced by my parents since childhood. Both of them are lucky for me . Both have faced many challenges in their life and came out with flying colours. Professors in AU , seniors and also the juniors supported me in many ways. So I owe my success to my parents, family, seniors and professors who guided me. I want to say thank you to all of them.

AUSTAAM: Does the educational, financial and demographic status of the family of an aspirant have any impact on the preparation?

Ms. Nausheen: I am not denying the fact that these constraints do have impact on aspirants preparation. These constraints can be overcome by strong resilience and sheer determination to achieve the goal. Have faith in yourself.

AUSTAAM: What is your message and advice for the young generation who are preparing for the civil sevices?

Ms. Nausheen: My message to them is to be focused on your goal. Talk to the peoples who give you positive energy and motivation. While preparing for competition, always pursue your hobby. It will re-energies you. Be regular and consistent in studies. Believe in you own abilities and you will be successful one day.

AUSTAAM : Do you have any sweet memories of your time spent at AU?

Ms. Nausheen: All memories related to AU in general and department of statistical in particular are very precious for me. I will cherish them forever.

AUSTAAM : Is there any critical phase in your life, if yes, then how did you handled it? Who help you the most at that phase of life?

Ms. Nausheen: Yes, there was a critical phase in my life when I was doing preparation for ISS.My parents and friends helped me to tackle that phase and kept me motivated for the exam.

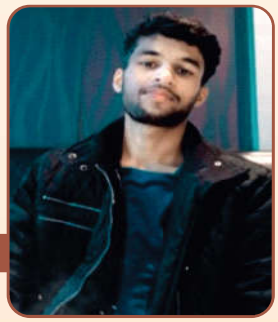
AUSTAAM : How do you summarize your life journey so far?(including your current training period in civil services?

Ms. Nausheen: God has been very kind to me always. He gave me best parents in the world. They have supported me in every decision. I got people around me with most beautiful and kind heart. I am very blessed in this way. Training period is one of the most important and beautiful part of ISS journey. I am enjoying every bit of it.

QUICK BITS:

1. **Biggest strength : Parents**
2. **Favourite song: old bollywood songs**
3. **Favourite Movie: All Shahrukh Khan's Movies**
4. **Favourite Hobby: Cooking**
5. **Celebrity Crush: SUDHA MURTY**
6. **Ideal person: Dr. APJ Abdul Kalam**
7. **Favourite quotation : DREAM IS NOT THAT WHICH YOU SEE WHILE SLEEPING. IT IS SOMETHING THAT DOES NOT LET YOU SLEEP.**
8. **EDUCATIONAL QUALIFICATION: Pursuing M.Phil from DELHI UNIVERSITY.**

"We feel blessed to have such alumni and teammates who are very proactive and supportive. We promise to deliver fruitful content to the viewers in future also."



AMAN RAJ YADAV
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My last life-changing meeting with S K Bhattacharya Sir

Walking down memory lane in 1988 when I left Prayagraj aftercompleting my post-graduation, I worked in Indian Statistical Institute, Delhi for a project of Ministry of Communications for a year. Post which, I went on to pursue another Masters in Population Science (MPS) from International Institute of Population Sciences (IIPS), Mumbai in 1990. This was also the time when I was simultaneously applying for jobs. I got an interview call from UP PSC for a Central Government job.

I reached Prayagraj for the same, a day prior and met my favourite professor SK Bhattacharya Sir at his residence. I used to be his favourite too, like many others and was elated to meet him after two years. While sipping some freshly brewed tea, he asked me regarding my whereabouts. On sharing about my journey so far, he took a pause and asked regarding my interest towards this central Govt.'s vacancy. I was taken aback and confidently expressed my diligence towards this opportunity as I hadtravelled all the way from Mumbai and considered it to be worthwhile. Flushed with feelings of confusion as well as curiosity, I asked him the reason for asking me this question. To which he replied that he is heading the panel for the interview, scheduled the next day.

After some brief minutes of sheer silence, I mustered up the courage to enquire about the likely salary as it was not easy to comprehend the structure of the pay scale as advertised. With a serene smile, he assured me that I should not worry about the salary as I would earn enough in this job. Hailing from a middle-class family, deeply rooted with integrity and perseverance and my father, a retired principal& lecturer of Mathematics and also a constant pillar of support of moral values, I could not resist but ask him yet again about the salary for the job; reason being, I knew, deep down that I would not be able to engage in any unethical practices during my tenure. He then portrayed a rather brutal yet realistic picture by acquainting me with two possibilities if I continue to stride on the path of honesty in this job: either I would compromise on my values and start earning money by other means or I would be frequently transferred across the country so as to not cause a hindrance for others in the chain process.

Within a reflex, I was certain that this is not the road I would like to walk upon. Despite multiple asks when he noticed that I was not budging from my decision, he blessed me by wishing me luck for my future and respected my stance with utmost professionalism. And, the rest is history.

Unfortunately, I did not get a chance to meet him again except the interview. Counting on his blessings, I can safely state that looking back at my journey of the last 32 years, I am content with both my professional as well as personal life andalongside those defining principles, intact. I often credit my parents, teachers and well-wishers for the success that I achieve. On that note, I would like to express my heartfelt gratitude to Bhattacharya Sir for his pragmatic guidance which not only provided me with a sense of clarity but also the courage to walk the talk and also, a cherishable last meeting.

Neel Kamal Sharma
M. Sc. Statistics, 1986-88 batch

An Improved Ratio-Type Estimator of the Population Variance using Median of an Auxiliary Variable

Rohini Yadav[1] and Niyati Joshi[2]

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Abstract:

In this paper, an improved version of ratio-type estimator for finite population variance has been proposed using known values of the median of an auxiliary variable under simple random sampling. The suggested estimator has been compared with the usual unbiased estimator of population variance under large sample approximation. An empirical study has also been carried out to judge the merits of the proposed estimator over other existing ratio estimators for the population variance.

Keywords: Study variable, auxiliary variable, median, bias, mean squared error and simple random sampling.

1. Introduction

It is well known fact that the use of the suitable auxiliary variable always increases the efficiency of an estimator of the character under study in sampling survey. The efficiency of the estimator can be increased at both stages selection as well as estimation.For estimating the population parameters such as population mean and population variance of the study variable y,several authors have used information on different parameters such as population mean , coefficient of variation , standard deviation , coefficient of skewness and coefficient of kurtosis of the auxiliary variable x. However, the problem of estimating the population variance using auxiliary information on a supplementary variable has attracted the attention of survey statisticians. Estimating the finite population variance has played a big role in various fields such as industry, agriculture, medical and biological sciences where we come across the populations which are likely to be skewed. Many more situations can be brightening in practice where the estimation of population variance of the study variable y assumes importance. For these reasons various authors like Isaki (1983), Prasad and Singh (1990), Upadhyaya and Singh (1999), Kadilar and Cingi (2006), Tailor and Sharma (2012), Singh and Solanki (2013 a, b),Yadav et al. (2013a, b), Yadav et al. (2014)have paid their attention towards the estimation of population variance. Further, Subramani and Kumarapandiyan (2012)and Subramani and Kumarapandiyan (2013)have considered theproblem of estimating the population variance of the study variable y using informationon the median of an auxiliary variable x which increased the efficiency of the estimator.

Theusual unbiased estimator, the estimators of the population variance due to Isaki (1983),Kadilar and Cingi (2006),Subramani and Kumarapandiyan (2012)and Subramani and Kumarapandiyan (2013)are given in the Table 1 along with their biases andmean squared errors (MSEs).

Table 1: The existing estimators of the population variance S^2

Estimator (.)	Bias B (.)	Mean Squared Error MSE (.)
$t_0 = s_y^2$	-	$\gamma S_y^4 (\lambda_{40} - 1)$
$t_R = s_y^2 \left(\frac{S_x^2}{s_x^2} \right)$ Isaki (1983) estimator	$\gamma S_y^2 (\lambda_{04} - 1)(1 - c)$	$\gamma S_y^4 \left[(\lambda_{40} - 1) + (\lambda_{04} - 1)(1 - 2c) \right]$
$t_1 = s_y^2 \left(\frac{S_x^2 - C_x}{s_x^2 - C_x} \right)$ Kadilar and Cingi (2006) estimator	$\gamma S_y^2 (\lambda_{04} - 1)\theta_1 (\theta_1 - c)$	$\gamma S_y^4 \left[(\lambda_{40} - 1) + \theta_1 (\lambda_{04} - 1)(\theta_1 - 2c) \right]$
$t_2 = s_y^2 \left\{ \frac{S_x^2 - \beta_2(x)}{s_x^2 - \beta_2(x)} \right\}$ Kadilar and Cingi (2006) estimator	$\gamma S_y^2 (\lambda_{04} - 1)\theta_2 (\theta_2 - c)$	$\gamma S_y^4 \left[(\lambda_{40} - 1) + \theta_2 (\lambda_{04} - 1)(\theta_2 - 2c) \right]$
$t_3 = s_y^2 \left\{ \frac{\beta_2(x) S_x^2 - C_x}{\beta_2(x) s_x^2 - C_x} \right\}$ Kadilar and Cingi (2006) estimator	$\gamma S_y^2 (\lambda_{04} - 1)\theta_3 (\theta_3 - c)$	$\gamma S_y^4 \left[(\lambda_{40} - 1) + \theta_3 (\lambda_{04} - 1)(\theta_3 - 2c) \right]$
$t_4 = s_y^2 \left\{ \frac{C_x S_x^2 - \beta_2(x)}{C_x s_x^2 - \beta_2(x)} \right\}$ Kadilar and Cingi (2006) estimator	$\gamma S_y^2 (\lambda_{04} - 1)\theta_4 (\theta_4 - c)$	$\gamma S_y^4 \left[(\lambda_{40} - 1) + \theta_4 (\lambda_{04} - 1)(\theta_4 - 2c) \right]$
$t_5 = s_y^2 \left(\frac{S_x^2 + Q_2}{s_x^2 + Q_2} \right)$ Subramani and Kumarapandiyan (2012) estimator	$\gamma S_y^2 (\lambda_{04} - 1)\theta_5 (\theta_5 - c)$	$\gamma S_y^4 \left[(\lambda_{40} - 1) + \theta_5 (\lambda_{04} - 1)(\theta_5 - 2c) \right]$
$t_6 = s_y^2 \left(\frac{C_x S_x^2 + Q_2}{C_x s_x^2 + Q_2} \right)$ Subramani and Kumarapandiyan (2013) estimator	$\gamma S_y^2 (\lambda_{04} - 1)\theta_6 (\theta_6 - c)$	$\gamma S_y^4 \left[(\lambda_{40} - 1) + \theta_6 (\lambda_{04} - 1)(\theta_6 - 2c) \right]$

where $\bar{Y} = (1/N) \sum_{i=1}^{N} y_i$;(population mean of y), $\bar{X} = (1/N) \sum_{i=1}^{N} x_i$; (population mean of x),

$S_y^2 = \{1/(N-1)\}\sum_{i=1}^{N}(y_i - \bar{Y})^2$; (population variance of y), $S_x^2 = \{1/(N-1)\}\sum_{i=1}^{N}(x_i - \bar{X})^2$; (population variance of x), $S_{xy} = \{1/(N-1)\}\sum_{i=1}^{N}(x_i - \bar{X})(y_i - \bar{Y})$; (covariance between x and y), $\rho = S_{xy}/(S_x S_y)$; (correlation coefficient between y and x), $C_x = S_x/\bar{X}$; (coefficient of variation of x), $C_y = S_y/\bar{Y}$; (coefficient of variation of y), $s_y^2 = \{1/(n-1)\}\sum_{i=1}^{n}(y_i - \bar{y})^2$; (sample variance of y), $s_x^2 = \{1/(n-1)\}\sum_{i=1}^{n}(x_i - \bar{x})^2$; (sample variance of x), $\theta_1 = \left(\frac{S_x^2}{S_x^2 - C_x}\right), \theta_2 = \left(\frac{S_x^2}{S_x^2 - \beta_2(x)}\right), \quad \theta_3 = \left\{\frac{\beta_2(x)S_x^2}{\beta_2(x)S_x^2 - C_x}\right\}, \quad \theta_4 = \left\{\frac{C_x S_x^2}{C_x S_x^2 - \beta_2(x)}\right\}, \quad \theta_5 = \left(\frac{S_x^2}{S_x^2 + Q_2}\right),$ $\theta_6 = \left(\frac{C_x S_x^2}{C_x S_x^2 + Q_2}\right), \gamma = 1/n, C = (\lambda_{04} - 1)^{-1}(\lambda_{22} - 1), \lambda_{rs} = \mu_{rs}\left(\mu_{02}^{s/2}\mu_{20}^{r/2}\right)^{-1}$ $\mu_{rs} = (1/N)\sum_{i=1}^{N}(y_i - \bar{Y})^r (x_i - \bar{X})^s$; $(r, s$ being non-negative integers).

It is observed that the estimators due to Subramani and Kumarapandiyan (2012) andSubramani and Kumarapandiyan (2013)have used Q_2 (or median) in additive form to sample and population variances s_x^2 and S_x^2 of the auxiliary variable *x*. It is to be noted that the unit of Q_2 (or median)as given above is of original variable *x*, while the unit of S_x^2 and s_x^2 are in the square of the unit of the original variable *x*. This suggests author to develop somealternative estimator for the population variance and study their properties.

The aim of this paper is to estimate the unknown population variance of study variable *y* by improving the estimators suggested by Subramani and Kumarapandiyan (2012) and Subramani and Kumarapandiyan (2013)using same information on an auxiliary variable *x*.

The remaining part of the paper is organized as follows:In section 2, the generalized family of the estimators for the population variance has been suggested along with the expressions of asymptotic biases and mean squared errors. Section 3 is concerned with efficiency comparison of the suggested estimator with respect to the usual unbiased estimator of the population variance and other stated estimators.Section 4 is focused on empirical study of the proposed ratio-type estimators for the real data sets. A brief discussion on conclusion is in Section 5.

2. The proposed family of estimators

Using the known value of median M_x of an auxiliary variable x, anestimator has been proposed to estimate the population variance S_y^2 of the study variable y as follows:

$$t^* = s_y^2\left\{\frac{\beta_2(x)S_x^2 + M_x^2}{\beta_2(x)s_x^2 + M_x^2}\right\} \qquad (1)$$

To obtain the bias and mean squared error (MSE) of the estimator t^*, we write $s_y^2 = S_y^2(1+e_0)$, $s_x^2 = S_x^2(1+e_1)$ such that $E(e_0) = E(e_1) = 0$ and to the first degree of approximation ignoring finite population correction (f.p.c.) term, we have

$$\left.\begin{aligned} E(e_0^2) &= (\lambda_{40}-1)/n \\ E(e_1^2) &= (\lambda_{04}-1)/n \\ E(e_0 e_1) &= (\lambda_{22}-1)/n \end{aligned}\right\}$$

Now expressing (1) in terms of e's, we have

$$t^* = S_y^2\left(1+e_0\right)\left\{\frac{\beta_2\left(x\right)S_x^2+M_x^2}{\beta_2\left(x\right)S_x^2\left(1+e_1\right)+M_x^2}\right\}$$

$$= S_y^2\left(1+e_0\right)\left(1+\theta^* e_1\right)^{-1} \quad (2)$$

where $\theta^* = \left(\frac{\beta_2\left(x\right)S_x^2}{\beta_2\left(x\right)S_x^2+M_x^2}\right)$

We assume that $\left|\theta^* e_1\right| < 1$, so that $\left(1+\theta^* e_1\right)^{-1}$ is expandable in terms of power series. Now, we have

$$t^* = S_y^2\left(1+e_0\right)\left(1-\theta^* e_1+\theta^{*2}e_1^2-\ldots\right)$$

Neglecting terms of e's having power greater than the two, we have

$$t^* \cong S_y^2\left[\left(1+e_0-\theta^* e_1+\theta^{*2}e_1^2-\theta^* e_0 e_1\right)\right]$$

or

$$\left(t^*-S_y^2\right) \cong S_y^2\left[\left(e_0-\theta^* e_1+\theta^{*2}e_1^2-\theta^* e_0 e_1\right)\right] \quad (3)$$

Taking expectation of both sides of (3), we get the biases of t^* to the first degree of approximation as

$$B\left(t^*\right) = \frac{S_y^2}{n}\left[\theta\beta_2^*\left(x\right)\left(\theta-C\right)\right] \quad (4)$$

Squaring both sides of (3) and neglecting terms of e's having power greater than two, we have

$$\left(t^*-S_y^2\right)^2 \cong S_y^4\left[e_0-\theta^* e_1\right]^2 \quad (5)$$

Taking expectation of both sides of (5), we get the MSEs of t^* to the first degree of approximation as

$$MSE\left(t^*\right) = \frac{S_y^4}{n}\left[\beta_2^*\left(y\right)+\theta^*\beta_2^*\left(x\right)\left\{\theta^*-2C\right\}\right] \quad (6)$$

The MSE of t^* given by (6) is minimized for

$$\theta^* = C$$

and the minimum MSE of t^* is given by

$$\min.MSE\left(t^*\right) = \frac{S_y^4}{n}\left[\beta_2^*\left(y\right)-C^2\beta_2^*\left(x\right)\right] \quad (7)$$

3. Efficiency Comparison

We have derived the conditions under which the proposed family of estimators are more efficient than the usual unbiased estimator , Isaki (1983), Kadilar and Cingi (2006), Subramani and Kumarapandiyan (2012) and Subramani and Kumarapandiyan (2013) estimator. It is observed from Table 1 and equation(6) that

(i) $MSE\left(t^*\right) < MSE\left(s_y^2\right)$, if $c > \dfrac{\theta^*}{2}$ (8)

(ii) $MSE\left(t^*\right) < MSE\left(t_R\right)$, if

$$\min.\left\{1,\ (2c-1)\right\} < \theta^* < \max.\left\{1,\ (2c-1)\right\} \quad (9)$$

(iii) $MSE\left(t^*\right) < MSE\left(t_k\right);\quad k = 1,2,...,6$, if

$$\min.\left[\theta_k, (2c-\theta_k)\right] < \theta^* < \max.\left[\theta_k, (2c-\theta_k)\right];\quad k = 1,2,...,6 \quad (10)$$

4. Empirical Study

To judge the performance of the proposed estimator t^* of the population variance over the usual unbiased estimator s_y^2, Isaki (1983), Kadilar and Cingi (2006), Subramani and Kumarapandiyan (2012) and Subramani and Kumarapandiyan (2013)estimator $t_k\ (k = 1,2,...,6)$, the description of the consideredpopulation data sets are as follows:

Population I: Murthy (1967)

Y: Output for 80 factories in a region

X: Fixed capital

N = 80, n = 20, $\bar{Y}$ =51.8264, $\bar{X}$ =11.2646, ρ =0.9413, S_y =18.3549, C_y =0.3542, S_x = 8.4563, C_x =0.7507, λ_{04} = 2.8664, λ_{40} = 2.2667, λ_{22} =2.2209, Q_2 =10.300,

Population II: Singh and Chaudhary (1986)

N =70, n =25, $\bar{Y}$ =96.7000, $\bar{X}$ =175.2671, ρ =0.7293, S_y =60.7140, C_y =0.6254, S_x =140.85, C_x =0.8037, λ_{04} =7.0952, λ_{40} =4.7596, λ_{22} =4.6038, Q_2 =160.30

Further for the purpose of efficiency comparison of the estimators,the relative efficiencies of the estimator $t_k\ (k = 1,2,...,6)$ and t^* w.r.t. s_y^2 have been computed by using the formula:

$$PRE\left(T, s_y^2\right) = \frac{MSE\left(s_y^2\right)}{MSE\left(T\right)} \times 100 \quad ; \text{where } \left(T = t_k; k = 1,2,...,6 \text{ and } t^*\right)$$

Findings are given in the Table -2

Table 2

Estimator (.)	Population I	Population II
$t_R = s_y^2\left(\dfrac{S_x^2}{s_x^2}\right)$	183.2345	142.0218
$t_1 = s_y^2\left(\dfrac{S_x^2 - C_x}{s_x^2 - C_x}\right)$	179.6210813	142.01093
$t_2 = s_y^2\left\{\dfrac{S_x^2 - \beta_2(x)}{s_x^2 - \beta_2(x)}\right\}$	169.2398	141.9261

Estimator (.)	Population I	Population II
$t_3 = s_y^2\left\{\frac{\beta_2(x)S_x^2 - C_x}{\beta_2(x)s_x^2 - C_x}\right\}$	181.9786	142.0202
$t_4 = s_y^2\left\{\frac{C_x S_x^2 - \beta_2(x)}{C_x s_x^2 - \beta_2(x)}\right\}$	164.4934	141.9028
$t_5 = s_y^2\left(\frac{S_x^2 + Q_2}{s_x^2 + Q_2}\right)$	226.8671	144.1754
$t_6 = s_y^2\left(\frac{C_x S_x^2 + Q_2}{C_x s_x^2 + Q_2}\right)$	238.1734	144.6995
$t^* = s_y^2\left\{\frac{\beta_2(x)S_x^2 + Q_2^2}{\beta_2(x)s_x^2 + Q_2^2}\right\}$	270.6075	185.8162

It is observed from table 2 that the performance of the proposed estimator t is better than the usual unbiased estimator s_y^2, Isaki (1983), Kadilar and Cingi (2006),Subramani and Kumarapandiyan (2012) and Subramani and Kumarapandiyan (2013) $t_k\ (k = 1,2,...,6)$ estimator.

5. Conclusion

The paper attempted for the improvedratio-type estimator for finite population variance S_y^2 using known values of median of an auxiliary variable and has been proposed under simple random sampling. The bias and mean squared error of the proposed family of estimators have been obtained under large sample approximation. Further the condition has been derived under which the proposed estimatorperformed better than the usual unbiased estimator s_y^2, Isaki (1983), Kadilar and Cingi (2006),Subramani and Kumarapandiyan (2012) andSubramani and Kumarapandiyan (2013) $t_k\ (k = 1,2,...,6)$ estimator.The performance of the suggested family of estimators has been assessed and found that it is more efficient than the other considered estimators for known natural population data sets under certain conditions.

Declaration: The ideas presented in this paper are of the authors and in no way represent the views of the organisations to which they work.

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पब्लिक हेल्थ इमरजेंसी

पब्लिक हेल्थ इमरजेंसी से जूझती, देश की राजधानी दिल्ली सहित लगभग सभी छोटे-बड़े शहर, किसी आपदा काल मे क्या, अब लगता है साल के हर दिन, हर मामले पर अपना दम तोड़ते नजर आ रहे हैं। अधिकांश नालियां कूड़े कचरे से दबी होने के कारण बरसात में आधे घंटे के पानी से ही नहीं वरन प्राय: यूं ही लबालब रह कर बदबूदार माहौल बनाये रहती हैं। जहां गर्मी के मौसम में आम आदमी यहां की आबो-हवा में अपना चेहरा झुलसाता हुआ नजर आता है; वहीं ठंड में यहां की सांसों में अपना दम-खम घुटाता हुआ भी परेशान ही रहता है। वह प्रतिपल अपने आप को संतुलित कर, उसी वातावरण में जीने को मजबूर होता जा रहा है। साथ ही, इसे नही नकारा जा सकता है कि जो शहर अधिकांश लोगों के लिए कष्टकारी बना रहता है, वहीं शहर चंद लोगों को तमाम आधुनिक सुख-सुविधाओं सहित विलासिता पूर्ण जीवन भी प्रदान कर रहा हैं।

बहरहाल आप भले यह नहीं कह सकते कि किसी शहर को स्वच्छ रखना अकेले वहां के मुखिया की जिम्मेदारी नहीं है लेकिन कितना स्वच्छ रखना है यह तो वहां के मुखिया की ही आर्थिक-सामाजिक सफलता का समन्वय है, इसे नकारा नहीं जा सकता। प्रदूषण का अवलोकन करें तो प्लास्टिक उन कारकों में से एक महत्वपूर्ण कारक निकलकर सामने आता है। प्लास्टिक के विरुद्ध उसके उद्गम से ही अनवरत उतार-चढ़ाव जारी है। मेरे संज्ञान में, प्लास्टिक के विरुद्ध शक्तिमान के प्लास्टिका से लेकर वर्तमान में पूरे देश द्वारा स्वीकृत "सिंगल-यूज-प्लास्टिक-मुक्त अभियान" का सफर रहा है। इसके बीच में न जाने कितनी बार जन जागरूकता अभियान और अनेक विद्वतजनों का सुझाव आम-जन मानस को मिलता रहा है। जनता जनार्दन से कहा जाएगा कि आप प्लास्टिक का प्रयोग जहां तक हो बंद कीजिए तो अमूमन प्रतिक्रिया आती है कि आप उत्पादन ही क्यों नहीं बंद करते? जो कि लगभग 90% से अधिक लोगों के लिए समस्या बनी हुई है, अब देखना है कि क्या यह समस्या बाकी बचे 10% आबादी तक भी अपनी पहुँच बनाएगी या इससे सबको निजात मिलेगी। प्रदूषण के खतरनाक स्तर का लोगों के स्वास्थ्य पर गंभीर प्रभाव को देखते हुए अनेकों बार दिल्ली एनसीआर सहित देश के अनेक क्षेत्रों में हेल्थ इमरजेंसी लागू की जा चुकी हैं।

दिल्ली की सड़कों पर कुछ तथाकथित बुद्धजीवी लोग हरियाणा-पंजाब के किसानों के लिए नारा लेकर सड़क पर निकल पड़े SAVE ME ANNADATA. जब कृषि-प्रधान देश में पराली के जलाने से शहर का दम घुटता है, तो इसी शहर में बुद्धजीवी लोग प्रतिदिन सैकड़ों-हजारों ट्रक, बीड़ी और सिगरेट के धुआंदार छल्लों को प्रकृति को क्यूँ चढ़ा रहे हैं? अब किसान लोग तो बुद्धिजीवियों से भले यह ना कहें कि SAVE ME BUDDHIJIVI, लेकिन हमें बुद्धिजीवियों से यह कहने में तनिक भी संकोच नहीं करना चाहिए कि SAVE THE EARTH. यूं ही किसी की तलाश में हो न हो पूरा शहर ही लाशों का ढेर न हो जाए...! वैसे तो किसी घर में एक व्यक्ति के बीमार होने से पूरा घर ठीक से सो नहीं पाता, तो जरा सोचिए उस सभ्यता और उस शहर का क्या होगा जिस सभ्यता का पूरा शहर ही शत-प्रतिशत प्रदूषित होने की तरफ अग्रसर है?

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त्यौहार पर घर आने की जद्दोजहज: यात्रावृत्तांत

"भारत त्योहारों का देश है... " बचपन में जब विद्यालय में होली, दिवाली पर निबंध लिखने को आता था तो सबसे पहली पंक्ति ही लिखी जाती थी। बच्चों के लिए त्यौहार का मतलब विद्यालय से छुट्टी और परदेसियों के लिए त्यौहार का मतलब घर वापसी जैसा होता है। त्योहारों की छुट्टियों और भारतीय रेल में बहुत ही घनिष्ठ सम्बन्ध है। भारतीय रेल में आमतौर पर रोजाना लाखों लोग यात्रा करतें है लेकिन त्यौहार के दिनों में ये आंकड़ा अप्रत्याशित रूप से बढ़ जाता है। आपने सीट रिज़र्वेशन 4 महीने पहले करवाया हो या फिर एक दिन पहले, स्लीपर क्लास में भी जनरल क्लास जैसा मजा लेते हुए जाना पड़ेगा। ऐसी ही एक यात्रा का अनुभव साझा कर रहा हूँ। तो पहली जद्दोजहज होती है प्लेटफॉर्म पर पहुंचने की। फिर कोच के गेट से भिन्न भिन्न प्रकार के प्राणियों से मोर्चा लेते हुए अपनी सीट तक पहुंचने में ही करीब आधे घंटे से ज्यादा का समय लग गया। ऐसा लगा जैसे एक चौथाई यात्रा इसी में पूरी हो गयी। ख़ैर जैसे तैसे सामान सेट करके अपनी सीट पर बैठा। लेकिन गुरु असली कहानी तो अब शुरु होती है। अब आपकी सीट की बची खुची जगह पर अतिक्रमण करने के लिए लोग ऐसा घूरतें हैं जैसे शेर अपने शिकार की फिराक में रहता हैऔर मौका मिलते ही शिकार का सफाया कर देता है। हालांकि ऐसे लोगो के साथ मुझे भी थोड़ी हमदर्दी रहती है क्योंकि किसी कारणवश ही उनको बिना टिकट या बिना रिज़र्वेशन जाना पड़ता है। तो कोशिश यही रहती है कि अगर जगह होती है तो किसी को बैठने की अनुमति दे देता हूँ क्योंकि अन्ततः जाना सभी को ही होता है। अब असली खिलाड़ी तो इसमे वो लोग होते है जो थोड़ी सी जगह मिलने पर पहले तो अपना बैकस्थल टिकाते है। फिर थोड़ा और थोड़ा और करते हुए आधी सीट पर कब्ज़ा कर लेते है। अच्छा उनकी इस शातिर चाल की आप उनसे शिकायत भी नहीं कर सकते। अब अगर आपने भूलवश भी ऐसा करने की कोशिश की तो फिर वो अपनी होशियारी का प्रदर्शन करते हुए ऐसा प्रतीत करवायेंगे जैसे हमारी सीट पर बैठ कर बहुत बड़ा उपकार कर दिया हो और उन्हे इस अवांछित समाज कार्य के लिए पुरुस्कृत किया जाना चाहिए। उसके बाद शुरु होता है अखण्ड बकैती का सिलसिला। कागज की नाव बनाने से लेकर स्पेस मिशन लाँच करने, ग्राम प्रधान की राजनीति से लेकर अमेरिका , रूस के राष्ट्रपति चुनाव तक, रामलीला के युद्ध से लेकर पाक पर हुई सर्जिकल स्ट्राईक तक, पंचर बनाने वाले से लेकर ट्रम्प तक, गुल्ली डंडा से लेकर क्रिकेट, टेनिस, गोल्फ तक, आर्केस्ट्रा से लेकर हालीवुड तक, रफी से लेकर जस्टिन बीबर तक, करीना से लेकर केट विंस्लटन तक, गैंग्स ऑफ वासेपुर से गेम्स ऑफ थ्रोन्स तक, चौराहे के समोसे से लेकर के एफ सी के चिकन तक, राजू की चाय से लेकर कैफे कॉफी डे की कॉफी लैटे तक, प्राईमरी से लेकर विश्वविद्यालय तक, प्ले ग्रुप से लेकर पोस्ट डॉक तक, क ख ग घ से लेकर अल्फा बीटा गामा तक...ऐसा कोई विषय नही जिसके दिव्य ज्ञान की प्राप्ति आपको इन यात्राओं में ना हो। (कोई विषय छूट गया हो तो बताने का कष्ट करें) एक प्रजाति के बारे में तो बताना भूल ही गया। ये लोग पहले तो बड़े शालीनता से मनुहार करेंगे कि इनको भी बैकस्थल टिकाने की थोडी जगह मिल जाए। जगह मिल गयी तो ठीक अन्यथा रास्ते भर ये ऐसा महसूस करायेंगे जैसे उनकी किसी काल्पनिक महिला मित्र को आपने ही विजय माल्या के साथ देश से बाहर भगाया हो। खैर अच्छा अनुभव होता है। हालाँकि ये अनुभव पुरा- कोविड काल का है। वर्तमान में ऐसा दृश्य नहीं दिखाई पड़ता। फिर भी आपकी यात्रा मंगलमय हो।

Pulkit Srivastava
UoA (2010-15)

Personal Experience & Impact of Covid-19

Presently, I am Working at National Program- State Program Management Unit, National Health Mission, UP. In National Program, at state level there are 13 program (diseases) run in UP 75 District. For Covid-19, I have my own personal experience of working. I am sharing my experience. As for as talking about his work at the time when the whole India was closed, there was a lockdown in Covid-19 pandemic. At that time the frontline worker/health worker should be reduce for his country. Talking about the place where there was no functional lab of Covid-testing, nor was there any manpower especially for care of Covid patients. Now at present there are 23 functional lab in 23 district and 30 BSL-2 Labs are working. 9056 HR we have kept inevery district of UP. Arrangements were made for fodding & lodging of Covid-19 patients & doctors of Active & Passive Qurentine. Patients were given L1, L2, L3 type facilities for mild, moderate & critical case. Ensured every facility for patients against Covid-19 at District Hospital, Medical College, Primary Health Centre, Sub Center, Cummunity Health Center. For the monitoring of patients, a system of Covid Management Model " Integrated Covid Command & Control Center". World Health Orgnisation praises UP Covid Management Model. Hails UP Model of testing, tracing & survilliance. They have initiated house to house active case finding of Covid-19 in rural areas for control pandemic. W.H.O. has acknowledged India most populated in UP as they have initiated to contain transmission by testing people with symptomps for rapid isolation disease management as possible monitoring. Consider a below table of Covid, how program management done in UP.

District	Cumulative Status (1st - 15th Oct)															Tested on 15th Oct 2021														Absolute Difference in Positivity (RTPCR-Antigen)	Ratio of positivity rate of RT-CPR to Antigen
	Antigen			CB-NAAT			RT-PCR			TrueNat			Total			Antigen			CB-NAAT			RT-PCR			TrueNat			Total				
	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive		
AGRA	28667	0	0.0	9	0	0.0	34840	9	0.03	63	0	0.0	63579	9	0.01	1397	0	0.0	0	0	0.0	3855	1	0.03	3	0	0.0	5255	1	0.02	0.0	0.0
ALIGARH	28022	0	0.0	22	0	0.0	24914	3	0.01	36	0	0.0	52994	3	0.01	1524	0	0.0	0	0	0.0	911	0	0.00	1	0	0.0	2436	0	0.00	0.0	0.0
AMBEDKAR NAGAR	2821	2	0.1	4	0	0.0	11265	1	0.01	222	0	0.0	14312	3	0.02	0	0	0.0	0	0	0.0	393	0	0.00	8	0	0.0	401	0	0.00	0.0	0.0
AMETHI	6437	0	0.0	9	0	0.0	11058	7	0.06	87	0	0.0	17591	7	0.04	116	0	0.0	0	0	0.0	600	0	0.00	9	0	0.0	725	0	0.00	0.0	0.0
AMROHA	7440	0	0.0	1	0	0.0	13355	0	0.00	28	0	0.0	20824	0	0.00	350	0	0.0	0	0	0.0	723	0	0.00	2	0	0.0	1075	0	0.00	0.0	0.0
AURAIYA	10343	0	0.0	1	0	0.0	11555	1	0.01	83	2	2.4	21982	3	0.01	475	0	0.0	0	0	0.0	498	0	0.00	6	0	0.0	979	0	0.00	0.0	0.0
AYODHYA (FAIZABAD)	14629	0	0.0	23	0	0.0	26361	0	0.00	279	0	0.0	41292	0	0.00	902	0	0.0	1	0	0.0	1356	0	0.00	16	0	0.0	2275	0	0.00	0.0	0.0
AZAMGARH	16042	0	0.0	10	0	0.0	15564	0	0.00	344	1	0.3	31960	1	0.00	1	0	0.0	0	0	0.0	988	0	0.00	11	0	0.0	1000	0	0.00	0.0	0.0
BADAUN	10710	0	0.0	1	0	0.0	12227	0	0.00	29	0	0.0	22967	0	0.00	2209	0	0.0	1	0	0.0	600	0	0.00	1	0	0.0	2811	0	0.00	0.0	0.0
BAGHPAT	6746	0	0.0	7	0	0.0	4923	0	0.00	9	0	0.0	11685	0	0.00	470	0	0.0	1	0	0.0	210	0	0.00	0	0	0.0	681	0	0.00	0.0	0.0
BALLIA	24417	0	0.0	8	0	0.0	23118	0	0.00	161	0	0.0	47704	0	0.00	1119	0	0.0	1	0	0.0	3047	0	0.00	6	0	0.0	4173	0	0.00	0.0	0.0
BALRAMPUR	2819	1	0.0	4	0	0.0	10275	0	0.00	107	0	0.0	13205	1	0.01	33	0	0.0	1	0	0.0	532	0	0.00	2	0	0.0	568	0	0.00	0.0	0.0
BANDA	11589	0	0.0	1	0	0.0	17291	0	0.00	63	1	1.6	28944	1	0.00	381	0	0.0	0	0	0.0	988	0	0.00	4	0	0.0	1373	0	0.00	0.0	0.0
BARABANKI	12632	5	0.0	13	0	0.0	21566	1	0.00	302	0	0.0	34513	6	0.02	5	0	0.0	0	0	0.0	969	0	0.00	13	0	0.0	987	0	0.00	0.0	0.0

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BAREILLY	18970	0	0.0	4	0	0.0	27612	6	0.02	223	5	2.2	46809	11	0.02	1108	0	0.0	0	0	0.0	952	0	0.00	7	0	0.0	2067	0	0.00	0.0	0.0
BASTI	7724	0	0.0	25	0	0.0	13190	0	0.00	186	0	0.0	21125	0	0.00	398	0	0.0	0	0	0.0	838	0	0.00	8	0	0.0	1244	0	0.00	0.0	0.0
BEHRAICH	11475	0	0.0	8	0	0.0	28222	0	0.00	108	0	0.0	39813	0	0.00	390	0	0.0	1	0	0.0	1707	0	0.00	6	0	0.0	2104	0	0.00	0.0	0.0
BHADOHI	21432	0	0.0	1	0	0.0	18326	0	0.00	87	1	1.1	39846	1	0.00	1316	0	0.0	0	0	0.0	1216	0	0.00	3	0	0.0	2535	0	0.00	0.0	0.0
BIJNOR	8853	0	0.0	0	0	0.0	12781	1	0.01	17	0	0.0	21651	1	0.00	80	0	0.0	0	0	0.0	593	0	0.00	1	0	0.0	674	0	0.00	0.0	0.0
BULAND-SHAHAR	10504	0	0.0	36	0	0.0	12396	2	0.02	15	0	0.0	22951	2	0.01	44	0	0.0	2	0	0.0	486	0	0.00	1	0	0.0	533	0	0.00	0.0	0.0
CHANDAULI	3706	0	0.0	1	0	0.0	7376	0	0.00	102	1	1.0	11185	1	0.01	19	0	0.0	0	0	0.0	7	0	0.00	3	0	0.0	29	0	0.00	0.0	0.0
CHITRAKOOT	5006	0	0.0	1	0	0.0	8648	0	0.00	46	0	0.0	13701	0	0.00	137	0	0.0	0	0	0.0	427	0	0.00	2	0	0.0	566	0	0.00	0.0	0.0
DEORIA	8153	0	0.0	37	0	0.0	20782	0	0.00	731	0	0.0	29703	0	0.00	126	0	0.0	0	0	0.0	825	0	0.00	40	0	0.0	991	0	0.00	0.0	0.0
ETAH	8147	0	0.0	5	0	0.0	15929	0	0.00	14	0	0.0	24095	0	0.00	611	0	0.0	0	0	0.0	897	0	0.00	0	0	0.0	1508	0	0.00	0.0	0.0
ETAWAH	32626	0	0.0	5	0	0.0	33182	0	0.00	110	0	0.0	65923	0	0.00	2745	0	0.0	0	0	0.0	1898	0	0.00	6	0	0.0	4649	0	0.00	0.0	0.0
FARRUKHABAD	5729	0	0.0	3	0	0.0	6199	0	0.00	82	1	1.2	12013	1	0.01	185	0	0.0	0	0	0.0	460	0	0.00	8	0	0.0	653	0	0.00	0.0	0.0
FATEHPUR	16216	0	0.0	2	0	0.0	18847	0	0.00	134	0	0.0	35199	0	0.00	563	0	0.0	0	0	0.0	1403	0	0.00	3	0	0.0	1969	0	0.00	0.0	0.0
FIROZABAD	12142	0	0.0	6	0	0.0	12876	1	0.01	17	0	0.0	25041	1	0.00	1	0	0.0	0	0	0.0	558	0	0.00	1	0	0.0	560	0	0.00	0.0	0.0
GAUTAM BUDDHA NAGAR	12016	0	0.0	227	0	0.0	16827	25	0.15	226	1	0.4	29296	26	0.09	582	0	0.0	13	0	0.0	433	3	0.69	7	0	0.0	1035	3	0.29	0.7	0.0
GHAZIABAD	28546	0	0.0	21	0	0.0	35462	10	0.03	398	2	0.5	64427	12	0.02	1022	0	0.0	2	0	0.0	3134	0	0.00	11	0	0.0	4169	0	0.00	0.0	0.0
GHAZIPUR	14660	0	0.0	7	0	0.0	9875	0	0.00	329	1	0.3	24871	1	0.00	64	0	0.0	1	0	0.0	1417	0	0.00	11	0	0.0	1493	0	0.00	0.0	0.0
GONDA	15329	0	0.0	11	0	0.0	22503	0	0.00	236	0	0.0	38079	0	0.00	523	0	0.0	0	0	0.0	986	0	0.00	7	0	0.0	1516	0	0.00	0.0	0.0
GORAKHPUR	17000	1	0.0	187	0	0.0	23477	0	0.00	1599	2	0.1	42263	3	0.01	32	0	0.0	7	0	0.0	339	0	0.00	80	0	0.0	458	0	0.00	0.0	0.0
HAMIRPUR	13322	0	0.0	1	0	0.0	17037	0	0.00	30	0	0.0	30390	0	0.00	785	0	0.0	0	0	0.0	857	0	0.00	0	0	0.0	1642	0	0.00	0.0	0.0
HAPUR	8603	0	0.0	1	0	0.0	7288	0	0.00	41	0	0.0	15933	0	0.00	372	0	0.0	0	0	0.0	18	0	0.00	0	0	0.0	390	0	0.00	0.0	0.0
HARDOI	22412	0	0.0	8	0	0.0	29718	0	0.00	258	0	0.0	52396	0	0.00	909	0	0.0	0	0	0.0	1713	0	0.00	19	0	0.0	2641	0	0.00	0.0	0.0
HATHRAS	9153	0	0.0	6	0	0.0	13302	0	0.00	48	0	0.0	22509	0	0.00	544	0	0.0	2	0	0.0	768	0	0.00	0	0	0.0	1314	0	0.00	0.0	0.0
JALAUN	16602	0	0.0	6	0	0.0	17610	0	0.00	112	3	2.7	34330	3	0.01	519	0	0.0	0	0	0.0	617	0	0.00	10	0	0.0	1146	0	0.00	0.0	0.0
JAUNPUR	18897	0	0.0	11	0	0.0	25414	0	0.00	211	1	0.5	44533	1	0.00	1	0	0.0	0	0	0.0	1036	0	0.00	1	0	0.0	1038	0	0.00	0.0	0.0
JHANSI	21711	3	0.0	0	0	0.0	45997	2	0.00	87	0	0.0	67795	5	0.01	1216	0	0.0	0	0	0.0	3078	0	0.00	2	0	0.0	4296	0	0.00	0.0	0.0
KANNAUJ	7894	0	0.0	0	0	0.0	9862	0	0.00	392	2	0.5	18148	2	0.01	391	0	0.0	0	0	0.0	476	0	0.00	36	0	0.0	903	0	0.00	0.0	0.0
KANPUR DEHAT	3657	0	0.0	2	0	0.0	17517	0	0.00	65	0	0.0	21241	0	0.00	187	0	0.0	0	0	0.0	976	0	0.00	3	0	0.0	1166	0	0.00	0.0	0.0

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	Antigen			CB-NAAT			RT-PCR			TrueNat			Total			Antigen			CB-NAAT			RT-PCR			TrueNat			Total				
	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive		
KANPUR NAGAR	29124	0	0.0	9	0	0.0	33365	0	0.00	472	1	0.2	62970	1	0.00	1597	0	0.0	0	0	0.0	1901	0	0.00	36	0	0.0	3534	0	0.00	0.0	0.0
KASGANJ	8646	0	0.0	9	0	0.0	12599	0	0.00	11	0	0.0	21265	0	0.00	0	0	0.0	0	0	0.0	591	0	0.00	0	0	0.0	591	0	0.00	0.0	0.0
KAUSHAMBI	14308	0	0.0	4	0	0.0	18321	0	0.00	134	1	0.7	32767	1	0.00	830	0	0.0	0	0	0.0	1222	0	0.00	6	0	0.0	2058	0	0.00	0.0	0.0
KUSHINAGAR	8958	0	0.0	46	0	0.0	14731	0	0.00	936	0	0.0	24671	0	0.00	273	0	0.0	0	0	0.0	397	0	0.00	64	0	0.0	734	0	0.00	0.0	0.0
LAKHIMPUR KHERI	14826	0	0.0	12	0	0.0	19125	0	0.00	159	0	0.0	34122	0	0.00	29	0	0.0	0	0	0.0	1113	0	0.00	12	0	0.0	1154	0	0.00	0.0	0.0
LALITPUR	22561	0	0.0	1	0	0.0	20144	0	0.00	5	0	0.0	42711	0	0.00	1824	0	0.0	0	0	0.0	1014	0	0.00	0	0	0.0	2838	0	0.00	0.0	0.0
LUCKNOW	21728	3	0.0	381	5	1.3	68581	45	0.07	2975	1	0.0	93665	54	0.06	1643	0	0.0	5	0	0.0	2824	2	0.07	177	0	0.0	4649	2	0.04	0.1	0.0
MAHARAJGANJ	7830	0	0.0	47	0	0.0	12789	0	0.00	509	1	0.2	21175	1	0.00	6	0	0.0	3	0	0.0	924	0	0.00	29	0	0.0	962	0	0.00	0.0	0.0
MAHOBA	1488	0	0.0	0	0	0.0	6326	0	0.00	20	0	0.0	7834	0	0.00	39	0	0.0	0	0	0.0	264	0	0.00	6	0	0.0	309	0	0.00	0.0	0.0
MAINPURI	16632	0	0.0	8	0	0.0	13798	1	0.01	102	1	1.0	30540	2	0.01	1108	0	0.0	1	0	0.0	643	0	0.00	1	0	0.0	1753	0	0.00	0.0	0.0
MATHURA	14085	0	0.0	12	0	0.0	14792	5	0.03	59	0	0.0	28948	5	0.02	478	0	0.0	2	0	0.0	724	0	0.00	4	0	0.0	1208	0	0.00	0.0	0.0
MAUNATH BHANJAN	2645	0	0.0	13	0	0.0	12535	0	0.00	139	0	0.0	15332	0	0.00	151	0	0.0	0	0	0.0	876	0	0.00	3	0	0.0	1030	0	0.00	0.0	0.0
MEERUT	18886	0	0.0	5	0	0.0	27078	10	0.04	9	0	0.0	45978	10	0.02	354	0	0.0	0	0	0.0	959	0	0.00	0	0	0.0	1313	0	0.00	0.0	0.0
MIRZAPUR	21485	0	0.0	4	0	0.0	4747	0	0.00	125	0	0.0	26361	0	0.00	454	0	0.0	0	0	0.0	486	0	0.00	11	0	0.0	951	0	0.00	0.0	0.0
MORADABAD	15609	0	0.0	3	0	0.0	24552	2	0.01	150	0	0.0	40314	2	0.00	1026	0	0.0	0	0	0.0	1530	0	0.00	16	0	0.0	2572	0	0.00	0.0	0.0
MUZAFFAR-NAGAR	6689	0	0.0	4	0	0.0	8389	1	0.01	71	0	0.0	15153	1	0.01	5	0	0.0	0	0	0.0	206	0	0.00	0	0	0.0	211	0	0.00	0.0	0.0
PILIBHIT	7475	1	0.0	0	0	0.0	14854	0	0.00	160	0	0.0	22489	1	0.00	160	0	0.0	0	0	0.0	22	0	0.00	3	0	0.0	185	0	0.00	0.0	0.0
PRATAPGARH	24068	2	0.0	8	0	0.0	27354	0	0.00	262	1	0.4	51692	3	0.01	1142	0	0.0	0	0	0.0	1534	0	0.00	19	0	0.0	2695	0	0.00	0.0	0.0
PRAYAGRAJ	39607	3	0.0	32	0	0.0	50462	0	0.00	1613	8	0.5	91714	11	0.01	2475	1	0.0	2	0	0.0	2946	0	0.00	126	0	0.0	5549	1	0.02	0.0	0.0
RAEBARELI	6450	0	0.0	2	0	0.0	38015	0	0.00	155	1	0.6	44622	1	0.00	54	0	0.0	0	0	0.0	1773	0	0.00	6	0	0.0	1833	0	0.00	0.0	0.0
RAMPUR	11254	0	0.0	1	0	0.0	14043	0	0.00	35	0	0.0	25333	0	0.00	625	0	0.0	0	0	0.0	807	0	0.00	2	0	0.0	1434	0	0.00	0.0	0.0
SAHARANPUR	25059	0	0.0	3	0	0.0	25207	2	0.01	41	0	0.0	50310	2	0.00	156	0	0.0	0	0	0.0	1586	0	0.00	0	0	0.0	1742	0	0.00	0.0	0.0
SAMBHAL	5153	0	0.0	1	0	0.0	9752	0	0.00	55	0	0.0	14961	0	0.00	222	0	0.0	0	0	0.0	453	0	0.00	4	0	0.0	679	0	0.00	0.0	0.0
SANT KABIR NAGAR	9091	0	0.0	17	0	0.0	12301	0	0.00	149	0	0.0	21558	0	0.00	359	0	0.0	0	0	0.0	957	0	0.00	8	0	0.0	1324	0	0.00	0.0	0.0

District	Cumulative Status (1st - 15th Oct)															Tested on 15th Oct 2021														Absolute Difference in Positivity (RTPCR-Antigen)	Ratio of positivity rate of RT-CPR to Antigen
	Antigen			CB-NAAT			RT-PCR			TrueNat			Total			Antigen			CB-NAAT			RT-PCR			TrueNat			Total				
	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive	Total tested	Total tested Positive	% tested positive		
SHAHJAHAN-PUR	12305	0	0.0	2	0	0.0	13058	1	0.01	102	0	0.0	25467	1	0.00	833	0	0.0	0	0	0.0	466	0	0.00	5	0	0.0	1304	0	0.00	0.0	0.0
SHAMLI	16380	0	0.0	0	0	0.0	16035	0	0.00	2	0	0.0	32417	0	0.00	1009	0	0.0	0	0	0.0	1201	0	0.00	0	0	0.0	2210	0	0.00	0.0	0.0
SHRAVASTI	8265	0	0.0	2	0	0.0	9312	0	0.00	24	0	0.0	17603	0	0.00	336	0	0.0	0	0	0.0	349	0	0.00	1	0	0.0	686	0	0.00	0.0	0.0
SIDDHARTH NAGAR	3807	0	0.0	27	0	0.0	10683	3	0.03	134	0	0.0	14651	3	0.02	138	0	0.0	0	0	0.0	466	0	0.00	9	0	0.0	613	0	0.00	0.0	0.0
SITAPUR	6638	0	0.0	10	0	0.0	17795	0	0.00	452	0	0.0	24895	0	0.00	316	0	0.0	0	0	0.0	1150	0	0.00	33	0	0.0	1499	0	0.00	0.0	0.0
SONBHADRA	9713	0	0.0	3	0	0.0	9487	0	0.00	157	0	0.0	19360	0	0.00	844	0	0.0	0	0	0.0	240	0	0.00	1	0	0.0	1085	0	0.00	0.0	0.0
SULTANPUR	8129	0	0.0	16	0	0.0	25197	0	0.00	136	0	0.0	33478	0	0.00	263	0	0.0	0	0	0.0	1688	0	0.00	11	0	0.0	1962	0	0.00	0.0	0.0
UNNAO	19071	0	0.0	3	0	0.0	27654	0	0.00	198	0	0.0	46926	0	0.00	0	0	0.0	0	0	0.0	1579	0	0.00	15	0	0.0	1594	0	0.00	0.0	0.0
VARANASI	24525	1	0.0	1	0	0.0	32106	0	0.00	615	1	0.2	57247	2	0.00	1235	0	0.0	0	0	0.0	2087	0	0.00	13	0	0.0	3335	0	0.00	0.0	0.0
Total	**1,026,289**	**22**	**0.0**	**1,421**	**5**	**0.4**	**1,431,754**	**139**	**0.01**	**17,883**	**40**	**0.2**	**2,477,347**	**206**	**0.01**	**43,836**	**1**	**0.0**	**46**	**0**	**0.0**	**78,763**	**6**	**0.01**	**979**	**0**	**0.0**	**123,624**	**7**	**0.01**	**0.0**	**3.3**

DISTRICT NAME	Positive cases in last 24 hours	Total positive cases till today	Discharged	Deceased (Deaths)	Deceased (Deaths) in last 24 hours	Active Cases	Total Home Isolation cases	Cases registered on App	Home isolation in last 24 hour	Home Isolation Over	Total Discharge + Home Isolation Over	Cases directly closed by districts with closure reason as "Other" or "Quarantine Over"	Re-covery (%)
AGRA	0	25755	4,990	457	0	0	20309	2429	0	20308	25298	0	98
ALIGARH	0	21277	10,846	108	0	0	10314	672	0	10314	21160	9	99
AMBEDKAR NAGAR	0	5038	1,144	151	0	3	3721	655	0	3715	4859	25	96
AMETHI	0	9962	1,197	143	0	0	8620	765	0	8620	9817	2	99
AMROHA	0	16614	2,925	203	0	0	13485	3135	0	13483	16408	3	99
AURAIYA	1	10087	1,044	203	0	1	8847	1061	0	8837	9881	2	98
AYODHYA (FAIZABAD)	0	16918	2760	290	0	1	13889	1058	0	13863	16623	4	98
AZAMGARH	0	17902	1,673	228	0	1	16001	569	0	16000	17673	0	99
BADAUN	0	14941	2,404	98	0	1	12439	969	0	12438	14842	0	99
BAGHPAT	0	9131	3,239	141	0	0	5751	677	0	5751	8990	0	98
BALLIA	0	21609	2,493	234	0	0	18860	1794	0	18837	21330	45	99
BALRAMPUR	0	7491	1,526	138	0	0	5829	345	0	5827	7353	0	98
BANDA	0	10991	1,457	157	0	1	9380	1305	0	9370	10827	6	99
BARABANKI	0	19843	2217	225	0	0	17413	8738	0	17400	19617	1	99
BAREILLY	6	44015	7321	377	0	11	36309	2435	6	36302	43623	4	99
BASTI	0	11715	5318	330	0	1	6054	842	0	6054	11372	12	97
BEHRAICH	0	11549	1883	178	0	1	9487	841	0	9487	11370	0	98
BHADOHI	0	7719	614	163	0	1	6944	508	0	6938	7552	3	98
BIJNOR	0	14793	2645	126	0	1	12027	2388	0	12021	14666	0	99
BULAND-SHAHAR	0	20214	6247	242	0	4	13722	958	0	13721	19968	0	99
CHANDAULI	0	16206	4026	356	0	0	11860	621	0	11824	15850	0	98
CHITRAKOOT	1	7110	1701	79	0	1	5329	283	0	5329	7030	0	99
DEORIA	0	20223	2418	220	0	2	17588	1098	0	17583	20001	0	99
ETAH	0	9967	1451	99	0	0	8422	820	0	8413	9864	4	99
ETAWAH	0	13933	1624	293	0	2	12025	685	0	12014	13638	0	98
FARRUKHA-BAD	0	10346	2587	194	0	0	7568	732	0	7565	10152	0	98
FATEHPUR	0	6813	3535	139	0	0	3145	750	0	3139	6674	0	98
FIROZABAD	1	8719	3360	135	0	2	5222	196	0	5222	8582	0	98
GAUTAM BUDDHA NAGAR	7	63312	36685	466	0	16	26155	4835	2	26145	62830	0	99
GHAZIABAD	1	55657	19352	461	0	8	35850	4467	0	35836	55188	0	99
GHAZIPUR	0	21639	2216	282	0	0	19195	1636	0	19141	21357	0	99
GONDA	0	12282	1881	266	0	0	10148	2702	0	10135	12016	0	98
GORAKHPUR	0	59431	5019	849	0	20	53574	2555	0	53542	58561	1	99
HAMIRPUR	0	5232	2280	102	0	0	2850	363	0	2850	5130	0	98

DISTRICT NAME	Positive cases in last 24 hours	Total positive cases till today	Discharged	Deceased (Deaths)	Deceased (Deaths) in last 24 hours	Active Cases	Total Home Isolation cases	Cases registered on App	Home isolation in last 24 hour	Home Isolation Over	Total Discharge + Home Isolation Over	Cases directly closed by districts with closure reason as "Other" or "Quarantine Over"	Re-covery (%)
HAPUR	0	12635	5967	217	0	0	6420	845	0	6420	12387	31	98
HARDOI	0	13755	2397	349	0	0	11035	5356	0	11006	13403	3	97
HATHRAS	0	2920	1365	43	0	0	1510	76	0	1510	2875	2	98
JALAUN	0	11682	4,302	202	0	0	7181	341	0	7178	11480	0	98
JAUNPUR	1	22581	4978	235	0	3	17367	1633	1	17365	22343	0	99
JHANSI	0	36550	16325	663	0	1	19561	3811	0	19561	35886	0	98
KANNAUJ	0	9229	3050	114	0	2	6066	526	0	6063	9113	0	99
KANPUR DEHAT	0	6197	1593	110	0	0	4508	446	0	4494	6087	0	98
KANPUR	0	82927	11395	1,905	0	1	69632	9310	0	69626	81021	0	98
NAGAR													
KASGANJ	0	4250	1974	53	0	0	2216	110	0	2216	4190	7	99
KAUSHAMBI	0	4422	1177	70	0	3	3174	484	0	3171	4348	1	98
KUSHINAGAR	0	15617	1581	228	0	1	13809	662	0	13803	15384	4	99
LAKHIMPUR	0	24409	1,882	292	0	0	22296	1670	0	22210	24092	25	99
KHERI													
LALITPUR	0	12741	3429	128	0	0	9187	3513	0	9183	12612	1	99
LUCKNOW	0	238767	22618	2,651	0	23	213505	28288	1	213474	236092	1	99
MAHARAJGANJ	0	12439	1443	140	0	4	10863	339	0	10852	12295	0	99
MAHOBA	0	4268	1231	86	0	0	2951	149	0	2951	4182	0	98
MAINPURI	0	10026	2199	182	0	0	7646	490	0	7645	9844	0	98
MATHURA	0	20290	4778	402	0	3	15124	1742	0	15107	19885	0	98
MAUNATH-	0	8331	1358	80	0	1	6895	463	0	6891	8249	1	99
BHANJAN													
MEERUT	1	69454	14290	898	0	5	54263	3972	0	54260	68550	1	99
MIRZAPUR	0	11088	1248	116	0	1	9722	360	0	9715	10963	8	99
MORADABAD	0	39099	7353	349	0	0	31396	2448	0	31396	38749	1	99
MUZAFFAR-NAGAR	0	31005	3898	269	0	0	26837	1045	0	26836	30734	2	99
PILIBHIT	0	11031	1865	193	0	2	8970	4432	0	8970	10835	1	98
PRATAPGARH	1	16036	1743	161	0	3	14130	1904	0	14126	15869	3	99
PRAYAGRAJ	3	78680	8521	1,085	0	19	68963	15583	2	68928	77449	127	98
RAEBARELI	0	17103	4573	343	0	1	12188	1954	0	12183	16756	3	98
RAMPUR	0	11824	2713	148	0	0	8964	1141	0	8963	11676	0	99
SAHARANPUR	0	32728	4673	420	0	1	27637	2165	0	27634	32307	0	99
SAMBHAL	0	9438	2668	106	0	1	6663	490	0	6663	9331	0	99
SANT KABIR NAGAR	0	8159	1800	98	0	0	6260	311	0	6260	8060	1	99
SHAHJAHAN PUR	0	20360	4039	444	0	2	15877	3353	0	15872	19911	3	98

DISTRICT NAME	Positive cases in last 24 hours	Total positive cases till today	Discharged	Deceased (Deaths)	Deceased (Deaths) in last 24 hours	Active Cases	Total Home Isolation cases	Cases registered on App	Home isolation in last 24 hour	Home Isolation Over	Total Discharge + Home Isolation Over	Cases directly closed by districts with closure reason as "Other" or "Quarantine Over"	Re-covery (%)
SHAMLI	1	12976	1369	45	0	1	11562	854	1	11561	12930	0	100
SHRAVASTI	0	4388	745	35	0	0	3610	346	0	3608	4353	0	99
SIDDHARTH NAGAR	0	9370	2554	100	0	0	6716	2467	0	6716	9270	0	99
SITAPUR	0	12396	2087	185	0	0	10128	730	0	10124	12211	0	99
SONBHADRA	0	16807	2996	251	0	1	13560	795	0	13559	16555	0	99
SULTANPUR	0	14915	1795	138	0	1	12983	798	0	12981	14776	0	99
UNNAO	0	15011	5130	254	0	0	9650	868	0	9627	14757	0	98
VARANASI	0	85497	5501	971	0	1	79042	6190	0	79010	84511	14	99
TOTAL	**24**	**1,709,835**	**328,681**	**22,892**	**0**	**159**	**1,358,399**	**166,347**	**13**	**1,357,742**	**1,686,423**	**361**	**99**

Now a big work is done for Peditric intensive care unit in all district by Emergency Covid Response Package. In Which 20 bedded prefab unit of 296 CHC Bed/Oxygen/Equipment, 6 bedded prefab unit at 375 PHCs Bed/Equipment/Oxygen, 6 bedded prefab unit at 600 SHCs, 32 bedded PICU (20+(4 ICU+8HDU) in 36 DH(6 units in MC), 42 bedded PICU (30+(4 ICU+8HDU) in 39 DH(+24 MC), Augmentation of 592 ICU Beds in 296 CHC, Augmentation of 1673 ICU beds in 65 DH in UP. Tables are

At last " Difficulties in life are very severe to those who are ready to to rise. And those who take responsibility never give up, either win or learn.

Thanks to AUSTAA for giving me a place to right our experience on Covid and information.

Vinay Kumar Tiwari
M.sc.- Statistics 2012

Corporate For Everyone!

"There's no shortage of remarkable ideas, what's missing is the will to execute them." – Seth Godin Being born and brought up in a family where everyone expects us to be a Doctor, an Engineer, or an Officer is very certain. We always want to be great in our parent's eyes since our childhood and there's nothing wrong with that. But the dream for which you're working hard must be your dream too. Some people don't even try to follow their passion and are only living their parent's dream. Trust me, you can achieve wonders if you make your passion, a profession. There are so many fields that we can discuss but today, you and I will be specifically discussing about the thing that is not being discussed and is important for both of us. Something that we may or may not be much aware of can change our life, enhance our personality, and give value to our resume. Yes, I am talking about job opportunities in the private sector.

So, let's take a deep breath and open our minds to adapt to the things that we're going to read in this article.

I am not going to give you examples of famous personalities because the situation and circumstances might be different for each of us to achieve our goal so the difficulty level will also be different.

The first thing that you must do is to make an effective resume. Your resume is the first impression that you are going to put on any employer, based on that only you'll get selected for the interview. There is so many application/website that will help you to make a proper resume.

So, the following are the points that you should keep in mind while making a resume –

- For freshers (with no corporate experience) – It must not exceed one page.
- For an experienced person – It can be two or three pages. However, depending on your years of experience, accomplishments, training, and education, it can go up to eight pages.
- A resume must contain only relevant information. E.g., if you want to pursue your career in the field of data science so the area of interest and skill must be related to that only.
- Avoid giving family information.
- The information should be filled in the following order –
    1. Name and contact detail
    2. Career Objective
    3. Qualifications
    4. Skills summary
    5. Professional experience
    6. Achievements
    7. Extracurricular activities
    8. Interests/hobbies
- The date of activities should be in the reverse-chronological order.
- Keep updating your resume. After building the resume, you should apply for the job/internship. Naukari, LinkedIn, Internshala, and Indeed are names of the few platforms where you can apply for the job. I prefer LinkedIn and Naukari for job applications over all other apps. Every application has its advantages and limitations. LinkedIn is my favorite because it keeps me updated with what is happening around me and gives me the advantage of connecting directly with any company's employee or HR. You can ask anyone for a referral and can also post about your job requirements.

Things to keep in mind –

- Do your research before applying for any company. You should check the company's rate, review, the salary they offer, perks, and benefits they give. You can check these on Ambitionbox or Glassdoor.
- Don't fall for any trap. DO NOT give money in any circumstance. No genuine employer will ever ask you to give money. So, try not to be a victim of fraud in the greed of getting a job.
- Start working only if you get an offer letter and joining letter from the company.
- Grow more connections to get more opportunities.
- Never give up!

Articles that may help you –

Importance of private sector in Indian Economy-
https://business.mapsofindia.com/sectors/private/importance.html

Advantages and disadvantages of private sector work - **https://careertrend.com/info-8491832- advantages-disadvantages-private-sector-work.html**

How to write an effective resume? - **https://novoresume.com/career-blog/how-to-write-a-resume-guide**

How to apply for jobs on LinkedIn? - **https://careersidekick.com/how-to-find-a-job-fast/**

How to get jobs on Naukari? - **https://apnaahangout.com/get-job-easily-naukri-com/**

How to get internship on Internshala? - **https://blog.internshala.com/2015/03/the-five-secrets-ofsecuring-an-internship-through-internshala/**

Sakshi Srivastava
Email id – sakshi857788@gmail.com

ROLE OF STATISTICS IN THE CONSERVATION OF WILDLIFE

Statistics can be used to study the relationship between various factors which cause a detrimental effect on the environment during the course of sustainable development. Forest and wildlife conservation can be said to be the need of the hour, and statistical methods can be employed to help in keeping track of the various populations of endangered species. The main reason why it is said to be important is because the disappearance of even a single species can cause a disruption in the natural food chain and lead to a huge impact on the environment. In recent years, the earth has been facing large scale destruction of forests and natural habitats and hence many species are endangered or extinct.

Statistical methods of model fitting can be used to predict the distribution of the animal population under study. Sampling methods can be used to conduct a census of various species. Such a census can be conducted several times a year, at certain intervals. This helps scientists and researchers to maintain records about the growth or reduction in the population of various species, at different points of time. Census methods include taking surveys to see which areas are frequented by the animal species under study, and during which seasons. This can help to predict the movement of herds of animals and might be of use in wildlife preservation.

Aside from census methods, the data obtained from the tracking devices, which are used widely nowadays, can either be recorded constantly or at regular intervals which may be fixed according to the behaviour of the species or due to external factors. This data may be said to form a time series data set and can be used for further analysis to obtain more information about the behaviour of the species at specific instances of time.

Statistical methods work not only for animals, but even for plant species. By using techniques such as Completely Randomized Design, Randomized Block Design and Latin square design, the effect of various external and environmental factors such as sunshine, water and temperature on various plant species can be studied. The effect of these external factors can be separated from the inherent characteristics or other uncontrollable factors which may affect the growth of different species of plants.

On examining the use of a completely randomized design or CRD on plant life, it can be found that the CRD can be applied to plants which have equal probability of being exposed to the element under study, which can be the effect of a new fertilizer, a new pesticide or anything else whose effect is to be studied. An RBD or randomized block design can be used when the experimental units are divided into various blocks based on certain common characteristics for each block. The method of randomized complete block design (RCBD) can also be used, which may be a more efficient method which takes into account the spatial variations present in the field of experiment.

Other methods like the Latin square design (LSD) can also be used. Field experiments are often conducted in order to test the effects of new varieties of plant seeds, water, fertilizers, etc. However, these experiments can also be performed on wild flora and fauna, by keeping some external and environmental factors as constant, in order to keep track of the growth of different types of plants and to prevent endangered species from becoming extinct.

The method of statistical hypothesis testing is a versatile method which can even be used to check the interactions between plant and animal life. When considering the study of animal and bird species, different animals live in different types of habitats. By formulating a statistical hypothesis about the habitat, one can determine the impact of the environment on a certain species. The same thing can be done for a plant species as well. Also, the projection of the population of a species for some time frame can also be done to check the possible impact on the food chain. If a certain type of plant or animal were to become extinct, some parts of the cycle is likely to be affected more than others. Statistics can help us to determine the interrelation between the various parts of the environmental food chain.

The science of statistics is useful, not only for the study of living beings, but also for the study of non-living components of the natural environment and their interrelationship with the living beings. A prominent example of this type of inter dependence can be given by the fact that mangrove forests are useful in protecting both humans and animals from storms and floods. The mangroves are a unique type of plant, whose roots grow above the ground instead of below. These roots help the plants to manage the ebb and flow of the tides. This is the reason why mangrove forests can help to control floods. The roots play an active role in slowing down the flow of the tidal waters and hence protecting the

coastline from damage. Statistical tools can be used to study about the areas where the mangrove forests are diminishing, and to help scientists to implement measures for the preservation of these unique forests. These tools determine all these factors and help to project some kind of framework for future study and to determine the factors which earmark the areas of research.

In the same way, the study of nature conservation ties up with the study of natural calamities. The preservation of species is crucial in order to maintain the environmental balance. Some trees which grow on mountains help to hold the soil together. When there is illegal felling of trees, or too many trees are cut down in the same area, the region becomes more prone to landslides. The science of statistics can help to determine a threshold value for the appropriate number of trees which should be planted on a given area of land, such that the soil contains enough nutrients to nourish the plants and hence prevent landslides. The maximum number of trees which can be cut down in each area can also be determined by using data from past natural disasters, and similar types of locations can be grouped together based on climate, types of soil, and many other factors. All of these things are possible because of statistics. Keeping in mind the special efforts have been made in India to maintain the ecological balance and conserve plant and animal life in such a way that it does not hamper economic development and social progress, some measures can be mentioned. In the year 2020-2021, there are 981 protected areas in the country, which includes 104 National Parks, 566 Wildlife Sanctuaries, 97 Conservation Reserves and 214 Community Reserves. There are 51 Tiger Reserves, 18 Biosphere Reserves and 32 Elephant Reserves. The data obtained from all of these sanctuaries can be efficiently handled using statistical techniques. For example, the Gir forest in Gujarat is the last remaining sanctuary for the Asiatic lion. As of 2018, there were around 600 lions. Statistical tools such as cluster sampling and stratified random sampling can be used to demarcate the areas within the Gir sanctuary where the majority of the lion population can be found. By providing more security in these areas, this endangered species can be protected from poachers who may try to illegally hunt these animals. Moreover, a regular census of the animals using tracking devices can provide real time data and help to keep track of them. It is the responsibility of mankind to ensure the survival of plant and animal life, which in turn helps to ensure the survival of humankind. All parts of the food chain are vital, and the disappearance of even a single species may have huge consequences. Statistics can play a huge role in the protection of species and hence statistical methods should be utilized in the most efficient way to help in the preservation of the environment.

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Former student, Department of Statistics
University of Allahabad

JAM MS 2023: An aim to enter IIT

"ज्ञान ही शक्ति है"
(Knowledge is Power)

Motto of Organising Institute - Indian Institute of Technology Guwahati

Joint Admission test for Masters (JAM)
संयुक्त स्नातकोत्तर उपाधि प्रवेश परीक्षा

Joint Admission test for Masters (JAM) is a common admission test conducted all over India for graduation level students every year for admission into Master Of Science (M.Sc.) and other post-graduate science programs at Indian Institutes of Technology (IITs), Indian Institute of Science (IISc) and National Institutes of Technology(NITs). JAM has been conducted since 2004 and established a benchmark for scope of science at undergraduate level in India. JAM has given an opportunity to join a well-known, world recognised premium institutes for quality education in science , management ,social science , research and engineering .IIT JAM offers an opportunity to get admission in MSc and other PG courses at IITs and integrated PhD courses at IISc, Bangalore along with other government-funded institutes. Every year more than 55000 participants appeared in this exam with a goal to join IITs, NITs and IISERS. To join the top-rated Indian Institutes for postgraduate programmes. This exam also offers courses to students for various research and PhD programmes in frontier areas of science after a bachelor's programme. Hence offering a wide range of courses to the students and giving them a global exposure. Since 2021 with addition of Economics JAM has started giving pace to social sciences.

"Joint Admission test for Masters is an examination on the comprehensive understanding of the candidates at the undergraduate level in Biotechnology (BT), Chemistry (CY), Economics (EN), Geology (GG), Mathematics (MA), Mathematical Statistics (MS), and Physics (PH). JAM scores will be used for admission to M.Sc. (Two-Year), Joint M.Sc.-Ph.D., M.Sc.-Ph.D. Dual Degree, M.Sc.-M.S. (Research)/Ph.D. Dual Degree M.Sc.-MTech. Dual Degree and other Post-Bachelor's Degree Programmes at IITs (Bhilai, Bhubaneshwar, Bombay, Delhi, (ISM) Dhanbad, Gandhinagar, Guwahati, Hyderabad, Indore, Jodhpur, Kanpur, Kharagpur, Madras, Mandi, Palakkad, Patna, Roorkee, Ropar, Tirupati and (BHU) Varanasi) for the Academic Session 2023-24. JAM score will be used by IISc Bangalore for admission to Integrated Ph.D. programmes. JAM score will also be used by other centrally funded technical institutions such as NITs, IIEST Shibpur, SLIET Punjab, and IISERs for admission to their postgraduate programmes"

- **JAM 2023 POSTER**

JAM_Poster_2023.pdf - Google Drive

IIT JAM is organised by alternating institutes every year. Last year's edition was organised by IISc Bangalore. Indian Institute of Technology Roorkee will be the organising Institute for 2022 edition.

IMPORTANT DATES REGARDING JAM 2023

1. JAM Online Application Processing System Website Opens - September 07, 2023
2. Last Date for Online Registration/Application Submission and Uploading of Documents on the Website - October, 2022 (Monday)
3. Availability of JAM Admit Cards on the Online Application Portal (for Download and Printing) - January 2023
4. Date of ExaminationFebruary 12, 2023 (Sunday)
5. Announcement of the ResultsMarch 22, 2023 (Tuesday)

PAPERS AND PATTERN

JAM 2022 Examination will be conducted through ONLINE mode only as a Computer Based Test (CBT) for all Test Papers. This edition of JAM 2022 will have seven Test Papers, namely, Biotechnology (BT), Chemistry (CY), Economics (EN), Geology (GG), Mathematics (MA), Mathematical Statistics (MS) and Physics (PH). For all the seven test papers, the duration of examination will be of 3 hours. The exam will be conducted through collaboration with eight zones. Every student is allowed to appear in one or two papers of JAM.

In this section we will discuss the IIT JAM Mathematical Statistics (MS) Paper. Every year students pursuing bachelor's in Mathematics or Statistics appear in this exam. Students with a mathematical background with Statistics different patterns of questions, namely (1) Multiple Choice Questions (MCQ), (2) Multiple Select Questions (MSQ), and (3) Numerical Answer Type (NAT) questions. Paper is of Objective Type with three distinct sections of questions. These sections are separated as A, B and C. All sections are mandatory to qualify. Question in each section is equally important as mentioned below: -

The Mathematical Statistics (MS) test paper is including both Section – A: Total number of Questions in this part is 30. Multiple Choice Questions (MCQ) having one or two marks each. Each Question has four options among them just a single option is correct.

Section – B: Total number of Questions in this part is 10 having two marks each. Each Question has four options among which more than one can be correct. These kinds of questions are called Multiple Correct Questions.

Section – C: Total quantities of Question in this area are 20 carrying one or two marks each. Under this part candidates have to give appropriate responses with the assistance of the virtual numeric keypad. No choices will be given in this section. These Questions are called Numerical Answer Type Questions (NAT).

MARKING DISTRIBUTION

Section – A (MCQ) wrong answer will bring about negative imprints.

For every one of the 1 Mark Questions, 1/3 will be deducted for each wrong answer. For every one of the 2 marks Question, 2/3 will be deducted for each wrong answer.

Section – B (MSQ) and Section– C (NAT) there are no negative deductions.

-Mathematics which has 30% weightage in the exam.

-Statistics which has 60% weightage in the exam.

SYLLABUS

The syllabus of IIT JAM MS includes probability, matrix, random variables, differential and integral calculus, sequence and series, estimation, limit theorem, joint distributions, sampling distributions, testing of hypothesis, etc. Every topic contains equal weightage. Statistics and Mathematics is a 70:30 ratio. So, the Statistics section holds the key to crack IIT JAM with Mathematics providing a strong foundation.

Link for syllabus-
https://jam.iitr.ac.in/index.html

INSTITUTES THAT ACCEPT IIT- JAM MS SCORES

Through IIT-JAM MS Scores after qualifying all eligibility criteria one can take admission in these institutes: -

1) IIT Kanpur for MSc in Statistics
2) IIT Bombay for MSc in Applied Statistics and Informatics
3) IIT Bombay for Integrated PhD in Operations Research
4) IIT Bhubaneswar for Joint MSc- PhD in Atmosphere and Ocean Sciences

ELIGIBILITY CRITERIA

All the candidates should have a bachelor's degree with a qualifying degree if aggregate or CGPA/CPI should be at least 55%or 5.5 out of 10 for General/ OBC (NCL)/ EWS category candidates and 50% or 5.0 out of 10 for SC /ST and PWD categories .

Eligibility Criteria for each course can be different, and can change from year to year so check it on the JAM information brochure for that respective year. For Information Brochure & Application Procedure, Visit. **https://jam.iitr.ac.in.**

ADMISSION PROCEDURE

After JAM 2023 results are announced, a qualified candidate should apply ONLINE only using the prescribed Admission Form available at JOAPS website. For each test paper an All-India Rank (AIR) will be assigned to each candidate. Merit list will be decided on the basis of this rank.

SEAT MATRIX FOR JAM MS

Total 96 seats are available in IIT Kanpur and IIT Bombay for IIT JAM Mathematical Statistics MSc courses. (On basis of JAM 2022)

IITs	Total Seats
IIT Bombay	48
IIT Kanpur	62
Total	110

CONTACT ADDRESS

Organising Chair, JAM 2023GATE-JAM Office
Indian Institute of Technology Guwahati
Guwahati- 781 039, Uttarakhand, India
Email: jam2023@iitg.ac.in

HELP DESK

Phone No.: (0361) 2586500
Monday to Friday
10:00 AM to 1:00 PM, 2:00 PM to 5:30 PM

(Government working days only)

The IIT JAM exam will give you a chance to enter IITs and other top-rate institutes that are globally acclaimed for their quality education in science and research areas. Students who want to pursue dream jobs and career opportunities in science must apply for this exam.

Last year, AUSTAA (Allahabad University Statistics Alumni Association) started an IIT JAM preparation programme for 2022 batch students under the mentorship of Mr. Shiv Kumar Yadav (MSc. pass out of IIT Kanpur and researcher at IIT Bombay), Mr. Amit Kumar Singh (he did his Ph.D. in Mathematics from IIT Madras and is currently working as a Postdoctoral Fellow in Mathematics at Chennai Mathematical Institute), and Mr. Raghavendra Pandey (MSc. pass out of IIT Bombay and currently working as a Postdoctoral Fellow in Mathematics at Chennai Mathematical Institute).

Ms. Nausheen Mushraf (Probationary Officer at Indian Statistical Services) and others.

Two students, Mr. Saqib Ansari and Mr. Murshid, were selected at IIT Kanpur through this mentorship programme. I hope, in the future, AUSTAA will keep helping students crack this national level exam.

Best wishes to all JAM aspirants!!!!

Sumbul Sheikh and Saqib Ansari wrote this.

Best wishes to all JAM aspirants!!!!

Importance of Family

Meaning of Family: Everyone might have a different meaning of family, in general most of them would be agree that family is a group of individuals which share a bond of love, care, trust and mutual feelings of welfare of each other. Behind every success we achieve or have achieved, there is a great role of our family. When we started walking, it wasour parents, grandfather, some relative, who hold our finger too took us to the school, our foods, our school and every expense they bear for us. When we fell ill, they were worried aboutour health and passed many sleepless nights, took care of us in all the hard times so we may recover soon and sleep peacefully. Due to their love. support,hard work and prayers,today we have achieved many accomplishments smalls or big. God has not blessed humans but when we see in nature,we find how God has put love in the hearts of animals,a female monkey and dog, keep even their dead babies attached to themselves unless the dead body of the baby rot and smell very bad. The bond of connection is are present in the other living creatures. Even manyanimals,birds live in communities, how a mother bird bring food to feed their babies which do not have got feathers on their bodies. Ants and Bees like insects too have a very strong social structure. Many researches have proven that many animals, birds, insect like ant and bees live in communities and have their social framework.One may also say that family is an emotion feeling of belonging and love not possess by humans alone but other fellow creatures to possess this noble feeling without human conscience.

Family in scriptures: When we look into the scriptures, we find the family is created by the God himself,one family in which we are born was not our choice. One is the family that we choose to be this worldly family the people we associate with friends, life partner and the group we are heartly attached like alma-matter, work place etc. One such beautiful shlok is here.

The World Is a Family

One Is a Relative, The Other Stranger,
Say the Small Minded.
The Entire World Is a Family,
Live the Magnanimous....

—Maha Upanishad 6.71

The similar message of human being to be a family is given in The Noble Quran, that humankind is born from a singleparent, one female and male so, they are brother of each other. The same message can be also found in The Holy Bible.

"O mankind, indeed We have created you from a male and female and made you people and tribes that you may know each other..." Quran (14:13)

We can find numerous message and values in the scriptures, those values that are required to bind a family. He would be a very unfortunate person in this world who do not have a family to love him.

Whenever we read the message of wisdom our heart recognizes it as we knew it before.

"A wise son brings joy to his father, but a foolish man despises his mother." (Proverbs 15:20)

"Children obey your parents in the Lord, for this is right. "Honouryour father and mother" (this is from the commandments of promise) (Ephesians6:1, ESV)

AUSTAA Family: In the year 2020, when the world was facing Covid 19, It was then some of my senior introduce me to the AUSTAA family. There I saw the collective effort of many of our AU alumni and classmates to make the data base of different region of India to provide the basichelpline numbers and useful information at the hand.

They helped manystudents of AU as well as others universities in the preparation of many exams like JAM, ISS, RBI etc.

All these selfless service for the betterment of the Allahabad University student of statistics department and giving back to their alma mater and country that is also an example of a family, The AUSTA family. Its network contain many

professors, data scientist, ISS, IAS ,IPS and many other dignitary officers and professionals.

When I got the admission at IIT Kanpur, In the first week away from my home, taking a little time to adapt the new environment. I shared this news with my sister Sumbul only and as this news reached to Dr Niyati Joshi Sir, Himanshu Sir, Nausheen Appi and few others all of them personally called me and provided me the necessary motivation and support, that made me feel like a family which care for each other well being.

Effect on health: Humans are social creature and they cannot leave in isolation. Isolation may lead to severe mental health problems like stress, depression, anxiety and other health problems. Lost wealth can be regained, health may be recovered if someone is mentally strong but the one who has lost his peace of mind has lost everything. People who were once victim of child abuse, unfortunate to get love and care of a family. They grow with various mental problems and some turn into anti-social individual.It is the support of family and friends that gives us strength at the low time and fight all the odds, during stress and health issues.

These days where we see the trend of single family is prevalent, the children do not get proper care and emotional support as the both parents work or the children feel the need some extra attention earlier, they get from their grandparents and other members of their joint family. In the joint family, where a child use to get the love of their grand-parents showed overall better growth and parents face lesser problem in nurturing children. It is hard to believe that nearly 138 million elderly people living in India of which 18 million senior citizens are homeless as they are abandoned by their families and they don't have any means of income and financial support.

Conclusion: The family has a great importance for every individual it cannot be denied. We should try to spend at least few hours of a day with family so we may share our thoughts, to give and take support in the family to those who need and take when we required.There are several way to stay connected with the family. We may spend quality time at home, go out with the family at home, If we stay far and family is big so we may make a family gathering, talk with them through social media like WhatsApp group, family page. If we are living away so we may talk to them on phone, video call that make feels oneself connected. Spending time with family and being connected to them enhance the mental wellbeing, help us feel loved, reduces stress and give our lives a reason to live. A life is beautiful that is lived selflessly for others giving back more than we have received to our family and the whole worldly family.

Md Saqib Ansari
Msc. Statistics student, IIT K)
ECC BSc.PSM Batch : 2018-2021

Member's Achievement

"Those who try their best, taste victory!"

Achieving any target requires strength, patience, hard work and often courage.
Imbibing these qualities, many members of AUSTAA family succeeded in various examinations, their brief introduction is given below:

Currently working as Statistical Assistant in Finance Department,Govt of NCT of Delhi, Mr. Nishant Mishra has been selected as Economic & Statistical Officer, Economic & Statistics Division,Planning Department, Govt of Uttar Pradesh. He belongs to Prayagraj. He completed hisgraduation in 2011 and Post-graduation in Statistics in 2013 formUoA. He was JRF also in K BanerjeeCentre of Atmospheric & Ocean Studies, UoA.

Mr. Pulkit Srivastava, a resident of Pratapgarh, is selected as Economic & Statistical Officer, Economic & Statistics Division, Planning Department, Govt of Uttar Pradesh. Currently he is doctoral fellow in Department of Statistics, University of Delhi. He obtained his B.Sc. and M.Sc. (Statistics) in 2013 and 2015 respectively from UoA. He qualified UGC net and also had M.Phil. degree. He also worked as Guest Faculty from Feb 2021 to April 2022 in UoA.

Mr. Rajneesh Dwivedi from Pratapgarh has also been selected as Economic & Statistical Officer, Economic & Statistics Division,Planning Department, Govt of Uttar Pradesh. He received graduation and post-graduation degree in Statistics from UoA in 2013 and 2015 respectively. He was also selected as Junior Statistical officer in 2016 through SSC CGL. Currently, he works as an Assistant Review Officer in U.P. Secretariat.

Mr. Ashok Verma from Ambedkar Nagar has been selected as an Assistant Professor through UPHESC. He received B.Sc. in 2013 and M.Sc. (Statistics) in 2015 from UoA. He qualified UGC-NET also. He also worked as Guest Faculty in ISDC, UoA. Currently he is Assistant Professor (Statistics) at N.R.E.C. College, Khurja.

Dr. Rohit Patwa from Prayagraj has been selected as an Assistant Professor through UPHESC. He received B.Sc., M.Sc. (Statistics) and Ph.D. (Statistics) from UoA. Presently, he is posted as Assistant Professor (Statistics) at Agra College Agra.

Ms. Diksha Gaur joined as Fisheries Specialist (Statistics) at Ministry of Fisheries, Animal Husbandary and Dairying in September 2022

Ms. Pragati Chaddha joined as Monitoring Assistant at National Fisheries Development Board in July 2022

Ms. Lalita Singh, a native of Prayagraj has also been selected as an Assistant Professor through UPHESC. She graduated in 2016 and post-graduated in 2018 from UoA. She qualified UGC-NET also. Presently she is working as an Assistant Professor (Statistics), Agra College, Agra.

Mr. Shreyas Mishra from Varanasi has been placed as Business Analyst at Knowlvers Consulting Pvt Ltd. He received his master's degree from UoA in 2022.

Mr. Syed Faizul Abbas has been placed as Data Analyst at Q & Q Research Insights Pvt Ltd. He is from Balia. He obtained his M.Sc. (Statistics) in 2022 from UoA.

Mr. Satyam Kushwaha from Prayagraj has been placed as Data Analyst at Q & Q Research Insights Pvt Ltd. He received M.Sc. degree in Statistics in 2022 from UoA.

Ms. Isha Singh, resident of Prayagraj, has been placed as Test Engineering Associate at Accenture. She was student of M.Sc. (Statistics) in UoA from 2020-22 batch.

Warmest congratulations to all achievers on their achievement. Wishing you even more success in the future!!

Dr. Ashutosh Shukla,
Editor in Chief

किताबें...

मानव सभ्यता की मित्र
जिसमें डूबकर तुम
जान सकोगे
उनका सच
जो कभी कहा नहीं गया
नाही कहा जायेगा
क्योंकि किताबों की
अपनी भाषा नहीं होती
लेकिन हर भाषा की किताब में
तुम्हे मिलेगा
कुछ अनसुलझे से सवाल,
और उनके
कुछ सुलझे से जवाब।

-पुलकित श्रीवास्तव

बस यूँ ही डर लगता है

डर लगता है..... कि
कहीं कोई याद न बन जाए, किसी के आँसूमोतीनबनजाए,
खुद बिखर के किसी और की सेज न सजा जाए |
डर लगता है ..... कि
वो झुकीं पलकें अपने आपको अदृश्य न कर ले,
किन्ही बड़ी, चंचल सी मदमस्त कर देने वाली आँखों के लिए |
डर लगता है..... कि
तुम्हारी मुस्कुराहट किसी की हँसी न बन जाए,
और यूँ आजकल की तन्हाई में मुझे उदासी न दे जाए |
डर लगता है..... कि
कहीं कोई उसे अमावस्या में चाँद न दिखा जाए,
उस कोमल सी काया को, किसी का साया न लग जाए |
सर लगता है..... कि
कुछ पल जो राहत देते थे साथ होने के एहसास का,
अब वो सबकुछ न बन जाये किसी के अनगिनत प्रयास का |
डर लगता है.....कि
वो कहीं रातो में न मिल जाए, फिर से जज़्बात न जगा जाए,
इस तपते हुए सूर्यवंशी को शीतलता न दे जाए |
बस यूँ ही डर लगता है.....

-श्रेयस सूर्यवंशी

“बहुत खास हो तुम”

नहीं बनना उनकी नज़रों में सही,
जिन्हों ने हमें कभी सुनाही नहीं।
अपना तो कोई हुआ ही नहीं,
अब तो यूं खुदगर्ज़ी भी आम हुई।

कश्म कशें हैं तो बहुत सी,
पर उनसे उबरना कुछ ज़रूरी सा है।
याद आए वो दिन तो जरूर कहना...
जब वो कहते थे ...
हम तुम्हारे है, तुम हमारे रहना,

काश वो ये भी कह जाते...
की वो और उनकी बातें
सिर्फ मेरी खुशियों तक ही सीमित थी
क्योंकि , दुख था मुझे सिर्फ अकेले सहना।

वो पल कितने किमती थे...
ये जो समझता है सिर्फ उसे पता है,
अब तो न रहे वो पल औरना ही वो,
बस रह गई है तो उनकी यादें।

हा चुकाई है मैंने कुछ कीमती कीमतें,
उन्ही लोगों के लिए,
उसे बेकदर पसंद थी, करना उनकी
अब अपनी पसंद की कीमतें चूकाते है लोग,
हमें खोकर थोड़ा ही सही पछताते है लोग।

क्योंकि जो बात थी वो बीत गई,
लोगों के मन से मीत गई।

इन कश्मकशों में उलझे रहना तुम्हारी मर्ज़ी है,
पर ये याद जरूर रखना,
उनकी ये जो दिलाशाएं है, जो हमदर्दी है,
सबफिज़ूल है, फर्ज़ी हैं।

शिकायतें नहीं है अब किसी से,
क्योंकि करके भी क्या करूं,
अरे कपड़ों पर पड़ी सिलवटें भी सवर जातीं है,
उन शख्सियत पर पड़ी सिलवटों का क्या करूं।

उम्र बीत जाती है यूं तजुर्बों में,
तभी तो हम उम्रो में ये चर्चे होते है,
की कैसे उनके रिश्ते पक्के,
और हमारे रोज बदलते हैं।

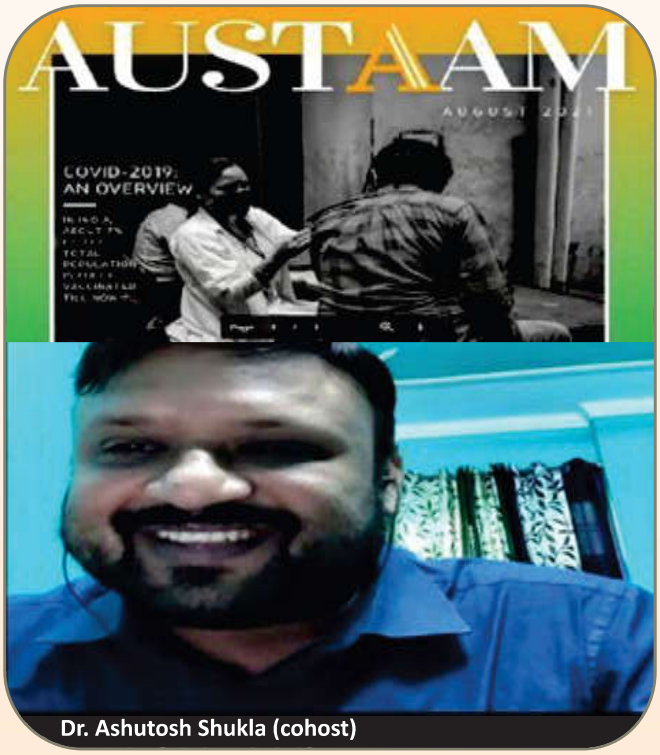
दिलाशा यें क्यों देते हो खुद को...
जब उनके हर मंज़र सेवा किफहोतुम।
यूं खुदगर्जों के लिए कभी अपना दिल ना दुखाना,
कभी अपने आपको मत समझाना,
यूं दर-दर की ठोकरें मत खाना।
बस इतना याद रखना तुम,
उनके साथ से कई जादा अपने साथ के मोहताज हो तुम ,
बहुत खास हो तुम।

नाम- प्रतिष्ठा यादव
कॉलेज- इविंग किश्चियन कॉलेज

GALLERY

AUSTAAM'S AUGUST EDITION LAUNCH EVENT

AUSTAA members at AUSTAAM August Edition launch event.



Our Editor-In-Chief with AUSTAAM's
First edition's cover page at the magazine launch event on 15th August ,2021.

AUSTAA MEET ON 19/12/2021 AT LUCKNOW

Mr. Himanshu Katyan visited National Statistical Systems Training Academy (NSSTA) Training Academy with his wife Mrs. Akansha Singh to meet ISS Probationary Officers.

Dr. Sripati Mishra receiving Appreciation Mark Platinum by Director General of Police U.P
He also honored with vishisht seva medal from the former President Ram Nath kovind

Reunion of AUSTAA members Mr. Sanjay Mishra , Mr. Himanshu Katyan and Mrs. Akansha Singh at Panna

Dr. Niyati Joshi
Met Alumni Member
at Prayagraj, April, 2022

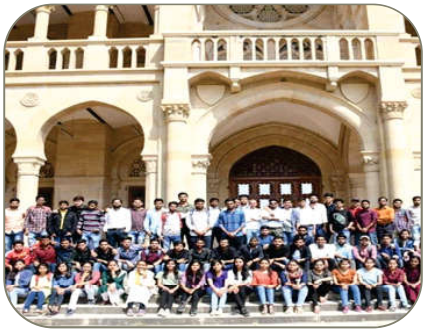
Some members of AUSTAA in Indian Statistical Service in New Delhi

Dr. Niyati Joshi with Alumni of Allahabad University & Others at New Delhi

Flashback from past batch of 1984-86, 1986-88 of Statistics Department, University of Allahabad

MSC STATISTICS BATCH 2020-2022

MSC STATISTICS BATCH 2021-2023



BATCH OF 2018-2021 B.Sc STATISTICS

NEW FACULTY MEMBERS DR.G. MADHU SUDAN, DR. PRASHANT VERMA,
DR. ABHAY PRATAP PANDEY, DR. PRIYANKA SINGH AND DR. GIRISH CHANDRA FROM LEFT TO RIGHT

Prof. Anoop Chaturvedi with new faculty members and Mr. Arvind Srivastava from RBI

"National Statistics Day" celebration at Department of Statistics at University of Allahabad with Prof. Somesh Kumar of IIT Kharagpur as Chief Guest.

Farewell cum Freshers of ECC Batch 2021

MR. SHIV KUMAR YADAV AND
MR. SHUBHAM MISHRA WITH MSC STUDENTS

DEPARTMENT OF STATISTICS
NEW BUILDING UNIVERSITY OF ALLAHABAD

ECC DEPARTMENT OF STATISTICS NEW BUILDING

Mr. Sameer Singh got second rank in "On the Spot Essay Writing Competition"

Interaction session of Prof. Alok Pandey of College of Southern Nevada, USA at University of Allahabad

Lucknow chapter with Prof. Alok Pandey

Delhi chapter with Prof. Alok Pandey

Other Contributors

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Allahabad University Statistics Alumni Association
(AUSTAA)
ASSOCIATE, INTEGRATE AND DISSEMINATE